Klemsan

Electronic & Energy Management Products

100%
Customer *Satisfaction*

Save your time and energy with fast response

Logistics and After Sales Service

Maximum reliability

Simple and effective functions suitable for your applications

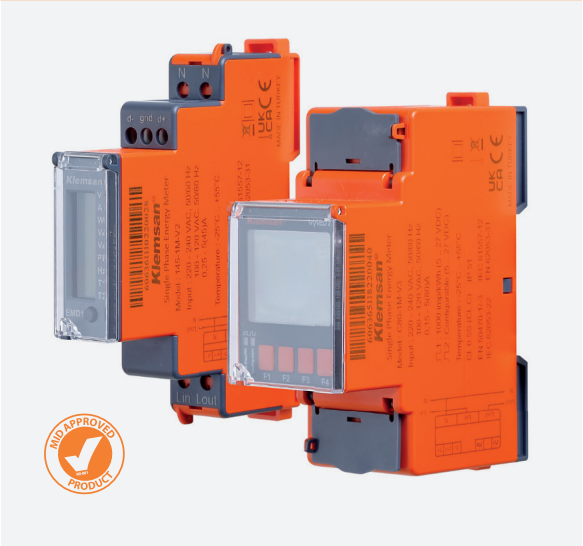
Analysis of customer requirements

Project management with full expertise and newest technology

Electronic Products

MED/EMD 1-2 Series Energy Meters

The MED and EMD 1-2 series energy meters, designed in rail-mounted enclosures of 18 mm and 36 mm, enable the measurement and monitoring of basic electrical parameters in addition to energy consumption for single-phase systems.
With optional MID approval, they offer effective and competitive solutions for billing needs in applications such as marinas and shopping centers.
Equipped with digital outputs and an RS485 (Modbus RTU) interface, the devices can meet different requirements while directly participating in energy monitoring applications.
Accepting current inputs up to 45A and 80A, the devices eliminate the need for current transformers in projects.



- Optional MID Approval
- Direct connection up to 45A and 80A in addition to current transformer models
- High Measurement Accuracy
- 4 sub-tariffs with real-time clock in addition to 2 main tariffs
- RS485 (Modbus RTU) Option
- 2 Digital Output Options
- Free user interface software

Product Name	Order No	Definition	MID Approval	Basic Electrical Parameters	Only Import Active Energy	4 Quadrant Energy Measurement	Measuring Accuracy	Min / Max Data Logging	Total Harmonic Distortion (THD)	Individual Harmonics (up to 31st)	Demand	Alarm Setting	LCD Screen	Digital Outputs (2 Qty)	Main Tariff	Sub-tariffs	RS485 (Modbus RTU)	85-300 V DC/DC	45Amps Direct Connection	80Amps Direct Connection	X/1 & X/5	Enclosure Dimension	Rail Mount
B45-0W-01	606357	MED1	√		√		Class B						√	1	1			√	√			18 mm	√
B45-1M-V1	606358	MED1	√	√		√	Class B				√		√	2	2		√	√	√			18 mm	√
B45-0M-01	606359	MED1	√	√		√	Class B						√	1	1			√	√			18 mm	√
145-0W-01	606360	EMD1			√		Class 1	√	√	√			√	1	1			√	√			18 mm	√
145-1M-V2	606361	EMD1		√		√	Class 1	√	√	√	√	√	√		2		√	√	√			18 mm	√
145-0M-01	606362	EMD1		√		√	Class 1	√	√	√			√	1	1			√	√			18 mm	√
C80-1M-V3CT	606363	MED2	√	√		√	Class C				√		√	2	2	4	√	√			√	36 mm	√
B80-1M-V2CT	606364	MED2	√	√		√	Class B				√		√	2	2		√	√			√	36 mm	√
C80-1M-V3	606365	MED2	√	√		√	Class C				√		√	2	2	4	√	√		√		36 mm	√
B80-1M-V2	606366	MED2	√	√		√	Class B				√		√	2	2		√	√		√		36 mm	√
B80-0M-02	606367	MED2	√	√		√	Class B						√	2	1			√		√		36 mm	√
B80-0M-02P	606368	MED2	√	√		√	Class B						√	2	1			√		√		36 mm	√
B80-0W-01	606369	MED2	√		√		Class B						√	1	1			√		√		36 mm	√
580-1M-V4CT	606370	EMD2		√		√	Class 0.5	√	√	√	√	√	√		2	4	√	√			√	36 mm	√
180-0M-V1CT	606371	EMD2		√		√	Class 1	√	√	√			√	2	1			√			√	36 mm	√
180-0W-01	606372	EMD2			√		Class 1	√	√	√			√	1	1			√		√		36 mm	√
580-1M-V3	606373	EMD2		√		√	Class 0.5	√	√	√	√	√	√	2	2	4	√	√		√		36 mm	√
180-0M-02	606374	EMD2		√		√	Class 1	√	√	√			√	2	1			√		√		36 mm	√
180-1M-V2	606375	EMD2		√		√	Class 1	√	√	√	√	√	√		2		√	√		√		36 mm	√

Electronic Products

MED/EMD 4 Series 3-Phase Energy Meters

The MED4 and EMD4 series are optionally MID-approved energy meters, designed in 72mm rail-mounted enclosures, allow for the measurement and monitoring of energy consumption and basic electrical parameters for three-phase systems. Equipped with digital inputs/outputs and an RS485 (Modbus RTU) interface, the devices can meet different requirements while directly participating in energy monitoring applications. Accepting current inputs up to 100A, the devices eliminate the need for current transformers in projects.

- Optional MID Approval
- Direct connection up to 100A in addition to current transformer models
- High Measurement Accuracy
- 3 Tariffs Option
- RS485 (Modbus RTU) Option
- 2 Digital Output Options
- 2 Digital Input Options
- Free user interface software

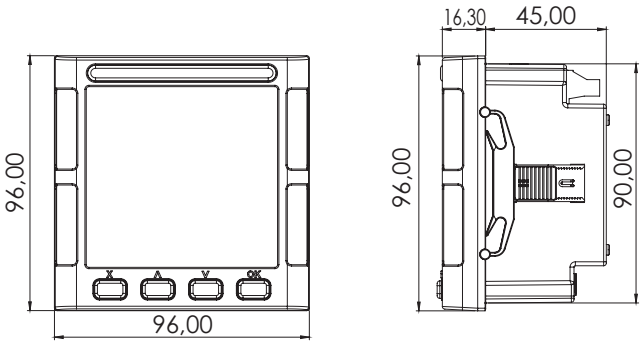
Product Name	Order No	Definition	Voltage, Current and Frequency	4 Quadrant Energy Measurement	2 Quadrant Reactive Energy Monitoring	4 Quadrant Reactive Energy Monitoring	Measuring Accuracy	Min / Max Data Logging	Total Harmonic Distortion (THD)	Individual Harmonics (up to 31st)	Demand	Alarm Setting	LCD Screen	Digital Outputs	Digital Inputs	Main Tariff	RS485 (Modbus RTU)	85-300 V DC/DC	80Amps Direct Connection	X/1 & X/5	Enclosure Dimension	Rail Mount
C100-1M-V4	606 800	MED4	√	√	√		Class B		√		√		√	2	2	2	√	√	√		72 mm	√
C100-1M-V2	606 801	MED4	√	√	√		Class B		√		√		√	0	0	1	√	√	√		72 mm	√
B100-0M-V3	606 802	MED4	√	√	√		Class B		√		√		√	2	2	2		√	√		72 mm	√
B100-0M-V1	606 803	MED4	√	√	√		Class B		√		√		√	2	0	2		√	√		72 mm	√
C100-1M-V4CT	606 804	MED4	√	√	√		Class B		√		√		√	2	2	2	√	√		√	72 mm	√
C100-1M-V2CT	606 805	MED4	√	√	√		Class B		√		√		√	0	0	1	√	√		√	72 mm	√
B100-0M-V3CT	606 806	MED4	√	√	√		Class B		√		√		√	2	2	2		√		√	72 mm	√
B100-0M-V1CT	606 807	MED4	√	√	√		Class B		√		√		√	2	0	2		√		√	72 mm	√
5100-1M-V1CT	606 808	EMD4	√	√	√		Class 0.5	√	√	√	√	√	√	0	0	1	√	√		√	72 mm	√
5100-1M-V2CT	606 809	EMD4	√	√	√		Class 0.5	√	√	√	√	√	√	2	2	3	√	√		√	72 mm	√
5100-1Q-V1	606 810	EMD4	√	√		√	Class 0.5	√	√	√	√	√	√	0	0	1	√	√	√		72 mm	√
5100-1Q-V2	606 811	EMD4	√	√		√	Class 0.5	√	√	√	√	√	√	2	2	3	√	√	√		72 mm	√
B100-0W-01	606 812	MED4	√	√	√		Class B						√	1	0	1		√	√		72 mm	√
C100-1Q-V3	606 814	MED4	√	√		√	Class B		√		√		√	2	2	2	√	√	√		72 mm	√
B100-1Q-V2	606 815	MED4	√	√		√	Class B		√		√		√	1	0	1	√	√	√		72 mm	√
C100-1Q-V3CT	606 816	MED4	√	√		√	Class B		√		√		√	2	2	2	√	√		√	72 mm	√
5100-1Q-V2CT	606 817	EMD4	√	√		√	Class 0.5	√	√	√	√	√	√	2	2	3	√	√		√	72 mm	√

Electronic Products

ECRAS 3-4 Multimeter Series

The new ECRAS series multimeters with ghost screen technology are designed to measure current, voltage, frequency, and power parameters in 3-phase electrical systems. The new ECRAS series, which offers 45 mm depth and vertical cable connection, is most suitable for use in narrow panels.

- Ghost Screen Technology with 4.2 inches Width
- IP54 protection class for front panel
- 45 mm Depth
- x/1 and x/5 Current Transformer Support
- Current connection terminals with 4 mm² cross-section
- High Measurement Accuracy
- RS485 (Modbus RTU) Option
- 2 SPST Relay Output Options
- Free user interface software

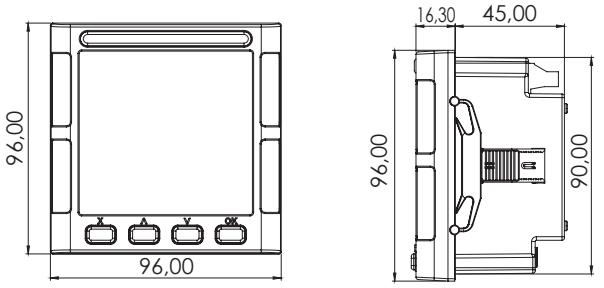


Product Name	Order No	Definition	Voltage, Current and Frequency	Power (P, Q, S) and Power Factor (PF)	Total Harmonic Distortion (THD)	Demand	Alarm Setting	Relay Outputs (2 pcs)	RS485 (Modbus RTU)	85-300 V DC/DC	X/1 & X/5	Panel Mount	Ghost Screen
ECRAS 300	606 500	Electronic Multimeter	√							√	√	√	√
ECRAS 301	606 501	Electronic Multimeter	√				√	√		√	√	√	√
ECRAS 400	606 502	Electronic Multimeter	√	√						√	√	√	√
ECRAS 400R	606 503	Electronic Multimeter	√	√			√		√	√	√	√	√
ECRAS 411R	606 504	Electronic Multimeter	√	√	√	√	√	√	√	√	√	√	√

KLEA 4 Series Energy Analyzer

The new KLEA 4 series energy analyzers are devices designed to analyze 3-phase electrical systems. The new KLEA 4 series, which offers 45 mm depth and vertical cable connection, is most suitable for use in narrow panels. It can also be used in remote monitoring projects thanks to the optional RS485 (Modbus RTU) interface on the devices. Thanks to their optional digital outputs, pulse outputs can be created according to the measured energy values. Digital inputs can be used as pulse counters or tariff activation.

- 4.2 inch Ghost Screen
- IP54 protection class
- 45 mm Depth
- x/1 and x/5 Current Transformer Support
- Current connection terminals with 4 mm² cross-section
- High Measurement Accuracy
- RS485 (Modbus RTU) Option
- 2 SPST Relay Output Options
- 2 Digital Input/Output Options
- Free user interface software



Product Name	Order No	V, C, F	P, Q, S, PF	Min / Max Data Log.	4Q. Energy Measur.	2Q Reactive Energy Monit.	THD	Individual Harmonics (up to 31st)	Demand	On Hour, Run Hour, Pow. Interruption Count.	Alarm Setting	Ghost Screen	Relay Outputs (2 pcs)	Digital Outputs (2 Qty)	Digital Inputs (2 Qty)	Tariff	RS485 (Modbus RTU)	85-300 V DC/DC	X/1& X/5	Panel Mount
KLEA 400R	606700	√	√	√	√	√			√	√	√	√				1	√	√	√	√
KLEA 405	606705	√	√	√	√	√			√	√		√		√	√	2		√	√	√
KLEA 405R	606701	√	√	√	√	√			√	√	√	√		√	√	2	√	√	√	√
KLEA 406R	606702	√	√	√	√	√			√	√	√	√	√	√	√	2	√	√	√	√
KLEA 411R	606706	√	√	√	√	√	√	√	√	√	√	√	√			1	√	√	√	√

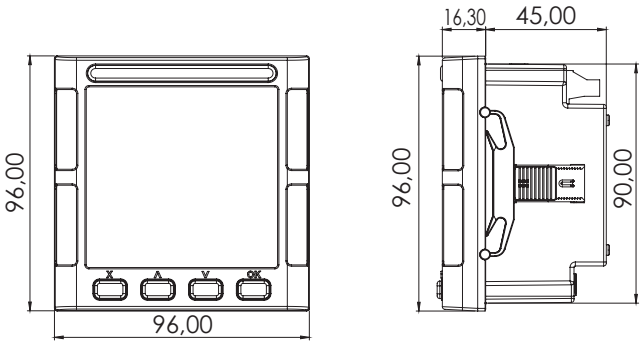
Electronic Products

KLEA 5 Series Energy Analyzer

The new KLEA 5 series energy analyzers are devices designed to analyze 3-phase electrical systems. The new KLEA 5 series, which offers 45 mm depth and vertical cable connection, is most suitable for use in narrow panels. It can also be used in remote monitoring projects thanks to the optional Ethernet (Modbus TCP) port in addition to the RS485 (Modbus RTU) interface on the devices. Thanks to their optional digital outputs, pulse outputs can be created according to the measured energy values. Digital inputs can be used as pulse counters or tariff activation.

With the model-based “Gateway Feature”, the data of other serial devices connected to KLEA can be transferred to the related platforms without the need for an external gateway.

- 4.2 inch LCD Screen
- IP54 protection class
- 45 mm Depth
- X/1 and X/5 Current Transformer Support
- Current connection terminals with 4mm² cross-section
- High Measurement Accuracy
- RS485 (Modbus RTU) Option
- Ethernet (Modbus TCP) Option
- 2 SPST Relay Output Options
- 2 Digital Input/Output Options
- Free user interface software



Product Name	Order No	V, C, F	P, Q, S, PF	Min / Max Data Logging	4Q. Energy Measur.	4Q Reactive Energy Monit.	THD	Individual Harmonics (up to 31st)	Demand	On Hour, Run Hour, Power Interruption Counters	Alarm Setting	LCD Screen	RO (2 pcs)	DO (2 pcs)	DI (2 pcs)	Tariff	RS485 (Modbus RTU)	Ethernet (Modbus TCP)	Gateway Feature	85-300 V DC/ DC	X/1 & X/5	Panel Mount
KLEA 500R	606703	√	√	√	√	√	√	√	√	√	√	√				1	√			√	√	√
KLEA 506R	606704	√	√	√	√	√	√	√	√	√	√	√	√	√	√	3	√			√	√	√
KLEA 500RE	606707	√	√	√	√	√	√	√	√	√	√	√				1	√	√		√	√	√
KLEA 506RE	606708	√	√	√	√	√	√	√	√	√	√	√	√	√	√	3	√	√		√	√	√
KLEA 516RE	606709	√	√	√	√	√	√	√	√	√	√	√	√	√	√	3	√	√	√	√	√	√

Electronic Products

KLEA 1-2-3 Series Energy Analyzer

Type			KLEA 320P	KLEA 370P	KLEA 322P	KLEA 324P	KLEA 320P-D
Definiton			3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer
Order Number			606100	606101	606102	606103	606130
General	Seven Segment Display		-	-	-	-	-
	LCD		Available	Available	Available	Available	Available
	Language Support		Turkish, English, Russian	Turkish, English, Russian	Turkish, English, Russian	Turkish, English, Russian	Turkish, English, Russian
	Battery		Available	Available	Available	Available	Available
	Real Time Clock		Available	Available	Available	Available	Available
	Password Protection		Available	Available	Available	Available	Available
	Current Transformer Ratio		1-5000	1-5000	1-5000	1-5000	1-5000
	Voltage Transformer Ratio		1-5000	1-5000	1-5000	1-5000	1-5000
	Demand Period		1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable
	Connection Type		3P4W, 3P3W, Aron	3P4W, 3P3W, Aron	3P4W, 3P3W, Aron	3P4W, 3P3W, Aron	3P4W, 3P3W, Aron
	Measurement in Quadrants		4	4	4	4	4
	Number of Measurement in a period		512	512	512	512	512
	LCD/Display Refresh Period		1 sec	1 sec	1 sec	1 sec	1 sec
	Networks		TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT
	Phasor Diagram		Available	Available	Available	Available	Available
	Signal Waveforms		Available	Available	Available	Available	Available
	Min/Max/Demand Values		Available	Available	Available	Available	Available
Energy Measurement	Number of Tariffs		2	2	2	2	2
	Multi Sub-Tariffs (Peak, Day and Off-Peak)		Available	Available	Available	Available	Available
	1Ø Phase Energy Meters		Available	Available	Available	Available	Available
	3Ø Phase Energy Meters		Available	Available	Available	Available	Available
	4-Quadrant Reactive Energy Meters		-	-	-	-	Available
Current Measurement Input	Measurement Range		10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
	Overvoltage Category		300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II
	Measurement Surge Voltage		2 kV	2 kV	2 kV	2 kV	2 kV
	Power Consumption		<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
	intermittent overload		100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
	Sampling Freq.between 45-65 Hz		25,6 kHz	25,6 kHz	25,6 kHz	25,6 kHz	25,6 kHz
Voltage Measurement Input	Overvoltage Category		300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III
	Measured Range L-N		1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms
	Measured Range L-L		2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms
	Measured Frequency Range		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
	Power Consumption		<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA
	Sampling Freq.between 45-65 Hz		25,6 kHz	25,6 kHz	25,6 kHz	25,6 kHz	25,6 kHz
Power Quality Measurements	Harmonics for current and voltage phases		Upto 51st	Upto 51st	Upto 51st	Upto 51st	Upto 51st
	THD-Voltage in %		Available	Available	Available	Available	Available
	THD-Current in %		Available	Available	Available	Available	Available
Other Measurements	Run Hour (Operating time for load in hours)		Available	Available	Available	Available	Available
	On Hour (Operating time for meter in hours)		Available	Available	Available	Available	Available
	Int Counter (Number of power interruptions)		Available	Available	Available	Available	Available
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Total Reactive Power	Class 1	Class 1	Class 1	Class 1	Class 1
		Total Apparent Power	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	Class 2
		Frequency	Class 0.05	Class 0.05	Class 0.05	Class 0.05	Class 0.05
		Current	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Neutral Current (calculated)	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Voltage	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Power factor	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		THDV, THDI	Class 1	Class 1	Class 1	Class 1	Class 1
	According to IEC 62053-22	Total Active Energy	Class 0.2S	Class 0.2S	Class 0.2S	Class 0.2S	Class 0.2S
	Accoding to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	Class 2

Electronic Products

KLEA 1-2-3 Series Energy Analyzer







KLEA 370P-D	KLEA 220P	KLEA 110P	KLEA-370P-VSM	KLEA-320P-DC	KLEA-220P-DC	KLEA 220P-B
3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer
606131	606160	606180	606121	606150	606190	606163
-	-	Available	-	-	-	-
Available	Available	-	Available	Available	Available	Available
Turkish, English, Russian	-	-	Turkish, English, Russian	Turkish, English, Russian	-	-
Available	-	-	Available	Available	-	-
Available	-	-	Available	Available	-	-
Available	Available	Available	Available	Available	Available	Available
1-5000	1-5000	1-5000	1 - 5.000	1 - 5.000	1 - 5.000	1-5000
1-5000	1-5000	1-5000	1 - 5.000	1 - 5.000	1 - 5.000	1-5000
1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable
3P4W, 3P3W, Aron	3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W, Aron	3P4W, 3P3W, Aron	3P4W, 3P3W	3P4W, 3P3W
4	4	4	4	4	4	4
512	256	256	512	512	256	256
1 sec	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec
TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT
Available	-	-	Available	Available	-	-
Available	-	-	Available	Available	-	-
Available	Available	Available	Available	Available	Available	Available
2	2	2	2 + 7 different energy meters	2	2	1
Available	-	-	Available	Available	-	-
Available	-	-	Available	Available	-	-
Available	Available	Available	Available	Available	Available	Available
Available	-	-	-	-	-	-
10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II
2 kV	2 kV	2 kV	2 kV	2 kV	2 kV	2 kV
<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
25,6 kHz	12,8 kHz	12,8 kHz	25,6 kHz	25,6 kHz	12,8 kHz	12,8 kHz
300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III
1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms
2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms
45-65 Hz	45-65 Hz	45-65 Hz	45...65 Hz	45...65 Hz	45...65 Hz	45-65 Hz
<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA
25,6 kHz	12,8 kHz	12,8 kHz	25,6 kHz	25,6 kHz	12,8 kHz	12,8 kHz
Upto 51st	Upto 31st	Upto 31st	Upto 51st	Upto 51st	Upto 31st	Upto 31st
Available	Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available	Available
Class 0.2	Class 0.5	Class 0.5	Class 0.2	Class 0.2	Class 0.5	Class 0.5
Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
Class 0.2	Class 0.5	Class 0.5	Class 0.2	Class 0.2	Class 0.5	Class 0.5
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
Class 0.05	Class 0.1	Class 0.1	Class 0.05	Class 0.05	Class 0.1	Class 0.1
Class 0.2	Class 0.5	Class 0.5	Class 0.2	Class 0.2	Class 0.5	Class 0.5
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 1	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
Class 0.2S	Class 0.5S	Class 0.5S	Class 0.2S	Class 0.2S	Class 0.5S	Class 0.5S
Class 2	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2

KLEA 1-2-3 Series Energy Analyzer

Type			KLEA 320P	KLEA 370P	KLEA 322P	KLEA 324P	KLEA 320P-D
Inputs and Outputs	Alarm Relay Outputs	Number of outputs	2 pcs.	2 pcs.	2 pcs.	2 pcs.	2 pcs.
		Type	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	5 A	5 A	5 A	5 A	5 A
		Max. Switching Voltage	250 V AC	250 V AC	250 V AC	250 V AC	250 V AC
		Max. Switching Power	1250 VA	1250 VA	1250 VA	1250 VA	1250 VA
Inputs and Outputs	Digital Inputs	Number of inputs	2 pcs.	7 pcs.	2 pcs.	2 pcs.	2 pcs.
		Frequency	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms
		Input Present or Not	Dry Contact	Dry Contact	Dry Contact	Dry Contact	Dry Contact
		Isolation Level	5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms
	Digital Outputs	Number of outputs	2 pcs.	7 pcs.	2 pcs.	2 pcs.	2 pcs.
		Output type	Transistor	Transistor	Transistor	Transistor	Transistor
		Switching Voltage Range	5-30 VDC	5-30 VDC	5-30 VDC	5-30 VDC	5-30 VDC
		Frequency	20 Hz, 50 ms	20 Hz, 50 ms	20 Hz, 50 ms	20 Hz, 50 ms	20 Hz, 50 ms
		Isolation Level	5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms
	Analog Outputs	Range of Outputs 0-5 V, 0-10 V, -5-5 V, -10-10V, 0-20 mA, 4-20 mA	-	-	2	4	-
		Isolation	-	-	Available	Available	-
Supply	Voltage	AC	85-300V	85-300V	85-300V	85-300V	85-300V
		DC	85-300V	85-300V	85-300V	85-300V	85-300V
	Consumption	AC	< 3VA	< 3VA	< 3VA	< 3VA	< 3VA
		DC	<2.5W	<2.5W	<2.5W	<2.5W	<2.5W
	Frequency		45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
Data Logging with timestamp	Min/max/avg Values	Hourly records	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters
		Daily records	240 days x 68 different paramaters	240 days x 68 different paramaters	240 days x 68 different paramaters	240 days x 68 different paramaters	240 days x 68 different paramaters
		Monthly records	36 months x 68 different parameters	36 months x 68 different parameters	36 months x 68 different parameters	36 months x 68 different parameters	36 months x 68 different parameters
	Demand		4 months x 16 different parameters	4 months x 16 different parameters	4 months x 16 different parameters	4 months x 16 different parameters	4 months x 16 different parameters
	Alarm records		50	50	50	50	50
Communication	Protocol		Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU
	Baud rate		2400-115200 bps adjustable	2400-115200 bps adjustable	2400-115200 bps adjustable	2400-115200 bps adjustable	2400-115200 bps adjustable
	Parity number		None	None	None	None	None
	Stop bit		1	1	1	1	1
	Address		1-247	1-247	1-247	1-247	1-247
	Isolation		2750V RMS	2750V RMS	2750V RMS	2750V RMS	2750V RMS
Mechanical Properties	Weight(g)		404	428	428	428	404
	Protection Class		Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
	Assembly Type		Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
Cable Cross Sections	Supply, Voltage, Current, Relay Outputs	Stranded	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG
		Solid	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG
	Digital I/O, RS 485, Analog Output	Stranded	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG
		Solid	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG
Ambient Conditions	Operating Temperature		-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
	Storage Temperature		-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
	Relative Humidity (no condensation)		Max.95%	Max.95%	Max.95%	Max.95%	Max.95%
Accessories		Type	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)
		Definition	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER
		Order Number	250 001	250 001	250 001	250 001	250 001
		Packaging unit	2	2	2	2	2

KLEA 1-2-3 Series Energy Analyzer

KLEA 370P-D	KLEA 220P	KLEA 110P	KLEA-370P-VSM	KLEA-320P-DC	KLEA-220P-DC	KLEA 220P-B
2 pcs.	2 pcs.	2 pcs.	2 pcs.	2 pcs.	2 pcs.	-
NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	-
5 A	10 A AC / 5 A DC	10 A AC / 5 A DC	5 A	5 A	10 A AC / 5 A DC	-
250 V AC	250 V AC / 30 V DC	250 V AC / 30 V DC	250 V AC	250 V AC	250 V AC / 30 V DC	-
1250 VA	1250 VA / 150 W	1250 VA / 150 W	1250 VA	1250 VA	1250 VA / 150 W	-
2 pcs.	2 pcs.	1 pc.	7 pcs.	2 pcs.	2 pcs.	-
100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms	-
Dry Contact	Dry Contact	Dry Contact	Dry Contact	Dry Contact	Dry Contact	-
5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms	5000 Vrms	-
2 pcs.	2 pcs.	2 pcs.	7 pcs.	2 pcs.	2 pcs.	-
Transistor	Transistor	Transistor	Transistor	Transistor	Transistor	-
5-30 VDC	5-30 VDC	5-30 VDC	5-30 VDC	5-30 VDC	5-30 VDC	-
20 Hz, 50 ms	20 Hz, 50 ms	20 Hz, 50 ms	5000 Vrms	5000 Vrms	5000 Vrms	-
5000 Vrms	5000 Vrms	5000 Vrms	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
85-300V	85-300V	85-300V	85-300V	-	-	85-300V
85-300V	85-300V	85-300V	85-300V	18-60VDC	18-60VDC	85-300V
< 3VA	<4.5VA	<6VA	< 3VA	-	-	<4.5VA
<2.5W	<2W	<3W	<2.5W	<2.5W	<2.2W	<2W
45-65Hz	45-65Hz	45-65Hz	45-65Hz	-	-	45-65Hz
1920 hours x 68 different paramaters	-	-	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	-	-
240 days x 68 different paramaters	-	-	240 days x 68 different paramaters	240 days x 68 different paramaters	-	-
36 months x 68 different parameters	-	-	36 months x 68 different parameters	36 months x 68 different parameters	-	-
4 months x 16 different parameters	-	-	4 months x 16 different parameters	4 months x 16 different parameters	-	-
50	-	-	50	50	-	-
Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU
2400-115200 bps adjustable	1200-57600 bps adjustable	1200-57600 bps adjustable	2400-115200 bps adjustable	2400-115200 bps adjustable	1200-57600 bps adjustable	1200-57600 bps adjustable
None	Odd, Even, None	Odd, Even, None	Odd,Even,None	Odd,Even,None	Odd,Even,None	Odd, Even, None
1	1	1	1	1	1	1
1-247	1-247	1-247	1-247	1-247	1-247	1-247
2750V RMS	2750V RMS	2750V RMS	2750V RMS	2750V RMS	2750V RMS	2750V RMS
428	378	323	428	428	378	378
Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2.5mm² - 14AWG	2.5mm² - 14AWG	2.5mm² - 14AWG	2,5 mm² - 14AWG
4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG
1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG
1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG
-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30°C +80°C	-30°C +80°C	-30°C +80°C	-30 to +80 °C
Max.95%	Max.95%	Max.95%	Maks. 95%	Maks. 95%	Maks. 95%	Max.95%
IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)
SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER
250 001	250 001	250 001	250 001	250 001	250 001	250 001
2	2	2	2	2	2	2

Electronic Products

ECRAS 1-2 Multimeter Series





Type			ECRAS 100	ECRAS 120	ECRAS 200	ECRAS 220	ECRAS 100 VCF
Defniton			3Ø Multimeter	3Ø Multimeter	3Ø Multimeter	3Ø Multimeter	3Ø Multimeter
Order Number			606210	606211	606212	606213	606218
General	Seven Segment Display		Available	Available	Available	Available	Available
	LCD		-	-	-	-	-
	Language Support		-	-	-	-	-
	Battery		-	-	-	-	-
	Real Time Clock		-	-	-	-	-
	Password Protection		Available	Available	Available	Available	Available
	Current Transformer Ratio		1-5000	1-5000	1-5000	1-5000	1 - 5.000
	Voltage Transformer Ratio		1-5000	1-5000	1-5000	1-5000	1 - 5.000
	Demand Period		1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	-
	Connection Type		3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W
	Measurement in Quadrants		4	4	4	4	-
	Number of Measurement in a period		256	256	256	256	256
	LCD/Display Refresh Period		1 sec	1 sec	1 sec	1 sec	1 sec.
	Networks		TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT
	Phasor Diagram		-	-	-	-	-
	Signal Waveforms		-	-	-	-	-
	Min/Max/Demand Values		Available	Available	Available	Available	-
Energy Measurement	Number of Tariffs		1	1	1	1	-
	Multi Sub-Tariffs(Peak, Day and Off-Peak)		-	-	-	-	-
	1Ø Phase Energy Meters		Available	Available	Available	Available	-
	3Ø Phase Energy Meters		Available	Available	Available	Available	Available
	4-Quadrant Reactive Energy Meters		-	-	-	-	-
Current Measurement Input	Measurement Range		10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
	Overvoltage Category		300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II
	Measurement Surge Voltage		2 kV	2 kV	2 kV	2 kV	2 kV
	Power Consumption		<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
	intermittent overload		100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
	Sampling Freq.between 45-65 Hz		12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
Voltage Measurement Input	Overvoltage Category		300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III
	Measured Range L-N		1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms
	Measured Range L-L		2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms
	Measured Frequency Range		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
	Power Consumption		<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA
	Sampling Freq.between 45-65 Hz		12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
Power Quality Measurements	Harmonics for current and voltage phases		Upto 31st	Upto 31st	Upto 31st	Upto 31st	-
	THD-Voltage in %		Available	Available	Available	Available	-
	THD-Current in %		Available	Available	Available	Available	-
Other Measurements	Run Hour (Operating time for load in hours)		Available	Available	Available	Available	-
	On Hour (Operating time for meter in hours)		Available	Available	Available	Available	-
	Int Counter (Number of power interruptions)		Available	Available	Available	Available	-
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Power	Class 1	Class 1	Class 1	Class 1	Class 1
		Total Apparent Power	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	Class 2
		Frequency	Class 0.1	Class 0.1	Class 0.1	Class 0.1	Class 0.1
		Current	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Neutral Current (calculated)	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Voltage	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Power factor	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		THDV, THDI	Class 1	Class 1	Class 1	Class 1	Class 1
	According to IEC 62053-22	Total Active Energy	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S
	Accoding to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	Class 2
Inputs and Outputs	Alarm Relay Outputs	Number of outputs	-	2 pcs.	-	2 pcs.	-
		Type		NO (SPST)		NO (SPST)	-
		Max. Switching Current	-	10 A AC / 5 A DC	-	10 A AC / 5 A DC	-
		Max. Switching Voltage	-	250 V AC / 30 V DC	-	250 V AC / 30 V DC	-
		Max. Switching Power	-	1250 VA / 150 W	-	1250 VA / 150 W	-

Electronic Products

ECRAS 1-2 Multimeter Series

Type			ECRAS 100	ECRAS 120	ECRAS 200	ECRAS 220	ECRAS 100 VCF
Inputs and Outputs	Digital Inputs	Number of inputs	-	-	-	-	-
		Minimum Counting Frequency	-	-	-	-	-
		Input Present or Not	-	-	-	-	-
		Isolation Level	-	-	-	-	-
	Digital Outputs	Number of outputs	-	-	-	-	-
		Type	-	-	-	-	-
		Switching Voltage Range	-	-	-	-	-
		Minimum Switching Frequency	-	-	-	-	-
		Isolation Level	-	-	-	-	-
	Analog Outputs	Number of outputs	-	-	-	-	-
		Range of Outputs 0-5 V, 0-10 V, -5-5 V, -10-10V, 0-20 mA, 4-20 mA	-	-	-	-	-
		Isolation	-	-	-	-	85-300V
Supply	Voltage	AC	85-300V	85-300V	85-300V	85-300V	85-300V
		DC	85-300V	85-300V	85-300V	85-300V	85-300V
	Consumption	AC	<6VA	<6VA	<6VA	<6VA	<6VA
		DC	<3W	<3W	<3W	<3W	<3W
	Frequency		45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
Data Logging with timestamp	Min/max/avg Values	Hourly records	-	-	-	-	-
		Daily records	-	-	-	-	-
		Monthly records	-	-	-	-	-
	Demand		-	-	-	-	-
	Alarm records		-	-	-	-	-
Communication	Protocol		-	-	Modbus RTU	Modbus RTU	-
	Baud rate		-	-	1200-57600 bps adjustable	1200-57600 bps adjustable	-
	Parity number		-	-	Odd, Even, None	Odd, Even, None	-
	Stop bit		-	-	1	1	-
	Address		-	-	1-247	1-247	-
	Isolation		-	-	2750V RMS	2750V RMS	-
Mechanical Properties	Weight(g)		272	290	296	316	221
	Protection Class		Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
	Assembly Type		Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
Cable Cross Sections	Supply, Voltage, Current, Relay Outputs	Stranded:	2,5 mm^2 - 14AWG	2,5 mm^2 - 14AWG	2,5 mm^2 - 14AWG	2,5 mm^2 - 14AWG	2.5mm^2 - 14AWG
		Solid:	4mm^2-12 AWG, 2x1.5 mm^2-2x16 AWG	4mm^2-12 AWG, 2x1.5 mm^2-2x16 AWG	4mm^2-12 AWG, 2x1.5 mm^2-2x16 AWG	4mm^2-12 AWG, 2x1.5 mm^2-2x16 AWG	4mm^2 - 12AWG, 2x1.5mm^2 - 2x16AWG
	Digital I/O, RS 485, Analog Output	Stranded:	-	-	1,5 mm^2-16AWG	1,5 mm^2-16AWG	-
		Solid:	-	-	1.5 mm^2-16 AWG, 2x0.75 mm^2-2x18 AWG	1.5 mm^2-16 AWG, 2x0.75 mm^2-2x18 AWG	-
Ambient Conditions	Operating Temperature		-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
	Storage Temperature		-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30°C +80°C
	Relative Humidity (no condensation)		Max.95%	Max.95%	Max.95%	Max.95%	Maks. 95%
Accessories		Type	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)
		Definition	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER
		Order Number	250 001	250 001	250 001	250 001	250 001
		Packaging unit	2	2	2	2	2

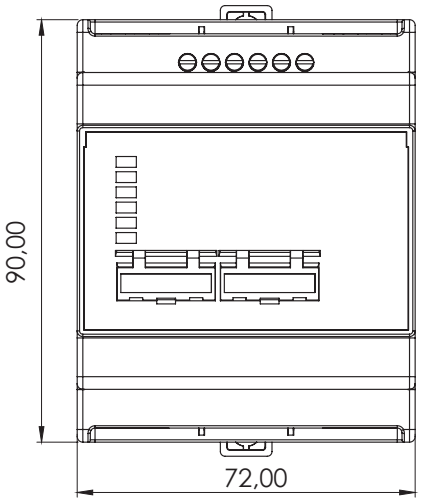
Electronic Products

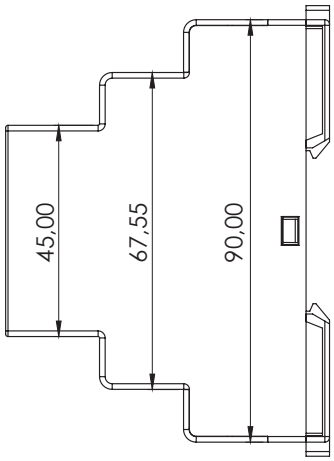
POWYS 4-5-6 Series Energy Analyzers

The POWYS series power analyzers, designed in new enclosures with widths of 72mm and 126mm, are devices intended for analyzing three-phase electrical systems. Offering users options of screenless, 7-segment, and LCDs, the POWYS series provides a competitive solution through its screenless models and free user interface software. Equipped with an RS485 (Modbus RTU) interface, the devices provide data for remote monitoring projects. Communication settings can be easily configured via the dip switches located on the top cover.

With optional digital outputs, pulse signals can be generated based on the measured energy values. The digital inputs can be used as pulse counters or tariff activations. Through alarm relay outputs, alarm management can be established without the need for additional devices.

- Screenless, 7 segment, and LCD options
- Options for enclosure widths of 72 mm and 126 mm
- Support for x/1 and x/5 Current Transformer
- High Measurement Accuracy
- RS485 (Modbus RTU) Option
- 2 SPST Relay Output Options
- 2 Digital Input/Output Options
- Free user interface software





Electronic Products

POWYS 4-5-6 Series Energy Analyzers

Product Name	Order No	V, C, F	P, Q, S, PF	Min / Max Data Logging	4Q. Energy Measur.	4Q Reactive Energy Monit.	THD	Individual Harmonics (up to 31st)	Demand	On Hour, Run Hour, Power Interruption Counters	Alarm Setting	Scrennless	7 Segment	LCD Screen	RO (2 pcs)	DO (2 pcs)	DI (2 pcs)	Tariff	RS485 (Modbus RTU)	85-300 V DC/DC	X/1 & X/5	Rail Mount
POWYS 400R	606600	√	√	√	√	√	√	√	√	√	√	√						2	√	√	√	√
POWYS 405R	606601	√	√	√	√	√	√	√	√	√	√	√				√	√	2	√	√	√	√
POWYS 506RD	606602	√	√	√	√	√			√	√	√	√			√	√	√	2	√	√	√	√
POWYS 506RS	606603	√	√	√	√	√			√	√	√		√		√	√	√	2	√	√	√	√
POWYS 606R	606604	√	√	√	√	√	√	√	√	√	√			√	√	√	√	3	√	√	√	√

Electronic Products

POWYS 1-3 Series Energy Analyzers

Type			DNPT	DNPT-B	POWYS 3121	POWYS 3111	POWYS 3101
Definiton			3Ø Power Transducer	3Ø Power Transducer	3Ø Energy Analyzer	3Ø Energy Analyzer	3Ø Energy Analyzer
Order Number			606400	606 401	606305	606304	606303
General	Seven Segment Display		-	-	-	Available	-
	LCD		-	-	Available	-	-
	Language Support		-	-	-	-	-
	Battery		Available	Available	-	-	-
	Real Time Clock		Available	Available	-	-	-
	Password Protection		-	-	Available	Available	Available
	Current Transformer Ratio		1-5000	1-5000	1-5000	1-5000	1-5000
	Voltage Transformer Ratio		1-5000	1-5000	1-5000	1-5000	1-5000
	Demand Period		1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable
	Measurement in Quadrants		4	4	4	4	4
	Number of Measurement in a period		512	512	256	256	256
	LCD/Display Refresh Period		-	-	1 sec	1 sec	-
	Network		TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT
	Wiring		3P4W, 3P3W, Aron	3P4W, 3P3W, Aron	3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W
	Phasor Diagram		-	-	-	-	-
	Signal Waveforms		-	-	-	-	-
	Min/Max/Demand Values		Available	Available	Available	Available	Available
Energy Measurement	Number of Tariffs		2	2	2	2	2
	Multi Sub-Tariffs(Peak, Day and Off-Peak)		Available	Available	-	-	-
	1Ø Phase Energy Meters		-	-	Available	Available	Available
	3Ø Phase Energy Meters		Available	Available	Available	Available	Available
	4 Quadrant Reactive Energy Meters		-	-	-	-	-
Current Measurement Input	Measurement Range		10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
	Overvoltage Category		300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II
	Measurement Surge Voltage		2 kV	2 kV	2 kV	2 kV	2 kV
	Power Consumption		<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
	intermittent overload		100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
	Sampling Freq.between 45-65 Hz		25.6 kHz	25.6 kHz	12,8 kHz	12,8 kHz	12,8 kHz
Voltage Measurement Input	Overvoltage Category		300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III
	Measured Range L-N		1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms
	Measured Range L-L		2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms
	Measured Frequency Range		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
	Power Consumption		<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA
	Sampling Freq.between 45-65 Hz		25.6 kHz	25.6 kHz	12,8 kHz	12,8 kHz	12,8 kHz
Power Quality Measurements	Harmonics for current and voltage phases		Upto 51st	Upto 51st	Upto 31st	Upto 31st	Upto 31st
	THD-Voltage in %		Available	Available	Available	Available	Available
	THD-Current in %		Available	Available	Available	Available	Available
Other Measurements	Run Hour (Operating time for load in hours)		-	-	Available	Available	Available
	On Hour (Operating time for meter in hours)		-	-	Available	Available	Available
	Int Counter (Number of power interruptions)		-	-	Available	Available	Available
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.2	Class 0.2	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Power	Class 1	Class 1	Class 1	Class 1	Class 1
		Total Apparent Power	Class 0.2	Class 0.2	Class 0.5	Class 0.5	Class 0.5
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	Class 2
		Frequency	Class 0.05	Class 0.05	Class 0.1	Class 0.1	Class 0.1
		Current	Class 0.2	Class 0.2	Class 0.5	Class 0.5	Class 0.5
		Neutral Current	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Voltage	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Power factor	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		THDV, THDI	Class 1	Class 1	Class 1	Class 1	Class 1
	According to IEC 62053-22	Total Active Energy	Class 0.2S	Class 0.2S	Class 0.5S	Class 0.5S	Class 0.5S
	Accoding to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	Class 2	Class 2

Electronic Products

POWYS 1-3 Series Energy Analyzers





POWYS 3100	POWYS 1110	POWYS 1120	POWYS 1012	POWYS 1022
3Ø Energy Analyzer	1Ø Energy Analyzer	1Ø Energy Analyzer	1Ø Energy Analyzer	1Ø Energy Analyzer
606300	606351	606352	606354	606355
-	Available	-	Available	-
-	-	Available	-	Available
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Available	Available	Available	Available	Available
1-5000	1-5000	1-5000	1-5000	1-5000
1-5000	1-5000	1-5000	1-5000	1-5000
1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable
4	4	4	4	4
256	256	256	256	256
-	1 sec	1 sec	1 sec	1 sec
TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT
3P4W, 3P3W	Single-phase with neutral and 1 CT	Single-phase with neutral and 1 CT	Single-phase with neutral and 1 CT	Single-phase with neutral and 1 CT
-	-	-	-	-
-	-	-	-	-
Available	Available	Available	Available	Available
1	1	1	1	1
-	-	-	-	-
Available	Available	Available	Available	Available
Available	-	-	-	-
-	-	-	-	-
10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II
2 kV	2 kV	2 kV	2 kV	2 kV
<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III
1-300 Vrms	10-500 Vrms	10-500 Vrms	10-500 Vrms	10-500 Vrms
2-500 Vrms	-	-	-	-
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA
12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
Upto 31st	Upto 31st	Upto 31st	Upto 31st	Upto 31st
Available	Available	Available	Available	Available
Available	Available	Available	Available	Available
Available	Available	Available	Available	Available
Available	Available	Available	Available	Available
Available	Available	Available	Available	Available
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 1	Class 1	Class 1	Class 1	Class 1
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 2	Class 2	Class 2	Class 2	Class 2
Class 0.1	Class 0.1	Class 0.1	Class 0.1	Class 0.1
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 1	Class 1	Class 1	Class 1	Class 1
Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S
Class 2	Class 2	Class 2	Class 2	Class 2

POWYS 1-3 Series Energy Analyzers

Type			DNPT	DNPT-B	POWYS 3121	POWYS 3111	POWYS 3101
Inputs and Outputs	Alarm Relay Outputs	Number of outputs	2 pcs.	-	2 pcs.	2 pcs.	2 pcs.
		Type	NO (SPST)	-	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	5 A	-	10 A AC / 5 A DC	10 A AC / 5 A DC	10 A AC / 5 A DC
		Max. Switching Voltage	250 V AC	-	250 V AC / 30 V DC	250 V AC / 30 V DC	250 V AC / 30 V DC
		Max. Switching Power	1250 VA	-	1250 VA / 150 W	1250 VA / 150 W	1250 VA / 150 W
	Digital Inputs	Number of inputs	2 pcs.	-	2 pcs.	2 pcs.	2 pcs.
		Minimum Counting Frequency	100 Hz, 10 ms	-	100 Hz, 10 ms	100 Hz, 10 ms	100 Hz, 10 ms
		Input Present or Not	Dry Contact	-	Dry Contact	Dry Contact	Dry Contact
		Isolation Level	5000 Vrms	-	5000 Vrms	5000 Vrms	5000 Vrms
	Digital Outputs	Number of outputs	2 pcs.	-	2 pcs.	2 pcs.	2 pcs.
		Type	Transistor	-	Transistor	Transistor	Transistor
		Switching Voltage Range	5-30 VDC	-	5-30 VDC	5-30 VDC	5-30 VDC
		Minimum Switching Frequency	20 Hz, 50 ms	-	20 Hz, 50 ms	20 Hz, 50 ms	20 Hz, 50 ms
		Isolation Level	5000 Vrms	-	5000 Vrms	5000 Vrms	5000 Vrms
	Analog Outputs	Number of outputs	4	-	-	-	-
		Range of Outputs 0-5 V, 0-10 V, -5-5 V, -10-10V, 0-20 mA, 4-20 mA	Available	-	-	-	-
		Isolation	isolated		-	-	-
Supply	Voltage	AC	85-300V	85-300V	85-300V	85-300V	85-300V
		DC	85-300V	85-300V	85-300V	85-300V	85-300V
	Consumption	AC	< 3VA	< 3VA	<4.5VA	<6VA	<6VA
		DC	<2.5W	<2.5W	<2W	<3W	<3W
	Frequency		45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
Data Logging with timestamp	Min/max/avg Values	Hourly records	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	-	-	-
		Daily records	240 days x 68 different paramaters	240 days x 68 different paramaters	-	-	-
		Monthly records	36 months x 68 different parameters	36 months x 68 different parameters	-	-	-
	Demand		4 months x 16 different parameters	4 months x 16 different parameters	-	-	-
	Alarm records		50	50	-	-	-
Communication	Protocol		Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU
	Baud rate		2400-115200 bps adjustable	2400-115200 bps adjustable	1200-57600 bps adjustable	1200-57600 bps adjustable	1200-57600 bps adjustable
	Parity number		None	None	Odd, Even, None	Odd, Even, None	Odd, Even, None
	Stop bit		1	1	1	1	1
	Address		1-247	1-247	1-247	1-247	1-247
	Isolation		2750V RMS	2750V RMS	2750V RMS	2750V RMS	2750V RMS
Mechanical Properties	Weight(g)		335	335	340	330	278
	Protection Class		IP20	IP20	IP20	IP20	IP20
	Assembly Type		Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
Cable Cross Sections	Supply, Voltage, Current, Relay Outputs	Stranded:	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG
		Solid:	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG
	Digital I/O, RS 485, Analog Output	Stranded:	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG
		Solid:	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG
Ambient Conditions	Operating Temperature		-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
	Storage Temperature		-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
	Relative Humidity (no condensation)		Max.95%	Max.95%	Max.95%	Max.95%	Max.95%

POWYS 3100	POWYS 1110	POWYS 1120	POWYS 1012	POWYS 1022
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	2 pcs.	2 pcs.
-	-	-	Transistor	Transistor
-	-	-	5-30 VDC	5-30 VDC
-	-	-	20 Hz, 50 ms	20 Hz, 50 ms
-	-	-	5000 Vrms	5000 Vrms
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
85-300V	85-300V	85-300V	85-300V	85-300V
85-300V	85-300V	85-300V	85-300V	85-300V
<6VA	<4VA	<4VA	<4VA	<4VA
<3W				
45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Modbus RTU	Modbus RTU	Modbus RTU	-	-
1200-57600 bps adjustable	1200-57600 bps adjustable	1200-57600 bps adjustable	-	-
Odd, Even, None	Odd, Even, None	Odd, Even, None	-	-
1	1	1	-	-
1-247	1-247	1-247	-	-
2750V RMS	2750V RMS	2750V RMS	-	-
259	135	135	135	135
IP20	IP20	IP20	IP20	IP20
Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG
4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG
1,5 mm²-16AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG
1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG
-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
Max.95%	Max.95%	Max.95%	Max.95%	Max.95%

Electronic Products

RAPIDUS Series Power Factor Controllers

Type			**RAPIDUS 231R-E**	**RAPIDUS 211R**	**RAPIDUS 232R-E**	**RAPIDUS 212R**
Definiton			Power Factor Controller (3Ø-12steps)	Power Factor Controller (1Ø-12steps)	Power Factor Controller (3Ø-24steps)	Power Factor Controller (1Ø-24steps)
Order Number			606005	606011	606007	606014
General	Measuring system		3Ø	1Ø	3Ø	1Ø
	LCD Sreen		Available	Available	Available	Available
	Language Support		Turkish, English, Russian	Turkish, English, Russian	Turkish, English, Russian	Turkish, English, Russian
	Battery		Available	Available	Available	Available
	Real Time Clock		Available	Available	Available	Available
	Password Protection		Available	Available	Available	Available
	Current Transformer Ratio		1-5000	1-5000	1-5000	1-5000
	Voltage Transformer Ratio		1-5000	1-5000	1-5000	1-5000
	Demand Period		1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable
	Connection Type		3P4W	Single phase(L-L or L-N) voltage connection with 1 CT	3P4W	Single phase(L-L or L-N) voltage connection with 1 CT
	Measurement in Quadrants		4	4	4	4
	Number of Measurement in a period		512	512	512	512
	LCD/Display Refresh Period		1 sec	1 sec	1 sec	1 sec
	Networks		TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT
	Phasor Diagram		Available	Available	Available	Available
	Signal Waveforms		-	-	-	-
	Min/Max/Demand Values		Available	Available	Available	Available
Control Operations and Functions	Compensation Modes	Rapidus (Intelligent control mode)	Available	Available	Available	Available
		Sequential	Available	Available	Available	Available
		Linear	Available	Available	Available	Available
		Circular	Available	Available	Available	Available
		Manual	Available	Available	Available	Available
	Step Conf igurations	Manually Assign	Available	Available	Available	Available
		Predef ined	1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3	1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3	1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3	1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3
		DCM	Available	Available	-	-
		Fixed Step Assigment	Available	Available	Available	Available
		Power(kVAr)	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable
		Type	3Ø capacitor,3Ø shunt reactor,1Ø capacitor or 1Ø shunt reactor adjustable	3Ø capacitor, 3Ø shunt reactor adjustable	3Ø capacitor,3Ø shunt reactor,1Ø capacitor or 1Ø shunt reactor adjustable	3Ø capacitor, 3Ø shunt reactor adjustable
	Power factor settings	Target 1 cosØ	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable
		Target 2 cosØ	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. adjustable
	Learning Step Powers and Connections		Available	Available	Available	Available
	Dual cosØ target		Available	Available	Available	Available
	4 Quadrant operation for generators		Available	Available	Available	Available
	Time delays	Step activation time	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
		Step deactivation time	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
		Step discharge time	3-1000 sec adjustable	3-1000 sec adjustable	3-1000 sec adjustable	3-1000 sec adjustable
	Phase shift angle		±45 degree adjustable	±45 degree adjustable	±45 degree adjustable	±45 degree a adjustable
	Averaging time		Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable	Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable	Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable	Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable
Energy Meters	Number of Tariffs		1	1	1	1
	Multi Sub-Tariffs(Peak, Day and Off-Peak)		-	-	-	-
	1Ø Phase Energy Meter		-	-	-	-
	3Ø Phase Energy Meters		Available	Available	Available	Available
	4 Quadrant Reactive Energy Meters		-	-	-	-

Electronic Products

RAPIDUS Series Power Factor Controllers

RAPIDUS 218R	RAPIDUS 114	RAPIDUS 114R	RAPIDUS 116	RAPIDUS 116R	RAPIDUS 118
Power Factor Controller (1Ø-8steps)	Power Factor Controller (1Ø-4steps)	Power Factor Controller (1Ø-4steps)	Power Factor Controller (1Ø-6steps)	Power Factor Controller (1Ø-6steps)	Power Factor Controller (1Ø-8steps)
606021	606060	606061	606062	606063	606064
1Ø	1Ø	1Ø	1Ø	1Ø	1Ø
Available	Custom LCD	Custom LCD	Custom LCD	Custom LCD	Custom LCD
Turkish, English, Russian	Turkish, English	Turkish, English	Turkish, English	Turkish, English	Turkish, English
Available	-	-	-	-	-
Available	-	-	-	-	-
Available	Available	Available	Available	Available	Available
1-5000	1 - 5.000	1 - 5.000	1 - 5.000	1 - 5.000	1 - 5.000
1-5000	1 - 999.9	1 - 999.9	1 - 999.9	1 - 999.9	1 - 999.9
1-60 minutes adjustable	-	-	-	-	-
Single phase(L-L or L-N) voltage connection with 1 CT	L-L/L-N	L-L/L-N	L-L/L-N	L-L/L-N	L-L/L-N
4	-	-	-	-	-
512	512	512	512	512	512
1 sec	<0.5 sec.	<0.5 sec.	<0.5 sec.	<0.5 sec.	<0.5 sec.
TT, TN, IT	TT, TN	TT, TN	TT, TN	TT, TN	TT, TN
Available	-	-	-	-	-
-	-	-	-	-	-
Available	-	-	-	-	-
Available	Available	Available	Available	Available	Available
Available	-	-	-	-	-
Available	-	-	-	-	-
Available	-	-	-	-	-
Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available
1-1-1-1, 1-1-2-2, 1-2-2-4, 1-2-3-3, 1-2-4-4, 1-1-2-4, 1-2-3-4, 1-2-4-8, 1-1-2-3	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4
Available	-	-	-	-	-
Available	-	-	-	-	-
0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable
3Ø capacitor, 3Ø shunt reactor adjustable	3Ø capacitor or 1Ø capacitor	3Ø capacitor or 1Ø capacitor	3Ø capacitor or 1Ø capacitor	3Ø capacitor or 1Ø capacitor	3Ø capacitor or 1Ø capacitor
0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
0.8cap. to 0.8ind. adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
Available	-	-	-	-	-
Available	Available	Available	Available	Available	Available
Available	-	-	-	-	-
1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
3-1000 sec adjustable	3-600 sec adjustable	3-600 sec adjustable	3-600 sec adjustable	3-600 sec adjustable	3-600 sec adjustable
±45 degree adjustable	-	-	-	-	-
Off, 5sec, 10sec, 20sec, 30sec, 40sec, 50sec, 60sec adjustable	-	-	-	-	-
1	1	1	1	1	1
-	-	-	-	-	-
-	Available	Available	Available	Available	Available
Available	-	-	-	-	-
-	-	-	-	-	-

RAPIDUS Series Power Factor Controllers

Type			RAPIDUS 231R-E	RAPIDUS 211R	RAPIDUS 232R-E	RAPIDUS 212R
Current Measurement Input	Measurement Range		10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
	Overvoltage Category		300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II
	Measurement Surge Voltage		2 kV	2 kV	2 kV	2 kV
	Power Consumption		<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
	intermittent overload		100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
	Sampling Freq.between 45-65 Hz		25,6 kHz	25,6 kHz	25,6 kHz	25,6 kHz
Voltage Measurement Input	Overvoltage Category		300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III
	Measured Range L-N		95-272 VAC ±10%	95-410VAC ±10%	95-272 VAC ±10%	95-410VAC ±10%
	Measured Range L-L		164-471 VAC ±10%	95-410VAC ±10%	164-471 VAC ±10%	95-410VAC ±10%
	Measured Frequency Range		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
	Power Consumption		<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA
	Sampling Freq.between 45-65 Hz		25,6 kHz	25,6 kHz	25,6 kHz	25,6 kHz
Power Quality Measurements	Harmonics / current and voltage		Upto 51st	Upto 51st	Upto 51st	Upto 51st
	THD-Voltage in %		Available	Available	Available	Available
	THD-Current in %		Available	Available	Available	Available
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Total Reactive Power	Class 1	Class 1	Class 1	Class 1
		Total Apparent Power	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Energy	Class 2	Class 2	Class 2	Class 2
		Frequency	Class 0.05	Class 0.05	Class 0.05	Class 0.05
		Current	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Neutral Current	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		Voltage	Class 0.2	Class 0.2	Class 0.2	Class 0.2
		Power factor	Class 0.5	Class 0.5	Class 0.5	Class 0.5
		THDV, THDI	Class 1	Class 1	Class 1	Class 1
	According to IEC 62053-22	Total Active Energy	Class 0.2S	Class 0.2S	Class 0.2S	Class 0.2S
	Accoding to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	Class 2
Input and Outputs	Compensation Relay Outputs	Number of outputs	12 pcs.	12 pcs.	24 pcs.	24 pcs.
		Type	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	2 A	2 A	2 A	2 A
		Max. Switching Voltage	250 VAC	250 VAC	250 VAC	250 VAC
		Max. Switching Power	500 VA	500 VA	500 VA	500 VA
		Mechanical life time	≥ 10^7 operations	≥ 10^7 operations	≥ 10^7 operations	≥ 10^7 operations
		Electrical life time operations (for NO side)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
	Alarm Relay Outputs	Number of outputs	2 pcs.	2 pcs.	2 pcs.	2 pcs.
		Type	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	4 A	4 A	4 A	4 A
		Max. Switching Voltage	250 VAC	250 VAC	250 VAC	250 VAC
		Max. Switching Power	1000 VA	1000 VA	1000 VA	1000 VA
		Mechanical life time	≥ 10^7 operations	≥ 10^7 operations	≥ 10^7 operations	≥ 10^7 operations
		Electrical life time operations (for NO side)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
	Generator/ Day-Night Input	Number of inputs	1 pc.	1 pc.	1 pc.	1 pc.
		Frequency	45-65Hz	45-65Hz	45-65Hz	45-65Hz
		Input Present or Not	95-240VAC	95-240VAC	95-240VAC	95-240VAC
	Digital Outputs		-	-	-	-
	Analog Outputs		-	-	-	-

RAPIDUS Series Power Factor Controllers

RAPIDUS 218R	RAPIDUS 114	RAPIDUS 114R	RAPIDUS 116	RAPIDUS 116R	RAPIDUS 118
10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
300 V Cat II	510V CAT II	510V CAT II	510V CAT II	510V CAT II	510V CAT II
2 kV	2 kV	2 kV	2 kV	2 kV	2 kV
<0.2 VA	<0.3 VA	<0.3 VA	<0.3 VA	<0.3 VA	<0.3 VA
100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
25,6 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
300 V Cat III	510V CAT III	510V CAT III	510V CAT III	510V CAT III	510V CAT III
95-410VAC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%
95-410VAC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%
45-65 Hz	45...65 Hz	45...65 Hz	45...65 Hz	45...65 Hz	45...65 Hz
<0.1 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
25,6 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
Upto 51st	-	-	-	-	-
Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available
Class 0.2	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
Class 0.2	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
Class 0.05	Class 0.1	Class 0.1	Class 0.1	Class 0.1	Class 0.1
Class 0.2	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2	Class 0.2
Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
Class 0.2S	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S
Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
8+2(If alarm relay outputs are used for compensation) pcs.	4	4	6	6	8
NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
2 A	2A	2A	2A	2A	2A
250 VAC	250VAC	250VAC	250VAC	250VAC	250VAC
500 VA	500 VA	500 VA	500 VA	500 VA	500 VA
≥ 10^7 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations
5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
2 pcs.	2	2	2	2	2
NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)	NO (SPST)
4 A	4A	4A	4A	4A	4A
250 VAC	250 VAC	250 VAC	250 VAC	250 VAC	250 VAC
1000 VA	1000 VA	1000 VA	1000 VA	1000 VA	1000 VA
≥ 10^7 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations
5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
1 pc.	1	1	1	1	1
45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
95-240VAC	95-240VAC	95-240VAC	95-240VAC	95-240VAC	95-240VAC
-	-	-	-	-	-
-	-	-	-	-	-

Electronic Products

RAPIDUS Series Power Factor Controllers

Type			RAPIDUS 231R-E	RAPIDUS 211R	RAPIDUS 232R-E	RAPIDUS 212R
Supply	Auxilary supply input		No	No	No	No
	Voltage		95-272VAC ±10% from L1-N	95-410VAC ±10% from La-Lb	95-272VAC ±10% from L1-N	95-410VAC ±10% from La-Lb
	Frequency		45-65Hz	45-65Hz	45-65Hz	45-65Hz
	Consumption	AC	< 10VA	< 10VA	< 10VA	< 10VA
		DC	-	-	-	-
Data Logging with timestamp	Min/max/avg Values	Hourly records	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters	1920 hours x 68 different paramaters
		Daily records	240 days x 68 different paramaters	240 days x 68 different paramaters	240 days x 68 different paramaters	240 days x 68 different paramaters
		Monthly records	36 hours x 68 different paramaters	36 hours x 68 different paramaters	36 hours x 68 different paramaters	36 hours x 68 different paramaters
	Demand		4 months x 16 different parameters	4 months x 16 different parameters	4 months x 16 different parameters	4 months x 16 different parameters
	Alarm records		50	50	50	50
Communication	Protocol		Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU
	Baud rate		2400-115200 bps adjustable	2400-115200 bps adjustable	2400-115200 bps adjustable	2400-115200 bps adjustable
	Parity number		None	None	None	None
	Stop bit		1	1	1	1
	Address		1-247 adjustable	1-247 adjustable	1-247	1-247
	Isolation		2000V RMS	2000V RMS	2000V RMS	2000V RMS
Mechanical Properties	Weight(g)		670	663	765	750
	Protection Class		Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
	Assembly Type		Panel Mount	Panel Mount	Panel Mount	Panel Mount
Cable Cross Sections	Voltage, Current, All Relay Outputs, Gen Input	Stranded:	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG	2,5 mm² - 14AWG
		Solid:	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm²-12 AWG, 2x1.5 mm²-2x16 AWG
	RS 485	Stranded:	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG	1,5 mm²-16AWG
		Solid:	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG
Ambient Conditions	Operating Temperature	-20 to +55 °C	-20 to +55 °C	-20 to +55 °C	-20 to +55 °C	-20 to +55 °C
	Storage Temperature	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
	Relative Humidity (no condensation)	Max.95%	Max.95%	Max.95%	Max.95%	Max.95%
Accessories		Type	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)
		Definition	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER
		Order Number	250 001	250 001	250 001	250 001
		Packaging unit	2	2	2	2

RAPIDUS Series Power Factor Controllers

RAPIDUS 218R	RAPIDUS 114	RAPIDUS 114R	RAPIDUS 116	RAPIDUS 116R	RAPIDUS 118
No	-	-	-	-	-
95-410VAC ±10% from La-Lb	120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N
45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
< 10VA	< 10VA	< 10VA	< 10VA	< 10VA	< 10VA
-	-	-	-	-	-
1920 hours x 68 different paramaters	-	-	-	-	-
240 days x 68 different paramaters	-	-	-	-	-
36 hours x 68 different paramaters	-	-	-	-	-
4 months x 16 different parameters	-	-	-	-	-
50	-	-	-	-	-
Modbus RTU	-	Modbus RTU	-	Modbus RTU	-
2400-115200 bps adjustable	-	1200-38400 bps adjustable	-	1200-38400 bps adjustable	-
None	-	Odd, Even, None	-	Odd, Even, None	-
1	-	1	-	1	-
1-247	-	1-247	-	1-247	-
2000V RMS	-	2000V RMS	-	2000V RMS	-
415	309	314	319	324	329
Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
2,5 mm² - 14AWG	2.5mm² - 14AWG	2.5mm² - 14AWG	2.5mm² - 14AWG	2.5mm² - 14AWG	2.5mm² - 14AWG
4mm²-12 AWG, 2x1.5 mm²-2x16 AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG
1,5 mm²-16AWG	-	1.5mm² - 16AWG	-	1.5mm² - 16AWG	-
1.5 mm²-16 AWG, 2x0.75 mm²-2x18 AWG	-	1.5mm² - 16AWG, 2x0.75mm² - 2x18AWG	-	1.5mm² - 16AWG, 2x0.75mm² - 2x18AWG	-
-20 to +55 °C	-20°C +55°C	-20°C +55°C	-20°C +55°C	-20°C +55°C	-20°C +55°C
-30 to +80 °C	-30°C +80°C	-30°C +80°C	-30°C +80°C	-30°C +80°C	-30°C +80°C
Max.95%	Maks. 95%	Maks. 95%	Maks. 95%	Maks. 95%	Maks. 95%
IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)
SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER
250 001	250 001	250 001	250 001	250 001	250 001
2	2	2	2	2	2

Electronic Products

RAPIDUS Series Power Factor Controllers

Type			RAPIDUS 118R	RAPIDUS 110	RAPIDUS 110R
Definiton			Power Factor Controller (1Ø-8steps)	Power Factor Controller (1Ø-10steps)	Power Factor Controller (1Ø-10steps)
Order Number			606065	606070	606071
General	Measuring system		1Ø	1Ø	1Ø
	LCD Sreen		Custom LCD	Custom LCD	Custom LCD
	Language Support		Turkish, English	Turkish, English	Turkish, English
	Battery		-	-	-
	Real Time Clock		-	-	-
	Password Protection		Available	Available	Available
	Current Transformer Ratio		1 - 5.000	1 - 5.000	1 - 5.000
	Voltage Transformer Ratio		1 - 999.9	1 - 999.9	1 - 999.9
	Demand Period		-	-	-
	Connection Type		L-L/L-N	L-L/L-N	L-L/L-N
	Measurement in Quadrants		-	-	-
	Number of Measurement in a period		256	256	256
	LCD/Display Refresh Period		<0.5 sec.	<0.5 sec.	<0.5 sec.
	Networks		TT, TN	TT, TN	TT, TN
	Phasor Diagram		-	-	-
	Signal Waveforms		-	-	-
	Min/Max/Demand Values		-	-	-
Control Operations and Functions	Compensation Modes	Rapidus (Intelligent control mode)	Available	Available	Available
		Sequential	-	-	-
		Linear	-	-	-
		Circular	-	-	-
		Manual	Available	Available	Available
	Step Conf igurations	Manually Assign	Available	Available	Available
		Predef ined	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4
		DCM	-	-	-
		Fixed Step Assigment	-	-	-
		Power(kVAr)	0.00-1000 adjustable	0.00-1000 adjustable	0.00-1000 adjustable
		Type	3Ø capacitor or 1Ø capacitor	3Ø capacitor or 1Ø capacitor	3Ø capacitor or 1Ø capacitor
	Power factor settings	Target 1 cosØ	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
		Target 2 cosØ	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
	Learning Step Powers and Connections		-	-	-
	Dual cosØ target		Available	Available	Available
	4 Quadrant operation for generators		-	-	-
	Time delays	Step activation time	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
		Step deactivation time	1-600 sec adjustable	1-600 sec adjustable	1-600 sec adjustable
		Step discharge time	3-600 sec adjustable	3-600 sec adjustable	3-600 sec adjustable
	Phase shift angle		-	-	-
	Averaging time		-	-	-
Energy Meters	Number of Tariffs		1	1	1
	Multi Sub-Tariffs(Peak, Day and Off-Peak)		-	-	-
	1Ø Phase Energy Meter		Available	Available	Available
	3Ø Phase Energy Meters		-	-	-
	4 Quadrant Reactive Energy Meters		-	-	-
Current Measurement Input	Measurement Range		10mA-6A AC	10mA-6A AC	10mA-6A AC
	Overvoltage Category		510V CAT II	510V CAT II	510V CAT II
	Measurement Surge Voltage		2 kV	2 kV	2 kV
	Power Consumption		<0.3 VA	<0.3 VA	<0.3 VA
	intermittent overload		100A for 1 sec	100A for 1 sec	100A for 1 sec
	Sampling Freq.between 45-65 Hz		12,8 kHz	12,8 kHz	12,8 kHz
Voltage Measurement Input	Overvoltage Category		510V CAT III	510V CAT III	510V CAT III
	Measured Range L-N		120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%
	Measured Range L-L		120-510V AC ±10%	120-510V AC ±10%	120-510V AC ±10%
	Measured Frequency Range		45...65 Hz	45...65 Hz	45...65 Hz
	Power Consumption		<0.2 VA	<0.2 VA	<0.2 VA
	Sampling Freq.between 45-65 Hz		12,8 kHz	12,8 kHz	12,8 kHz

Electronic Products

RAPIDUS Series Power Factor Controllers

RAPIDUS 111	RAPIDUS 111R
Power Factor Controller (1Ø-12steps)	Power Factor Controller (1Ø-12steps)
606072	606073
1Ø	1Ø
Custom LCD	Custom LCD
Turkish, English	Turkish, English
-	-
-	-
Available	Available
1 - 5.000	1 - 5.000
1 - 999.9	1 - 999.9
-	-
L-L/L-N	L-L/L-N
-	-
512	512
<0.5 sec.	<0.5 sec.
TT, TN	TT, TN
-	-
-	-
-	-
Available	Available
-	-
-	-
-	-
Available	Available
Available	Available
1-1-1-1, 1-2-2-2, 1-2-4-4	1-1-1-1, 1-2-2-2, 1-2-4-4
-	-
-	-
0.00-1000 adjustable	0.00-1000 adjustable
3Ø capacitor or 1Ø capacitor	3Ø capacitor or 1Ø capacitor
0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
0.8cap. to 0.8ind. Adjustable	0.8cap. to 0.8ind. Adjustable
-	-
Available	Available
-	-
1-600 sec adjustable	1-600 sec adjustable
1-600 sec adjustable	1-600 sec adjustable
3-600 sec adjustable	3-600 sec adjustable
-	-
-	-
1	1
-	-
Available	Available
-	-
-	-
10mA-6A AC	10mA-6A AC
510V CAT II	510V CAT II
2 kV	2 kV
<0.3 VA	<0.3 VA
100A for 1 sec	100A for 1 sec
12,8 kHz	12,8 kHz
510V CAT III	510V CAT III
120-510V AC ±10%	120-510V AC ±10%
120-510V AC ±10%	120-510V AC ±10%
45...65 Hz	45...65 Hz
<0.2 VA	<0.2 VA
12,8 kHz	12,8 kHz

RAPIDUS Series Power Factor Controllers

Type			RAPIDUS 118R	RAPIDUS 110	RAPIDUS 110R
Power Quality Measurements	Harmonics / current and voltage		-	-	-
	THD-Voltage in %		Available	Available	Available
	THD-Current in %		Available	Available	Available
Type			RAPIDUS 118R	RAPIDUS 110	RAPIDUS 110R
Measurement Accuracy	According to IEC 61557-12	Total Active Power	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Power	Class 1	Class 1	Class 1
		Total Apparent Power	Class 0.5	Class 0.5	Class 0.5
		Total Active Energy	Class 0.5	Class 0.5	Class 0.5
		Total Reactive Energy	Class 2	Class 2	Class 2
		Frequency	Class 0.1	Class 0.1	Class 0.1
		Current	Class 0.5	Class 0.5	Class 0.5
		Neutral Current	Class 0.5	Class 0.5	Class 0.5
		Voltage	Class 0.2	Class 0.2	Class 0.2
		Power factor	Class 0.5	Class 0.5	Class 0.5
		THDV, THDI	Class 1	Class 1	Class 1
	According to IEC 62053-22	Total Active Energy	Class 0.5S	Class 0.5S	Class 0.5S
	Accoding to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2
Input and Outputs	Compensation Relay Outputs	Number of outputs	8	10	10
		Type	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	2A	2A	2A
		Max. Switching Voltage	250VAC	250VAC	250VAC
		Max. Switching Power	500 VA	500 VA	500 VA
		Mechanical life time	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations
		Electrical life time operations (for NO side)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
	Alarm Relay Outputs	Number of outputs	2	2	2
		Type	NO (SPST)	NO (SPST)	NO (SPST)
		Max. Switching Current	4A	4A	4A
		Max. Switching Voltage	250 VAC	250 VAC	250 VAC
		Max. Switching Power	1000 VA	1000 VA	1000 VA
		Mechanical life time	≥ 10.0000000 operations	≥ 10.0000000 operations	≥ 10.0000000 operations
		Electrical life time operations (for NO side)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
	Generator/ Day-Night Input	Number of inputs	1	1	1
		Frequency	45-65Hz	45-65Hz	45-65Hz
		Input Present or Not	95-240VAC	95-240VAC	95-240VAC
	Digital Outputs		-	-	-
	Analog Outputs		-	-	-
Supply	Auxilary supply input		-	-	-
	Voltage		120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N
	Frequency		45-65Hz	45-65Hz	45-65Hz
	Consumption	AC	< 10VA	< 10VA	< 10VA
		DC	-	-	-
Data Logging with timestamp	Min/max/avg Values	Hourly records	-	-	-
		Daily records	-	-	-
		Monthly records	-	-	-
	Demand		-	-	-
	Alarm records		-	-	-
Communication	Protocol		Modbus RTU	-	Modbus RTU
	Baud rate		1200-38400 bps adjustable	-	1200-38400 bps adjustable
	Parity number		Odd, Even, None	-	Odd, Even, None
	Stop bit		1	-	1
	Address		1-247	-	1-247
	Isolation		2000V RMS	-	2000V RMS
Mechanical Properties	Weight(g)		334	365	369
	Protection Class		Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
	Assembly Type		Panel Mount	Panel Mount	Panel Mount
Cable Cross Sections	Voltage, Current, All Relay Outputs, Gen Input	Stranded:	2.5mm² - 14AWG	2.5mm² - 14AWG	2.5mm² - 14AWG
		Solid:	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG
	RS 485	Stranded:	1.5mm² - 16AWG	-	1.5mm² - 16AWG
		Solid:	1.5mm² - 16AWG, 2x0.75mm² - 2x18AWG	-	1.5mm² - 16AWG, 2x0.75mm² - 2x18AWG
Ambient Conditions	Operating Temperature	-20 to +55 °C	-20°C +55°C	-20°C +55°C	-20°C +55°C
	Storage Temperature	-30 to +80 °C	-30°C +80°C	-30°C +80°C	-30°C +80°C
	Relative Humidity (no condensation)	Max.95%	Maks. 95%	Maks. 95%	Maks. 95%

RAPIDUS 111	RAPIDUS 111R
-	-
Available	Available
Available	Available
RAPIDUS 111	RAPIDUS 111R
Class 0.5	Class 0.5
Class 1	Class 1
Class 0.5	Class 0.5
Class 0.5	Class 0.5
Class 2	Class 2
Class 0.1	Class 0.1
Class 0.5	Class 0.5
Class 0.5	Class 0.5
Class 0.2	Class 0.2
Class 0.5	Class 0.5
Class 1	Class 1
Class 0.5S	Class 0.5S
Class 2	Class 2
12	12
NO (SPST)	NO (SPST)
2A	2A
250VAC	250VAC
500 VA	500 VA
≥ 10.0000000 operations	≥ 10.0000000 operations
5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
2	2
NO (SPST)	NO (SPST)
4A	4A
250 VAC	250 VAC
1000 VA	1000 VA
≥ 10.0000000 operations	≥ 10.0000000 operations
5×104(5A@250VAC) 1×105(5A@30VDC)	5×104(5A@250VAC) 1×105(5A@30VDC)
1	1
45-65Hz	45-65Hz
95-240VAC	95-240VAC
-	-
-	-
-	-
120...510V AC ±10% from L1-N	120...510V AC ±10% from L1-N
45-65Hz	45-65Hz
< 10VA	< 10VA
-	-
-	-
-	-
-	-
-	-
-	-
-	Modbus RTU
-	1200-38400 bps adjustable
-	Odd, Even, None
-	1
-	1-247
-	2000V RMS
374	379
Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
Panel Mount	Panel Mount
2.5mm² - 14AWG	2.5mm² - 14AWG
4mm² - 12AWG, 2x1.5mm² - 2x16AWG	4mm² - 12AWG, 2x1.5mm² - 2x16AWG
-	1.5mm² - 16AWG
-	1.5mm² - 16AWG, 2x0.75mm² - 2x18AWG
-20°C +55°C	-20°C +55°C
-30°C +80°C	-30°C +80°C
Maks. 95%	Maks. 95%

Electronic Products

Time Relays Series

Klemsan new Z1x series time relays offer optimum solutions in various industrial applications with different function options and with 12-240 V AC/DC (universal input) wide supply range.

It is suitable for use in narrow panels with its new body design under the DIN norm.

In addition to single-function devices, there are up to 10 function options that can be controlled via trigger input, based on the model. Time settings can be made easily with the trimpots on the device between 0.1 sec to 10 days.

Special functional relays such as star-delta, left-right, etc are also available in the product portfolio.

- 12-240 V AC/DC universal supply range
- 18 mm enclosure design under DIN Norm and design under IEC 61812-1 standard
- Support for up to 10 functions based on model
- 0.1sec – 10 days wide time range
- Power-off delay function adjustable for up to 2 hours
- Relay output (10A)
- High mechanical endurance
- Function control via trigger input
- LED notifications

TIME RELAYS SERIES

Product Name	Order No	Definition	Trigger Input	On Delay (ND)	Off Delay (FD)	Power Off Delay (PFD)	Off Flasher (FDF)	On Flasher (NDF)	On - Off Delay (NFD)	On Delay with Trigger (yND)	Off Delay with Trigger (yFD)	On and Off Delay with Trigger (yNF)	Pulse Delayed with Control Signal (yN)	Pulse Output with Control Signal (yP)	Additive on Delay (yNA)	On Delay with Maintened Control Signal (yMN)	Off Delay with Maintened Control Signal (yMF)	Interval with Control Signal On (yIR)	Interval with Control Signal Off (yIF)	Star Delta (SD)	Left - Right (LR)	Relay Qty	Time Adjustment	12..240 V AC/DC	24..240 V AC/DC	150..500 V AC
Z1A-ND30s	261025	Timer Relay		√																		1 C/O	1 sec .. 30 sec		√	
Z1A-ND100s	261023	Timer Relay		√																		1 C/O	1 sec .. 100 sec		√	
Z1T-ND100s	261010	Timer Relay (Sensitive)		√																		1 C/O	1 sec .. 100 sec	√		
Z1T-PFD120m-24	261011	Power Off Delay				√																1 C/O	1sec .. 120min		√	
Z1T-FDF	261013	Timer Relay					√															1 C/O	0.1 sec .. 10 day	√		
Z1T-NDF	261014	Timer Relay						√														1 C/O	0.1 sec .. 10 day	√		
Z1T-ND100s.2	261026	Timer Relay		√																		2 C/O	1 sec .. 100 sec	√		
Z1T-M2	261015	Multi-Func Time Relay		√	√																	1 C/O	0.1 sec .. 99.9 saat	√		
Z1K-M2A	261016	Multi-Func Time Relay	√						√	√												1 C/O	0.1 sec .. 99.9 saat	√		
Z1T-M4	261017	Multi-Func Time Relay		√	√		√	√														1 C/O	1 sec .. 10 day	√		
Z1T-M5	261018	Multi-Func Time Relay		√	√		√	√	√													1 C/O	1 sec .. 10 day	√		
Z1K-M10	261019	Multi-Func Time Relay	√	√	√		√					√		√	√	√	√	√	√			1 C/O	0.1 sec .. 10 day	√		
Z1K-M10A	261024	Multi-Func Time Relay	√	√	√		√					√	√	√		√	√	√	√			1 C/O	0.1 sec .. 10 day	√		
Z1T-LR.2	261020	Left-Right Timer																			√	2 C/O	0.1 sec .. 10 day	√		
Z1T-SD	261021	Star-Delta Timer Relay																		√		2 C/O	0.1 sec .. 30 sec, 20 .. 500msec	√		
Z1T-SD-500	261022	Star-Delta Timer Relay																		√		2 C/O	0.1 sec .. 30 sec, 20 .. 500msec			√

NOTE: See product manuals for function descriptions.

Electronic Products

Protection & Monitoring Relays Series

Klemsan protection and monitoring relays in new enclosures under the DIN norm, are designed to protect your system against problems caused by voltage, frequency, and temperature in single-phase and three-phase electrical systems.

In addition to fixed protection models that do not require any adjustments, some products allow asymmetry, voltage protection, protection parameter selection, and time setting adjustment over trimpots on the device

- System errors can be monitored thanks to the LED notifications that indicate errors.
- Product design under TS EN 60255 standard,
- 18mm thin product body under DIN standard,
- TRMS measurement,
- Red LED indicators for error notification,
- Orange LED indicator for relay status,
- Adjustable pots for time and limit values,
- 5A SPDT relay output,
- Optionally Asymmetry, Phase Sequence, Absence of Phase, High - Low Voltage, High - Low Frequency, PTC, Neutral break protection,
- Liquid level and light intensity monitoring functions
- Star, delta, and single-phase connection options,
- High precision and high mechanical durability.

FIXED PRODUCTION RELAYS

Product Name	Order No	Definition	3P4W	3P3W	Phase-Loss Protection	Phase Sequence Protection	Asymmetry Protection	PTC Input	1 C/O	1 NO	85-300 VAC (VLN)	180-265 VAC (VLN)	145-520 VAC (VLL)
FP1Y-ASF 230	270271	Motor Protection Relay	√		√	√	20%		√		√		
FP1D-ASF 400	270272	Motor Protection Relay		√	√	√	20%		√			√	
FP1Y-ASF8 230	270273	Motor Protection Relay	√		√	√	40%		√				
FP1Y-ASF8.3 230	270274	Motor Protection Relay	√		√	√	40%			√	√		
FP1Y-AF 230	270275	Motor Protection Relay	√		√		20%		√		√		
FP1Y-SF 230	270276	Motor Protection Relay	√		√	√			√		√		
FP1Y-SFP 230	270284	Motor Protection Relay	√		√	√		√	√		√		
FP1D-SFP 400	270285	Motor Protection Relay		√	√	√		√	√			√	
FP1YA-ASF8 230	270300	Motor Protection Relay	√		√	√	20%		√				√
FP1YA-ASF8.3 230	270301	Motor Protection Relay	√		√	√	20%		√				√
FP1D-SF 400	270302	Motor Protection Relay		√	√	√			√			√	

Electronic Products

Protection & Monitoring Relays Series

ADJUSTABLE PROTECTION RELAYS

Product Name	Order No	Definition	3P4W	3P3W	Phase-Loss Protection	Phase Sequence Protection	Asymmetry Protection	Low Voltage Protection	High Voltage Protection	Low - High Voltage Protection (Same Trimpot)	Neutral Loss Protection	Nominal Voltage (Un)	PTC Input	Adjustable On Delay	Adjustable Off Delay	1 C/O	75-250 VAC (VLN)	85-300 VAC (VLN)	130-430 VAC (VLL)	145-520 VAC (VLL)
P1Y-ASF 230	270277	Motor Protection Relay	√		√	√	±(5-30%)/0ff					230V			0.1-10 sec	√		√		
P1D-ASF 400	270278	Motor Protection Relay		√	√	√	±(5-30%)/0ff					400V			0.1-10 sec	√				√
P1Y-M1WASFN 170-280	270282	Motor Protection Relay	√		√	√	±(5-30%)/0ff			±(5-30%)/0ff	√	170-280V			0.1-10 sec	√		√		
P1D-M1WASF 295-480	270283	Motor Protection Relay		√	√	√	±(5-30%)/0ff			±(5-30%)/0ff		295-480V			0.1-10 sec	√				√
P1Y-M2WSP 170-280	270286	Motor Protection Relay	√		√			-(5-30%)/0ff	+(5-30%)/0ff			170-280V	√		0.1-10 sec	√		√		
P1D-M2WSP 295-480	270287	Motor Protection Relay		√	√	√		-(5-30%)/0ff	+(5-30%)/0ff			295-480V	√		0.1-10 sec	√				√
P1Y-M1WASFN 100-200	270288	Motor Protection Relay	√		√	√	±(5-30%)/0ff			±(5-30%)/0ff	√	100-200V			0.1-10 sec	√	√			
P1D-M1WASF 175-345	270289	Motor Protection Relay		√	√	√	±(5-30%)/0ff			±(5-30%)/0ff		175-345V			0.1-10 sec	√			√	
P1Y-M2WSP 100-200	270290	Motor Protection Relay	√		√	√		-(5-30%)/0ff	+(5-30%)/0ff			100-200V	√		0.1-10 sec	√	√			
P1D-M2WSP 175-345	270291	Motor Protection Relay		√	√	√		-(5-30%)/0ff	+(5-30%)/0ff			175-345V	√		0.1-10 sec	√			√	
FP1D-SF 400	270302	Motor Protection Relay		√	√	√			√			√								

Electronic Products

Protection & Monitoring Relays Series

VOLTAGE MONITORING RELAYS

Product Name	Order No	Definition	1P2W	3P4W	3P3W	Phase-Loss Protection	Phase Sequence Protection	Low Voltage Protection	High Voltage Protection	Low - High Voltage Protection (Same Trimpot)	Neutral Loss Protection	Nominal Voltage (Un)	Adjustable On Delay	Adjustable Off Delay	1 C/O	75-250 VAC (VLN)	85-300 VAC (VLN)	130-430 VAC (VLL)	145-520 VAC (VLL)
V1Y-WFN 230	270279	Voltage Monitoring Relay		√		√		150-210V	240-300V		√	230V	0.1-10 sec	0.1-10 sec	√		√	√	
V1Y-WS 300	270280	Voltage Monitoring Relay		√		√	√	150-210V	240-300V			230V	0.1-10 sec	0.1-10 sec	√		√		
V1D-WS 520	270281	Voltage Monitoring Relay			√	√	√	260-360V	415-520V			400V	0.1-10 sec	0.1-10 sec	√				√
V1Y-WUN 120-480	270292	Voltage Monitoring Relay		√		√	√			±(5-30%)/Off	√	120-277V	2 sec	0.1-15 sec	√		√		
V1Y-WUN.9 120-480	270293	Voltage Monitoring Relay		√		√	√			±(5-30%)/Off	√	120-277V	2 sec	0.1-15 mins	√		√		
V1U-M2W 230	270295	Voltage Monitoring Relay	√			√		(90-115%)Un	(80-130%)Un			230V	0.1-10 sec	0.1-10 sec	√		√		
V1U-M2W 120	270296	Voltage Monitoring Relay	√			√		(75-115%)Un	(80-130%)Un			120V	0.1-10 sec	0.1-10 sec	√	√			

SPECIAL FUNCTIONAL MONITORING RELAYS

Product Name	Order No	Definition	PTC Monitoring	Frequency Monitoring Range	Frequency Monitoring Voltage	Light Intensity Monitoring Range	Liquid Level Sensitivity Range	Liquid Level Probe Qty	Adjustable On Delay	Adjustable Off Delay	1 C/O	24-265 VAC/DC (VLN)	115VAC & 230VAC
K1F-WL6 50/60	270294	Frequency Monitoring		45-65Hz	85-300VLN					0.1-10 sec	√	√	
FK1T-P 24-265	270297	Temperature Monitoring	√								√	√	
K1TW-D7 20K	270298	Light Intensity				1-20 lux				0.1-10 sec	√	√	
K2LC-D2 115-230	270299	Liquid Level Monitoring					1-75kohm	6	0.1-10 sec	0.1-10 sec	√		√

Electronic Products

MEASTRO Series Astronomical Timers

MEASTRO-R
Infrared Controller

Order Number: 270 720

Type		MEASTR0110	MEASTR0120	MEASTR0121	MEASTR0221	MEASTR0321	MEASTR0122	MEASTR0222	MEASTR0322
Definition		Digital Timer	Digital Timer	Astronomical Timer	Astronomical Timer	Astronomical Timer	Astronomical Timer	Astronomical Timer	Astronomical Timer
Order Number		270 700	270 701	270 702	270 703	270 704	270 705	270 706	270 707
Casing Width(mm)		36mm	36mm	36mm	36mm	36mm	36mm	36mm	36mm
Connections		Screw Terminal	Screw Terminal	Screw Terminal	Screw Terminal	Screw Terminal	Screw Terminal	Screw Terminal	Screw Terminal
Mounting		Rail Mount	Rail Mount	Rail Mount	Rail Mount	Rail Mount	Rail Mount	Rail Mount	Rail Mount
Functions	Digital time clock	√	√	√	√	√	√	√	√
	Astronomical time clock	-	-	√	√	√	-	√	√
	Prayer program	-	-	-	-	√	-	-	√
	Infrared	-	-	√	√	√	-	-	-
	Programming with controller	-	-	√	√	√	-	-	-
	RS485 (Modbus RTU)	-	-	-	-	-	√	√	√
	Display	Type	LCD	LCD	LCD	LCD	LCD	LCD	LCD
	Dimensions	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"
		Renewal time	0.5sec	0.5sec	0.5sec	0.5sec	0.5sec	0.5sec	0.5sec
Number of Program		100	100	100	100	100	100	100	100
Infrared Distance		550 mm	550 mm	550 mm	550 mm	550 mm	550 mm	550 mm	550 mm
Accuracy		±1sec/day							
Battery Life		7 years	7 years	7 years	7 years	7 years	7 years	7 years	7 years
Type of Output		Relay	Relay	Relay	Relay	Relay	Relay	Relay	Relay
	Relay Outputs	Number of Contacts	1	2	2	2	2	2	2
	Type	1 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)
	Max. Ratings -AC	16A / 250VAC	16A / 250VAC	16A / 250VAC	16A / 250VAC	16A / 250VAC	16A / 250VAC	16A / 250VAC	16A / 250VAC
	Max. Switching Power	1250VA	1250VA	1250VA	1250VA	1250VA	1250VA	1250VA	1250VA
	Mechanical Life Time	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7
	Electrical Life Time	5x10^4	5x10^4	5x10^4	5x10^4	5x10^4	5x10^4	5x10^4	5x10^4
	Supply Voltage	Supply Voltage	DC	-	-	-	-	-	-
		AC	180…265 V AC	180…265 V AC	180…265 V AC	180…265 V AC	180…265 V AC	180…265 V AC	180…265 V AC
	Supply Frequency		50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz
	Permissible Ambient Temperature	During Operation	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
		During Storage	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C
Relative Humidity		Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Operating Frequency		50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz	50-60Hz
Degree of Protection		IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
	Power Consumption	DC	-	-	-	-	-	-	-
	AC	<11VA	<11VA	<11VA	<11VA	<11VA	<11VA	<11VA	<11VA

Electronic Products

DPR Series Digital Protection Relays

Type			DPR3110	DPR3120	DPR3111	DPR3121	DPR3110E	DPR3120E
Definition			Digital Protection Relay	Digital Protection Relay	Digital Protection Relay	Digital Protection Relay	Digital Protection Relay	Digital Protection Relay
Order Number			270 600	270 601	270 602	270 603	270 604	270 605
Casing Width(mm)			36mm	36mm	36mm	36mm	36mm	36mm
Connections			Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Network			3Ø with neutral	3Ø with neutral	3Ø without neutral	3Ø without neutral	3Ø with neutral	3Ø with neutral
Monitoring Functions	**Phase Failure**	Delay Time	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec
	Phase Seguence	Delay Time	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec
	Adjustable Unbalanced Protection	Range	0 - 30%	0 - 30%	0 - 30%	0 - 30%	0 - 30%	0 - 30%
		Hysteresis	0 - 30%	0 - 30%	0 - 30%	0 - 30%	0 - 30%	0 - 30%
		Delay Time	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec
	Adjustable Voltage Protection	Range	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V
		Hysteresis	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V
		Delay Time	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec
	Adjustable Frequency Protection	Range	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V
		Hysteresis	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V	0 - 999 V
		Delay Time	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec	0 - 999 sec
	PTC Protection	Threshold	1100Ω	-	1100Ω	-	1100Ω	-
		Delay Time	0 - 999 sec	-	0 - 999 sec	-	0 - 999 sec	-
Type of Output			Relay	Relay	Relay	Relay	Relay	Relay
Auxiliary Contacts		Number of Contacts	1	2	1	2	1	2
		Type	1 C/O (SPDT)	2 C/O (SPDT)	1 C/O (SPDT)	2 C/O (SPDT)	1 C/O (SPDT)	2 C/O (SPDT)
		Max Ratings-AC	10A / 250VAC	10A / 250VAC	10A / 250VAC	10A / 250VAC	10A / 250VAC	10A / 250VAC
		Max. Switching Power	1250VA	1250VA	1250VA	1250VA	1250VA	1250VA
		Mechanical Life Time	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7	≥ 10^7
		Electrical Life Time	5x10^4	5x10^4	5x10^4	5x10^4	5x10^4	5x10^4
Supply Voltage	**External Supply**		-	-	-	-	Available	Available
	Supply Voltage	DC	-	-	-	-	-	-
		AC	85..300 V AC	85..300 V AC	85..300 V AC	85..300 V AC	85..300 V AC	85..300 V AC
	Supply Frequency		35-70Hz	35-70Hz	35-70Hz	35-70Hz	35-70Hz	35-70Hz
Permissible Ambient Temperature		During Operation	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
		During Storage	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C	-30°C..+80°C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Operating Frequency			35-70Hz	35-70Hz	35-70Hz	35-70Hz	35-70Hz	35-70Hz
Degree of Protection			IP20	IP20	IP20	IP20	IP20	IP20
Power Consumption		DC	-	-	-	-	-	-
		AC	<4VA	<4VA	<4VA	<4VA	<4VA	<4VA

Electronic Products

MGS Series Automatic Transfer Relay

The MGS series automatic transfer switches monitor the 3-phase mains and control the transition between the mains and the generator in undesirable situations. The system and device actions are easily understood through the LEDs on the device, while bidirectional transition times can be adjusted up to 100 msec using trimpots.

Designed in a 72mm width enclosure compliant with DIN standards, the MGS series does not require an external power supply as it is powered through measurement terminals.

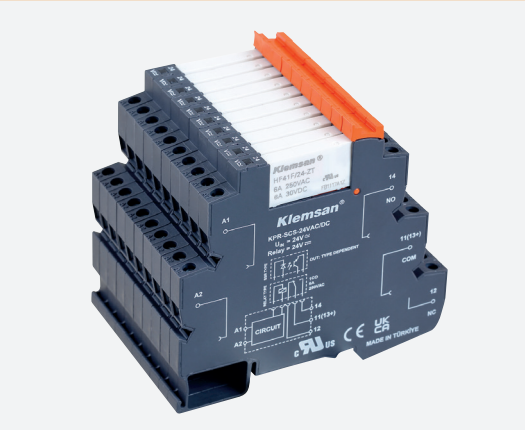
- DIN standard compliant 72mm body design
- Low Voltage, Phase Loss, and Optional Phase Sequence Protection
- Bidirectional transition times are adjustable up to 100 msec
- LED Notifications
- 3 pcs 16A relays: mains contactor output, generator contactor output, and generator start output
- Isolated grid and generator supply

MGS AUTOMATIC TRANSFER RELAY SERIES

Product Name	Order No	Definition	Low Voltage and Phase Loss Control	Phase Sequence Control	Transition Time Setting up to 100 sec.	72mm Enclosure	85-300 V AC Supply
MGS 3100	270460	Automatic Transfer Switch	√		√	√	√
MGS 3110	270461	Automatic Transfer Switch		√	√	√	√

Electronic Products

KPR series PLC Interface Relays



Klemsan new PLC interface relay series with new colors is an electrically operated relay series that has 6VDC input to 230V AC/DC options and provides isolation between control circuits and controlled circuits. It is designed to provide maximum efficiency for different projects thanks to its 6.2mm width and support for both electromechanical and SSR (Solid State Relay).

- Input voltage options between 6V and 230V,
- DC and AC supply voltage options,
- Electromechanical and SSR support in the same enclosure
- Saving in cable connection time with cross-connection,
- 6A switching current under 250V AC,
- Space saving with 6.2mm design,
- LED status indicator to see the actual movement of the contacts,
- Labeling with terminal block marking materials,
- Special filter design that is not affected by voltage leaks
- Maximum resistance to interference with Electromagnetic Compatibility (EMC) certificate,
- Self-extinguishing plastic casing,
- UL certification

Product Name	Order No	Definition	6V	12V	24V	48V	60V	115V	230V	AC	DC	AC/ DC	Filtered	Max. Switching Current	Dimension
KPR-SCS-6VDC-1C	271003	Interface Relay Module	√								√			6A	6,2 mm
KPR-SCS-6VDC	271004	Interface Relay Socket	√								√			6A	6,2 mm
KPR-SCS-12VAC/DC-1C	271009	Interface Relay Module		√								√		6A	6,2 mm
KPR-SCS-12VAC/DC	271010	Interface Relay Socket		√								√		6A	6,2 mm
KPR-SCS-12VDC-1C	271013	Interface Relay Module		√							√			6A	6,2 mm
KPR-SCS-12VDC	271014	Interface Relay Socket		√							√			6A	6,2 mm
KPR-SCS-24VAC/DC-1C	271019	Interface Relay Module			√							√		6A	6,2 mm
KPR-SCS-24VAC/DC	271020	Interface Relay Socket			√							√		6A	6,2 mm
KPR-SCS-24VDC-1C	271023	Interface Relay Module			√						√			6A	6,2 mm
KPR-SCS-24VDC	271024	Interface Relay Socket			√						√			6A	6,2 mm
KPR-SCS-48VAC/DC-1C	271029	Interface Relay Module				√						√		6A	6,2 mm
KPR-SCS-48VAC/DC	271030	Interface Relay Socket				√						√		6A	6,2 mm
KPR-SCS-48VDC-1C	271033	Interface Relay Module				√					√			6A	6,2 mm
KPR-SCS-48VDC	271034	Interface Relay Socket				√					√			6A	6,2 mm
KPR-SCS-60VAC/DC-1C	271039	Interface Relay Module					√					√		6A	6,2 mm
KPR-SCS-60VAC/DC	271040	Interface Relay Socket					√					√		6A	6,2 mm
KPR-SCS-60VDC-1C	271043	Interface Relay Module					√				√			6A	6,2 mm
KPR-SCS-60VDC	271044	Interface Relay Socket					√				√			6A	6,2 mm
KPR-SCS-115VAC/DC-1C	271049	Interface Relay Module						√				√		6A	6,2 mm
KPR-SCS-115VAC/DC	271050	Interface Relay Socket						√				√		6A	6,2 mm
KPR-SCS-115VDC-1C	271053	Interface Relay Module						√			√			6A	6,2 mm
KPR-SCS-115VDC	271054	Interface Relay Socket						√			√			6A	6,2 mm
KPR-SCL-115VAC/DC-1C	271055	Interface Relay Module						√				√	√	6A	6,2 mm
KPR-SCL-115VAC/DC	271056	Interface Relay Socket						√				√	√	6A	6,2 mm
KPR-SCS-230VAC/DC-1C	271059	Interface Relay Module							√			√		6A	6,2 mm
KPR-SCS-230VAC/DC	271060	Interface Relay Socket							√			√		6A	6,2 mm
KPR-SCS-230VAC-1C	271061	Interface Relay Module							√	√				6A	6,2 mm
KPR-SCS-230VAC	271062	Interface Relay Socket							√	√				6A	6,2 mm
KPR-SCL-230VAC/DC-1C	271065	Interface Relay Module							√			√	√	6A	6,2 mm
KPR-SCL-230VAC/DC	271066	Interface Relay Socket							√			√	√	6A	6,2 mm
KPR-SCL-230VAC-1C	271067	Interface Relay Module							√	√			√	6A	6,2 mm
KPR-SCL-230VAC	271068	Interface Relay Socket							√	√			√	6A	6.2 mm

Electronic Products

KPR Series PLC Interface Relays

Pre-assembled module (relay + socket)		**Type**	**KPR-SWE-6VDC-1C**	**KPR-SWE-12VAC/ DC-1C**	**KPR-SWE-12VDC-1C**	**KPR-SWE-24VAC/ DC-1C**	**KPR-SWE-24VDC-1C**	**KPR-SWE-48VAC/ DC-1C**	**KPR-SWE-48VDC-1C**
		Definition	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module
		Order Number	272 004	272 020	272 024	272 040	272 044	272 060	272 064
Casing Width(mm)			14	14	14	14	14	14	14
Connection			Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Packaging unit			10	10	10	10	10	10	10
Input	Nominal Voltage(Un)		6VDC	12VAC/DC	12VDC	24VAC/DC	24VDC	48VAC/DC	48VDC
	Operating voltage range		> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN
	Release voltage		< %40 x UN	< %40 x UN	< %40 x UN	< %40 x UN	< %40 x UN	< %30 x UN	< %30 x UN
	Integrated RCZ filter		-	-	-	-	-	-	-
	Power Consumption	AC	-	<1VA	-	<1VA	-	<1VA	-
		DC	<1W	<1W	<1W	<1W	<1W	<1W	<1W
Contact Characteristic	Type		1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)
	Material		AgSnO2	AgSnO3	AgSnO4	AgSnO5	AgSnO6	AgSnO7	AgSnO8
	Coil voltage		5VDC	12VDC	12VDC	24VDC	24VDC	48VDC	48VDC
	Coil empedance		147x(1± 10%) Ω	848x(1± 10%) Ω	848x(1± 10%) Ω	3390x(1± 15%) Ω	3390x(1± 25%) Ω	10600x(1± 15%) Ω	10600x(1± 15%) Ω
	Coil consumption		400mW	400mW	400mW	400mW	400mW	400mW	400mW
	Operate time		15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.
	Release time		8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.
	Max. ratings (AC)		12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA
	Max. ratings (DC)		12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W
	Mechanical life time		1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7
	Electrical life time	NO	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)
		NC	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)
Isolation resistance			1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)
Dielectric Strength	Between relay coil and contacts		5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.
	Between contacts		1000VAC 1 min...	1000VAC 1 min..	1000VAC 1 min..	1000VAC 1 min..	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.
Permissible ambient temperature		During operation	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
		During storage	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
Relative Humidity			5% .. 85% (no ondensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)
Degree of protection			IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Weight(gr)			56	56	56	56	56	56	56
Max. cable cross-section			2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²
Max. Torque			0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm
Permissible mounting position			any	any	any	any	any	any	any
Accessories and Components	APP/KPR 	Type	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR
		Definition	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate
		Order Number	463 247	464 247	465 247	466 247	467 247	468 247	469 247
		Packaging unit	25	25	25	25	25	25	25
	Socket 	Type	KPR-SWE-6VDC-1C (Röle Soket)	KPR-SWE-12VAC/DC-1C (Relay Socket)	KPR-SWE-12VDC-1C	KPR-SWE-24VAC/DC-1C (Relay Socket)	KPR-SWE-24VDC-1C (Relay Socket)	KPR-SWE-48VAC/DC-1C (Relay Socket)	KPR-SWE-48VDC-1C (Relay Socket)
		Definition	Interface relay socket(6V DC)	Interface relay socket(12VAC/DC)	Interface relay socket(12VAC/DC)	Interface relay socket(24VAC/DC)	Interface relay socket(24VDC)	Interface relay socket(48VAC/DC)	Interface relay socket(48VDC)
		Order Number	272 005	272 021	272 025	272 041	272 045	272 061	272 065
		Packaging unit	10	10	10	10	10	10	10
	Relay 	Type	1 C/O 5VDC Relay	1 C/O 12VDC Relay	1 C/O 12VDC Relay	1 C/O 24VDC Relay	1 C/O 24VDC Relay	1 C/O 48VDC Relay	1 C/O 48VDC Relay
		Definition	Relay for 272 004 and 272 505	Relay for 272 020 and 272 521	Relay for 272 024 and 272 525	Relay for 272 040 and 272 541	Relay for 272 044 and 272 545	Relay for 272 060 and 272 561	Relay for 272 064 and 272 565
		Order Number	095 064	095 063	095 063	095 062	095 062	095 061	095 061
		Packaging unit	50	50	50	50	50	50	50
	Plug-in bridge-8 	Type	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)
		Definition	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole
		Order Number	476 900	476 900	476 900	476 900	476 900	476 900	476 900
		Packaging unit	25	25	25	25	25	25	25
	Plug-in bridge-2 	Type	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI
		Definition	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole
		Order Number	476 910	476 910	476 910	476 910	476 910	476 910	476 910
		Packaging unit	25	25	25	25	25	25	25

Electronic Products

KPR Series PLC Interface Relays

KPR-SWE-60VAC/ DC -1C	KPR-SWE-60VDC-1C	KPR-SWE-115VAC/ DC-1C	KPR-SWE-115VDC-1C	KPR-SWF-115VAC/ DC-1C	KPR-SWE-230VAC/ DC-1C	KPR-SWE-230VAC-1C	KPR-SWF-230VAC/ VDC-1C	KPR-SWF-230VAC-1C
Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module
272 080	272 084	272 100	272 104	272 106	272 120	272 122	272 126	272 128
14	14	14	14	14	14	14	14	14
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
10	10	10	10	10	10	10	10	10
60VAC/DC	60VDC	115VAC/DC	115VDC	115VAC/DC	230VAC/DC	30VAC	230VAC/VDC	230VAC
> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN
< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %40 x UN	< %30 x UN	< %30 x UN	< %30 x UN
-	-	-	-	Avaible	-	-	Avaible	Avaible
<1VA	-	<1VA	-	<1VA	<1VA	<1VA	<1VA	<1VA
<1W	<1W	<1W	<1W	<1W	<1W	<1W	<1W	<1W
1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)	1 C/O (SPDT)
AgSnO9	AgSnO10	AgSnO11	AgSnO12	AgSnO13	AgSnO14	AgSnO15	AgSnO16	AgSnO17
48VDC	48VDC	110VDC	110VDC	110VDC	110VDC	110VDC	110VDC	110VDC
10600x(1± 15%) Ω	10600x(1± 15%) Ω	10600x(1± 15%) Ω	10600x(1± 15%) Ω	10600x(1± 15%) Ω	10600x(1± 15%) Ω	10600x(1± 15%) Ω	10600x(1± 15%) Ω	10600x(1± 15%) Ω
400mW	400mW	400mW	400mW	400mW	400mW	400mW	400mW	400mW
15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.	15 ms Maks.
8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.	8 ms Maks.
12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA	12A/ 400VAC ; 2000VA
12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W	12A/ 30VDC ; 240W
1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7	1 x 10^7
3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)	3 x 10^4 (85°C)
1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)	1 x 10^5 (85°C)
1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)
5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.	5000VAC 1 min.
1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.
-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)
IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
56	56	56	56	56	56	56	56	56
2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²
0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm
any	any	any	any	any	any	any	any	any
APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR
Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate
470 247	471 247	472 247	473 247	474 247	475 247	476 247	477 247	478 247
25	25	25	25	25	25	25	25	25
KPR-SWE-60VAC/DC-1C (Relay Socket)	KPR-SWE-60VDC-1C (Relay Socket)	KPR-SWE-115VAC/DC-1C (Relay Socket)	KPR-SWE-115VDC-1C (Relay Socket)	KPR-SWF-115VAC/DC-1C (Relay Socket)	KPR-SWE-230VAC/DC-1C (Relay Socket)	KPR-SWE-230VAC-1C (Relay Socket)	KPR-SWF-230VAC/VDC-1C (Relay Socket)	KPR-SWF-230VAC-1C (Relay Socket)
Interface relay socket(60VAC/DC)	Interface relay socket(60VDC)	Interface relay socket(115VAC/DC)	Interface relay socket(115VDC)	"Interface relay socket with RCZ filter115VAC/DC)"	Interface relay socket(230VAC/DC)	Interface relay socket(230VDC)	Interface relay socket with RCZ filter(230VAC/DC)	Interface relay socket with RCZ filtert(230VAC)
272 081	272 085	272 101	272 105	272 107	272 121	272 123	272 127	272 129
10	10	10	10	10	10	10	10	10
1 C/O 48VDC Relay	1 C/O 48VDC Relay	1 C/O 110VDC Relay	1 C/O 110VDC Relay	1 C/O 110VDC Relay	1 C/O 110VDC Relay	1 C/O 110VDC Relay	1 C/O 110VDC Relay	1 C/O 110VDC Relay
Relay for 272 080 and 272 581	Relay for 272 084 and 272 585	Relay for 272 100 and 272 601	Relay for 272 104 and 272 605	Relay for 272 106 and 272 607	Relay for 272 120 and 272 621	Relay for 272 122 and 272 623	Relay for 272 126 and 272 627	Relay for 272 128 and 272 629
095 061	095 061	095 060	095 060	095 060	095 060	095 060	095 060	095 060
50	50	50	50	50	50	50	50	50
TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)
Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole
476 900	476 900	476 900	476 900	476 900	476 900	476 900	476 900	476 900
25	25	25	25	25	25	25	25	25
K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI	K-KPR-SWE-2-LI
Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole	Plug-in bridge for 2 hole
476 910	476 910	476 910	476 910	476 910	476 910	476 910	476 910	476 910
25	25	25	25	25	25	25	25	25

Electronic Products

KPR Series PLC Interface Relays

Pre-assembled module (relay + socket)		**Type**	**KPR-SWE-6VDC-2C**	**KPR-SWE-12VAC/ DC-2C**	**KPR-SWE-12VDC-2C**	**KPR-SWE-24VAC/ DC-2C**	**KPR-SWE-24VDC-2C**	**KPR-SWE-48VAC/ DC-2C**	**KPR-SWE-48VDC-2C**
		Definition	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module
		Order Number	272 504	272 520	272 524	272 540	272 544	272 560	272 564
Casing Width(mm)			14	14	14	14	14	14	14
Connection			Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Packaging unit			10	10	10	10	10	10	10
Input	Nominal Voltage(Un)		6VDC	12VAC/DC	12VDC	24VAC/DC	24VDC	48VAC/DC	48VDC
	Operating voltage range		> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN
	Release voltage		< %40 x UN	< %40 x UN	< %40 x UN	< %40 x UN	< %40 x UN	< %30 x UN	< %30 x UN
	Integrated RCZ filter		-	-	-	-	-	-	-
	Power Consumption	AC	-	<1VA	-	<1VA	-	<1VA	-
		DC	<1W	<1W	<1W	<1W	<1W	<1W	<1W
Contact Characteristic	Type		2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)
	Material		AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2
	Coil voltage		5VDC	12VDC	12VDC	24VDC	24VDC	48VDC	48VDC
	Coil empedance		62 x (1 ±10%) Ω	360 x (1 ±10%)	360 x (1 ±10%)	1440 x (1 ±10%)	1440 x (1 ±10%)	5760 x (1 ±10%)	5760 x (1 ±10%)
	Coil consumption		400mW	400mW	400mW	400mW	400mW	400mW	400mW
	Operate time		15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.
	Release time		8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.
	Max. ratings (AC)		8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA
	Max. ratings (DC)		8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W
	Mechanical life time		10^7	10^7	10^7	10^7	10^7	10^7	10^7
	Electrical life time	NO	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4
		NC	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4
Isolation resistance			1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)
Dielectric Strength	Between relay coil and contacts		4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.
	Between contacts		1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.
Permissible ambient temperature		During operation	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
		During storage	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
Relative Humidity			5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)
Degree of protection			IP20	IP20	IP20	IP20	IP20	IP20	IP20
Weight(gr)			56	56	56	56	56	56	56
Max. cable cross-section			2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²
Max. Torque			0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm
Permissible mounting position			any	any	any	any	any	any	any
Accessories and Components	APP/KPR 	Type	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR
		Definition	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate
		Order Number	463 247	463 247	463 247	463 247	463 247	463 247	463 247
		Packaging unit	25	25	25	25	25	25	25
	Socket 	Type	KPR-SWE-6VDC-2C (RELAY SOCKET)	KPR-SWE-12VAC/ DC-2C (RELAY SOCKET)	KPR-SWE-12VDC-2C (RELAY SOCKET)	KPR-SWE-24VAC/ DC-2C (RELAY SOCKET)	KPR-SWE-24VDC-2C (RELAY SOCKET)	KPR-SWE-48VAC/ DC-2C (RELAY SOCKET)	KPR-SWE-48VDC-2C (RELAY SOCKET)
		Definition	Interface relay socket (6VDC)	Interface relay socket (12VAC/DC)	Interface relay socket (12VDC)	Interface relay socket (24VAC/DC)	Interface relay socket (24VDC)	Interface relay socket (48VAC/DC)	Interface relay socket (48VDC)
		Order Number	272 505	272 521	272 525	272 541	272 545	272 561	272 565
		Packaging unit	10	10	10	10	10	10	10
	Relay 	Type	2 C/O 5VDC Relay	2 C/O 12VDC Relay	2 C/O 12VDC Relay	2 C/O 24VDC Relay	2 C/O 24VDC Relay	2 C/O 48VDC Relay	2 C/O 48VDC Relay
		Definition	Relay for 272 504 and 272 505	Relay for 272 520 and 272 521	Relay for 272 524 and 272 525	Relay for 272 540 and 272 541	Relay for 272 544 and 272 545	Relay for 272 560 and 272 561	Relay for 272 564 and 272 565
		Order Number	095 054	095 053	095 053	095 052	095 052	095 051	095 051
		Packaging unit	50	50	50	50	50	50	50
	Plug-in bridge-8 	Type	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)
		Definition	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole
		Order Number	476 900	476 900	476 900	476 900	476 900	476 900	476 900
		Packaging unit	25	25	25	25	25	25	25
	Dekafix 	Type	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T
		Definition	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays
		Order Number	505 390	505 390	505 390	505 390	505 390	505 390	505 390
		Packaging unit	360	360	360	360	360	360	360

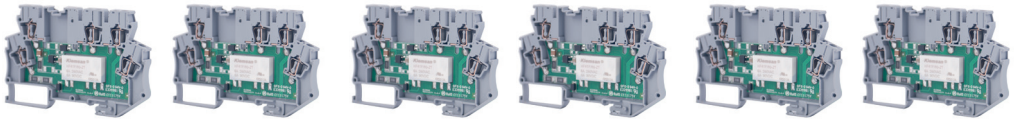
Electronic Products

KPR Series PLC Interface Relays

KPR-SWE-60VAC/ DC-2C	KPR-SWE-60VDC-2C	KPR-SWE-115VAC/ DC-2C	KPR-SWE-115VDC-2C	KPR-SWF-115VAC/ DC-2C	KPR-SWE-230VAC/ DC-2C	KPR-SWE-230VAC-2C	KPR-SWF-230VAC/ VDC-2C	KPR-SWF-230VAC-2C
Int erface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module
272 580	272 584	272 600	272 604	272 606	272 620	272 622	272 626	272 628
14	14	14	14	14	14	14	14	14
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
10	10	10	10	10	10	10	10	10
60VAC/DC	60VDC	115VAC/DC	115VDC	115VAC/DC	230VAC/DC	230VAC	230VAC/DC	230VAC
> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN
< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN
-	-	-	-	Available	-	-	Available	Available
<1VA	-	<1VA	-	<1VA	<2VA	<2VA	<2VA	<2VA
<1W	<1W	<1W	<1W	<1W	<1W	-	<2W	-
2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)
AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2
60VDC	60VDC	115VDC	115VDC	115VDC	115VDC	115VDC	115VDC	115VDC
5760 x (1 ±10%)	5760 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)
400mW	400mW	400mW	400mW	400mW	400mW	400mW	400mW	400mW
15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.
8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.
8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A/250VAC; 2000VA	8A/250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA
8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W
10^7	10^7	10^7	10^7	10^7	10^7	10^7	10^7	10^7
3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4
1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4
1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)
4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.
1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.
-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)
IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
56	56	56	56	56	56	56	56	56
2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²
0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm
any	any	any	any	any	any	any	any	any
APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR
Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate
463 247	463 247	463 247	463 247	463 247	463 247	463 247	463 247	463 247
25	25	25	25	25	25	25	25	25
KPR-SWE-60VAC/DC-2C (RELAY SOCKET)	KPR-SWE-60VDC-2C (RELAY SOCKET)	KPR-SWE-115VAC/ DC-2C (RELAY SOCKET)	KPR-SWE-115VDC-2C (RELAY SOCKET)	KPR-SWF-115VDC-2C (RELAY SOCKET)	KPR-SWE-230VAC/ DC-2C (RELAY SOCKET)	KPR-SWE-230VAC-2C (RELAY SOCKET)	KPR-SWF-230VAC/ DC-2C (RELAY SOCKET)	KPR-SWF-230VAC-2C (RELAY SOCKET)
Interface relay socket (60VAC/DC)	Interface relay socket (60VDC)	Interface relay socket (115VAC/DC)	Interface relay socket (115VDC)	Interface relay socket with RCZ filter (115VAC/DC)	Interface relay socket (230VAC/DC)	Interface relay socket (230VAC)	Interface relay socket with RCZ filter (230VAC/DC)	Interface relay socket with RCZ filter (230VAC)
272 581	272 585	272 601	272 605	272 607	272 621	272 623	272 627	272 629
10	10	10	10	10	10	10	10	10
2 C/O 48VDC Relay	2 C/O 48VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay
Relay for 272 580 and 272 581	Relay for 272 584 and 272 585	Relay for 272 600 and 272 601	Relay for 272 604 and 272 605	Relay for 272 606 and 272 607	Relay for 272 620 and 272 621	Relay for 272 622 and 272 623	Relay for 272 626 and 272 627	Relay for 272 628 and 272 629
095 051	095 051	095 050	095 050	095 050	095 050	095 050	095 050	095 050
50	50	50	50	50	50	50	50	50
TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)
Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole
476 900	476 900	476 900	476 900	476 900	476 900	476 900	476 900	476 900
25	25	25	25	25	25	25	25	25
DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T	DG 10/6 T
Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays
505 390	505 390	505 390	505 390	505 390	505 390	505 390	505 390	505 390
360	360	360	360	360	360	360	360	360

Electronic Products

KPR Series PLC Interface Relays



Module		Type	KPR-CIE-6VDC-1C	KPR-CIE-12VAC/DC-1C	KPR-CIE-12VDC-1C	KPR-CIE-24VAC/DC-1C	KPR-CIE-24VDC-1C	KPR-CIE-48VAC/DC-1C
		Definiton	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module
		Order Number	271504	271510	271514	271520	271524	271530
Casing Width(mm)			6.2	6.2	6.2	6.2	6.2	6.2
Connection			Cage Clamp	Cage Clamp	Cage Clamp	Cage Clamp	Cage Clamp	Cage Clamp
Packaging unit			10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.
Input	Nominal Voltage(Un)		6VDC	12VAC/DC	12VDC	24VAC/DC	24VDC	48VAC/DC
	Operating voltage range		0,8 x Un	0,8 x Un	0,8 x Un	0,8 x Un	0,8 x Un	0,8 x Un
	Release voltage		0,2 x Un	0,2 x Un	0,2 x Un	0,2 x Un	0,2 x Un	0,2 x Un
	Power Consumption	AC		<0.35VA	<0.35VA	<0.35VA	<0.35VA	<0.35VA
		DC	<0.35W	<0.35W	<0.35W	<0.35W	<0.35W	<0.35W
Contact Characteristic	Type		1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O
	Material		AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2
	Coil voltage		5VDC	12VDC	12VDC	24VDC	24VDC	24VDC
	Coil empedance		147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω
	Coil consumption		170mW	170mW	170mW	170mW	170mW	170mW
	Operate time		10 ms max.	10 ms max.	10 ms max.	10 ms max.	10 ms max.	10 ms max.
	Release time		5 ms max.	5 ms max.	5 ms max.	5 ms max.	5 ms max.	5 ms max.
	Max. ratings (AC)		6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA
	Max. ratings (DC)		6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W
	Mechanical life time		10^7 operations	10^7 operations	10^7 operations	10^7 operations	10^7 operations	10^7 operations
	Electrical life time operations (UL approvel, 85°C)	NO	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations
		NC	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations
Isolation resistance			1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)
Dielectric Strength	Between relay coil and contacts		4000VAC 1 min	4000VAC 1 min	4000VAC 1 min	4000VAC 1 min	4000VAC 1 min	4000VAC 1 min
	Between contacts		1000VAC 1 min	1000VAC 1 min	1000VAC 1 min	1000VAC 1 min	1000VAC 1 min	1000VAC 1 min
Permissible ambient temperature		During operation	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C
		During storage	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C
Relative Humidity			5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)
Degree of protection			IP20	IP20	IP20	IP20	IP20	IP20
Weight(gr)			26gr	26gr	26gr	26gr	26gr	26gr
Max. cable cross-section			2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²
Max. torque			0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm
Permissible mounting position			any	any	any	any	any	any
Integrated RCZ Filter			x	x	x	x	x	x

Accessories and Components

Definition	End Plate	Plug in bridge for 2 hole	Plug in bridge for 3 hole	Plug in bridge for 4 hole
Order Number	450389	470112	470113	470114
Package Unit	10 pcs.	25 pcs.	20 pcs.	15 pcs.

Electronic Products

KPR Series PLC Interface Relays

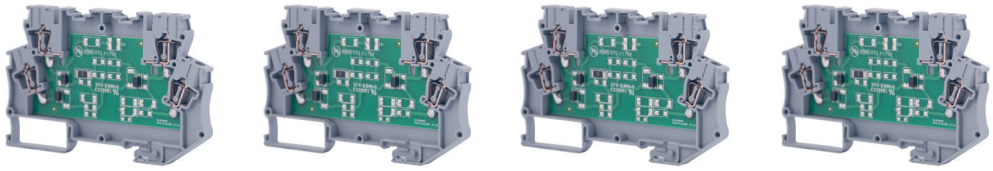
KPR-CIE-48VDC-1C	KPR-CIE-60VAC/DC-1C	KPR-CIE-60VDC-1C	KPR-CIE-115VAC/ DC-1C	KPR-CIE-115VDC-1C	KPR-CIF-115VAC/ DC-1C	KPR-CIE-230VAC/ DC-1C	KPR-CIE-230VAC/DC-1C
Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module	Integrated Interface relay module
271534	271540	271544	271550	271554	271556	271560	271562
6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Cage Clamp	Cage Clamp	Cage Clamp	Cage Clamp	Cage Clamp	Cage Clamp	Cage Clamp	Cage Clamp
10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.
48VDC	60VAC/DC	60VDC	115VAC/DC	115VDC	115VAC/DC	230VAC/DC	230VAC/DC
0,8 x Un	0,8 x Un	0,8 x Un	0,8 x Un	0,8 x Un	0,8 x Un	0,8 x Un	0,8 x Un
0,2 x Un	0,2 x Un	0,2 x Un	0,2 x Un	0,2 x Un	0,2 x Un	0,2 x Un	0,2 x Un
<0.35VA	<0.35VA	<0.35VA	<0.35VA	<0.35VA	<0.35VA	<0.35VA	<0.35VA
<0.35W	<0.35W	<0.35W	<0.35W	<0.35W	<0.35W	<0.35W	<0.35W
1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O
AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2
24VDC	60VDC	60VDC	60VDC	60VDC	60VDC	60VDC	60VDC
147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω	147x(1± 10%) Ω
170mW	170mW	170mW	170mW	170mW	170mW	170mW	170mW
10 ms max.	10 ms max.	10 ms max.	10 ms max.	10 ms max.	10 ms max.	10 ms max.	10 ms max.
5 ms max.	5 ms max.	5 ms max.	5 ms max.	5 ms max.	5 ms max.	5 ms max.	5 ms max.
6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA	6A/250VAC; 1500VA
6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W	6A/30VDC; 180W
10^7 operations	10^7 operations	10^7 operations	10^7 operations	10^7 operations	10^7 operations	10^7 operations	10^7 operations
3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations	3 × 10^4 operations
1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations	1 × 10^4 operations
1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)
4000VAC 1 min	4000VAC 1 min	4000VAC 1 min	4000VAC 1 min	4000VAC 1 min	4000VAC 1 min	4000VAC 1 min	4000VAC 1 min
1000VAC 1 min	1000VAC 1 min	1000VAC 1 min	1000VAC 1 min	1000VAC 1 min	1000VAC 1 min	1000VAC 1 min	1000VAC 1 min
-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C
-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C
5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)
IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
26gr	26gr	26gr	26gr	26gr	26gr	26gr	26gr
2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²	2.5mm²
0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm
any	any	any	any	any	any	any	any
x	x	x	x	x	Available	x	Available

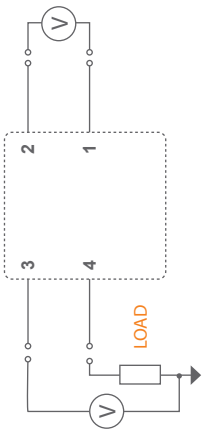
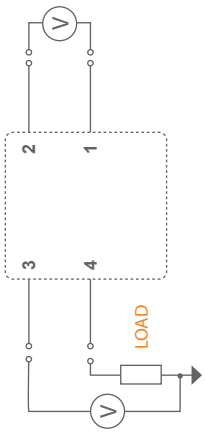
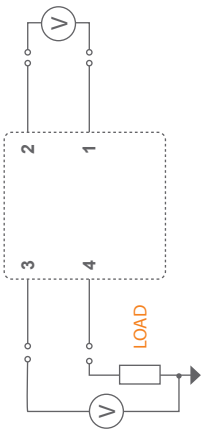
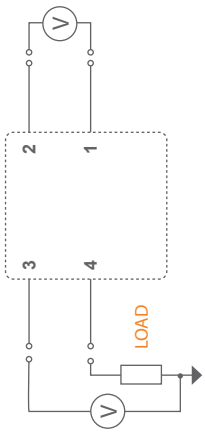
Accessories and Components

Plug in bridge for 5 hole	Plug in bridge for 10 hole	DG 6/5 - Label	DB 5 – Label	11.2 Strip label	
470115	470119	505330	505850	1020100	**NOTE:** This product is only compatible with below items: -112710N -112720N -112730N
10 pcs.	5 pcs.	440 pcs.	500 pcs.	1 pc.	

Electronic Products

OPK-EKI Series Optocoupler Modules



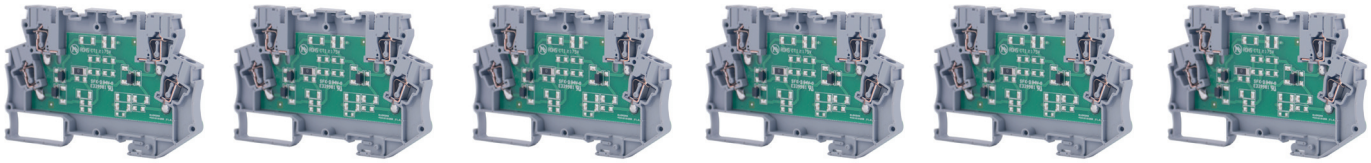
		Type	OPK - EKI 5 VAC/DC	OPK - EKI 12 VAC/DC	OPK - EKI 24 VAC/DC	OPK - EKI 48 VAC/DC
Pre-assembled module (relay + socket)		Defniton	Optocoupler module	Optocoupler module	Optocoupler module	Optocoupler module
		Order Number	112010N	112110N	112220N	112320N
Width/Depth/ Height (mm)			6.2/56/81.9	6.2/56/81.9	6.2/56/81.9	6.2/56/81.9
Connection			Cage clamp	Cage clamp	Cage clamp	Cage clamp
Packaging unit			1 pc.	1 pc.	1 pc.	1 pc.
Mounting			Rail Mount	Rail Mount	Rail Mount	Rail Mount
Input	Input Voltage		5V AC/DC	12V AC/DC	24V AC/DC	48V AC/DC
Output	Switching Voltage Range		5-48V DC	5-48V DC	5-48V DC	5-48V DC
	Maximum Switcing Current		0.65A DC	0.65A DC	0.65A DC	0.65A DC
Switching Type			High Side	High Side	High Side	High Side
Zero volt switching circuit			-	-	-	-
Response time			<10msec	<10msec	<10msec	<10msec
Schematics						

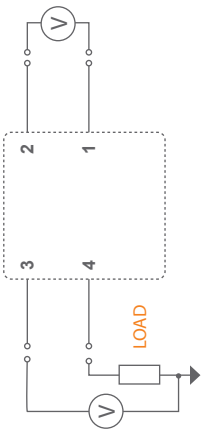
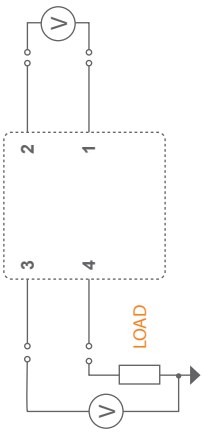
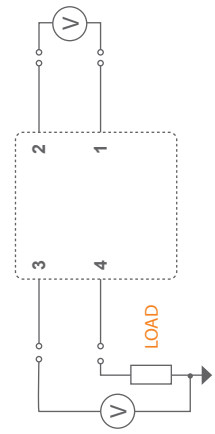
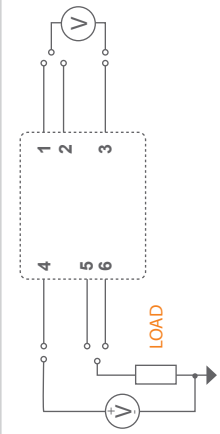
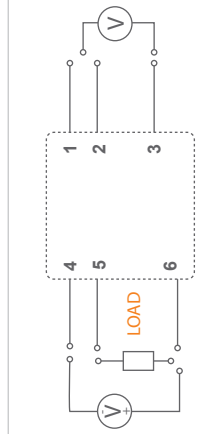
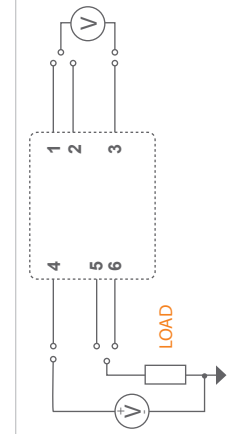
Accessories and Components

Definition	End Plate	Plug in bridge for 2 hole	Plug in bridge for 3 hole	Plug in bridge for 4 hole
Order Number	450389	470112	470113	470114
Package Unit	10 pcs.	25 pcs.	20 pcs.	15 pcs.

Electronic Products

OPK-EKI Series Optocoupler Modules



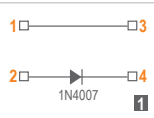
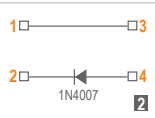
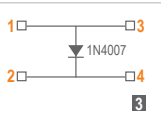
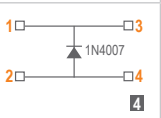
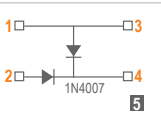
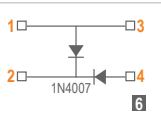
OPK - EKI 60 VAC/DC	OPK - EKI 110 VAC/DC	OPK - EKI 220 VAC/DC	OPK - EKI 9-72 VDC	OPK - EKI 9-72 VDC	OPK - EKI 9-72 VDC
Optocoupler module	Optocoupler module	Optocoupler module	Optocoupler module	Optocoupler module	Optocoupler module
112420N	112520N	112620N	112710N	112720N	112730N
6.2/56/81.9	6.2/56/81.9	6.2/56/81.9	6.2/56/81.9	6.2/56/81.9	6.2/56/81.9
Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp
1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.
Rail Mount	Rail Mount	Rail Mount	Rail Mount	Rail Mount	Rail Mount
60V AC/DC	110V AC/DC	220V AC/DC	9-72V DC	9-72V DC	9-72V DC
5-48V DC	5-48V DC	5-48V DC	3-30V DC	3-30V DC	24-260V AC
0.65A DC	0.65A DC	0.65A DC	5A DC	5A DC	0.5A AC
High Side	High Side	High Side	High Side	Low Side	High Side
-	-	-	-	-	available
<10msec	<10msec	<10msec	<500µsec	<500µsec	<500µsec
					

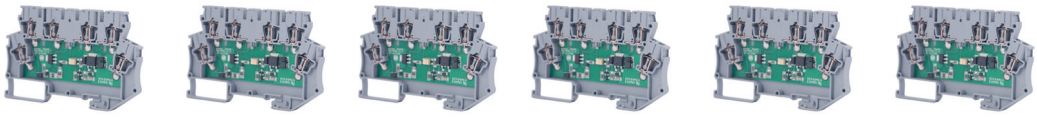
Accessories and Components

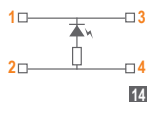
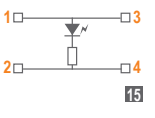
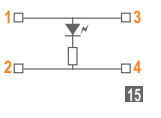
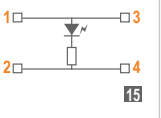
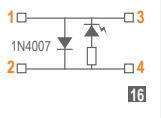
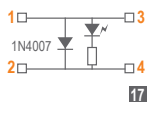
Plug in bridge for 5 hole	Plug in bridge for 10 hole	DG 6/5 - Label	DB 5 – Label	11.2 Strip label
470115	470119	505330	505850	1020100
10 pcs.	5 pcs.	440 pcs.	500 pcs.	1 pc.

Electronic Products

WG-EKI Series Electronic Modules

Module	Type	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI
	Definiton	Reverse Current Protection	Reverse Current Protection	Reverse Current Protection	Reverse Current Protection	Lamp / Test Circuit	Lamp / Test Circuit
	Order Number	110010N	110020N	110030N	110040N	110050N	110060N
Casing Width (mm)		6.2	6.2	6.2	6.2	6.2	6.2
Connection		Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp
Packing Unit		10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.
Nominal Voltage		x	x	x	x	x	x
Diode Coltage		1000V	1000V	1000V	1000V	1000V	1000V
Diode Voltage Drop		0,7V	0,7V	0,7V	0,7V	0,7V	0,7V
Degree of Protection		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Weight		19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr
Diode Current		1A	1A	1A	1A	1A	1A
Circuit Diagram							



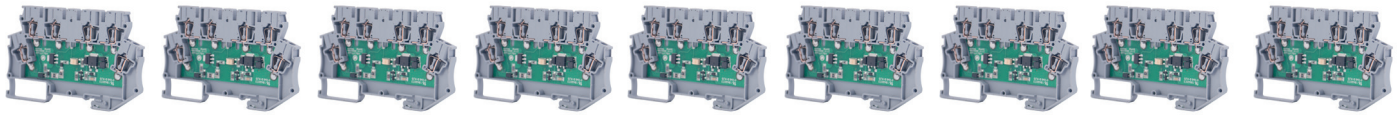
Module	Type	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI
	Definiton	Voltage Indicator	Voltage Indicator	Voltage Indicator	Voltage Indicator	Voltage Indicator + Flyback Diode	Voltage Indicator + Flyback Diode
	Order Number	110160N	110170N	110180N	110190N	110200N	110210N
Casing Width (mm)		6.2	6.2	6.2	6.2	6.2	6.2
Connection		Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp
Packing Unit		10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.
Nominal Voltage		220VDC	24VDC	110VDC	220VDC	24VDC	24VDC
Diode Coltage		1000V	1000V	1000V	1000V	1000V	1000V
Diode Voltage Drop		0,7V	0,7V	0,7V	0,7V	0,7V	0,7V
Degree of Protection		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Weight		19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr
Diode Current		1A	1A	1A	1A	1A	1A
Circuit Diagram							

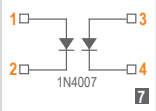
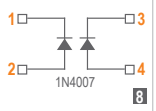
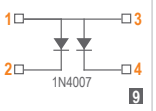
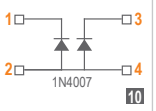
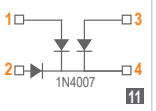
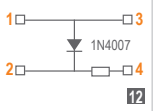
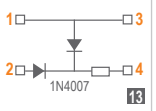
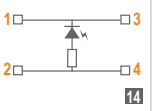
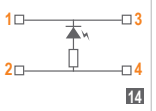
Accessories and Components

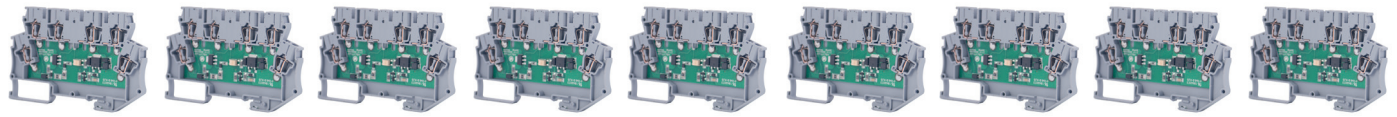
Definition	End Plate	Plug in bridge for 2 hole	Plug in bridge for 3 hole	Plug in bridge for 4 hole
Order Number	450389	470112	470113	470114
Package Unit	10 pcs.	25 pcs.	20 pcs.	15 pcs.

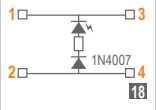
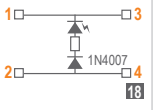
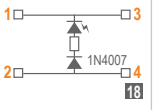
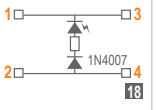
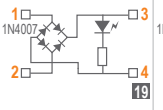
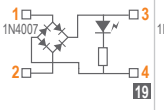
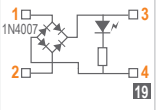
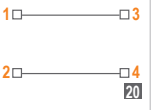
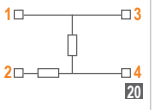
Electronic Products

WG-EKI Series Electronic Modules



WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI
Reverse Current Protection	Reverse Current Protection	Lamp / Test Circuit	Lamp / Test Circuit	Lamp / Test Circuit	Lamp / Test Circuit	Lamp / Test Circuit	Voltage Indicator	Voltage Indicator
110070N	110080N	110090N	110100N	110110N	110120N	110130N	110140N	110150N
6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp
10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.
x	x	x	x	x	24VAC/DC	24VAC/DC	24VDC	110VDC
1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V
0,7V	0,7V	0,7V	0,7V	0,7V	0,7V	0,7V	0,7V	0,7V
IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr
1A	1A	1A	1A	1A	1A	1A	1A	1A
								



WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI	WG-EKI
Voltage Indicator	Voltage Indicator	Voltage Indicator	Voltage Indicator	Voltage Indicator + Rectifier	Voltage Indicator + Rectifier	Voltage Indicator + Rectifier	Terminal with Cross Connection	Voltage Divider
110270N	110280N	110290N	110300N	110310N	110320N	110330N	110380N	110410N
6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp	Cage clamp
10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.	10 pcs.
24VAC/DC	48VAC/DC	110VAC/DC	220VAC/DC	24VAC/DC	110VAC/DC	220VAC/DC	X	24VAC/DC
1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V
0,7V	0,7V	0,7V	0,7V	0,7V	0,7V	0,7V	0,7V	0,7V
IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr	19.8gr
1A	1A	1A	1A	1A	1A	1A	1A	1A
								

Accessories and Components

Plug in bridge for 5 hole	Plug in bridge for 10 hole	DG 6/5 - Label	DB 5 – Label	11.2 Strip label
470115	470119	505330	505850	1020100
10 pcs.	5 pcs.	440 pcs.	500 pcs.	1 pc.

Electronic Products

Industrial Relays

We have different types of industrial relays, each with their own unique features and applications. When selecting an industrial relay for your project, it's crucial to choose one that matches your device's power requirements and has the right number of channels for controlling the desired devices. Reliable products, the right choice at an affordable price.

- All series are designed for universal use.
- Sockets can be used with different clips optionally.
- May include test buttons, diodes, and LED status indicators as needed.

KRG Series

KRG SERIES

Product Name	Order Number	Description	Input Ampere	Input Voltage	VAC	VDC	1 Pole	2 Poles	3 Poles	4 Poles	LED	Test Button	Diode
KRG100012	820285	Power Relay	12A	12		√	√				×	×	×
KRG100024	820286	Power Relay	12A	24		√	√				×	×	×
KRG100048	820288	Power Relay	12A	48		√	√				×	×	×
KRG200012	820296	Power Relay	8A	12		√		√			×	×	×
KRG200024	820297	Power Relay	8A	24		√		√			×	×	×
KRG200048	820299	Power Relay	8A	48		√		√			×	×	×
KRB1CO	820273	Relay Socket	12A	-	-	-	-	-	-	-	-	-	-
KRC1CO	820275	Relay Socket	12A	-	-	-	-	-	-	-	-	-	-
KRB2CO	820274	Relay Socket	10A	-	-	-	-	-	-	-	-	-	-
KRC2CO	820276	Relay Socket	10A	-	-	-	-	-	-	-	-	-	-
CLP/KRB-C-15L	820277	Plastic Clips	-	-	-	-	-	-	-	-	-	-	-

KRM Series

KRM SERIES

Product Name	Order Number	Description	Input Ampere	Input Voltage	VAC	VDC	1 Pole	2 Poles	3 Poles	4 Poles	LED	Test Button	Diode
KRM200012LT	820101	Industrial Relay	12A	12		√		√			√	√	×
KRM200048LT	820103	Industrial Relay	12A	48		√		√			√	√	×
KRM200110LT	820104	Industrial Relay	12A	110		√		√			√	√	×
KRM200524LT	820107	Industrial Relay	12A	24	√			√			√	√	×
KRM200615LT	820109	Industrial Relay	12A	115	√			√			√	√	×
KRM400048LT	820113	Industrial Relay	6A	48		√				√	√	√	×
KRM400110LT	820114	Industrial Relay	6A	110		√				√	√	√	×
KRM400615LT	820119	Industrial Relay	6A	115	√					√	√	√	×
KS 2CO ECO	820070	Relay Socket	12A	-	-	-	-	-	-	-	-	-	-
KS 4CO ECO	820071	Relay Socket	10A	-	-	-	-	-	-	-	-	-	-
KS 4CO	820171	Relay Socket	10A	-	-	-	-	-	-	-	-	-	-
KS-C 4CO	820347	Relay Socket	10A	-	-	-	-	-	-	-	-	-	-
LB/KS-ECO	820350	ID Tag	-	-	-	-	-	-	-	-	-	-	-

Electronic Products

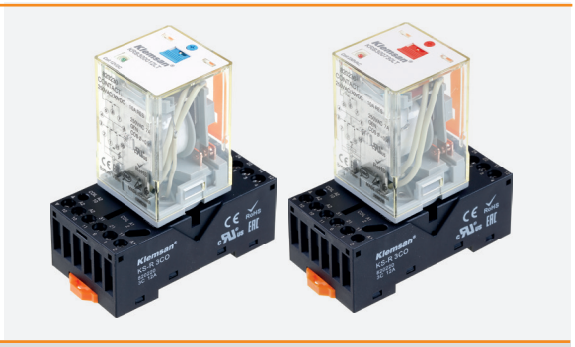
Industrial Relays

KRI Series

KRI SERIES

Product Name	Order Number	Description	Input Ampere	Input Voltage	VAC	VDC	1 Pole	2 Poles	3 Poles	4 Poles	LED	Test Button	Diode
KRI100012	820312	Interface Relay	12A	12		√	√				×	×	×
KRI100024	820314	Interface Relay	12A	24		√	√				×	×	×
KRI100524	820315	Interface Relay	12A	24	√		√				×	×	×
KRI100615	820320	Interface Relay	12A	115	√		√				×	×	×
KRI100730	820321	Interface Relay	12A	230	√		√				×	×	×
KRI100012LT	820201	Interface Relay	12A	12		√	√				√	√	×
KRI100524LT	820206	Interface Relay	12A	24	√		√				√	√	×
KRI100615LT	820208	Interface Relay	12A	115	√		√				√	√	×
KRI200524	820333	Interface Relay	8A	24	√			√			×	×	×
KRI200615	820338	Interface Relay	8A	115	√			√			×	×	×
KRI1CO	820171	Relay Socket	16A	-	-	-	-	-	-	-	-	-	-
KRU1CO	820347	Relay Socket	16A	-	-	-	-	-	-	-	-	-	-
CLP/KRI	820350	Plastic Clips	-	-	-	-	-	-	-	-	-	-	-

KRB Series



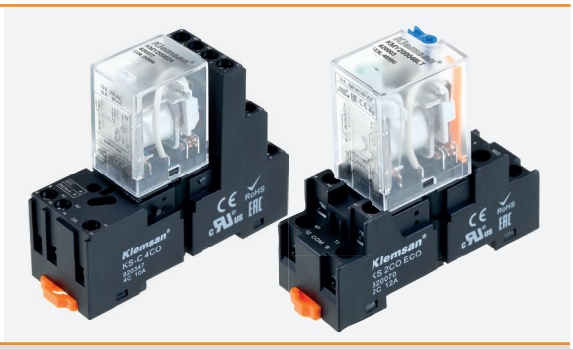
KRB SERIES

Product Name	Order Number	Description	Input Ampere	Input Voltage	VAC	VDC	1 Pole	2 Poles	3 Poles	4 Poles	LED	Test Button	Diode
KRB300012LT	820230	Industrial Relay	10A	12		√			√		√	√	×
KRB300024LT	820231	Industrial Relay	10A	24		√			√		√	√	×
KRB300048LT	820233	Industrial Relay	10A	48		√			√		√	√	×
KRB300110LT	820234	Industrial Relay	10A	110		√			√		√	√	×
KRB300524LT	820232	Industrial Relay	10A	24	√				√		√	√	×
KRB300615LT	820235	Industrial Relay	10A	115	√				√		√	√	×
KRB300730LT	820236	Industrial Relay	10A	230	√				√		√	√	×
KS-R 3CO	820220	Relay Socket	12A	-	-	-	-	-	-	-	-	-	-
CLM/KS-R	820221	Metal Clips	-	-	-	-	-	-	-	-	-	-	-
LB/KS-R	820222	ID Tag	-	-	-	-	-	-	-	-	-	-	-

Electronic Products

Industrial Relays

KMY Series



KMY SERIES													
Product Name	Order Number	Description	Input Ampere	Input Voltage	VAC	VDC	1 Pole	2 Poles	3 Poles	4 Poles	LED	Test Button	Diode
KMY200024	820377	Industrial Relay	10A	24		√		√			×	×	×
KMY200048	820381	Industrial Relay	10A	48		√		√			×	×	×
KMY200110	820383	Industrial Relay	10A	110		√		√			×	×	×
KMY200220	820385	Industrial Relay	10A	220		√		√			×	×	×
KMY200524	820378	Industrial Relay	10A	24	√			√			×	×	×
KMY200615	820384	Industrial Relay	10A	115	√			√			×	×	×
KMY200730	820386	Industrial Relay	10A	230	√			√			×	×	×
KMY200012LT	820001	Industrial Relay	10A	12		√		√			√	√	×
KMY200024LTD	820006	Industrial Relay	10A	24		√		√			√	√	√
KMY200048LT	820003	Industrial Relay	10A	48		√		√			√	√	×
KMY200110LT	820004	Industrial Relay	10A	110		√		√			√	√	×
KMY200524LT	820007	Industrial Relay	10A	24	√			√			√	√	×
KMY200615LT	820009	Industrial Relay	10A	115	√			√			√	√	×
KMY200730LT	820010	Industrial Relay	10A	230	√			√			√	√	×
KMY400024	820400	Industrial Relay	5A	24		√				√	×	×	×
KMY400048	820404	Industrial Relay	5A	48		√				√	×	×	×
KMY400110	820406	Industrial Relay	5A	110		√				√	×	×	×
KMY400524	820401	Industrial Relay	5A	24	√					√	×	×	×
KMY400615	820407	Industrial Relay	5A	115	√					√	×	×	×
KMY400730	820409	Industrial Relay	5A	230	√					√	×	×	×
KMY400024LTD	820016	Industrial Relay	5A	24		√				√	√	√	√
KMY400048LT	820013	Industrial Relay	5A	48		√				√	√	√	×
KMY400110LT	820014	Industrial Relay	5A	110		√				√	√	√	×
KMY400615LT	820019	Industrial Relay	5A	115	√					√	√	√	×
KMY400730LT	820020	Industrial Relay	5A	230	√					√	√	√	×
KS 2CO ECO	820070	Relay Socket	12A	-	-	-	-	-	-	-	-	-	-
KS 4CO ECO	820071	Relay Socket	10A	-	-	-	-	-	-	-	-	-	-
KS 4CO	820171	Relay Socket	10A	-	-	-	-	-	-	-	-	-	-
KS-C 4CO	820347	Relay Socket	10A	-	-	-	-	-	-	-	-	-	-
LB/KS-ECO	820350	ID Tag	-	-	-	-	-	-	-	-	-	-	-

Electronic Products

ETOR Series Ethernet Gateways

Type			ETOR-4	ETOR-2
Definiton			Ethernet gateway (TCP/IP - RS485)	Ethernet gateway (TCP/IP - RS232)
Order Number			601400	601401
Casing Width(mm)			17.5	17.5
Connections			Screw terminal (for supply and serial interface)	Screw terminal (for supply and serial interface)
General Information	Working Mode		Server or Client selectable (Bidirectional)	Server or Client selectable (Bidirectional)
	Conf iguration		Mini USB port or WEB interface	Mini USB port or WEB interface
	DHCP (Automatic IP Receive)		Available	Available
	ARP		Available	Available
	Ping blocking		Available	Available
	LED indicators		Available	Available
	Reset Function		Available	Available
	ESD protection		Available	Available
	Driver Supported		Windows® XP/Vista/7/8/8.1	Windows® XP/Vista/7/8/8.1
Ethernet Interface	Number of Ports		1	1
	Operation Modes		Modbus TCP, Modbus RTU over TCP, Modbus ASCII over TCP	Modbus TCP, Modbus RTU over TCP, Modbus ASCII over TCP
	Number of Remote Connections	Server mode	6	6
		Client mode	1	1
	Connector		RJ45	RJ45
	Data Transmission Rate		10/100 Base-TX	10/100 Base-TX
Serial Interface	Number of Ports		1	1
	Operation Modes		MODBUS RTU, MODBUS ASCII	MODBUS RTU, MODBUS ASCII
	Serial Standard		RS485	RS232
	Number of Serial Devices	Server mode	64	1
		Client mode	1	1
	Serial Communication Parameters	Baud Rate	300 to 115200 bps	300 to 115200 bps
		Data Bit	8	8
		Stop Bits	1 or 2	1 or 2
		Parity	None, Even, Odd	None, Even, Odd
Supply	Voltage	AC	18-50V	18-50V
		DC	18-50V	18-50V
	Consumption	AC	< 2.2VA	< 2.2VA
		DC	< 1.2W	< 1.2W
	Frequency		45-65Hz	45-65Hz
Galvanic Isolation	Supply- Ethernet port		1500VRMS, 2250VDC	1500VRMS, 2250VDC
	Supply- Serial port		1500VRMS, 2250VDC	1500VRMS, 2250VDC
	Serial port-Ethernet port		2500VRMS	2500VRMS
Mechanical Properties	Weight(g)		58	58
	Protection Class		IP20	IP20
	Assembly Type		Rail Mount	Rail Mount
	Permissible mounting position		Any	Any
Ambient Conditions	Operating Temperature		-10 to +60 °C	-10 to +60 °C
	Storage Temperature		-30 to +80 °C	-30 to +80 °C
	Relative Humidity (no condensation)		Max.95%	Max.95%

Electronic Products

GTOR Series GPRS Gateways

Type			GTOR-4	GTOR-4-3G
Definition			GPRS Gateway	3G GPRS Gateway
Order Number			601 440	601 445
Casing Width(mm)			17,5mm	17,5mm
Connections			Screw Terminal	Screw Terminal
Mounting			Rail Mount	Rail Mount
General Information		Configuration	Configurable via USB Micro USB Connection Interface	Configurable via USB, SMS, JSON RestAPI Micro USB Connection Interface
		IP Based Security	√	√
		LED Indicators	√	√
		Reset Function	√	√
		ESD Protection	√	√
		Supported Drivers	WindowsXP/Vista/7/8/10	Windows operating systems above Microsoft .NET Framework 3.5
GPRS Interface	SIM/USIM		3V/1.8V	-
	Quad Band		850/900/1800/1900MHz	-
	GPRS Multi Slot Class	Downlink	Class 12 85.6kbps	Class 12 85,6kbps
		Uplink	Class 12 85.6kbps	Class 12 85,6kbps
	GPRS Mobile Station		Class B	-
	Compliant to GSM Phase 2/2+		Class 4 (2W @850/900MHz) Class 1 (1W@1800/1900MHz)	-
Serial Interface	Number of Port		1	1
	Serial Connection Standard		RS485	RS485
	Number of Serial Connection Devices	Server Mode	32	64
		Client Mode	1	64
	Serial Connection Parameters	Baud Rate	Between 600 - 57600 bps	Between 300-115200
		Data Bit	8	8
		Stop Bit	1 or 2	1 or 2
		Parity	None, even, odd	None, even, odd
Supported Protocols			MODBUS TCP; MODBUS RTU via TCP; MODBUS ACII via TCP	MODBUS TCP; MODBUS RTU via TCP; MODBUS ACII via TCP
Voltage Supply	Voltage	DC	11-30VDC	11-30VAC
		AC	-	-
	Frequency		45-65Hz	45-65Hz
Isolation			1.5kV RMS	1.5kV RMS
Permissible Ambient Temperature	During Operation		-10°C..+60°C	-10°C..+60°C
	During Storage		-30°C..+80°C	-30°C..+80°C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)
Operating Frequency			45-65Hz	45-65Hz
Degree of Protection			IP20	IP20
Power Consumption	DC		1.2W	1.2W
	AC		-	-

Electronic Products

UTOR Series USB Converter

UTOR series products,

- USB to RS485
- USB to RS232
- Provides TTL conversion from USB.
- UTOR is powered from the USB port without the need for an external power supply. Unlike most converters, UTOR has an isolation barrier that provides electrical isolation between your computer and serial devices. This creates an ideal environment where equipment and data are critical.

Type			UTOR-4i	UTOR-2i	UTOR-T5i	UTORT3i
Definition			Isolated RS485 to USB Converter	Isolated RS232 to USB Converter	Isolated TTL(5V) to USB Converter	Isolated TTL(3V) to USB Converter
Order Number			601 430	601 431	601 432	601 433
Interface	USB	Compatibility	USB 1.1 and USB 2.0	USB 1.1 and USB 2.1	USB 1.1 and USB 2.2	USB 1.1 and USB 2.3
		Connector	USB Type A	USB Type A	USB Type A	USB Type A
	Serial	Port Number	1	1	1	1
		Standard	RS485	RS232	TTL(5V)	TTL(3.3V)
		Connector	Removable terminal block with screw connection	Removable terminal block with screw connection	Removable terminal block with screw connection	Removable terminal block with screw connection
		Isolation	2500Vrms	2500Vrms	2500Vrms	2500Vrms
		Baudrate	300 .. 115200 bps	300 .. 115200 bps	300 .. 115200 bps	300 .. 115200 bps
		Stop Bits	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2	1, 1.5, 2
		Data Bits	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8	5, 6, 7, 8
		Parity	None, Even, Odd	None, Even, Odd	None, Even, Odd	None, Even, Odd
		Terminals	D+,D-	Tx, Rx	Tx, Rx	Tx, Rx
Voltage Supply			via USB port	via USB port	via USB port	via USB port
Permissible Ambient Temperature		During Operation	-20°C..+60°C	-20°C..+60°C	-20°C..+60°C	-20°C..+60°C
		During Storage	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Degree of Protection			IP20	IP20	IP20	IP20
Accesorries 			Available	Available	Available	Available

Electronic Products

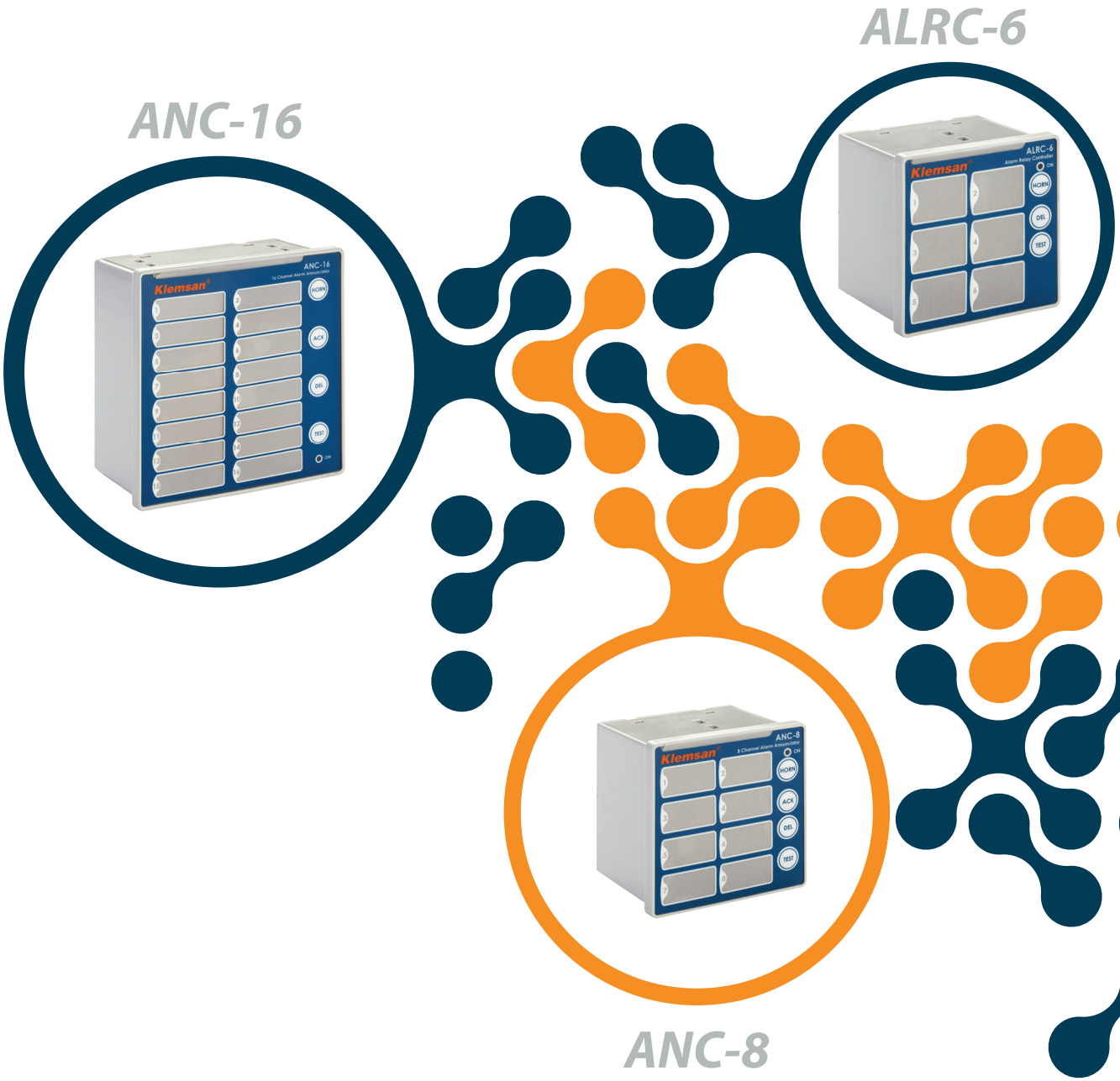
KUES Series Ethernet Switch

The Klemsan KUES series unmanaged industrial fast Ethernet switches are specifically designed for industrial use. The devices, housed in durable metal casings, feature 5-port, and 8-port 10/100 Base-TX connection points. They are built to withstand operating temperatures ranging from -40°C to 75°C and are additionally equipped with highly resistant components to withstand vibration and impact.

- 5 and 8 port options
- 10/100 Base-TX
- Operating temperature range of -40°C to 75°C
- Surge Protection
- ESD Protection
- IP30 Protection Class
- Durable Aluminum Casing

Product Name	Order No	Definition	5 ports	8 ports	-40°C / 70°C	Aluminum Enclosure	10/100 Base-TX	ESD Protection	12-48 V DC/DC Besleme
KUES-M5	608350	Unmanaged Ethernet Switch	√		√	√	√	√	√
KUES-M8	608351	Unmanaged Ethernet Switch		√	√	√	√	√	√

ANC & ALRC Series
Alarm Annunciators



Klemsan 50th ANNIVERSARY

Electronic Products

ANC & ALRC Series Alarm Annunciators

Type			ALRC-6 (24VAC/DC)	ALRC-6 (48VAC/DC)	ALRC-6 (110VAC/DC)	ALRC-6 (220VAC/DC)	ANC-8 (24VAC/DC)
Definiton			Alarm relay controller	Alarm relay controller	Alarm relay controller	Alarm relay controller	Alarm annunciator
Order Number			604610	604611	604612	604613	604620
Input Signal	Voltage	AC	24V	48V	110V	220V	24V
		DC	24V	48V	110V	220V	24V
	Frequency		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
	Numbers		6	6	6	6	8
	Response Time		25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec
Output Contacts	Type of Output		Relay	Relay	Relay	Relay	Relay
	Number of contacts		8	8	8	8	2
	Type		1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)
	Max switching AC		5A / 250 V AC /1250 VA	5A / 250 V AC /1250 VA	5A / 250 V AC /1250 VA	5A / 250 V AC /1250 VA	5A / 250 V AC /1250 VA
	Max switching DC		3A / 30 V DC / 90 W	3A / 30 V DC / 90 W	3A / 30 V DC / 90 W	3A / 30 V DC / 90 W	3A / 30 V DC / 90 W
	Mechanical Life Time		≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations
	Electrical Life Time Operations (for NO side)		1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)
Window	Numbers		6	6	6	6	8
	Colours		Red	Red	Red	Red	Red/Green selectable
	Sizes(mm)		30.5x21.6	30.5x21.6	30.5x21.6	30.5x21.6	30.5x15.5
	İluminating for Each Window		With 4 pcs. red leds	With 4 pcs. red leds	With 4 pcs. red leds	With 4 pcs. red leds	With 4 pcs. red leds or 4 pcs. green leds
	Flash rate	Slow	-	-	-	-	60 Flash/Min
		Fast	90 Flash/Min	90 Flash/Min	90 Flash/Min	90 Flash/Min	180 Flash/Min
	Marking		Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.
Mod	ANC		-	-	-	-	Available
	LSK		-	-	-	-	-
Time Range(sec)			-	-	-	-	0, 2, 5, 10, 15, 20, 25, 30 adjustable
Inbuilt Push Buttons			3 nos.(Horn, Delete, Test)	3 nos.(Horn, Delete, Test)	3 nos.(Horn, Delete, Test)	3 nos.(Horn, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)
Buzzer			-	-	-	-	Avaliable
Communication	Protocol		-	-	-	-	Modbus-RTU
	Baud Rate		-	-	-	-	1200-57600
	Isolation		-	-	-	-	2500 Vrms
Real Time Event Recording			-	-	-	-	6080 logs
Battery Life			-	-	-	-	> 5years
Supply	Voltage	AC	24V ±%30	48V ±%30	110V ±%30	220V ±%30	110-300V ±%10
		DC	24V ±%30	48V ±%30	110V ±%30	220V ±%30	85-300V
	Frequency		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
Power consumption		DC	<3W	<3W	<1W	<5.5W	<3W
		AC	<10VA	<10VA	<4.3VA	<7.2VA	<5VA
Permissible ambient temperature	During operation		-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +70 °C
	During storage		-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-30 to +80 °C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.90% (no condensation)
Degree of protection			IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)
Connections			Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Dimensions (mm)	Bezel/Overall	Height(mm)	96	96	96	96	96.8
		Width(mm)	96	96	96	96	96.8
	Panel Cutout	Height(mm)	89.6	89.6	89.6	89.6	89.6
		Width(mm)	89.6	89.6	89.6	89.6	89.6
		Depth(mm)	66	66	66	66	65
Weight(gr)			274	274	274	274	280

Electronic Products

ANC & ALRC Series Alarm Annunciators

ANC-8 (48VAC/DC)	ANC-8 (110VAC/DC)	ANC-8 (220VAC/DC)	ANC-16 (24VAC/DC)	ANC-16 (48VAC/DC)	ANC-16 (110VAC/DC)	ANC-16 (220VAC/DC)
Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator
604621	604622	604623	604630	604631	604632	604633
48V	110V	220V	24V	48V	110V	220V
48V	110V	220V	24V	48V	110V	220V
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
8	8	8	16	16	16	16
25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec
Relay	Relay	Relay	Relay	Relay	Relay	Relay
2	2	2	2	2	2	2
1 NO (vSPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)
5A / 250 VAC /1250 VA	5A / 250 VAC /1250 VA	5A / 250 VAC /1250 VA	5A / 250 VAC /1250 VA	5A / 250 VAC /1250 VA	5A / 250 VAC /1250 VA	5A / 250 VAC /1250 VA
3A / 30 VDC /90 W	3A / 30 VDC /90 W	3A / 30 VDC /90 W	3A / 30 VDC /90 W	3A / 30 VDC /90 W	3A / 30 VDC /90 W	3A / 30 VDC /90 W
≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations
1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)
8	8	8	16	16	16	16
Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable
30.5x15.5	30.5x15.5	30.5x15.5	44,8x11,9	44,8x11,9	44,8x11,9	44,8x11,9
With 4 pcs. red leds or 4 pcs. green leds	With 4 pcs. red leds or 4 pcs. green leds	With 4 pcs. red leds or 4 pcs. green leds	With 4 pcs. red leds or 4 pcs. green leds	With 4 pcs. red leds or 4 pcs. green leds	With 4 pcs. red leds or 4 pcs. green leds	With 4 pcs. red leds or 4 pcs. green leds
60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min
180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min
Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.
Available	Available	Available	Available	Available	Available	Available
-	-	-	-	-	-	-
0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable
4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)
Avaliable	Avaliable	Avaliable	Avaliable	Avaliable	Avaliable	Avaliable
Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU
1200-57600	1200-57600	1200-57600	1200-57600	1200-57600	1200-57600	1200-57600
2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms
6080 logs	6080 logs	6080 logs	6080 logs	6080 logs	6080 logs	6080 logs
> 5years	> 5years	> 5years	> 5years	> 5years	> 5years	> 5years
110-300V ±%10	110-300V ±%10	110-300V ±%10	85-300V	85-300V	85-300V	85-300V
110-300V ±%10	110-300V ±%10	110-300V ±%10	85-300V	85-300V	85-300V	85-300V
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
<3W	<3W	<3W	<5W	<5W	<5W	<5W
<5VA	<5VA	<5VA	<7.5VA	<7.5VA	<7.5VA	<7.5VA
-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
Max.90% (no condensation)	Max.90% (no condensation)	Max.90% (no condensation)	Max.90% (no condensation)	Max.90% (no condensation)	Max.90% (no condensation)	Max.90% (no condensation)
IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
96.8	96.8	96.8	144	144	144	144
96.8	96.8	96.8	144	144	144	144
89.6	89.6	89.6	137	137	137	137
89.6	89.6	89.6	137	137	137	137
65	65	65	58	58	58	58
280	280	280	517	517	517	517

ANC & ALRC Series Alarm Annunciators

Type			ANC-16 (24VAC/DC)	ANC-16 (48VAC/DC)	ANC-16 (110VAC/DC)	ANC-16 (220VAC/DC)	ANC-24 (24V AC/DC, 85-300V AC/DC p.s.)
Definiton			Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator
Order Number			604650	604651	604652	604653	604660
Input Signal	Voltage	AC	24V	48V	110V	220V	24V
		DC	24V	48V	110V	220V	24V
	Frequency		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
	Numbers		16	16	16	16	24
	Response Time		25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec
Output Contacts	Type of Output		Relay	Relay	Relay	Relay	Relay
	Number of contacts		2	2	2	2	2
	Type		1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)
	Max ratings-AC		5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA
	Max ratings-DC		5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150Ww
	Mechanical Life Time		≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations
	Electrical Life Time Operations (for NO side)		1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)
Window	Numbers		16	16	16	16	24
	Colours		Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable
	Sizes(mm)		44,8x11,9	44,8x11,9	44,8x11,9	44,8x11,9	24,4x11,9
	Iluminating for Each Window		With 4 pcs. leds or 4 pcs. green led	With 4 pcs. leds or 4 pcs. green led	With 4 pcs. leds or 4 pcs. green led	With 4 pcs. leds or 4 pcs. green led	With 2pcs. leds or 2 pcs. green led
	Flash rate	Slow	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min
		Fast	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min
	Marking		Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.
Mod	ANC		Available	Available	Available	Available	Available
	LSK		Available	Available	Available	Available	Available
Time Range(sec)			0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable
Inbuilt Push Buttons			4 nos.(Horn, Ack, Delete, Test)	5 nos.(Horn, Ack, Delete, Test)	6 nos.(Horn, Ack, Delete, Test)	7 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)
Buzzer			Available	Available	Available	Available	Available
Communication	Protocol		Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU
	Baud Rate		1200-57600	1200-57600	1200-57600	1200-57600	1200-57600
	Isolation		2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms
Real Time Event Recording			6080 logs	6081 logs	6082 logs	6083 logs	6080 logs
Battery Life			> 5 years	> 5 years	> 5 years	> 5 years	>5 years
Supply	Voltage	AC	24-50V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10	85-300V ±%10
		DC	24-50V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10	85-300V ±%10
	Frequency		45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
Power consumption		AC	< 10VA	< 10VA	< 10VA	< 10VA	< 10VA
		DC	<5W	<5W	<5W	<5W	< 5W
Permissible ambient temperature	During operation		-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
	During storage		-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Degree of protection			IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)
Connections			Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Dimensions (mm)	Bezel/Overall	Height(mm)	144	144	144	144	144
		Width(mm)	144	144	144	144	144
	Panel Cutout	Height(mm)	137	137	137	137	137
		Width(mm)	137	137	137	137	137
		Depth(mm)	58	58	58	58	58
Weight(gr)			540	540	540	540	540

Electronic Products

ANC & ALRC Series Alarm Annunciators

ANC-24 (48V AC/DC, 85-300V AC/ DC p.s.)	ANC-24 (110V AC/DC, 85-300V AC/ DC p.s.)	ANC-24 (220V AC/DC, 85-300V AC/ DC p.s.)	ANC-24 (24V AC/DC, 24-50VAC/DC p.s.)	ANC-24 (48V AC/DC, 24-50VAC/DC p.s.)	ANC-24 (110V AC/DC, 24-50VAC/DC p.s.)	ANC-24 (220V AC/DC, 24-50VAC/DC p.s.)
Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator
604661	604662	604663	604665	604666	604667	604668
48V	110V	220V	24V	48V	110V	220V
48V	110V	220V	24V	48V	110V	220V
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
24	24	24	24	24	24	24
25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec
Relay	Relay	Relay	Relay	Relay	Relay	Relay
2	2	2	2	2	2	2
1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)
5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA
5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W
≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations
1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)
24	24	24	24	24	24	24
Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable
24,4x11,9	24,4x11,9	24,4x11,9	24,4x11,9	24,4x11,9	24,4x11,9	24,4x11,9
With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led
60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min
180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min
Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.
Available	Available	Available	Available	Available	Available	Available
Available	Available	Available	Available	Available	Available	Available
0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable
4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)	4 nos.(Horn, Ack, Delete, Test)
Available	Available	Available	Available	Available	Available	Available
Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU
1200-57600	1200-57600	1200-57600	1200-57600	1200-57600	1200-57600	1200-57600
2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms
6080 logs	6080 logs	6080 logs	6080 logs	6080 logs	6080 logs	6080 logs
>5 years	>5 years	>5 years	>5 years	>5 years	>5 years	>5 years
85-300V ±%10	85-300V ±%10	85-300V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10
85-300V ±%10	85-300V ±%10	85-300V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
< 10VA	< 10VA	< 10VA	< 10VA	< 10VA	< 10VA	< 10VA
< 5W	< 5W	< 5W	< 5W	< 5W	< 5W	< 5W
-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
144	144	144	144	144	144	144
144	144	144	144	144	144	144
137	137	137	137	137	137	137
137	137	137	137	137	137	137
58	58	58	58	58	58	58
540	540	540	540	540	540	540

Electronic Products

ANC & ALRC Series Alarm Annunciators



Type			ANC-32 (24V AC/DC, 85-300V AC/DC p.s.)	ANC-32 (48V AC/DC, 85-300V vAC/ DC p.s.)	ANC-32 (110V AC/DC, 85-300V AC/ DC p.s.)
Definiton			Alarm annunciator	Alarm annunciator	Alarm annunciator
Order Number			604670	604671	604672
Input Signal	Voltage	AC	24V	48V	110V
		DC	24V	48V	110V
	Frequency		45-65 Hz	45-65 Hz	45-65 Hz
	Numbers		32	32	32
	Response Time		25 ± 10 msec	25 ± 10 msec	25 ± 10 msec
Output Contacts	Type of Output		Relay	Relay	Relay
	Number of contacts		2	2	2
	Type		1 NO (SPST)	1 NO (SPST)	1 NO (SPST)
	Max ratings-AC		5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA
	Max ratings-DC		5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W
	Mechanical Life Time		≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations
	Electrical Life Time Operations (for NO side)		1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)
Window	Numbers		32	32	32
	Colours		Red/Green selectable	Red/Green selectable	Red/Green selectable
	Sizes(mm)		15,3x11,9	15,3x11,9	15,3x11,9
	İluminating for Each Window		With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led
	Flash rate	Slow	60 Flash/Min	60 Flash/Min	60 Flash/Min
		Fast	180 Flash/Min	180 Flash/Min	180 Flash/Min
	Marking		Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.
Mod	ANC		Available	Available	Available
	LSK		Available	Available	Available
Time Range(sec)			0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable
Inbuilt Push Buttons			4 nos. (Horn, Ack, Delete, Test)	4 nos. (Horn, Ack, Delete, Test)	4 nos. (Horn, Ack, Delete, Test)
Buzzer			Available	Available	Available
Communication	Protocol		Modbus-RTU	Modbus-RTU	Modbus-RTU
	Baud Rate		1200-57600	1200-57600	1200-57600
	Isolation		2500 Vrms	2500 Vrms	2500 Vrms
Real Time Event Recording			6080 logs	6080 logs	6080 logs
Battery Life			> 5 years	> 5 years	> 5 years
Voltage Supply	Voltage	AC	85-300V ±%10	85-300V ±%10	85-300V ±%10
		DC	85-300V ±%10	85-300V ±%10	85-300V ±%10
	Frequency		45-65 Hz	45-65 Hz	45-65 Hz
Power consumption	DC		< 10VA	< 10VA	< 10VA
	AC		<5W	<5W	<5W
Permissible ambient temperature	During operation		-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
	During storage		-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Degree of protection			IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)
Connections			Screw terminal	Screw terminal	Screw terminal
Dimensions (mm)	Bezel/Overall	Height(mm)	144	144	144
		Width(mm)	144	144	144
	Panel Cutout	Height(mm)	137	137	137
		Width(mm)	137	137	137
		Depth(mm)	58	58	58
Weight(gr)			540	540	540

Electronic Products

ANC & ALRC Series Alarm Annunciators





ANC-32 (220V AC/DC, 85-300V AC/ DC p.s.)	ANC-32 (24V AC/DC, 24-50VAC/DC p.s.)	ANC-32 (48V AC/DC, 24-50VAC/DC p.s.)	ANC-32 (110V AC/DC, 24-50VAC/DC p.s.)	ANC-32 (220V AC/DC, 24-50VAC/DC p.s.)
Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator	Alarm annunciator
604673	604675	604676	604677	604678
220V	24V	48V	110V	220V
220V	24V	48V	110V	220V
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
32	32	32	32	32
25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec	25 ± 10 msec
Relay	Relay	Relay	Relay	Relay
2	2	2	2	2
1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)	1 NO (SPST)
5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA	5A/277V; 1385 VA
5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W	5A/30VDC; 150W
≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations	≥ 10^8 operations
1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)	1×10^5(5A@250VAC)
32	32	32	32	32
Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable	Red/Green selectable
15,3x11,9	15,3x11,9	15,3x11,9	15,3x11,9	15,3x11,9
With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led	With 2pcs. leds or 2 pcs. green led
60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min	60 Flash/Min
180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min	180 Flash/Min
Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.
Available	Available	Available	Available	Available
Available	Available	Available	Available	Available
0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable	0, 2, 5, 10, 15, 20, 25, 30 adjustable
4 nos. (Horn, Ack, Delete, Test)	4 nos. (Horn, Ack, Delete, Test)	4 nos. (Horn, Ack, Delete, Test)	4 nos. (Horn, Ack, Delete, Test)	4 nos. (Horn, Ack, Delete, Test)
Available	Available	Available	Available	Available
Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU	Modbus-RTU
1200-57600	1200-57600	1200-57600	1200-57600	1200-57600
2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms	2500 Vrms
6080 logs	6080 logs	6080 logs	6080 logs	6080 logs
> 5 years	> 5 years	> 5 years	> 5 years	> 5 years
85-300V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10
85-300V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10	24-50V ±%10
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
< 10VA	< 10VA	< 10VA	< 10VA	< 10VA
<5W	<5W	<5W	<5W	<5W
-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
144	144	144	144	144
144	144	144	144	144
137	137	137	137	137
137	137	137	137	137
58	58	58	58	58
540	540	540	540	540

LSK Series LSK Series Signal Indicator Modules

Type			LSK-4 (24VAC/DC)	LSK-4 (48VAC/DC)	LSK-4 (110VAC/DC)	LSK-4 (220VAC/DC)	LSK-6 (24VAC/DC)
Definiton			Signal Indicator Module	Signal Indicator Module	Signal Indicator Module	Signal Indicator Module	Signal Indicator Module
Order Number			583041	583042	583043	583045	583061
Input Signal	Voltage	AC	24V	48V	110V	220V	24V
		DC	24V	48V	110V	220V	24V
	Frequency		Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)
	Numbers		4	4	4	4	6
	Response Time:		Max. 10ms	Max. 10ms	Max. 10ms	Max. 10ms	Max. 10ms
Output Contacts			-	-	-	-	-
Window	Numbers		4	4	4	4	6
	Colours		Red	Red	Red	Red	Red
	Sizes(mm)		34,85 x 30	34,85 x 30	34,85 x 30	34,85 x 30	34,85 x 18,70
	Illuminating for each window		With 9 pcs. red leds	With 9 pcs. red leds	With 9 pcs. red leds	With 9 pcs. red leds	With 6 pcs. red leds
	Marking		Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.
Time Range(sec)			-	-	-	-	-
Inbuilt Push Buttons			-	-	-	-	-
Buzzer			-	-	-	-	-
Communication			-	-	-	-	-
Real Time Event Recording			-	-	-	-	-
Battery Life			-	-	-	-	-
Permissible ambient temperature	During operation		-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
	During storage		-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Degree of protection			IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)
Connections			Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Dimensions (mm)	Bezel/Overall	Height(mm)	96	96	96	96	96
		Width(mm)	96	96	96	96	96
	Panel Cutout	Height(mm)	89.5	89.5	89.5	89.5	89.5
		Width(mm)	89.5	89.5	89.5	89.5	89.5
		Depth(mm)	66	66	66	66	66
Weight(gr)			218	218	218	218	220

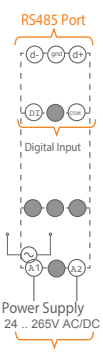
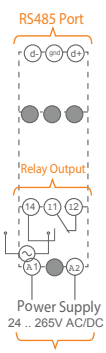
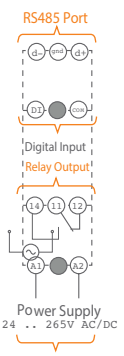
Electronic Products

LSK Series LSK Series Signal Indicator Modules

LSK-6 (48VAC/DC)	LSK-6 (110VAC/DC)	LSK-6 (220VAC/DC)	LSK-9 (24VAC/DC)	LSK-9 (48VAC/DC)	LSK-9 (110VAC/DC)	LSK-9 (220VAC/DC)
Signal Indicator Module	Signal Indicator Module	Signal Indicator Module	Signal Indicator Module	Signal Indicator Module	Signal Indicator Module	Signal Indicator Module
583062	583063	583065	583091	583092	583093	583095
48V	110V	220V	24V	48V	110V	220V
48V	110V	220V	24V	48V	110V	220V
Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)	Min. 45Hz (for AC signal input)
6	6	6	9	9	9	9
Max. 10ms	Max. 10ms	Max. 10ms	Max. 10ms	Max. 10ms	Max. 10ms	Max. 10ms
-	-	-	-	-	-	-
6	6	6	9	9	9	9
Red	Red	Red	Red	Red	Red	Red
34,85 x 18,70	34,85 x 18,70	34,85 x 18,70	20,9 x 18,7	20,9 x 18,7	20,9 x 18,7	20,9 x 18,7
With 6 pcs. red leds	With 6 pcs. red leds	With 6 pcs. red leds	With 4 pcs. red leds	With 4 pcs. red leds	With 4 pcs. red leds	With 4 pcs. red leds
Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.	Laser printed onto standard tracing paper, using templates provided by Klemsan Inc.
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)	IP50(front), IP20(back) (IP66 with accessory)
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
96	96	96	96	96	96	96
96	96	96	96	96	96	96
89.5	89.5	89.5	89.5	89.5	89.5	89.5
89.5	89.5	89.5	89.5	89.5	89.5	89.5
66	66	66	66	66	66	66
220	220	220	222	222	222	222

Electronic Products

EASION Series Remote I/O Modules

Type			EASION-1S-1A111	EASION-1S-A1111	EASION-1S-AA111
Definition			Remote I/O Module	Remote I/O Module	Remote I/O Module
Order Number			260 001	260 002	260 003
Casing Width(mm)			17,5	17,5	17,5
Connections			Screw terminal	Screw terminal	Screw terminal
Inputs and Outputs	Relay Outputs	Number of outputs	-	1 pcs.	1 pcs.
		Type	-	NO (SPST)	NO (SPST)
		Max. Switching Current	-	10 A	10 A
		Max. Switching Voltage	-	250 VAC	250 VAC
	Digital Inputs	Max. Switching Power	-	1250VA	1250VA
		Number of inputs	1 pcs.	-	1 pcs.
		Activation type	Active Low, Active High	-	Active Low, Active High
		Min. delay time	10msec	-	10msec
		Input Voltage	24..265V AC/DC	-	24..265V AC/DC
		Frequency	45-65Hz		45-65Hz
		Isolation Level	5kVRMS	-	5kVRMS
		DI Counter	Available	-	Available
Supply	Voltage	AC	85..265V	85..265V	85..265V
		DC	85..265V	85..265V	85..265V
Isolation			2,5kVRMS	1,5kVRMS	2,5kVRMS
Power Consumption	AC		< 2,2 VA	< 2,2 VA	< 2,2 VA
	DC		< 1 W	< 1 W	< 1 W
Connections	Power input		A1,A2	A1,A2	A1,A2
	Input Connection		DI, COM+E27:G27E27E27:G31	DI, COM	DI, COM
	Output Connection		11(COM),14(NO),12(NC)	11(COM),14(NO),12(NC)	11(COM),14(NO),12(NC)
Communication		Protocol	Modbus RTU	Modbus RTU	Modbus RTU
		Baud rate	1200 -115200 bps adjustable	1200 -115200 bps adjustable	1200 -115200 bps adjustable
		Stop bit	1	1	1
		Address	1-247	1-247	1-247
		Isolation	2750V RMS	2750V RMS	2750V RMS
Permissible Ambient Temperature	During Operation		-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
	During Storage		-30°C..+80°C	-30°C..+80°C	-30°C..+80°C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Degree of Protection			IP20	IP20	IP20
Weight(gr)			44	52	54
Mounting Type			Rail Mounted	Rail Mounted	Rail Mounted
Permissible mounting position			any	any	any
Schematics					

Electronic & Energy Management Products

SENSOR Series



Type				EASION 2M-1Z111-D	EASION 2M-1Z111	EASION 2M-11Z11
Definition				Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O
Order Number				260 010	260 011	260 012
Casing Width(mm)				(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm
Connections				Screw terminal	Screw terminal	Screw terminal
Mounting Type				Rail Mounted	Rail Mounted	Rail Mounted
Inputs	Dry Contact		Number of inputs	24	-	-
	Wet Contact		Number of inputs	-	24	-
			Input Voltage	-	12 - 230 V AC/DC	
			Input Current		1 mA at 5V AC/DC	
				-	2,5 mA at 24V AC/DC	-
					4 mA at 230V AC/DC	
			Frequency	-	45-65 Hz	-
			Insulation Level	-	5000Vrms optical insulation	-
Outputs	Digital Output (Sink)		Number of outputs	-	-	24
			Switching Current / Voltage			50mA / 5-30V DC
			Response Time	-	-	<18µs
	Relay Output		Number of outputs	-	-	-
			Max. Switching Current / Voltage / Power			-
			Mechanical Life Time	-	-	-
			Electrical Life Time	-	-	-
			Operate Time	-	-	-
Supply	Voltage		AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC
			DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC
Frequency				45-65 Hz	45-65 Hz	45-65 Hz
Power Consumption	AC			<13VA	<13VA	<13VA
	DC			<7W	<7W	<7W
Connections	Power input			Un	Un	Un
	Input Connection			DIx,COM	DIx+, DIx-	-
	Output Connection			-	-	DOx+,DOx-
Communication	Serial Communication	RS485 (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		Micro USB (MODBUS RTU)	Baud rate	-	-	-
			Stop bit	-	-	-
			Slave ID	-	-	-
		RS232 (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		HTTP REST	Communication Interface	-	-	-
			Baud rate	-	-	-
	TCP/IP	MODBUS TCP	Communication Interface	-	-	-
		MQTT, HTTP REST	Communication Interface	-	-	-
Permissible Ambient Temperature			During Operation	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
			During Storage	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Relative Humidity				Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)

Electronic & Energy Management Products

SENSOR Series



Type				EASION 2M-Z1111	EASION 2M-LL111-D	EASION 2M-1LL11
Definition				Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O
Order Number				260 013	260 014	260 015
Casing Width(mm)				(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm
Connections				Screw terminal	Screw terminal	Screw terminal
Mounting Type				Rail Mounted	Rail Mounted	Rail Mounted
Inputs	Dry Contact		Number of inputs	-	12	-
	Wet Contact		Number of inputs	-	-	12
			Input Voltage			12 - 230 V AC/DC
			Input Current			1 mA at 5V AC/DC
				-	-	2,5 mA at 24V AC/DC
						4 mA at 230V AC/DC
			Frequency	-	-	45-65 Hz
			Insulation Level	-	-	5000Vrms optical insulation
Outputs	Digital Output (Sink)		Number of outputs	-	-	12
			Switching Current / Voltage	-	-	50mA / 5-30V DC
			Response Time	-	-	<18µs
	Relay Output		Number of outputs	24	12	-
			Max. Switching Current / Voltage / Power	5A / 250VAC /1250 VA	5A / 250VAC /1250 VA	-
			Mechanical Life Time	5x10^6	5x10^6	-
			Electrical Life Time	1,2x10^6	1,2x10^6	-
			Operate Time	10 ms	10 ms	-
Supply	Voltage		AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC
			DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC
Frequency				45-65 Hz	45-65 Hz	45-65 Hz
Power Consumption	AC			<13VA	<13VA	<13VA
	DC			<7W	<7W	<7W
Connections	Power input			Un	Un	Un
	Input Connection			-	DIx,COM	DIx+, DIx-
	Output Connection			RLYx, Cx	RLYx, Cx	DOx+,DOx-
Communication	Serial Communication	RS485 (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		Micro USB (MODBUS RTU)	Baud rate	-	-	-
			Stop bit	-	-	-
			Slave ID	-	-	-
		RS232 (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		HTTP REST	Communication Interface	-	-	-
			Baud rate	-	-	-
	TCP/IP	MODBUS TCP	Communication Interface	-	-	-
		MQTT, HTTP REST	Communication Interface	-	-	-
Permissible Ambient Temperature			During Operation	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
			During Storage	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Relative Humidity				Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)

Electronic & Energy Management Products

SENSOR Series





EASION 2M-1LL11-D	EASION 2M-LL111	EASION 3M-1Z111-D	EASION 3M-1Z111	EASION 3M-11Z11
Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O
260 016	260 017	260 100	260 101	260 102
(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Rail Mounted	Rail Mounted	Rail Mounted	Rail Mounted	Rail Mounted
12	-	24	-	-
-	12	-	24	-
	12 - 230 V AC/DC	-	12 - 230 V AC/DC	
	1 mA at 5V AC/DC		1 mA at 5V AC/DC	
-	2,5 mA at 24V AC/DC	-	2,5 mA at 24V AC/DC	-
	4 mA at 230V AC/DC		4 mA at 230V AC/DC	
-	45-65 Hz	-	45-65 Hz	-
-	5000Vrms optical insulation	-	5000Vrms optical insulation	-
12	-	-	-	24
50mA / 5-30V DC	-	-	-	50mA / 5-30V DC
<18µs	-	-	-	<18µs
-	12	-	-	-
-	5A / 250VAC /1250 VA	-	-	-
-	5x10^6	-	-	-
-	1,2x10^6	-	-	-
-	10 ms	-	-	-
24 – 50 V AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC
12 – 50 V DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
<13VA	<13VA	<13VA	<13VA	<13VA
<7W	<7W	<7W	<7W	<7W
Un	Un	Un	Un	Un
DIx,COM	DIx+, DIx-	DIx,COM	DIx+, DIx-	-
DOx+,DOx-	RLYx, Cx	-	-	DOx+,DOx-
1200 .. 115200	1200 .. 115200	1200 .. 115200	1200 .. 115200	1200 .. 115200
1,2	1,2	1,2	1,2	1,2
1 ..247	1 ..247	1 ..247	1 ..247	1 ..247
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1200 .. 115200	1200 .. 115200	1200 .. 115200	1200 .. 115200	1200 .. 115200
1,2	1,2	1,2	1,2	1,2
1 ..247	1 ..247	1 ..247	1 ..247	1 ..247
-	-	-	-	-
-	-	-	-	-
-	-	√	√	√
-	-	-	-	-
-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)

Electronic & Energy Management Products

SENSOR Series

Type				EASION 3M-Z1111	EASION 3M-LL111-D	EASION 3M-1LL11
Definition				Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O
Order Number				260 103	260 104	260 105
Casing Width(mm)				(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm
Connections				Screw terminal	Screw terminal	Screw terminal
Mounting Type				Rail Mounted	Rail Mounted	Rail Mounted
Inputs	Dry Contact		Number of inputs	-	12	-
	Wet Contact		Number of inputs	-	-	12
			Input Voltage			12 - 230 V AC/DC
			Input Current			1 mA at 5V AC/DC
				-	-	2,5 mA at 24V AC/DC
						4 mA at 230V AC/DC
			Frequency	-	-	45-65 Hz
			Insulation Level	-	-	5000Vrms optical insulation
Outputs	Digital Output (Sink)		Number of outputs	-	-	12
			Switching Current / Voltage	-	-	50mA / 5-30V DC
			Response Time	-	-	<18µs
	Relay Output		Number of outputs	24	12	-
			Max. Switching Current / Voltage / Power	5A / 250VAC /1250 VA	5A / 250VAC /1250 VA	-
			Mechanical Life Time	5x10^6	5x10^6	-
			Electrical Life Time	1,2x10^6	1,2x10^6	-
			Operate Time	10 ms	10 ms	-
Supply	Voltage		AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC
			DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC
Frequency				45-65 Hz	45-65 Hz	45-65 Hz
Power Consumption	AC			<13VA	<13VA	<13VA
	DC			<7W	<7W	<7W
Connections	Power input			Un	Un	Un
	Input Connection			-	DIx,COM	DIx+, DIx-
	Output Connection			RLYx, Cx	RLYx, Cx	DOx+,DOx-
Communication	Serial Communication	RS485 (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		Micro USB (MODBUS RTU)	Baud rate	-	-	-
			Stop bit	-	-	-
			Slave ID	-	-	-
		RS232 (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		HTTP REST	Communication Interface	-	-	-
			Baud rate	-	-	-
	TCP/IP	MODBUS TCP	Communication Interface	√	√	√
		MQTT, HTTP REST	Communication Interface	-	-	-
Permissible Ambient Temperature			During Operation	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
			During Storage	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Relative Humidity				Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)

Electronic & Energy Management Products

SENSOR Series





EASION 3M-1LL11-D	EASION 3M-LL111	EASION 4M-1Z111-D	EASION 4M-1Z111	EASION 4M-11Z11
Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O
260 106	260 107	260 200	260 201	260 202
(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Rail Mounted	Rail Mounted	Rail Mounted	Rail Mounted	Rail Mounted
12	-	24	-	-
-	12	-	24	-
	12 - 230 V AC/DC	-	12 - 230 V AC/DC	
	1 mA at 5V AC/DC		1 mA at 5V AC/DC	
-	2,5 mA at 24V AC/DC	-	2,5 mA at 24V AC/DC	-
	4 mA at 230V AC/DC		4 mA at 230V AC/DC	
-	45-65 Hz	-	45-65 Hz	-
-	5000Vrms optical insulation	-	5000Vrms optical insulation	-
12	-	-	-	24
50mA / 5-30V DC	-	-	-	50mA / 5-30V DC
<18µs	-	-	-	<18µs
-	12	-	-	-
-	5A / 250VAC /1250 VA	-	-	-
-	5x10^6	-	-	-
-	1,2x10^6	-	-	-
-	10 ms	-	-	-
24 – 50 V AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC
12 – 50 V DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
<13VA	<13VA	<13VA	<13VA	<13VA
<7W	<7W	<7W	<7W	<7W
Un	Un	Un	Un	Un
DIx,COM	DIx+, DIx-	DIx,COM	DIx+, DIx-	-
DOx+,DOx-	RLYx, Cx	-	-	DOx+,DOx-
1200 .. 115200	1200 .. 115200	-	-	-
1,2	1,2	-	-	-
1 ..247	1 ..247	-	-	-
-	-	1200 .. 115200	1200 .. 115200	1200 .. 115200
-	-	1,2	1,2	1,2
-	-	1 ..247	1 ..247	1 ..247
1200 .. 115200	1200 .. 115200	1200 .. 115200	1200 .. 115200	1200 .. 115200
1,2	1,2	1,2	1,2	1,2
1 ..247	1 ..247	1 ..247	1 ..247	1 ..247
-	-	-	-	-
-	-	-	-	-
√	√	√	√	√
-	-	-	-	-
-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)

Electronic & Energy Management Products

SENSOR Series

Type				EASION 4M-Z1111	EASION 4M-LL111-D	EASION 4M-1LL11
Definition				Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O
Order Number				260 203	260 204	260 205
Casing Width(mm)				(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm
Connections				Screw terminal	Screw terminal	Screw terminal
Mounting Type				Rail Mounted	Rail Mounted	Rail Mounted
Inputs	Dry Contact		Number of inputs	-	12	-
	Wet Contact		Number of inputs	-	-	12
			Input Voltage			12 - 230 V AC/DC
			Input Current			1 mA at 5V AC/DC
				-	-	2,5 mA at 24V AC/DC
						4 mA at 230V AC/DC
			Frequency	-	-	45-65 Hz
			Insulation Level	-	-	5000Vrms optical insulation
Outputs	Digital Output (Sink)		Number of outputs	-	-	12
			Switching Current / Voltage	-	-	50mA / 5-30V DC
			Response Time	-	-	<18µs
	Relay Output		Number of outputs	24	12	-
			Max. Switching Current / Voltage / Power	5A / 250VAC /1250 VA	5A / 250VAC /1250 VA	-
			Mechanical Life Time	5x10^6	5x10^6	-
			Electrical Life Time	1,2x10^6	1,2x10^6	-
			Operate Time	10 ms	10 ms	-
Supply	Voltage		AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC
			DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC
Frequency				45-65 Hz	45-65 Hz	45-65 Hz
Power Consumption	AC			<13VA	<13VA	<13VA
	DC			<7W	<7W	<7W
Connections	Power input			Un	Un	Un
	Input Connection			-	DIx,COM	DIx+, DIx-
	Output Connection			RLYx, Cx	RLYx, Cx	DOx+,DOx-
Communication	Serial Communication	RS485 (MODBUS RTU)	Baud rate	-	-	-
			Stop bit	-	-	-
			Slave ID	-	-	-
		Micro USB (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		RS232 (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		HTTP REST	Communication Interface	-	-	-
			Baud rate	-	-	-
	TCP/IP	MODBUS TCP	Communication Interface	√	√	√
		MQTT, HTTP REST	Communication Interface	-	-	-
Permissible Ambient Temperature			During Operation	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
			During Storage	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Relative Humidity				Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)

Electronic & Energy Management Products

SENSOR Series

EASION 4M-1LL11-D	EASION 4M-LL111	EASION 5M-1Z111-D	EASION 5M-1Z111	EASION 5M-11Z11
Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O
260 206	260 207	260 300	260 301	260 302
(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Rail Mounted	Rail Mounted	Rail Mounted	Rail Mounted	Rail Mounted
12	-	24	-	-
-	12	-	24	-
	12 - 230 V AC/DC	-	12 - 230 V AC/DC	
	1 mA at 5V AC/DC		1 mA at 5V AC/DC	
-	2,5 mA at 24V AC/DC	-	2,5 mA at 24V AC/DC	-
	4 mA at 230V AC/DC		4 mA at 230V AC/DC	
-	45-65 Hz	-	45-65 Hz	-
-	5000Vrms optical insulation	-	5000Vrms optical insulation	-
12	-	-	-	24
50mA / 5-30V DC	-	-	-	50mA / 5-30V DC
<18µs	-	-	-	<18µs
-	12	-	-	-
-	5A / 250VAC /1250 VA	-	-	-
-	5x10^6	-	-	-
-	1,2x10^6	-	-	-
-	10 ms	-	-	-
24 – 50 V AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC
12 – 50 V DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC
45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
<13VA	<13VA	<13VA	<13VA	<13VA
<7W	<7W	<7W	<7W	<7W
Un	Un	Un	Un	Un
DIx,COM	DIx+, DIx-	DIx,COM	DIx+, DIx-	-
DOx+,DOx-	RLYx, Cx	-	-	DOx+,DOx-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1200 .. 115200	1200 .. 115200	-	-	-
1,2	1,2	-	-	-
1 ..247	1 ..247	-	-	-
1200 .. 115200	1200 .. 115200	1200 .. 115200	1200 .. 115200	1200 .. 115200
1,2	1,2	1,2	1,2	1,2
1 ..247	1 ..247	1 ..247	1 ..247	1 ..247
-	-	Micro USB	Micro USB	Micro USB
-	-	38400	38400	38400
√	√	√	√	√
-	-	Ethernet 10/100 Base - TX	Ethernet 10/100 Base - TX	Ethernet 10/100 Base - TX
-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)

Electronic & Energy Management Products

SENSOR Series



Type				EASION 5M-Z1111	EASION 5M-LL111-D	EASION 5M-1LL11
Definition				Multi-channel Remote I/O	Multi-channel Remote I/O	Multi-channel Remote I/O
Order Number				260 303	260 304	260 305
Casing Width(mm)				(95mmx160mm)x58mm	(95mmx160mm)x58mm	(95mmx160mm)x58mm
Connections				Screw terminal	Screw terminal	Screw terminal
Mounting Type				Rail Mounted	Rail Mounted	Rail Mounted
Inputs	Dry Contact		Number of inputs	-	12	-
	Wet Contact		Number of inputs	-	-	12
			Input Voltage			12 - 230 V AC/DC
			Input Current			1 mA at 5V AC/DC
				-	-	2,5 mA at 24V AC/DC
						4 mA at 230V AC/DC
			Frequency	-	-	45-65 Hz
			Insulation Level	-	-	5000Vrms optical insulation
Outputs	Digital Output (Sink)		Number of outputs	-	-	12
			Switching Current / Voltage	-	-	50mA / 5-30V DC
			Response Time	-	-	<18µs
	Relay Output		Number of outputs	24	12	-
			Max. Switching Current / Voltage / Power	5A / 250VAC /1250 VA	5A / 250VAC /1250 VA	-
			Mechanical Life Time	5x10^6	5x10^6	-
			Electrical Life Time	1,2x10^6	1,2x10^6	-
			Operate Time	10 ms	10 ms	-
Supply	Voltage		AC	24 – 50 V AC	24 – 50 V AC	24 – 50 V AC
			DC	12 – 50 V DC	12 – 50 V DC	12 – 50 V DC
Frequency				45-65 Hz	45-65 Hz	45-65 Hz
Power Consumption	AC			<13VA	<13VA	<13VA
	DC			<7W	<7W	<7W
Connections	Power input			Un	Un	Un
	Input Connection			-	DIx,COM	DIx+, DIx-
	Output Connection			RLYx, Cx	RLYx, Cx	DOx+,DOx-
Communication	Serial Communication	RS485 (MODBUS RTU)	Baud rate	-	-	-
			Stop bit	-	-	-
			Slave ID	-	-	-
		Micro USB (MODBUS RTU)	Baud rate	-	-	-
			Stop bit	-	-	-
			Slave ID	-	-	-
		RS232 (MODBUS RTU)	Baud rate	1200 .. 115200	1200 .. 115200	1200 .. 115200
			Stop bit	1,2	1,2	1,2
			Slave ID	1 ..247	1 ..247	1 ..247
		HTTP REST	Communication Interface	Micro USB	Micro USB	Micro USB
			Baud rate	38400	38400	38400
	TCP/IP	MODBUS TCP	Communication Interface	√	√	√
		MQTT, HTTP REST	Communication Interface	Ethernet 10/100 Base - TX	Ethernet 10/100 Base - TX	Ethernet 10/100 Base - TX
Permissible Ambient Temperature			During Operation	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
			During Storage	-20°C..+70°C	-20°C..+70°C	-20°C..+70°C
Relative Humidity				Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)

Electronic & Energy Management Products

SENSOR Series

EASION 5M-1LL11-D	EASION 5M-LL111
Multi-channel Remote I/O	Multi-channel Remote I/O
260 306	260 307
(95mmx160mm)x58mm	(95mmx160mm)x58mm
Screw terminal	Screw terminal
Rail Mounted	Rail Mounted
12	-
-	12
	12 - 230 V AC/DC
	1 mA at 5V AC/DC
-	2,5 mA at 24V AC/DC
	4 mA at 230V AC/DC
-	45-65 Hz
-	5000Vrms optical insulation
12	-
50mA / 5-30V DC	-
<18µs	-
-	12
-	5A / 250VAC /1250 VA
-	5x10^6
-	1,2x10^6
-	10 ms
24 – 50 V AC	24 – 50 V AC
12 – 50 V DC	12 – 50 V DC
45-65 Hz	45-65 Hz
<13VA	<13VA
<7W	<7W
Un	Un
DIx,COM	DIx+, DIx-
DOx+,DOx-	RLYx, Cx
-	-
-	-
-	-
-	-
-	-
-	-
1200 .. 115200	1200 .. 115200
1,2	1,2
1 ..247	1 ..247
Micro USB	Micro USB
38400	38400
√	√
Ethernet 10/100 Base - TX	Ethernet 10/100 Base - TX
-20°C..+70°C	-20°C..+70°C
-20°C..+70°C	-20°C..+70°C
Max.95% (no condensation)	Max.95% (no condensation)

Electronic Products

ASCON Series Analog Signal Converters

Type			ASCON 311	ASCON 321
Definiton			Configurable Signal Converter	Configurable PT100 Converter
Order Number			602300	602310
Casing Width(mm)			17,5	17,5
Connections			Screw terminal	Screw terminal
Input	Sensor Type		DC Current and Voltage(mV,V,mA)	PT100 (2,3,4 wire)
	PT100 connection Type		-	2, 3 or 4 wire
	Measuring Range		0…60mV -6…60mV 0…5mA 0…100mV -100…100mV 0…10mA 0…250mV -250…250mV 0…20mA 0…500mV -500…500mV -5…5mA 0…1V -1…1V -10…10mA 0…2V -2…2V -20…20mA 0…2,5V -2,5…2,5V 4…20mA 0…5V -5…5V 0…24mA 0…10V -10…10V 4…24mA 0…20V -20…20V 0…12mA	-150°C…800 °C Configurable
	Sensor excitation current		-	<0.5mA
	Maximum input signal		30V DC or 50mA DC	-
Output	Output Signal		0…5V 0…20mA 5…0V 20…0mA 0…10V 4…20mA 10…0V 20…4mA -5…5V -20…20mA	0…5V 0…20mA 5…0V 20…0mA 0…10V 4…20mA 10…0V 20…4mA -5…5V 20…20mA
	Measurement Error		< %0.2 Full scale	< %0.2 Full scale
	Max. Load		≤ 600Ω(Current Output) ≥10kΩ (Voltage Output)	≤ 600Ω(Current Output) ≥10kΩ (Voltage Output)
	Max. Output Signal		12V (Voltage Output) 24mV (Current Output)	12V (Voltage Output) 24mV (Current output)
Supply	Voltage	DC	11-30V DC	11-30V DC
Isolation			3 way-1,5kV RMS	3 way-1,5kV RMS
Power Consumptionr			≤ 25mA @ 24V (ILOAD =0mA, I =0mA)	≤ 25mA @ 24V (ILOAD =0mA, I =0mA)
Temperature coeff icient			≤ %0.004/°C	≤ %0.02/°C

Electronic Products

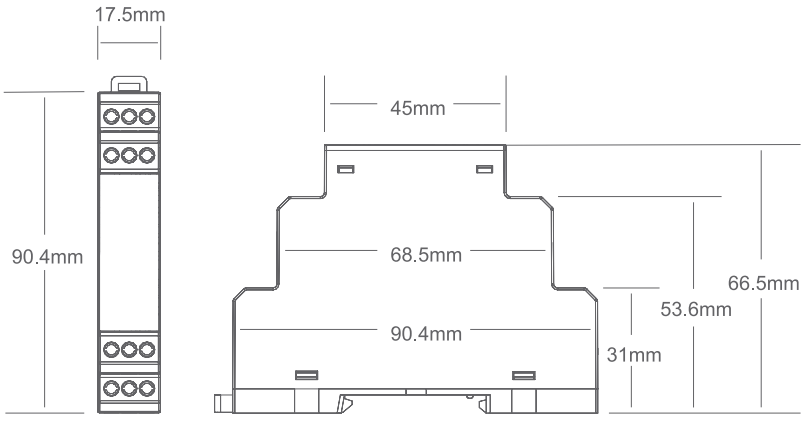
ASCON Series Analog Signal Converters

ASCON 331	ASCON 341	ASCON 352
Configurable Thermocouple Converter	Configurable Frequency Converter	Signal-Temperature Converter with RS485
602320	602 330	602400
17,5	17,5	17,5
Screw terminal	Screw terminal	Screw terminal
Thermocouple(J,K,E,R,S)	2-3 wire PNP/NPN, Namur, Push-Pull, Dry contact	mV,V,mA PT100(2,3,4wire) Thermocouple(J,K,E,R,S)
-	-	2,, 3 or 4 wire
J: -200°C . . . 1200°C configurable K: -200°C . . . 1350°C configurable E: -200°C . . . 950°C configurable R: -50°C . . . 1750°C configurable S: -50°C . . . 1750°C configurable	0 .. 100 kHz configurable via knobs 0...150 kHz can be learned from input signal	Signal -30 signal combinations; 4-20mA,0-10V,etc. PT100 -150°C…800 °C Configurable Thermocouple J: -200°C . . . 1200°C configurable K: -200°C . . . 1350°C configurable E: -200°C . . . 950°C configurable R: -50°C . . . 1750°C configurable S: -50°C . . . 1750°C configurable
-	-	<0.5mA
-	Namur: 1.7 mA NPN: 6.5 V PNP: 6,7 V	30V DC or 50mA DC
0…5V 0…20mA 5…0V 20…0mA 0…10V 4…20mA 10…0V 20…4mA -5…5V -20…20mA	0 .. 5V, 0 .. 10V, -10 .. 10V, 0 .. 20mA, 4 .. 20mA, -20 .. 20mA	RS485
3.6mA .. 23.6mA	< %0.2 Full scale	3.6mA .. 23.6mA
< %0.2 Full scale	≤ 600Ω(Current Output) ≥10kΩ (Voltage Output)	< %0.1 Full scale
≤ 600Ω(Current Output) ≥10kΩ (Voltage Output)	12V (Voltage output), 24mA (Current output)	-
11-30V DC	18 .. 30V DC	11-30V DC
3 way-1,5kV RMS	1,5kVRMS	3 way-1,5kV RMS
≤ 25mA @ 24V (ILOAD =0mA, I =0mA)	≤ 30mA @ 24V (I LOAD AUX =0mA, I =0mA)	≤ 15mA @ 24V (ILOAD =0mA)
≤ %0.004/°C	≤ %0.004/°C	≤ %0.02/°C

ASCON Series Analog Signal Converters

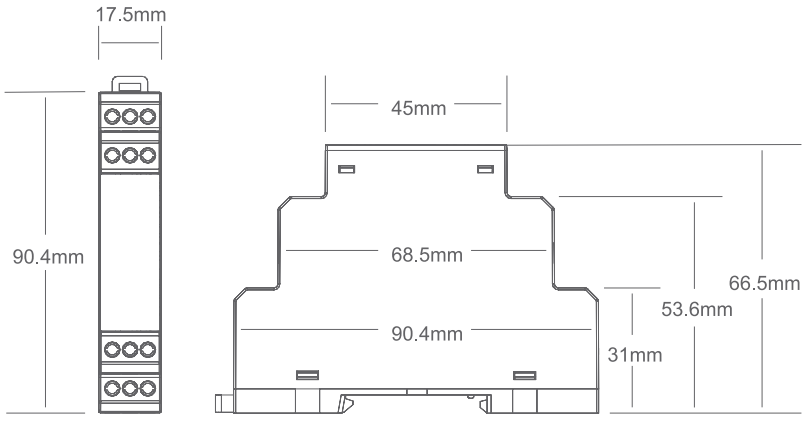
Type		ASCON 311	ASCON 321
Response Time		< 150ms	< 150ms
Sensor failure indication		Failure Status: The situation of input signal is at least 10 % different than adjusted value LED Indication: Err:	Failure Status: The situation of input signal is at least 10 % different than adjusted value LED Indication: Err:
Protection		Over voltage and reverse polarity protection	Over voltage and reverse polarity protection
Connections	Power Input	DC+,DC-	DC+,DC-
	Input Connection	mV Input : 2(+), 3(-) V Input : 4(+), 1(-) mA Input : 3(+), 1(-)	P1+ and P1- (2 wire connection) P1+ and P1-,P2- (3 wire connection) P1+,P2- and P1+,P2- (4 wire conncetion)
	Output Connection	V,Gnd (Voltage Output) I,Gnd (Current Output)	V,Gnd (Voltage Output) I,Gnd (Current Output)
Communication	Protocol	-	-
	Serial Connection	-	-
	Baud Rate	-	-
	Parity	-	-
Permissible ambient temperature	During Operation	-20 to +60 °C	-20 to +60 °C
	During Storage	-40 to +75 °C	-40 to +75 °C
Relative Humidity		Max.95% (no condensation)	Max.95% (no condensation)
Degree of protection		IP20	IP20
Weight(gr)		42	42
Mounting Type		Rail mounted	Rail mounted
Permissible mounting position		any	any

Dimensional Drawings



ASCON Series Analog Signal Converters

ASCON 331	ASCON 341	ASCON 352
< 150ms	0 - 20 Hz: < 1050 msec 20 - 100 Hz: < 550 msec 100 Hz: < 300msec	<10ms
Failure Status: The situation of input signal is at least 10 % different than adjusted value LED Indication: Err: ⌐¬	M1 M2 leds indication combinations	Failure Status: Voltage output mode: short circuit LED Indication: Err: ⌐¬
Over voltage and reverse polarity protection	Over voltage and reverse polarity protection	Over voltage and reverse polarity protection
DC+,DC-	DC+,DC-	DC+,DC-
TC1+ and TC1-	PNP : 4(+), 2(-), Sensor Supply : 1 or external NPN : 3(+), 2(-), Sensor Supply : 1 or external Namur : 3(+), 2(-) Push Pull : 4(+), 2(-) Dry Contact : 4(+), Sensor Supply : 1	Signal mV Input : 2(+), 3(-) mA Input : 3(+), 1(-) V Input : 4(+), 1(-) PT100 4 and 3 (2 wire connection) 4 and 2,3(3wire connection) 1,4and2,3(4wireconncetion) Thermocouple TC connection: 4,5
V,Gnd (Voltage Output) I,Gnd (Current Output)	V,Gnd (Voltage Output) I,Gnd (Current Output)	D+, Gnd, D-
-	-	MODBUS RTU
-	-	RS485
-	-	1200 9600 57600 2400 19200 4800 38400(Default)
-	-	None(Default) Even Odd
-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
IP20	IP20	IP20
42	42	42
Rail mounted	Rail Mounted	Rail mounted
any	any	any



Electronic Products

VT - CT Series Voltage & Current Transducers

Type			VT3-AC	VT3-AC-24	VT3-ACDC-24
Definiton			True RMS Voltage Transducer	True RMS Voltage Transducer	True RMS Voltage Transducer
Order Number			600101	600103	600106
Casing Width(mm)			36	36	36
Connections			Screw terminal	Screw terminal	Screw terminal
Input Signal	Conf igurable Voltage range	0-24 VAC	Avaliable	Avaliable	Avaliable
		0-36 VAC	Avaliable	Avaliable	-
		0-54 VAC	Avaliable	Avaliable	Avaliable
		0-80 VAC	Avaliable	Avaliable	-
		0-120 VAC	Avaliable	Avaliable	Avaliable
		0-170 VAC	Avaliable	Avaliable	-
		0-250 VAC	Avaliable	Avaliable	Avaliable
		0-400 VAC	Avaliable	Avaliable	-
		0-450 VAC	Avaliable	Avaliable	Avaliable
		0-500 VAC	Avaliable	Avaliable	-
		0-24 VDC	-	-	Avaliable
		0-54 VDC	-	-	Avaliable
		0-120 VDC	-	-	Avaliable
		0-250 VDC	-	-	Avaliable
		0-450 VDC	-	-	Avaliable
	Conf igurable Current Range	0-1 AAC	-	-	-
		0-2 AAC	-	-	-
		0-3 AAC	-	-	-
		0-4 AAC	-	-	-
		0-5 AAC	-	-	-
	Frequency		40-70 Hz	40-70 Hz	40-70 Hz
	Surge overload		< 2 x Uinput max. range (5 pulses 1s)	< 2 x Uinput max. range (5 pulses 1s)	< 2 x Uinput max. range (5 pulses 1s)
	Constant overload		Max. 600 V	Max. 600 V	Max. 600 V
	Input impedances		240 kΩ	240 kΩ	240 kΩ

Electronic Products

VT - CT Series Voltage & Current Transducers

VT3-AC-LP	CT3-AC	CT3-AC-24	CT3-AC-LP
True RMS Voltage Transducer	True RMS Current Transducer	True RMS Current Transducer	True RMS Current Transducer
600105	600100	600102	600104
36	36	36	36
Screw terminal	Screw terminal	Screw terminal	Screw terminal
Avaliable	-	-	-
Avaliable	-	-	-
Avaliable	-	-	-
Avaliable	-	-	-
Avaliable	-	-	-
Avaliable	-	-	-
Avaliable	-	-	-
Avaliable	-	-	-
Avaliable	-	-	-
Avaliable	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	Avaliable	Avaliable	Avaliable
-	Avaliable	Avaliable	Avaliable
-	Avaliable	Avaliable	Avaliable
-	Avaliable	Avaliable	Avaliable
-	Avaliable	Avaliable	Avaliable
40-70 Hz	40-70 Hz	40-70 Hz	40-70 Hz
< 2 x Uinput max. range (5 pulses 1s)	20xin(100A) for 1 Sec.	20xin(100A) for 1 Sec.	20xin(100A) for 1 Sec.
Max. 600 V	10A(2x Rated IN)	10A(2x Rated IN)	10A(2x Rated IN)
240 kΩ	49.9 Ω (burden resistor)	49.9 Ω (burden resistor)	49.9 Ω (burden resistor)

VT - CT Series Voltage & Current Transducers

Type			VT3-AC	VT3-AC-24	VT3-ACDC-24
Output	Type	0-20 mA	Avaliable	Avaliable	Avaliable
		4-20 mA	Avaliable	Avaliable	Avaliable
		±20 mA	Avaliable	Avaliable	Avaliable
		20-0 mA	Avaliable	Avaliable	Avaliable
		20-4 mA	Avaliable	Avaliable	Avaliable
		0-5 V	Avaliable	Avaliable	Avaliable
		0-10 V	Avaliable	Avaliable	Avaliable
		±5 V	Avaliable	Avaliable	Avaliable
		± 10 V	Avaliable	Avaliable	Avaliable
		10-0 V	Avaliable	Avaliable	Avaliable
	Analog Output	Max. Current	24 mA	24 mA	24 mA
		Max. Voltage	12 V	12 V	12 V
		Max. Load	10kΩ(for voltage) / 600Ω(for current)	10kΩ(for voltage) / 600Ω(for current)	10kΩ(for voltage) / 600Ω(for current)
Supply	Voltage	AC	85-265V	-	-
		DC	85-265V	10-36V	10-36V
	Frequency		40-70 Hz	-	-
Power consumption	DC		<1.5W	<1.5W	<1.5W
	AC		<4VA	<4VA	<4VA
Isolation			1.5 kVrms, 3-way	1.5 kVrms, 3-way	1.5 kVrms, 3-way
Test Voltage between input-output			4kV during 1 min	4kV during 1 min	4kV during 1 min
Linearity			<0.2%	<0.2%	<0.2%
Response Time			350 ms	350 ms	350 ms
Ripple			<80mV	<80mV	<80mV
Accuracy			< %0.2 (full scale, 25°C)	< %0.2 (full scale, °C)	< %0.2 (full scale, °C)
Temperature coeff icient			150 ppm/°C	150 ppm/°C	150 ppm/°C
Permissible ambient temperature		During operation	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
		During storage	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Degree of protection			IP20	IP20	IP20
Weight(gr)			84	76	70
Permissible mounting position			any	any	any

VT - CT Series Voltage & Current Transducers

VT3-AC-LP	CT3-AC	CT3-AC-24	CT3-AC-LP
-	Avaliable	Avaliable	-
Avaliable	Avaliable	Avaliable	Avaliable
-	Avaliable	Avaliable	-
-	Avaliable	Avaliable	-
-	Avaliable	Avaliable	-
-	Avaliable	Avaliable	-
-	Avaliable	Avaliable	-
-	Avaliable	Avaliable	-
-	Avaliable	Avaliable	-
-	Avaliable	Avaliable	-
24 mA	24 mA	24 mA	24 mA
-	12 V	12 V	-
10kΩ(for voltage) / 600Ω(for current)	10kΩ(for voltage) / 600Ω(for current)	10kΩ(for voltage) / 600Ω(for current)	10kΩ(for voltage) / 600Ω(for current)
-	85-265V	-	-
9-30V	85-265V	10-36V	9-30V
-	40-70 Hz	-	-
<1.5W	<1.5W	<1.5W	<1.5W
<4VA	<4VA	<4VA	<4VA
1.5 kVrms, 2-way	1.5 kVrms, 3-way	1.5 kVrms, 3-way	1.5 kVrms, 2-way
4kV during 1 min	4kV during 1 min	4kV during 1 min	4kV during 1 min
<0.2%	<0.2%	<0.2%	<0.2%
350 ms	350 ms	350 ms	350 ms
<80mV	<80mV	<80mV	<80mV
< %0.2 (full scale, °C)	< %0.2 (full scale, °C)	< %0.2 (full scale, °C)	< %0.2 (full scale, °C)
150 ppm/°C	150 ppm/°C	150 ppm/°C	150 ppm/°C
-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
IP20	IP20	IP20	IP20
68	87	81	71
any	any	any	any

TT-RTD-LP Series PT100 Transducers



Type			TT-RTD-LP (-50 .. 100)	TT-RTD-LP (0 .. 100)	TT-RTD-LP (0 .. 150)
Definiton			Non-Isolated PT100 Transducer	Non-Isolated PT100 Transducer	Non-Isolated PT100 Transducer
Order Number			603860	603861	603862
Casing Width(mm)			17,5	17,5	17,5
Connections			Screw terminal	Screw terminal	Screw terminal
Input	Sensor Type		PT100	PT100	PT100
	Connection Method		2 wire or 3 wire	2 wire or 3 wire	2 wire or 3 wire
	Temperature Measuring Range		-50°C .. 100°C	0°C .. 100 °C	0°C .. 150 °C
	Sensor excitation current		<0.6mA	<0.6mA	<0.6mA
Output	Output Signal		4-20mA	4-20mA	4-20mA
	Linear output range		3.6mA .. 23.6mA	3.6mA .. 23.6mA	3.6mA .. 23.6mA
	Max. Load		≤ 750Ω	≤ 750Ω	≤ 750Ω
	Ripple		< 20 mVPP (at 750 Ω)	< 20 mVPP (at 750 Ω)	< 20 mVPP (at 750 Ω)
Supply	Voltage	AC	-	-	-
		DC	10-30V	10-30V	10-30V
Isolation			-	-	-
Measurement error			< %0.1 Full scale	< %0.1 Full scale	< %0.1 Full scale
Temperature coeff icient			≤ %0.02/°C	≤ %0.02/°C	≤ %0.02/°C
Response Time			< 20ms	< 20ms	< 20ms
Sensor failure indication			3.1mA (1 wire is broken), 24.6mA (at least 2 wire is broken)	3.1mA (1 wire is broken), 24.6mA (at least 2 wire is broken)	3.1mA (1 wire is broken), 24.6mA (at least 2 wire is broken)
Permissible ambient temperature		During operation	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
		During storage	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Relative Humidity			Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Degree of protection			IP20	IP20	IP20
Weight(gr)			42	42	42
Permissible mounting position			any	any	any
Type			TT-RTD-LP (-50 .. 100)	TT-RTD-LP (0 .. 100)	TT-RTD-LP (0 .. 150)

TT-RTD-LP Series PT100 Transducers

TT-RTD-LP (0 .. 200)	TT-RTD-LP (0 .. 300)	TT-RTD-LP (-50 .. 150)	TT-RTD-LP (-50 .. 200)	TT-RTD-LP (0 .. 500)
Non-Isolated PT100 Transducer	Non-Isolated PT100 Transducer	Non-Isolated PT100 Transducer	Non-Isolated PT100 Transducer	Non-Isolated PT100 Transducer
603863	603864	603865	603866	603867
17,5	17,5	17,5	17,5	17,5
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
PT100	PT100	PT100	PT100	PT100
2 wire or 3 wire	2 wire or 3 wire	2 wire or 3 wire	2 wire or 3 wire	2 wire or 3 wire
0°C .. 200 °C	0°C .. 300 °C	-50°C .. 150°C	-50°C .. 200°C	0°C .. 500°C
<0.6mA	<0.6mA	<0.6mA	<0.6mA	<0.6mA
4-20mA	4-20mA	4-20mA	4-20mA	4-20mA
3.6mA .. 23.6mA	3.6mA .. 23.6mA	3.6mA .. 23.6mA	3.6mA .. 23.6mA	3.6mA .. 23.6mA
≤ 750Ω	≤ 750Ω	≤ 750Ω	≤ 750Ω	≤ 750Ω
< 20 mVPP (at 750 Ω)	< 20 mVPP (at 750 Ω)	< 20 mVPP (at 750 Ω)	< 20 mVPP (at 750 Ω)	< 20 mVPP (at 750 Ω)
-	-	-	-	-
10-30V	10-30V	10-30V	10-30V	10-30V
-	-	-	-	-
< %0.1 Full scale	< %0.1 Full scale	< %0.1 Full scale	< %0.1 Full scale	< %0.1 Full scale
≤ %0.02/°C	≤ %0.02/°C	≤ %0.02/°C	≤ %0.02/°C	≤ %0.02/°C
< 20ms	< 20ms	< 20ms	< 20ms	< 20ms
3.1mA (1 wire is broken), 24.6mA (at least 2 wire is broken)	3.1mA (1 wire is broken), 24.6mA (at least 2 wire is broken)	3.1mA (1 wire is broken), 24.6mA (at least 2 wire is broken)	3.1mA (1 wire is broken), 24.6mA (at least 2 wire is broken)	3.1mA (1 wire is broken), 24.6mA (at least 2 wire is broken)
-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
IP20	IP20	IP20	IP20	IP20
42	42	42	42	42
any	any	any	any	any
TT-RTD-LP (0 .. 200)	TT-RTD-LP (0 .. 300)	TT-RTD-LP (-50 .. 150)	TT-RTD-LP (-50 .. 200)	TT-RTD-LP (0 .. 500)

Electronic Products

PISO Series Passive Isolators

Type		PISO-DC-1 (0-20mA/0-20mA)	PISO-DC-1 (4-20mA/4-20mA)	PISO-DC-1 (0-20mA/0-10V)	PISO-DC-1 (0-20mA/0-5V)	PISO-DC-2 (0-20mA/0-20mA)
Definiton		Passive DC Signal Isolator	Passive DC Signal Isolator	Passive DC Signal Isolator	Passive DC Signal Isolator	Passive DC Signal Isolator
Order Number		602800	602801	602802	602803	602850
Casing Width(mm)		17,5	17,5	17,5	17,5	17,5
Connections		Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Input	Number of Channels	1 pc.	1 pc.	1 pc.	1 pc.	2 pc.
	Signal type	0-20mA	4-20mA	0-20mA	0-20mA	0-20mA
	Maximum input signal	50mA	50mA	50mA	50mA	50mA
Output	Number of Channels	1 pc.	1 pc.	1 pc.	1 pc.	2 pcs.
	Signal Type	0-20 mA	4-20 mA	0-10 V	0-5 V	0-20 mA
	Max. Current	24 mA	24 mA	-	-	24 mA
	Max. Voltage	-	-	12 V	12 V	-
	Ripple	< 20 mV (full scale)	< 20 mV (full scale)	< 20 mV (full scale)	< 20 mV (full scale)	< 20 mV (full scale)
	Load Resistance	≤ 250Ω	≤ 250Ω	≥ 5MΩ	≥ 5MΩ	≤ 250Ω
Isolation		1.5 kVrms	1.5 kVrms	1.5 kVrms	1.5 kVrms	1.5 kVrms
Measurement error(Full Scale)		< %0.1	< %0.1	< %0.2	< %0.2	< %0.1
Response Time		20 ms	20 ms	20 ms	20 ms	20 ms
Temperature coeff icient		<50 ppm/K	<50 ppm/K	<50 ppm/K	<50 ppm/K	<50 ppm/K
Permissible ambient temperature	During operation	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
	During storage	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Relative Humidity		Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
Type		PISO-DC-1 (0-20mA/0-20mA)	PISO-DC-1 (4-20mA/4-20mA)	PISO-DC-1 (0-20mA/0-10V)	PISO-DC-1 (0-20mA/0-5V)	PISO-DC-2 (0-20mA/0-20mA)
Degree of protection		IP20	IP20	IP20	IP20	IP20
Permissible mounting position		any	any	any	any	any

Electronic Products

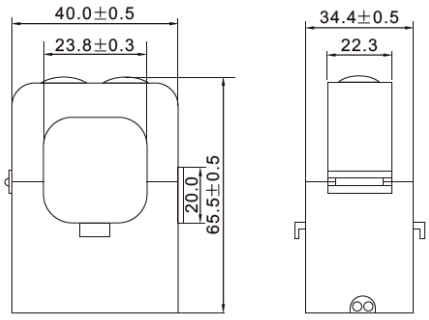
PISO Series Passive Isolators

PISO-DC-2 (4-20mA/4-20mA)	PISO-DC-2 (0-20mA/0-10V)	PISO-DC-2 (0-20mA/0-5V)	PISO-DC-DUO (0-20mA/0-20mA, 0-20mA)	PISO-DC-DUO (4-20mA/4-20mA, 4-20mA)	PISO-DC-DUO (0-20mA/0-10V,0-10V)	PISO-DC-DUO (0-20mA/0-5V,0-5V)
Passive DC Signal Isolator	Passive DC Signal Isolator	Passive DC Signal Isolator	Passive DC Signal Isolator	Passive DC Signal Isolator	Passive DC Signal Isolator	Passive DC Signal Isolator
602851	602852	602853	602700	602701	602702	602703
17,5	17,5	17,5	17,5	17,5	17,5	17,5
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
2 pc.	2 pc.	2 pc.	1 pc.	1 pc.	1 pc.	1 pc.
4-20mA	0-20mA	0-20mA	0-20mA	4-20mA	0-20mA	0-20mA
50mA	50mA	50mA	50mA	50mA	50mA	50mA
2 pcs.	2 pcs.	2 pcs.	2 pcs.	2 pcs.	2 pcs.	2 pcs.
4-20 mA	0-10 V	0-5 V	0-20 mA	4-20 mA	0-10 V	0-5 V
24 mA	-	-	24 mA	24 mA	-	-
-	12 V	12 V	-	-	12 V	12 V
< 20 mV (full scale)	< 20 mV (full scale)	< 20 mV (full scale)	< 20 mV (full scale)	< 20 mV (full scale)	< 20 mV (full scale)	< 20 mV (full scale)
≤ 250Ω	≥ 5MΩ	≥ 5MΩ	≤ 250Ω	≤ 250Ω	≥ 5MΩ	≥ 5MΩ
1.5 kVrms	1.5 kVrms	1.5 kVrms	1.5 kVrms	1.5 kVrms	1.5 kVrms	1.5 kVrms
< %0.1	< %0.2	< %0.2	< %0.1	< %0.1	< %0.2	< %0.2
20 ms	20 ms	20 ms	20 ms	20 ms	20 ms	20 ms
<50 ppm/K	<50 ppm/K	<50 ppm/K	<50 ppm/K	<50 ppm/K	<50 ppm/K	<50 ppm/K
-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C	-40 to +75 °C
Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)	Max.95% (no condensation)
PISO-DC-2 (4-20mA/4-20mA)	PISO-DC-2 (0-20mA/0-10V)	PISO-DC-2 (0-20mA/0-5V)	PISO-DC-DUO (0-20mA/0-20mA, 0-20mA)	PISO-DC-DUO (4-20mA/4-20mA, 4-20mA)	PISO-DC-DUO (0-20mA/0-10V, 0-10V)	PISO-DC-DUO (0-20mA/0-5V,0-5V)
IP20	IP20	IP20	IP20	IP20	IP20	IP20
any	any	any	any	any	any	any

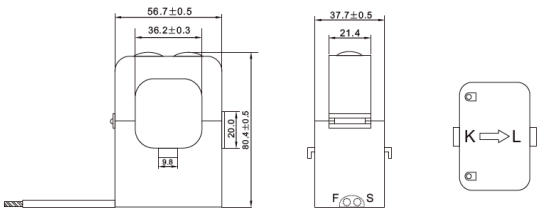
Electronic Products

KCT Series Current Transformers

- Possibility of installation without power interruption
- Secure locking structure
- Easy installation and portability
- Different size options
- Ease of maintenance/repair
- Precise measurement and high reliability



Product Name	Order No	Conductor Diameter (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 1	Class 3
KCT-24 75/5A	720100D	24	75	5	1		√
KCT-24 100/5A	720101D	24	100	5	1		√
KCT-24 150/5A	720102D	24	150	5	1		√
KCT-24 200/5A	720103D	24	200	5	1,5		√
KCT-24 250/5A	720104C	24	250	5	0,5	√	
KCT-24 300/5A	720105C	36	300	5	0,5	√	

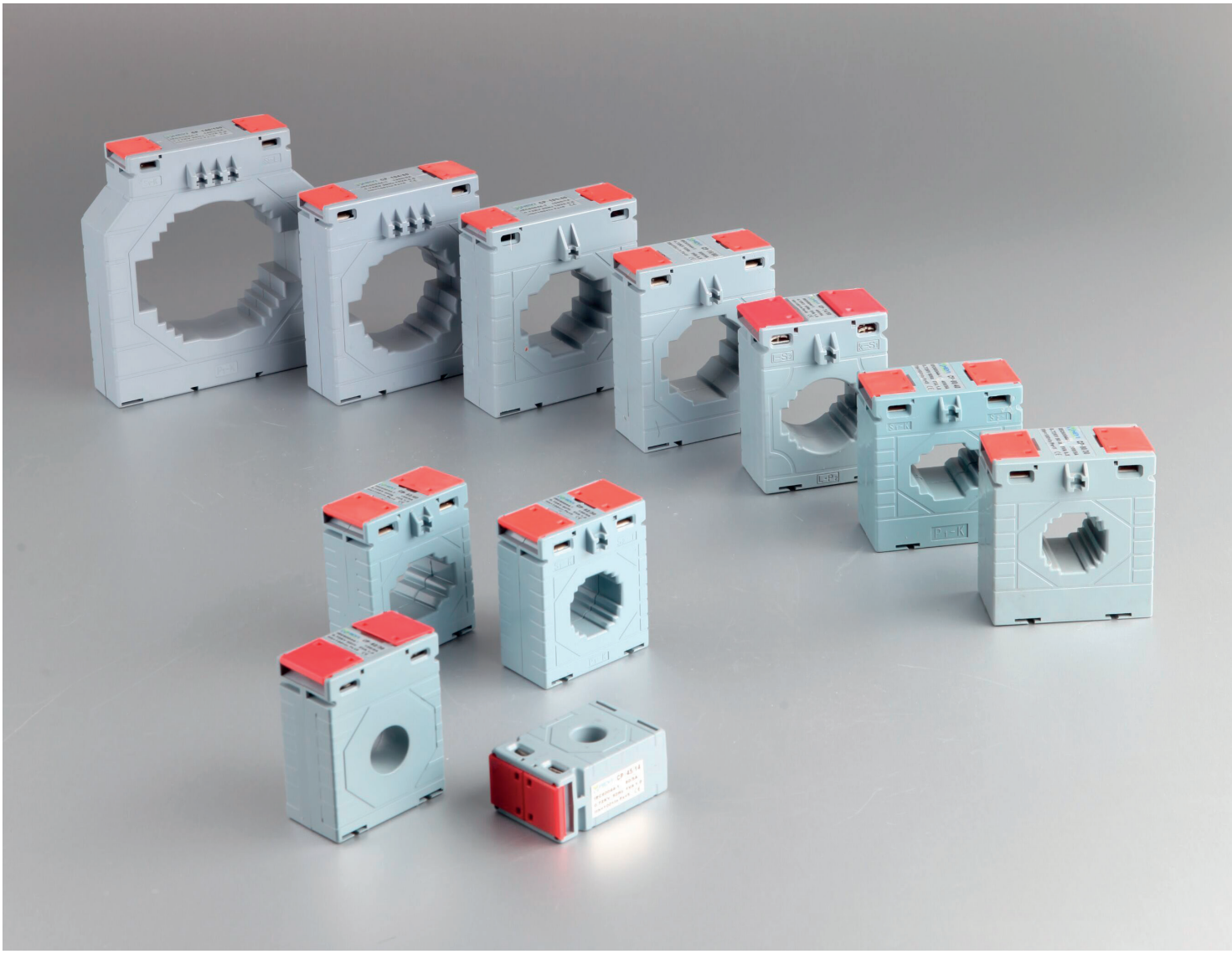


Product Name	Order No	Conductor Diameter (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 1	Class 3
KCT-36 150/5A	720202D	36	150	5	0,5		√
KCT-36 200/5A	720203D	36	200	5	0,5		√
KCT-36 250/5A	720204D	36	250	5	0,5		√
KCT-36 300/5A	720205C	36	300	5	0,5	√	
KCT-36 400/5A	720206C	36	400	5	1,5	√	
KCT-36 500/5A	720207C	36	500	5	1,5	√	
KCT-36 600/5A	720208C	36	600	5	1,5	√	

Electronic Products

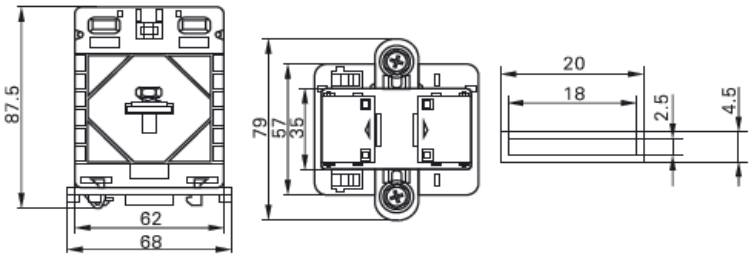
KFC Series Current Transformers

- Compact structure
- Different size options
- Precise measurement and high reliability
- Different mounting options: Panel/DIN Rail/Busbar



Electronic Products

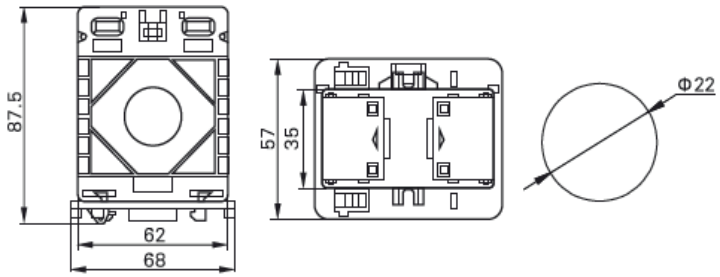
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 62-B 5/5A	710100A	5	5	2,5	√			
KFC 62-B 5/5A	710100B	5	5	2,5		√		
KFC 62-B 5/5A	710100C	5	5	2,5			√	
KFC 62-B 5/5A	710100D	5	5	2,5				√
KFC 62-B 10/5A	710101A	10	5	2,5	√			
KFC 62-B 10/5A	710101B	10	5	2,5		√		
KFC 62-B 10/5A	710101C	10	5	2,5			√	
KFC 62-B 10/5A	710101D	10	5	2,5				√
KFC 62-B 15/5A	710102A	15	5	2,5	√			
KFC 62-B 15/5A	710102B	15	5	2,5		√		
KFC 62-B 15/5A	710102C	15	5	2,5			√	
KFC 62-B 15/5A	710102D	15	5	2,5				√
KFC 62-B 20/5A	710103A	20	5	2,5	√			
KFC 62-B 20/5A	710103B	20	5	2,5		√		
KFC 62-B 20/5A	710103C	20	5	2,5			√	
KFC 62-B 20/5A	710103D	20	5	2,5				√
KFC 62-B 25/5A	710104A	25	5	2,5	√			
KFC 62-B 25/5A	710104B	25	5	2,5		√		
KFC 62-B 25/5A	710104C	25	5	2,5			√	
KFC 62-B 25/5A	710104D	25	5	2,5				√
KFC 62-B 30/5A	710105A	30	5	2,5	√			
KFC 62-B 30/5A	710105B	30	5	2,5		√		
KFC 62-B 30/5A	710105C	30	5	2,5			√	
KFC 62-B 30/5A	710105D	30	5	1,5				√
KFC 62-B 40/5A	710106A	40	5	2,5	√			
KFC 62-B 40/5A	710106B	40	5	2,5		√		
KFC 62-B 40/5A	710106C	40	5	1,5			√	
KFC 62-B 50/5A	710107A	50	5	2,5	√			
KFC 62-B 50/5A	710107B	50	5	2,5		√		
KFC 62-B 50/5A	710107C	50	5	2,5			√	
KFC 62-B 60/5A	710108A	60	5	2,5	√			
KFC 62-B 60/5A	710108B	60	5	2,5		√		
KFC 62-B 60/5A	710108C	60	5	2,5			√	
KFC 62-B 75/5A	710109A	75	5	2,5	√			
KFC 62-B 75/5A	710109B	75	5	2,5		√		
KFC 62-B 75/5A	710109C	75	5	2,5			√	
KFC 62-B 100/5A	710110A	100	5	2,5	√			
KFC 62-B 100/5A	710110B	100	5	2,5		√		
KFC 62-B 100/5A	710110C	100	5	2,5			√	
KFC 62-B 150/5A	710111A	150	5	2,5	√			
KFC 62-B 150/5A	710111B	150	5	2,5		√		
KFC 62-B 150/5A	710111C	150	5	5			√	

Electronic Products

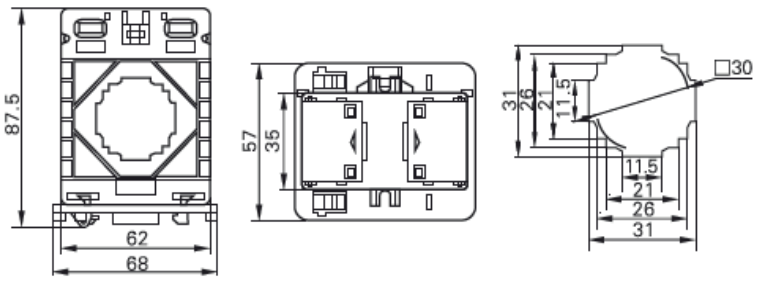
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 62-20 30/5A	710201C	30	5	2,5			√	
KFC 62-20 30/5A	710201D	30	5	1,5				√
KFC 62-20 40/5A	710202C	40	5	2,5			√	
KFC 62-20 40/5A	710202D	40	5	1,5				√
KFC 62-20 50/5A	710203C	50	5	2,5			√	
KFC 62-20 50/5A	710203D	50	5	1,5				√
KFC 62-20 60/5A	710204C	60	5	2,5			√	
KFC 62-20 60/5A	710204D	60	5	1,5				√
KFC 62-20 75/5A	710205C	75	5	1,5			√	
KFC 62-20 75/5A	710205D	75	5	1,5				√
KFC 62-20 80/5A	710206C	80	5	2,5			√	
KFC 62-20 100/5A	710207A	100	5	2,5	√			
KFC 62-20 100/5A	710207B	100	5	2,5		√		
KFC 62-20 100/5A	710207C	100	5	2,5			√	
KFC 62-20 150/5A	710208A	150	5	2,5	√			
KFC 62-20 150/5A	710208B	150	5	2,5		√		
KFC 62-20 150/5A	710208C	150	5	3,75			√	
KFC 62-20 200/5A	710209A	200	5	2,5	√			
KFC 62-20 200/5A	710209B	200	5	3,75		√		
KFC 62-20 200/5A	710209C	200	5	5			√	
KFC 62-20 250/5A	710210A	250	5	2,5	√			
KFC 62-20 250/5A	710210B	250	5	3,75		√		
KFC 62-20 250/5A	710210C	250	5	5			√	
KFC 62-20 300/5A	710211A	300	5	2,5	√			
KFC 62-20 300/5A	710211B	300	5	3,75		√		
KFC 62-20 300/5A	710211C	300	5	5			√	

Electronic Products

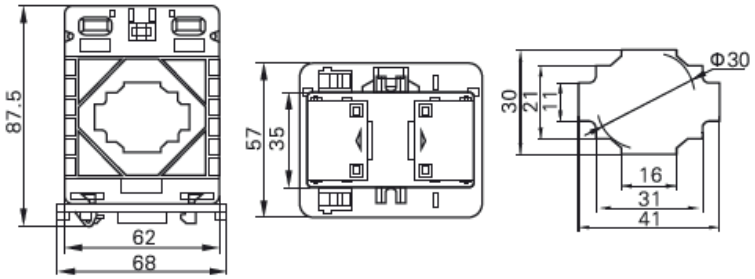
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 62-30 30/5A	710301C	30	5	2,5			√	
KFC 62-30 30/5A	710301D	30	5	1,5				√
KFC 62-30 40/5A	710302C	40	5	2,5			√	
KFC 62-30 40/5A	710302D	40	5	1,5				√
KFC 62-30 50/5A	710303C	50	5	2,5			√	
KFC 62-30 50/5A	710303D	50	5	1,5				√
KFC 62-30 60/5A	710304C	60	5	2,5			√	
KFC 62-30 60/5A	710304D	60	5	1,5				√
KFC 62-30 75/5A	710305C	75	5	2,5			√	
KFC 62-30 75/5A	710305D	75	5	1,5				√
KFC 62-30 100/5A	710306A	100	5	2,5	√			
KFC 62-30 100/5A	710306B	100	5	2,5		√		
KFC 62-30 100/5A	710306C	100	5	2,5			√	
KFC 62-30 150/5A	710307A	150	5	2,5	√			
KFC 62-30 150/5A	710307B	150	5	2,5		√		
KFC 62-30 150/5A	710307C	150	5	3,5			√	
KFC 62-30 200/5A	710308A	200	5	2,5	√			
KFC 62-30 200/5A	710308B	200	5	5		√		
KFC 62-30 200/5A	710308C	200	5	5			√	
KFC 62-30 250/5A	710309A	250	5	2,5	√			
KFC 62-30 250/5A	710309B	250	5	5		√		
KFC 62-30 250/5A	710309C	250	5	5			√	
KFC 62-30 300/5A	710310A	300	5	2,5	√			
KFC 62-30 300/5A	710310B	300	5	5		√		
KFC 62-30 300/5A	710310C	300	5	5			√	
KFC 62-30 400/5A	710311A	400	5	2,5	√			
KFC 62-30 400/5A	710311B	400	5	5		√		
KFC 62-30 400/5A	710311C	400	5	5			√	
KFC 62-30 500/5A	710312A	500	5	2,5	√			
KFC 62-30 500/5A	710312B	500	5	5		√		
KFC 62-30 500/5A	710312C	500	5	5			√	
KFC 62-30 600/5A	710313A	600	5	2,5	√			
KFC 62-30 600/5A	710313B	600	5	5		√		
KFC 62-30 600/5A	710313C	600	5	5			√	

Electronic Products

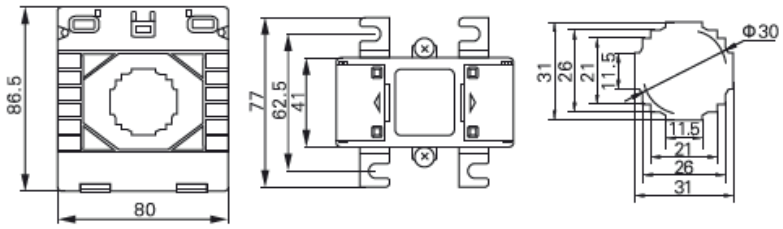
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 62-40 60/5A	710401C	60	5	2,5			√	
KFC 62-40 75/5A	710402C	75	5	2,5			√	
KFC 62-40 100/5A	710403C	100	5	2,5			√	
KFC 62-40 150/5A	710404C	150	5	2,5			√	
KFC 62-40 200/5A	710405A	200	5	2,5	√			
KFC 62-40 200/5A	710405B	200	5	2,5		√		
KFC 62-40 200/5A	710405C	200	5	5			√	
KFC 62-40 250/5A	710406A	250	5	2,5	√			
KFC 62-40 250/5A	710406B	250	5	2,5		√		
KFC 62-40 250/5A	710406C	250	5	5			√	
KFC 62-40 300/5A	710407A	300	5	2,5	√			
KFC 62-40 300/5A	710407B	300	5	5		√		
KFC 62-40 300/5A	710407C	300	5	5			√	
KFC 62-40 400/5A	710408A	400	5	2,5	√			
KFC 62-40 400/5A	710408B	400	5	5		√		
KFC 62-40 400/5A	710408C	400	5	5			√	
KFC 62-40 500/5A	710409A	500	5	2,5	√			
KFC 62-40 500/5A	710409B	500	5	5		√		
KFC 62-40 500/5A	710409C	500	5	5			√	
KFC 62-40 600/5A	710410A	600	5	2,5	√			
KFC 62-40 600/5A	710410B	600	5	7,5		√		
KFC 62-40 600/5A	710410C	600	5	5			√	

Electronic Products

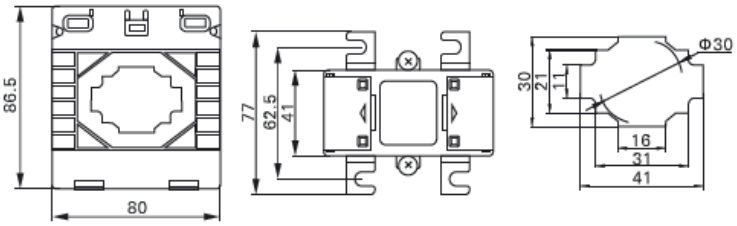
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 80-30 30/5A	710501C	30	5	2,5			√	
KFC 80-30 50/5A	710502C	50	5	2,5			√	
KFC 80-30 60/5A	710503C	60	5	2,5			√	
KFC 80-30 75/5A	710504C	75	5	1,5			√	
KFC 80-30 100/5A	710505A	100	5	2,5	√			
KFC 80-30 100/5A	710505B	100	5	2,5		√		
KFC 80-30 100/5A	710505B1	100	5	5		√		
KFC 80-30 100/5A	710505C	100	5	2,5			√	
KFC 80-30 150/5A	710506A	150	5	2,5	√			
KFC 80-30 150/5A	710506B	150	5	2,5		√		
KFC 80-30 150/5A	710506B1	150	5	5		√		
KFC 80-30 150/5A	710506C	150	5	3,75			√	
KFC 80-30 200/5A	710507A	200	5	3,75	√			
KFC 80-30 200/5A	710507B	200	5	3,75		√		
KFC 80-30 200/5A	710507B1	200	5	5		√		
KFC 80-30 200/5A	710507C	200	5	5			√	
KFC 80-30 250/5A	710508A	250	5	5	√			
KFC 80-30 250/5A	710508B	250	5	5		√		
KFC 80-30 250/5A	710508C	250	5	7,5			√	
KFC 80-30 300/5A	710509A	300	5	5	√			
KFC 80-30 300/5A	710509B	300	5	5		√		
KFC 80-30 300/5A	710509C	300	5	7,5			√	

Electronic Products

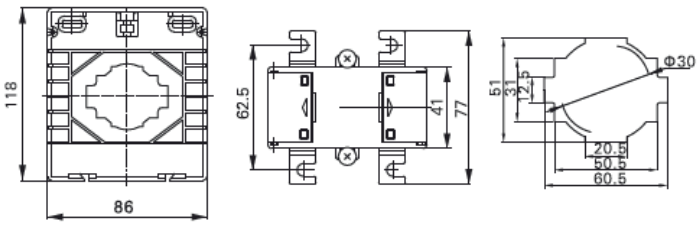
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 80-40 100/5A	710601B	100	5	2,5		√		
KFC 80-40 100/5A	710601C	100	5	2,5			√	
KFC 80-40 150/5A	710602A	150	5	2,5	√			
KFC 80-40 150/5A	710602B	150	5	2,5		√		
KFC 80-40 150/5A	710602B1	150	5	5		√		
KFC 80-40 150/5A	710602C	150	5	3,75			√	
KFC 80-40 200/5A	710603A	200	5	2,5	√			
KFC 80-40 200/5A	710603B	200	5	3,75		√		
KFC 80-40 200/5A	710603B1	200	5	5		√		
KFC 80-40 200/5A	710603C	200	5	5			√	
KFC 80-40 250/5A	710604A	250	5	2,5	√			
KFC 80-40 250/5A	710604B	250	5	3,75		√		
KFC 80-40 250/5A	710604B1	250	5	5		√		
KFC 80-40 250/5A	710604C	250	5	5			√	
KFC 80-40 300/5A	710605A	300	5	5	√			
KFC 80-40 300/5A	710605B	300	5	5		√		
KFC 80-40 300/5A	710605C	300	5	5			√	
KFC 80-40 400/5A	710606A	400	5	5	√			
KFC 80-40 400/5A	710606B	400	5	5		√		
KFC 80-40 400/5A	710606C	400	5	5			√	
KFC 80-40 500/5A	710607A	500	5	5	√			
KFC 80-40 500/5A	710607B	500	5	5		√		
KFC 80-40 500/5A	710607C	500	5	5			√	
KFC 80-40 600/5A	710608A	600	5	5	√			
KFC 80-40 600/5A	710608B	600	5	5		√		
KFC 80-40 600/5A	710608C	600	5	5			√	

Electronic Products

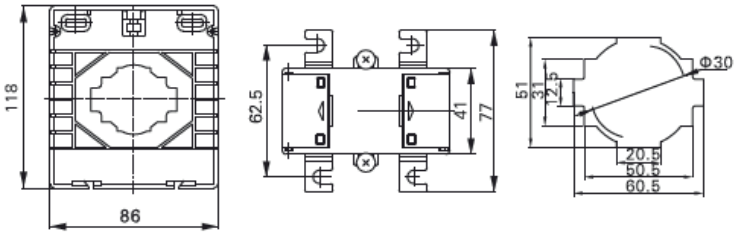
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 86-60 250/5A	710701A	250	5	2,5	√			
KFC 86-60 250/5A	710701B	250	5	2,5		√		
KFC 86-60 250/5A	710701B1	250	5	10		√		
KFC 86-60 250/5A	710701C	250	5	5			√	
KFC 86-60 300/5A	710702A	300	5	2,5	√			
KFC 86-60 300/5A	710702B	300	5	5		√		
KFC 86-60 300/5A	710702B1	300	5	10		√		
KFC 86-60 300/5A	710702C	300	5	5			√	
KFC 86-60 400/5A	710703A	400	5	2,5	√			
KFC 86-60 400/5A	710703B	400	5	5		√		
KFC 86-60 400/5A	710703B1	400	5	10		√		
KFC 86-60 400/5A	710703C	400	5	7,5			√	
KFC 86-60 500/5A	710704A	500	5	2,5	√			
KFC 86-60 500/5A	710704B	500	5	5		√		
KFC 86-60 500/5A	710704B1	500	5	10		√		
KFC 86-60 500/5A	710704C	500	5	7,5			√	
KFC 86-60 600/5A	710705A	600	5	5	√			
KFC 86-60 600/5A	710705B	600	5	7,5		√		
KFC 86-60 600/5A	710705B1	600	5	10		√		
KFC 86-60 600/5A	710705C	600	5	10			√	
KFC 86-60 750/5A	710706A	750	5	5	√			
KFC 86-60 750/5A	710706B	750	5	10		√		
KFC 86-60 750/5A	710706C	750	5	10			√	
KFC 86-60 800/5A	710707A	800	5	5	√			
KFC 86-60 800/5A	710707B	800	5	10		√		
KFC 86-60 800/5A	710707C	800	5	10			√	
KFC 86-60 1000/5A	710708A	1000	5	7,5	√			
KFC 86-60 1000/5A	710708B	1000	5	10		√		
KFC 86-60 1000/5A	710708C	1000	5	10			√	
KFC 86-60 1200/5A	710709A	1200	5	7,5	√			
KFC 86-60 1200/5A	710709B	1200	5	10		√		
KFC 86-60 1200/5A	710709C	1200	5	10			√	
KFC 86-60 1500/5A	710710A	1500	5	7,5	√			
KFC 86-60 1500/5A	710710B	1500	5	10		√		
KFC 86-60 1500/5A	710710C	1500	5	10			√	

Electronic Products

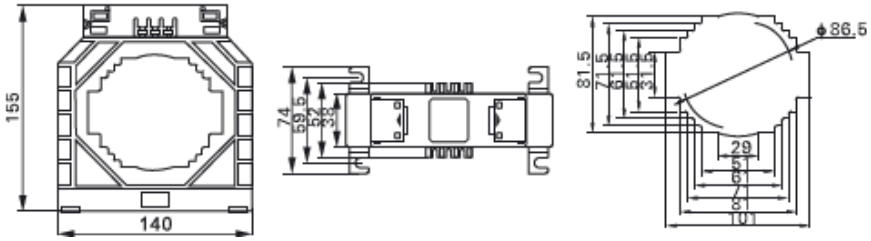
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 100-60 400/5A	710801A	400	5	2,5	√			
KFC 100-60 400/5A	710801B	400	5	5		√		
KFC 100-60 400/5A	710801B1	400	5	10		√		
KFC 100-60 400/5A	710801C	400	5	7,5			√	
KFC 100-60 500/5A	710802A	500	5	2,5	√			
KFC 100-60 500/5A	710802B	500	5	5		√		
KFC 100-60 500/5A	710802B1	500	5	10		√		
KFC 100-60 500/5A	710802C	500	5	7,5			√	
KFC 100-60 600/5A	710803A	600	5	5	√			
KFC 100-60 600/5A	710803B	600	5	7,5		√		
KFC 100-60 600/5A	710803B1	600	5	10		√		
KFC 100-60 600/5A	710803C	600	5	10			√	
KFC 100-60 750/5A	710804A	750	5	5	√			
KFC 100-60 750/5A	710804B	750	5	10		√		
KFC 100-60 750/5A	710804C	750	5	15			√	
KFC 100-60 800/5A	710805A	800	5	5	√			
KFC 100-60 800/5A	710805B	800	5	10		√		
KFC 100-60 800/5A	710805C	800	5	15			√	
KFC 100-60 1000/5A	710806A	1000	5	7,5	√			
KFC 100-60 1000/5A	710806B	1000	5	10		√		
KFC 100-60 1000/5A	710806C	1000	5	15			√	
KFC 100-60 1200/5A	710807A	1200	5	15	√			
KFC 100-60 1200/5A	710807B	1200	5	15		√		
KFC 100-60 1200/5A	710807C	1200	5	15			√	
KFC 100-60 1500/5A	710808A	1500	5	15	√			
KFC 100-60 1500/5A	710808B	1500	5	15		√		
KFC 100-60 1500/5A	710808C	1500	5	15			√	
KFC 100-60 1600/5A	710809A	1600	5	15	√			
KFC 100-60 1600/5A	710809B	1600	5	15		√		
KFC 100-60 1600/5A	710809C	1600	5	15			√	

Electronic Products

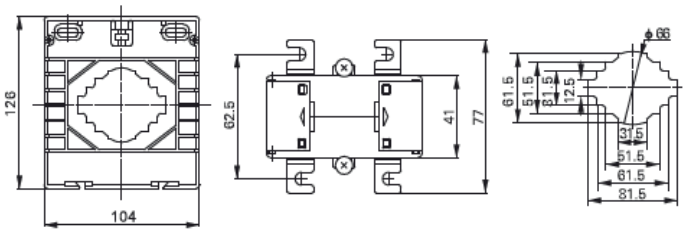
KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	ClassW 3
KFC 104-80 600/5A	710901A	600	5	2,5	√			
KFC 104-80 600/5A	710901B	600	5	7,5		√		
KFC 104-80 600/5A	710901B1	600	5	10		√		
KFC 104-80 600/5A	710901C	600	5	10			√	
KFC 104-80 750/5A	710902A	750	5	2,5	√			
KFC 104-80 750/5A	710902B	750	5	7,5		√		
KFC 104-80 750/5A	710902B1	750	5	10		√		
KFC 104-80 750/5A	710902C	750	5	10			√	
KFC 104-80 800/5A	710903A	800	5	5	√			
KFC 104-80 800/5A	710903B	800	5	10		√		
KFC 104-80 800/5A	710903C	800	5	10			√	
KFC 104-80 1000/5A	710904A	1000	5	7,5	√			
KFC 104-80 1000/5A	710904B	1000	5	10		√		
KFC 104-80 1000/5A	710904B1	1000	5	15		√		
KFC 104-80 1000/5A	710904C	1000	5	15			√	
KFC 104-80 1200/5A	710905A	1200	5	10	√			
KFC 104-80 1200/5A	710905B	1200	5	10		√		
KFC 104-80 1200/5A	710905B1	1200	5	15		√		
KFC 104-80 1200/5A	710905C	1200	5	15			√	
KFC 104-80 1250/5A	710906A	1250	5	10	√			
KFC 104-80 1250/5A	710906B	1250	5	10		√		
KFC 104-80 1250/5A	710906C	1250	5	15			√	
KFC 104-80 1500/5A	710907A	1500	5	10	√			
KFC 104-80 1500/5A	710907B	1500	5	15		√		
KFC 104-80 1500/5A	710907C	1500	5	15			√	
KFC 104-80 1600/5A	710908A	1600	5	10	√			
KFC 104-80 1600/5A	710908B	1600	5	15		√		
KFC 104-80 1600/5A	710908C	1600	5	15			√	
KFC 104-80 2000/5A	710909A	2000	5	10	√			
KFC 104-80 2000/5A	710909B	2000	5	15		√		
KFC 104-80 2000/5A	710909B1	2000	5	20		√		
KFC 104-80 2000/5A	710909C	2000	5	15			√	

Electronic Products

KFC Series Current Transformers



Product Name	Order No	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5S	Class 0.5	Class 1	Class 3
KFC 140-100 800/5A	711001A	800	5	5	√			
KFC 140-100 800/5A	711001B	800	5	10		√		
KFC 140-100 800/5A	711001B1	800	5	15		√		
KFC 140-100 800/5A	711001C	800	5	10			√	
KFC 140-100 1000/5A	711002A	1000	5	5	√			
KFC 140-100 1000/5A	711002B	1000	5	10		√		
KFC 140-100 1000/5A	711002B1	1000	5	15		√		
KFC 140-100 1000/5A	711002C	1000	5	15			√	
KFC 140-100 1200/5A	711003A	1200	5	10	√			
KFC 140-100 1200/5A	711003B	1200	5	15		√		
KFC 140-100 1200/5A	711003C	1200	5	15			√	
KFC 140-100 1250/5A	711004A	1250	5	10	√			
KFC 140-100 1250/5A	711004B	1250	5	15		√		
KFC 140-100 1250/5A	711004C	1250	5	15			√	
KFC 140-100 1500/5A	711005A	1500	5	15	√			
KFC 140-100 1500/5A	711005B	1500	5	15		√		
KFC 140-100 1500/5A	711005C	1500	5	15			√	
KFC 140-100 1600/5A	711006A	1600	5	15	√			
KFC 140-100 1600/5A	711006B	1600	5	15		√		
KFC 140-100 1600/5A	711006C	1600	5	15			√	
KFC 140-100 2000/5A	711007A	2000	5	15	√			
KFC 140-100 2000/5A	711007B	2000	5	15		√		
KFC 140-100 2000/5A	711007B1	2000	5	20		√		
KFC 140-100 2000/5A	711007C	2000	5	15			√	
KFC 140-100 2500/5A	711008A	2500	5	15	√			
KFC 140-100 2500/5A	711008B	2500	5	15		√		
KFC 140-100 2500/5A	711008B1	2500	5	20		√		
KFC 140-100 2500/5A	711008C	2500	5	15			√	
KFC 140-100 3000/5A	711009A	3000	5	15	√			
KFC 140-100 3000/5A	711009B	3000	5	15		√		
KFC 140-100 3000/5A	711009B1	3000	5	20		√		
KFC 140-100 3000/5A	711009C	3000	5	15			√	
KFC 140-100 3200/5A	711010A	3200	5	15	√			
KFC 140-100 3200/5A	711010B	3200	5	15		√		
KFC 140-100 3200/5A	711010B1	3200	5	20		√		
KFC 140-100 3200/5A	711010C	3200	5	15			√	

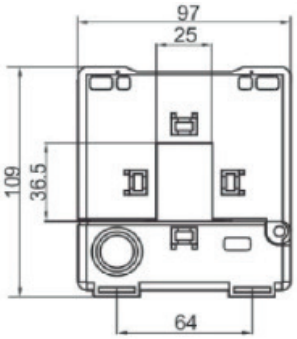
Electronic Products

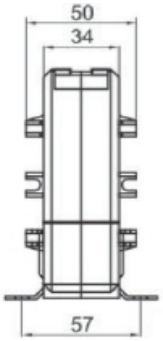
KSC Series Current Transformers

- Possibility of installation without power interruption
- High amperage values
- Easy installation and portability
- Different size options
- Ease of maintenance/repair
- Precise measurement and high reliability

Electronic Products

KSC Series Current Transformers



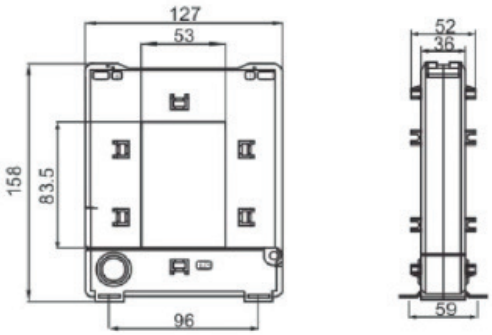


Product Name	Order No	Maximum Busbar Dimension (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5	Class 1
KSC 23 100/5A	730101C	25x36,5	100	5	2,5		√
KSC 23 150/5A	730102C	25x36,5	150	5	2,5		√
KSC 23 200/5A	730103B	25x36,5	200	5	2,5	√	
KSC 23 200/5A	730103C	25x36,5	200	5	1,5		√
KSC 23 200/5A	730103C1	25x36,5	200	5	5		√
KSC 23 250/5A	730104B	25x36,5	250	5	5	√	
KSC 23 250/5A	730104C	25x36,5	250	5	2,5		√
KSC 23 250/5A	730104C1	25x36,5	250	5	5		√
KSC 23 300/5A	730105B	25x36,5	300	5	1,5	√	
KSC 23 300/5A	730105B1	25x36,5	300	5	5	√	
KSC 23 300/5A	730105C	25x36,5	300	5	2,5		√
KSC 23 300/5A	730105C1	25x36,5	300	5	5		√
KSC 23 400/5A	730106B	25x36,5	400	5	2,5	√	
KSC 23 400/5A	730106B1	25x36,5	400	5	5	√	
KSC 23 400/5A	730106C	25x36,5	400	5	2,5		√
KSC 23 400/5A	730106C1	25x36,5	400	5	5		√

Product Name	Order No	Maximum Busbar Dimension (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5	Class 1
KSC 23 100/5A	730101C	25x36,5	100	5	2,5		√
KSC 23 150/5A	730102C	25x36,5	150	5	2,5		√
KSC 23 200/5A	730103B	25x36,5	200	5	2,5	√	
KSC 23 200/5A	730103C	25x36,5	200	5	1,5		√
KSC 23 200/5A	730103C1	25x36,5	200	5	5		√
KSC 23 250/5A	730104B	25x36,5	250	5	5	√	
KSC 23 250/5A	730104C	25x36,5	250	5	2,5		√
KSC 23 250/5A	730104C1	25x36,5	250	5	5		√
KSC 23 300/5A	730105B	25x36,5	300	5	1,5	√	
KSC 23 300/5A	730105B1	25x36,5	300	5	5	√	
KSC 23 300/5A	730105C	25x36,5	300	5	2,5		√
KSC 23 300/5A	730105C1	25x36,5	300	5	5		√
KSC 23 400/5A	730106B	25x36,5	400	5	2,5	√	
KSC 23 400/5A	730106B1	25x36,5	400	5	5	√	
KSC 23 400/5A	730106C	25x36,5	400	5	2,5		√
KSC 23 400/5A	730106C1	25x36,5	400	5	5		√

Electronic Products

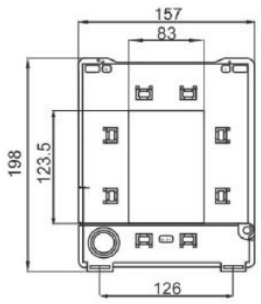
KSC Series Current Transformers

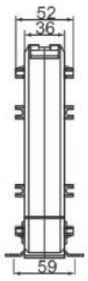


Product Name	Order No	Maximum Busbar V Dimension (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5	Class 1
KSC 58 250/5A	730201C	53x83,5	250	5	2,5		√
KSC 58 300/5A	730202B	53x83,5	300	5	1,5	√	
KSC 58 300/5A	730202B1	53x83,5	300	5	2,5	√	
KSC 58 300/5A	730202C	53x83,5	300	5	2,5		√
KSC 58 300/5A	730202C1	53x83,5	300	5	5		√
KSC 58 400/5A	730203B	53x83,5	400	5	1,5	√	
KSC 58 400/5A	730203B1	53x83,5	400	5	5	√	
KSC 58 400/5A	730203C	53x83,5	400	5	2,5		√
KSC 58 400/5A	730203C1	53x83,5	400	5	5		√
KSC 58 500/5A	730204B	53x83,5	500	5	2,5	√	
KSC 58 500/5A	730204B1	53x83,5	500	5	5	√	
KSC 58 500/5A	730204C	53x83,5	500	5	5		√
KSC 58 600/5A	730205B	53x83,5	600	5	5	√	
KSC 58 600/5A	730205C	53x83,5	600	5	5		√
KSC 58 750/5A	730206B	53x83,5	750	5	5	√	
KSC 58 750/5A	730206B1	53x83,5	750	5	7,5	√	
KSC 58 750/5A	730206C	53x83,5	750	5	7,5		√
KSC 58 800/5A	730207B	53x83,5	800	5	5	√	
KSC 58 800/5A	730207B1	53x83,5	800	5	10	√	
KSC 58 800/5A	730207C	53x83,5	800	5	7,5		√
KSC 58 800/5A	730207C1	53x83,5	800	5	10		√
KSC 58 1000/5A	730208B	53x83,5	1000	5	7,5	√	
KSC 58 1000/5A	730208B1	53x83,5	1000	5	10	√	
KSC 58 1000/5A	730208C	53x83,5	1000	5	10		√
KSC 58 1200/5A	730209B	53x83,5	1200	5	7,5	√	
KSC 58 1200/5A	730209B1	53x83,5	1200	5	10	√	
KSC 58 1200/5A	730209C	53x83,5	1200	5	10		√
KSC 58 1500/5A	730210B	53x83,5	1500	5	10	√	
KSC 58 1500/5A	730210C	53x83,5	1500	5	10		√
KSC 58 1600/5A	730211B	53x83,5	1600	5	10	√	
KSC 58 1600/5A	730211C	53x83,5	1600	5	10		√

Electronic Products

KSC Series Current Transformers



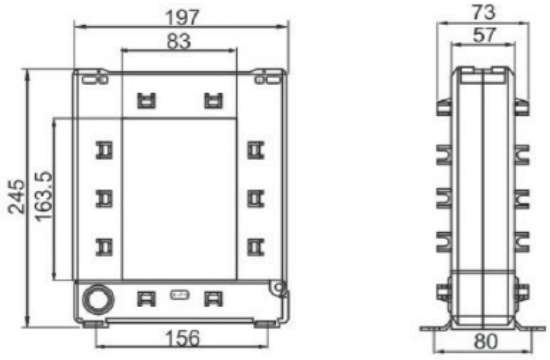


Product Name	Order No	Maximum Busbar Dimension (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5	Class 1
KSC 812 500/5A	730301B	83x123,5	500	5	2,5	√	
KSC 812 500/5A	730301C	83x123,5	500	5	2,5		√
KSC 812 500/5A	730301C1	83x123,5	500	5	5		√
KSC 812 600/5A	730302B	83x123,5	600	5	2,5	√	
KSC 812 600/5A	730302C	83x123,5	600	5	2,5		√
KSC 812 600/5A	730302C1	83x123,5	600	5	5		√
KSC 812 750/5A	730303B	83x123,5	750	5	2,5	√	
KSC 812 750/5A	730303B1	83x123,5	750	5	5	√	
KSC 812 750/5A	730303C	83x123,5	750	5	5		√
KSC 812 800/5A	730304B	83x123,5	800	5	2,5	√	
KSC 812 800/5A	730304B1	83x123,5	800	5	5	√	
KSC 812 800/5A	730304C	83x123,5	800	5	5		√
KSC 812 1000/5A	730305B	83x123,5	1000	5	5	√	
KSC 812 1000/5A	730305B1	83x123,5	1000	5	10	√	
KSC 812 1000/5A	730305C	83x123,5	1000	5	7,5		√
KSC 812 1000/5A	730305C1	83x123,5	1000	5	10		√
KSC 812 1200/5A	730306B	83x123,5	1200	5	5	√	
KSC 812 1200/5A	730306B1	83x123,5	1200	5	10	√	
KSC 812 1200/5A	730306C	83x123,5	1200	5	7,5		√
KSC 812 1200/5A	730306C1	83x123,5	1200	5	10		√
KSC 812 1250/5A	730307B	83x123,5	1250	5	5	√	
KSC 812 1250/5A	730307B1	83x123,5	1250	5	10	√	
KSC 812 1250/5A	730307C	83x123,5	1250	5	7,5		√
KSC 812 1250/5A	730307C1	83x123,5	1250	5	10		√
KSC 812 1500/5A	730308B	83x123,5	1500	5	7,5	√	
KSC 812 1500/5A	730308B1	83x123,5	1500	5	10	√	
KSC 812 1500/5A	730308C	83x123,5	1500	5	10		√
KSC 812 1600/5A	730309B	83x123,5	1600	5	7,5	√	
KSC 812 1600/5A	730309B1	83x123,5	1600	5	10	√	
KSC 812 1600/5A	730309C	83x123,5	1600	5	10		√
KSC 812 2000/5A	730310B	83x123,5	2000	5	10	√	
KSC 812 2000/5A	730310B1	83x123,5	2000	5	15	√	
KSC 812 2000/5A	730310C	83x123,5	2000	5	15		√
KSC 812 2500/5A	730311B	83x123,5	2500	5	10	√	
KSC 812 2500/5A	730311B1	83x123,5	2500	5	15	√	
KSC 812 2500/5A	730311C	83x123,5	2500	5	15		√
KSC 812 3000/5A	730312B	83x123,5	3000	5	10	√	
KSC 812 3000/5A	730312B1	83x123,5	3000	5	15	√	

Electronic Products

KSC Series Current Transformers

Product Name	Order No	Maximum Busbar Dimension (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5	Class 1
KSC 812 3000/5A	730312C	83x123,5	3000	5	15		√
KSC 812 4000/5A	730313B	83x123,5	4000	5	10	√	
KSC 812 4000/5A	730313B1	83x123,5	4000	5	15	√	
KSC 812 4000/5A	730313C	83x123,5	4000	5	15		√



Product Name	Order No	Maximum Busbar Dimension (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5	Class 1
KSC 816 1000/5A	730401B	83x163,5	1000	5	7,5	√	
KSC 816 1000/5A	730401B1	83x163,5	1000	5	10	√	
KSC 816 1000/5A	730401C	83x163,5	1000	5	10		√
KSC 816 1000/5A	730401C1	83x163,5	1000	5	15		√
KSC 816 1200/5A	730402B	83x163,5	1200	5	7,5	√	
KSC 816 1200/5A	730402B1	83x163,5	1200	5	10	√	
KSC 816 1200/5A	730402C	83x163,5	1200	5	10		√
KSC 816 1200/5A	730402C1	83x163,5	1200	5	15		√
KSC 816 1250/5A	730403B	83x163,5	1250	5	7,5	√	
KSC 816 1250/5A	730403B1	83x163,5	1250	5	10	√	
KSC 816 1250/5A	730403C	83x163,5	1250	5	10		√
KSC 816 1250/5A	730403C1	83x163,5	1250	5	15		√
KSC 816 1500/5A	730404B	83x163,5	1500	5	10	√	
KSC 816 1500/5A	730404C	83x163,5	1500	5	15		√
KSC 816 1600/5A	730405B	83x163,5	1600	5	10	√	
KSC 816 1600/5A	730405C	83x163,5	1600	5	15		√
KSC 816 2000/5A	730406B	83x163,5	2000	5	15	√	
KSC 816 2000/5A	730406C	83x163,5	2000	5	20		√
KSC 816 2500/5A	730407B	83x163,5	2500	5	15	√	
KSC 816 2500/5A	730407C	83x163,5	2500	5	20		√
KSC 816 2500/5A	730407C1	83x163,5	2500	5	25		√
KSC 816 3000/5A	730408B	83x163,5	3000	5	15	√	
KSC 816 3000/5A	730408B1	83x163,5	3000	5	20	√	
KSC 816 3000/5A	730408C	83x163,5	3000	5	25		√
KSC 816 3000/5A	730408C1	83x163,5	3000	5	30		√
KSC 816 4000/5A	730409B	83x163,5	4000	5	15	√	
KSC 816 4000/5A	730409B1	83x163,5	4000	5	20	√	

Electronic Products

KSC Series Current Transformers

Product Name	Order No	Maximum Busbar Dimension (mm)	Primer Current (A)	Sekonder Current (A)	Nominal Power (VA)	Class 0.5	Class 1
KSC 816 4000/5A	730409C	83x163,5	4000	5	25		√
KSC 816 4000/5A	730409C1	83x163,5	4000	5	30		√
KSC 816 5000/5A	730410B	83x163,5	5000	5	15	√	
KSC 816 5000/5A	730410B1	83x163,5	5000	5	20	√	
KSC 816 5000/5A	730410C	83x163,5	5000	5	25		√
KSC 816 5000/5A	730410C1	83x163,5	5000	5	30		√
KSC 816 6000/5A	730411B	83x163,5	6000	5	20	√	
KSC 816 6000/5A	730411B1	83x163,5	6000	5	25	√	
KSC 816 6000/5A	730411C	83x163,5	6000	5	30		√
KSC 816 7000/5A	730412B	83x163,5	7000	5	20	√	
KSC 816 7000/5A	730412B1	83x163,5	7000	5	30	√	
KSC 816 7000/5A	730412C	83x163,5	7000	5	30		√
KSC 816 8000/5A	730413B	83x163,5	8000	5	20	√	
KSC 816 8000/5A	730413B1	83x163,5	8000	5	30	√	
KSC 816 8000/5A	730413C	83x163,5	8000	5	30		√

AC/DC Converter KPS-30, 30W, AC/DC DIN-Rail Power Supply

FEATURES

- Universal 85-264VAC or 120-370VDC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range -40ºC to +70ºC
- High I/O isolation voltage up to 4000VAC
- Industrial-grade design
- OVC III (EN61558-1 standards)
- Low standby power consumption, high efficiency
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- Withstand 300VAC surge input for 5s
- DIN Rail TS35X7.5/ TS35X15 mountable
- Safety according to EN61558

EN62368-1
IEC62368-1
BS EN 62368-1

KPS-30 is AC-DC featuring a cost-effective, energy efficient solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise, compliant with international IEC62368 standards for EMC and safety sepecifitions meet IEC/EN61000-4, CISPR32, EN55032, IEC62368 and EN62368. These light weight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment machinery and all kinds of applications in a harsh environment.

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ	Capacitive Load (µF) Max.
EN/IEC/ BIS/UKCA	KPS-30	36	24V/1.5A	21.6-29.0	88	1400

Note: *The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

Input Specifications

Item	Operating Conditions	Min.	Typ..	Max.	Unit
Input Voltage Range	AC input	85	--	264	VAC
	DC input	120	--	370	VDC

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy	0% - 100% load	--	±2	--	%
Line Regulation	Rated load	--	±0.5	--	
Load Regulation	230VAC	--	±1.5	--	
Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	--	--	150	mV
Temperature Coefficient		--	±0.02	--	%/°C
Short Circuit Protection		Hiccup, continuous, self-recovery			
Over-current Protection		≥120 % Io, self-recovery			
Over-voltage Protection		≤36V	Output voltage clamp or hiccup		
Minimum Load		0	--	--	%
Start-up Time		--	--	3	s
Hold-up Time	115VAC	--	12	--	ms
	230VAC	--	60	--	

Note: *The “parallel cable” method is used for ripple and noise test, please refer to AC-DC Converter Application Notes for specific information.

AC/DC Converter KPS-60, 60W, AC/DC DIN-Rail Power Supply

FEATURES

- Universal 85-264VAC or 120-370VDC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40ºC to +70ºC
- High I/O isolation test voltage up to 4000VAC
- Industrial-grade design
- OVC III (EN61558-1 standards)
- Low standby power consumption, high efficiency
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- Withstand 300VAC surge input for 5s
- DIN Rail TS35X7.5/ TS35X15 mountable
- Safety according to EN61558

EN62368-1
IEC62368-1
BS EN 62368-1

KPS-60 is AC-DC featuring a cost-effective, energy efficient solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise, compliant with international IEC62368 standards for EMC and safety sepecifitions meet IEC/EN61000-4, CISPR32, EN55032, IEC62368 and EN62368. These light weight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment machinery and all kinds of applications in a harsh environment.

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ	Capacitive Load (μF) Max.
EN/IEC/ BIS/UKCA	KPS-60	60	24V/2.5A	21.6-29.0	90	4000

Note: *The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

Input Specifications

Item	Operating Conditions	Min.	Typ..	Max.	Unit
Input Voltage Range	AC input	85	--	264	VAC
	DC input	120	--	370	VDC
Input Frequency		47	--	63	Hz
Input Current	115VAC	--	--	1.2	A
	230VAC	--	--	0.8	
Inrush Current	115VAC	--	30	--	
	230VAC	--	60	--	
Leakage Current	264VAC	0.25mA RMS max.			
Hot Plug		Unavailable			

AC/DC Converter KPS-75, 75W, AC/DC 75W Enclosed Switching Power Supply

FEATURES

- Universal 90 - 264VAC or 120 - 370VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -30ºC to +70ºC
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- Output short circuit, over-current, over-voltage, over-temperature protection
- DIN Rail TS-35/7.5 or 15 mountable
- Suitable for small chassis and narrow space installation
- Safety according to BS EN62368

EN62368-1
IEC62368-1
BS EN 62368-1

KPS-75 is AC-DC converter series featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. This light weight AC-DC converter have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international EN62368 standards for EMC and safety.

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ	Capacitive Load (μF) Max.
EN/BIS	KPS-75	76.8	24V/3.2A	24-28	89	1500

Input Specifications

Item	Operating Conditions		Min.	Typ..	Max.	Unit
Input Voltage Range	AC input		90	--	264	VAC
	DC input		120	--	370	VDC
Input Voltage Frequency			47	--	63	Hz
Input Current	115VAC		--	--	2	A
	230VAC		--	--	1	
Inrush Current	115VAC	Cold start	--	25	--	
	230VAC		--	45	--	
Leakage Current	264VAC		<0.5mA			
Hot Plug			Unavailable			

AC/DC Converter KPS120, 120W, AC/DC 120W Enclosed Switching

FEATURES

- Universal 90 - 264VAC or 127 - 370VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -20ºC to +60ºC
- High I/O isolation test voltage up to 4000VAC
- Low ripple & noise
- Output short circuit, over-current, over-voltage, over-temperature protection
- DIN Rail TS-35/7.5 or 15 mountable
- Ultra slim design: suitable for small chassis and narrow space installation

EN62368-1
IEC62368-1
BS EN 62368-1

KPS-120 is AC-DC converter series featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. This light weight AC-DC converter have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international, EN/BS EN 62368 standards for EMC and safety

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ	Capacitive Load (µF) Max.
EN/BIS/BS	KPS-120	120	24V/5A	24-28	88	1200

Input Specifications

Item	Operating Conditions		Min.	Typ..	Max.	Unit
Input Voltage Range	AC input		90	--	264	VAC
	DC input		127	--	370	VDC
Input Voltage Frequency			47	--	63	Hz
Input Current	115VAC		--	--	2.7	A
	230VAC		--	--	1.6	
Inrush Current	115VAC	Cold start	--	30	--	
	230VAC		--	55	--	
Leakage Current	240VAC		<1.0mA			
Hot Plug			Unavailable			

AC/DC Converter KPS-120-P,
120W, AC/DC 120W Enclosed Switching Power Supply

FEATURES

- Universal 85 - 264VAC or 120 - 370 VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40ºC to +70ºC
- High efficiency up to 94%, high reliability
- DC OK function
- Active PFC
- 150% peak load output for 3 seconds
- DC ON output status indicator LED
- Output short circuit, over-current, over-voltage, over-temperature protection
- Operating altitude up to 5000m
- OVCII
- Indoor use
- Safety according to IEC/BS EN 62368

EN62368-1
IEC62368-1
BS EN 62368-1

KPS-120-P is AC-DC converter series featuring a cost-effective, energy efficient explosion-proof solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise, compliant with international IEC62368 standards for EMC and safety specifications meet IEC/EN/BS EN 62368. This light weight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment, machinery, and all kinds of applications in a harsh environments.

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ	Capacitive Load (µF) Max.
EN	KPS-120-P	120	24V/5A	23.5-28.0	94	50,000

Input Specifications

Item	Operating Conditions		Min.	Typ..	Max.	Unit
Input Voltage Range	Rated input (Certified voltage)		100	--	240	VAC
	AC input		85	--	264	
	DC input		120	--	370	VDC
Input Frequency	Rated AC input		50	--	60	Hz
	AC input		47	--	63	
Input Current	Rated Input		--	--	1.5	A
	115VAC		--	--	1.5	
	230VAC		--	--	0.75	
Inrush Current	115VAC	Cold start	--	15	--	
	230VAC		--	30	--	
Leakage Current	240VAC		<1mA			
Power Factor	115VAC		--	0.98	--	--
	230VAC		--	0.94	--	
Start-up Delay Time	230VAC		--	300	1000	ms
Hot Plug			Unavailable			

AC/DC Converter KPS-150, 150W, AC/DC DIN-Rail Power Supply

FEATURES

- Universal 85-264VAC (277VAC available) or 120-370VDC (390VDC available) input voltage
- Withstand 300VAC surge input for 5s
- Operating ambient temperature range: -30ºC to +70ºC (can be start-up at -40ºC)
- High I/O isolation test voltage up to 4000VAC (Input - output)
- Over-voltage class III (Designed to meet EN61558 standards)
- Low standby power consumption, low ripple & noise
- High efficiency, high reliability
- Output short circuit, over-current, over-voltage over-temperature protection
- DIN Rail TS35X7.5/ TS35X15 mountable
- Ultra-thin design: width 105mm (6SU)

EN62368-1
IEC62368-1
BS EN 62368-1

KPS-120 is AC-DC converter series featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. This light weight AC-DC converter have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international, EN/BS EN 62368 standards for EMC and safety

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ	Capacitive Load (μF) Max.
EN/BIS	KPS-150	150.0	24V/6.25A	21.6 - 29.0	91.5	5000

Note: *The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

Input Specifications

Item	Operating Conditions	Min.	Typ..	Max.	Unit
Input Voltage Range	AC input	85	--	264	VAC
	DC input	120	--	370	VDC
Input Frequency		47	--	63	Hz
Input Current	115VAC	--	--	3	A
	230VAC	--	--	1.8	
Inrush Current	115VAC	--	35	--	
	230VAC	--	70	--	
Leakage Current	240VAC/50Hz	0.5mA RMS Max.			
Hot Plug		Unavailable			

AC/DC Converter KPS-240,
240W, AC/DC 240W Enclosed Switching Power Supply

FEATURES

- Universal 85 - 264VAC or 120 - 370VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40ºC to +70ºC
- High efficiency, high reliability
- DC OK function
- Built-in active PFC function
- 150% peak load output for 3 seconds
- LED indicator for power on
- Output short circuit, over-current, over-voltage, over-temperature protection
- Safety according to IEC//BS EN 62368
- Operating altitude up to 5000m
- OVC II
- Indoor use

EN62368-1
IEC62368-1
BS EN 62368-1

KPS-240-P is AC-DC converter series featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. This light weight AC-DC converters have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international IEC/EN/BS EN 62368 standards for EMC and safety.

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ	Capacitive Load (µF) Max.
EN/BIS	KPS-240-P	240	24V/10A	24.0-28.0	94	40,000

Input Specifications

Item	Operating Conditions		Min.	Typ..	Max.	Unit
Input Voltage Range	Rated input (Certified voltage)		100	--	240	VAC
	AC input		85	--	264	
	DC input		120	--	370	VDC
Input Voltage Frequency	Rated AC input		50	--	60	Hz
	AC input		47	--	63	
Input Current	Rated Input		--	--	3	A
	115VAC		--	--	3	
	230VAC		--	--	1.5	
Inrush Current	115VAC	Cold start	--	15	--	
	230VAC		--	30	--	
Power Factor	115VAC		--	0.98	--	--
	230VAC		--	0.94	--	
Leakage Current	264VAC		<0.5 mA			
Hot Plug			Unavailable			

AC/DC Converter KPS-480-P, 480W, AC/DC 480W DIN Rail Power Supply

FEATURES

- Universal 85- 264VAC or 120- 370VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40ºC to +70ºC
- The efficiency is up to 94.5%
- High I/O isolation test voltage up to 3000VAC
- DC OK function
- Active PFC, PF > 0.99
- Low ripple & noise
- Output short circuit, over-current, over-voltage, over-temperature protection, input undervoltage protection
- DIN Rail TS-35/7.5 or 15 mountable
- Ultra slim design with 48mm width
- Withstand 305VAC input voltage 5S
- Safety according to IEC/62368, EN61558

EN62368-1
IEC62368-1
BS EN 62368-1

KPS-480-P is AC-DC converter series featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. This light weight AC-DC converters have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international IEC/EN/BS EN 62368, IS13252 (Part1), EN61558 standards for EMC and safety

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 230VAC (%) Typ	Capacitive Load (μF) Max.
EN/BS	KPS-480-P	480	24V/20A	24-28	94.5	20000

Note: *Under any conditions, the total power of the product should not exceed the 480W rated power, and the output current cannot exceed the rated output current.

Input Specifications

Item	Operating Conditions		Min.	Typ..	Max.	Unit
Input Voltage Range	AC input		85	--	264	VAC
	DC input		120	--	370	VDC
Input Voltage Frequency			47	--	63	Hz
Input Current	115VAC		--	--	5	A
	230VAC		--	--	2.5	
Inrush Current	115VAC	Cold start	--	--	15	
	230VAC		--	--	15	
Power Factor	115VAC		0.99	--	--	--
	230VAC		0.99	--	--	
Leakage Current	240VAC		<0.8mA			
Hot Plug			Unavailable			
Input Undervoltage Protection	Protection start (Input voltage drops from high to low)		--	60	--	VAC
	Protection release (Input voltage rises from low to high)		--	75	--	

For more information, please visit our website.

50 Years

Klemsan

more than 100 Countries

www.klemsan.com.tr

AUTOMATION (2025)
Revision No: 24012025