

ERN 11005 / ERN 11007 ADVANCED KEY FEATURES:

- Current measurement sensitivity 20 mA
- Perfect for smaller less demanding applications
- Features automatic control section recognition
- Independent alarm warnings
- Precise measurement and control even under conditions of voltage or current waveform distortion
- Measurement 1 U and 1 I.
- Automatic set up.
- Capacitor protection.
- Programmable alarms.
- Measurement U, I, P and Q.
- Control of PF, cosφ and THD control.
- Power import / export.
- Measurement up to 19-th harmonic.
- Integrated thermometer.

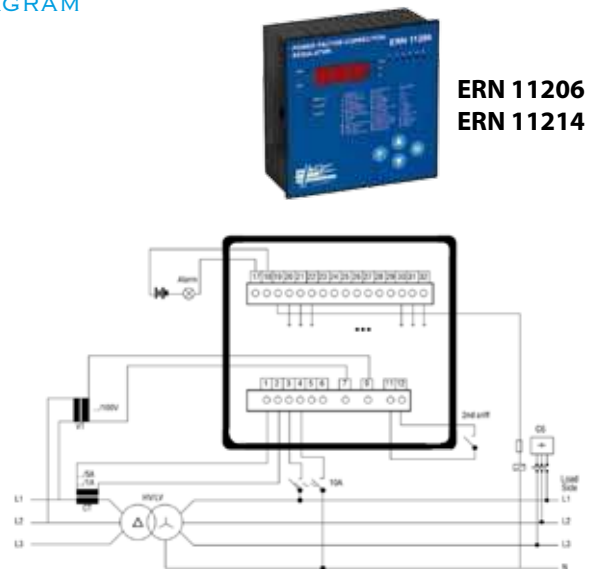
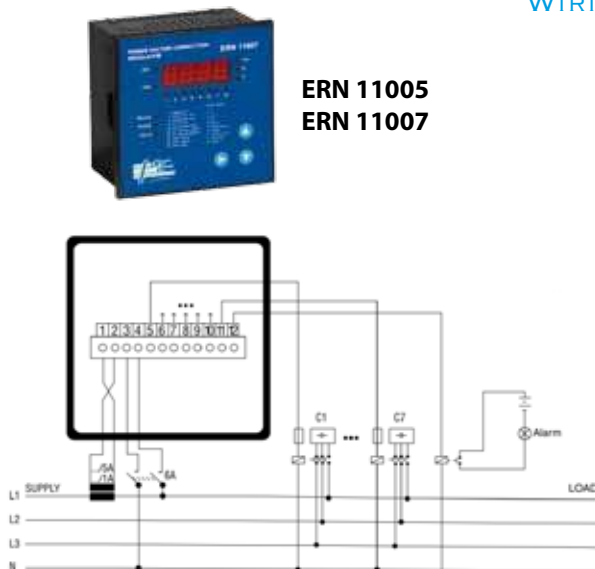
ERN 11206 / ERN 11214 SMART KEY FEATURES:

- Current measurement sensitivity 2 mA
- Input for 2nd tariff
- Suitable for LV and HV application
- 2-nd rate inputs
- Separate AC / DC supply
- Ethernet port (optional)
- RS485 port (optional)
- Modbus (optional)
- Features automatic control section recognition
- Independent alarm warnings
- Precise measurement and control even under conditions of voltage or current waveform distortion
- Measurement 1 U and 1 I.
- Automatic set up.
- Capacitor protection.
- Programmable alarms.
- Measurement U, I, P and Q.
- Control of PF, cosφ and THD control.
- Power import / export.
- Measurement up to 19-th harmonic.
- Integrated thermometer.

ERN TECHNICAL SPECIFICATIONS

	ERN 11005	ERN 11007	ERN 11206	ERN 11214		ERN 11005	ERN 11007	ERN 11206	ERN 11214
Power factor desired	0,80 ind. through 0,80 cap.				Measurement current (galv. isolated)	0,02 ÷ 7 A		0,002 ÷ 7 A	
Connection time	5 to 1200 seconds				Peak overload	70 A / 1 second; maximum repetition frequency > 5 minutes			
Smallest capacitor current	(0,02 A ÷ 2 A) x CT		(0,002 A ÷ 2 A) x CT ratio		Number of output relays	6	8	6	14
Compensation section values setting	Automatic or Manual				Output relay load rating	250 V AC / 4 A 110 V DC / 0.3 A			
Connection configuration setting	Automatic or Manual				Enclosure IP front panel	IP 40 (IP 54 option)			
Power supply	80 ÷ 275 V AC 43 ÷ 67 Hz, 5VA		90 ÷ 275 V AC (43÷67 Hz) or 100÷300 V DC, 7VA		Enclosure IP back panel	IP 20			
Measurement voltage	The same as power supply voltage		57.7 ÷ 690 V AC, +10/-20%, 43 ÷ 67 Hz		Dimensions*	96x96	96x96	144x144	144x144
Operating temperature	-40 °C +60 °C				Weight	0,3 kg max.	0,3 kg max.	0,7 kg max.	0,7 kg max.

WIRING DIAGRAM



*All dimensions are in "mm" and will be confirmed at the time of order.

ERP3/ERP5/ERP8 STANDARD PLUS SERIES KEY FEATURES:

- 3 Relay outputs built-in ERP 3 (96x96 mm), expandable up to 6
- 5 Relay outputs built-in ERP 5 (96x96 mm), expandable up to 8
- 8 Relay outputs built-in ERP 8 (144x144 mm), expandable up to 14
- Expansion bus for MERP series expansion modules:
 - Additional relay outputs (steps)
 - RS232, RS485, USB ports
 - Ethernet communications interface (ERP 8 only)
- High accuracy TRMS measurements
- Connection in single or three phase lines and co-generation systems with 4-quadrant operation with dedicated set point $\cos\theta$
- Wide selection of electrical measurements, including voltage and current THD with harmonic analysis up to 15-th order
- Voltage input separated from power supply, suitable for its connection in MV applications
- Wide range power supply (100-440 Vac)
- Wide voltage measurement range (50-720 Vac)
- Balanced use of steps with same power rating
- Reactive power measurement per step installed
- Capacitor over-current protection
- Step failure alarm
- Maintenance counter in hours and number of operations for the steps
- Configurable rated current input (1 A or 5 A)
- Programming from panel front, from PC or from tablet/ smartphone
- Backup copy of default settings commissioning
- 2-level password protection for settings
- Built-in temperature sensor
- LCD display
- Programmable alarms

ERGP 8 HIGH PERFORMANCE SERIES KEY FEATURES:

- **This regulator includes all the features of the ERP 3/5/8 series in addition to the features listed below:**
- 8 Relay outputs built-in (144x144 mm), expandable up to 24
- Expansion bus for MERP series expansion modules
- Backlight graphic display 128x80 pixel LCD with text in 10 languages: Italian, English, Spanish, French, German, Czech, Polish, Russian, Portuguese.
- Automatic identification of sense of CT current flow
- Connection to single and three-phase lines, three-phase lines with neutral control and co-generation systems with 4-quadrant operation
- Use with MV lines
- Capability to correctly operate also in systems having high harmonic current
- Extreme reduction of the number of switching operations
- Balanced use of steps with same power rating
- Reactive power measurement per installed step
- Recording of the number of connections per step
- Capacitor over-current protection on all three phases
- Over-temperature protection by internal sensor
- Accurate no-voltage release protection function
- Current and voltage harmonic analysis
- Harmonic analysis of current and voltage waveforms recorded for overload events
- Quick CT programming function
- USB and WI-FI communication interface for personal computer, smartphone and tablet connection
- Modbus-RTU, TCP and ASCII communication protocols
- Set-up and remote control software
- SMS sending for alarm conditions with MERP1015 expansion module

ERP / ERGP TECHNICAL SPECIFICATIONS

	ERP 3	ERP 5	ERP 8	ERGP 8		ERP 3	ERP 5	ERP 8	ERGP 8
Supply rated voltage	100 - 440 Vac 110 - 250 Vdc				Overload peak	50 A for 1 second		0,002 ÷ 7 A	
Supply rated frequency	45 - 66 Hz				Enclosure IP front panel	IP 54	IP 54	IP 65	IP 65
Measuring voltage range	50 - 720 V L-L 415 Vac L-N				Enclosure IP back panel	IP 20			
Maximum rated voltage inputs Ue	600 Vac L-L (346 Vac L-N)				Dimensions*	96x96	96x96	144x144	144x144
Rated current input	1A or 5 A				Weight	0,32 kg max.	0,32 kg max.	0,64 kg max.	0,98 kg max.

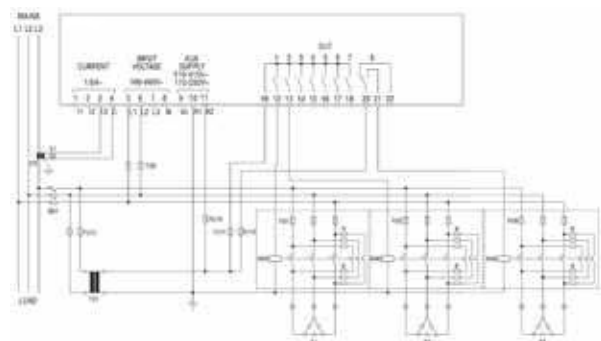
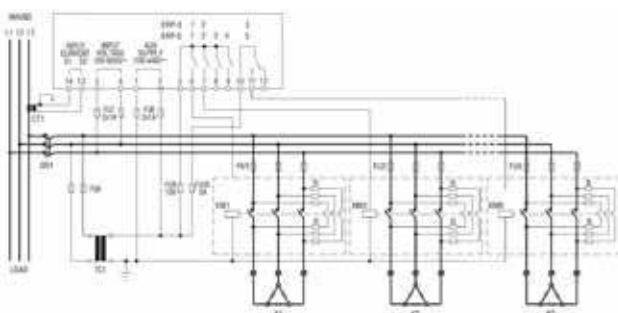
WIRING DIAGRAM



ERP 3
ERP 5
ERP 8



ERGP 8



ERD6 / ERD12 STANDARD KEY FEATURES:

- Measurements;
 - $\cos\phi$, inductive and capacitive;
 - Phase to phase voltage and current;
 - Reactive power needed;
 - $\cos\phi$ desired;
 - Total harmonic distortion;
 - Sensitivity;
 - Ambient temperature.
- Suitable for MV (medium-voltage) systems;
- Autorecognized capacitor bank;
- Anti-hunting function;
- Fixed step programmable;
- Relay programmable for alarm or fan;
- RJ11 - TTL standard - serial interface;
- Self-extinguished material UL94 V0.

ERDS7 / ERDS13 SMART KEY FEATURES:

- The most common measurements and much more;
- Suitable for MV (medium-voltage) systems;
- Easier programming;
- 4 quadrants operativity;
- LCD graphic display;
- Lighted silicon keyboard;
- Measure circuit separated from supply;
- Comm ports: RS485 modbus rtu;
- NTC external probe for temp monitoring (optional);
- Instant system status view;
- Double $\cos\phi$ programmable;
- Expandable up to 53 steps with expansion 4 steps module;
- Self-extinguished material UL94 V0.

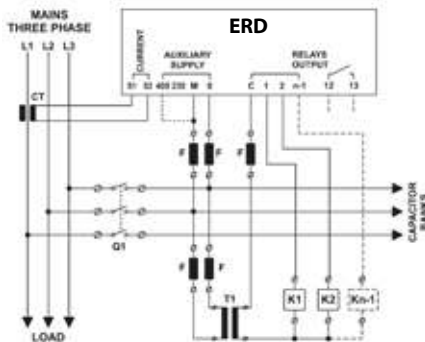
ERD / ERDS TECHNICAL SPECIFICATIONS

	ERD6	ERD12	ERDS7	ERDS13		ERD6	ERD12	ERDS7	ERDS13
Supply voltage	230 – 400 Vac (range 220 – 440 Vac)				Serial Interface	Optional	TTL-standard	RS-485 (not insulate)	
Operating limits (Ue)	-15% +10%				Communication Protocol	Optional	Owner Modbus RTU	Owner Modbus RTU or TCP/IP	
Nominal frequency	50 – 60 Hz (range 47 – 63 Hz)				Connector type	Optional	RJ11	----	
Power consumption (max. AC)	5,8 VA	6,1 VA	5,5 VA	5,5 VA	Working temperature	- 40°C + 55° C			
Immunity time for microbreakings	<6 ms		<30 ms		Storage temperature	- 40°C + 55° C			
Display type	3 Digit - 7 Segment		LCD 64x128		Electrical Insulation	4 kV			
Rated current (CT)	5 A		1 A or 5 A		Overvoltage Category	II			
Voltage Reading Limits (N/Lx)	180 – 485 Vac	195 – 460 Vac	10 – 460 Vac		Protection degree	IP41 front cover – IP20 terminal block connections			
Current Reading Limits (CT)	0,125 – 5,5 A		0,020 – 5,5 A		Pollution degree	2			
Measuring Values	True RMS				Relative Humidity w/o cond.	RH% 90			
Power Factor Correction	0,85 Inductive 0,95 Capacitive		0,85 Inductive 0,95 Capacitive (operates in all four-quadrantes)		Altitude up to	2000 m			
FFT - Harmonic Spectrum	THD% 64 st				Weight	0,37 Kg.	0,70 Kg.	0,65 Kg.	0,73 Kg.
Number of Output	6	12	7 Expandable up to 47	13 Expandable up to 53	Dimensions	96x96x74	144x144x68	144x144x68	

ERD / ERDS WIRING DIAGRAM



**ERD 6
ERD 12**



**ERDS 7
ERDS 13**

