Essential Power Control EPack[™] Lite-1PH Compact SCR Power Controllers

Simplicity Without Compromise On Performance

Product at a Glance

The end user, the machine builder or the system integrator expects the best solutions in term of performance, ease of use and reliability in order to control the energy delivered to their process.

Whether replacing an existing product or building a new process, the EPack[™] Lite power controller has been carefully designed to aid easy and fast integration in industrial systems.

The EPack Lite range offers a simplified choice, fast commissioning without any compromise on performance in order to provide a high level of quality, accuracy and reliability to the process.

More than just a product, EPack Lite power controllers bring a tailored solution based on more than 50 years of Eurotherm expertise.

> See EPack[™] compact SCR power controllers brochure HA031554 to discover how full EPack range can add value to your business

The EPack Lite-1PH controller provides control of single phase non variable resistive or primary transformer loads. It combines simplicity of setup and operation in a compact format.

The combination of advanced configurable firing modes allows close matching to load characteristics to optimise process efficiency. Key Features:

- Nominal load current from 4 to 125 amps
- Voltage up to 500V
- Compact DIN Rail and bulkhead mounting
- Configurable via front panel
- Fast start up with 'Quick Start' or 'Clone Code' features
- V^2 or I^2 control or Open loop
- Controls non variable resistive and primary transformer loads
- Wide range of firing modes: Logic, Phase Angle, Adjustable Burst Firing, Fast Cycle
- Measurements: Current, voltage or impedance and more
- Load fault detection up to 1 element of 6
- SCCR 100kA



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Specifications

General			
Directive	EMC directive 2014/30/EU		
	Low Voltage Directive 2014/35/EU		
Safety Specification	EN60947-4-3:2014		
EMC Emissions Specification	EN60947-4-3:2014 - Class A product		
EMC Immunity Specification	EN60947-4-3:2014		
Vibration Tests	EN60947-1 annex Q category E		
Shock Tests	EN60947-1 annex Q category E		
Approvals			
European Community	EN60947-4-3:2014: Low-voltage switchgear		
Ce	and controlgear - Part 4-3:Contactors and		
	motor-starters - AC semiconductor controllers		
	and contactors for non-motor loads (identical		
	to IEC60947-4-3:2014)		
	Declaration of conformity available on request.		
US & Canada	UL60947-4-1 CAN/CSA C22.2 NO.60947-4-1-14		
	Low-Voltage Switchgear and Controlgear		
	- Part 4-1: Contactors and Motor-Starters -		
	Electromechanical Contactors and Motor-		
	Starters - U.L. File N° E86160		
Australia	Regulatory Compliance Mark (RCM)		
	to Australian Communication and Media Authority		
	Based on compliance to EN60947-4-3:2014		
China	Product not listed in catalogue of products		
	subject to China Compulsory Certification (CCC)		
Protection	CE: 16 to 63A > IP10 according to EN60529		
	80 to 125A > IP20 according to EN60529		
	UL: open type		

Condition Of Use		
Atmosphere	Non-corrosive, non-explosive, non-conductive	
Degree Of Pollution	Degree 2	
Storage Temperature	-25°C to 70°C (maximum)	
Usage Temperature	0 to 45°C at 1000m	
	0 to 40°C at 2000m	
Altitude	1000m maximum at 45°C	
	2000m maximum at 40°C	
Derating Curves	Altitude (meters)	
	2000	
	1750	
	1500	
	1250	
	12.00	
	1000	
	40 41 42 43 44 45	
	Operating temperature (°C)	

Mechanical details				
Unit	Height	Width	Depth	Weight
16 to 32A	129.2mm / 5.09in	51mm / 2.01in	136.2mm / 9.04in	0.8kg / 1.76lb
40 to 63A	129.2mm / 5.09in	72mm / 2.83in	173.3mm / 9.04in	0.95kg / 2.09lb
80 to 100A	197.6mm / 7.78in	80mm / 3.15in	202.1mm / 9.04in	1.8kg / 3.97lb
125A	197.6mm / 7.78in	120mm / 4.72in	202.1mm / 9.04in	2.5kg / 5.51lb

Fuses			
Current Rating	Fuse Holder Size	Dimensions H x W x D	
≤25A without MS	10x38mm / 13/32x1-1/2in	88.5x17.5x64.5mm / 3.48x0.69x2.54in	
≤25A with MS	14x51mm / 9/16x2in	110.8x26.5x76.5mm / 4.36x1.04x3.01in	
32A with or without MS	14x51mm / 9/16x2in	110.8x26.5x76.5mm / 4.36x1.04x3.01in	
40A with or without MS	14x51mm / 9/16x2in	110.8x26.5x76.5mm / 4.36x1.04x3.01in	
50A with or without MS	22x58mm / 2-9/32in	127.5x35x76.5mm / 5.02x1.38x3.01in	
63A with or without MS	27x60mm / 1-1/16x2-3/8in	149.4x40x93.5mm / 5.88x1.57x3.68in	
80A with or without MS	27x60mm / 1-1/16x2-3/8in	149.4x40x93.5mm / 5.88x1.57x3.68in	
100A with or without MS	27x60mm / 1-1/16x2-3/8in	149.4x40x93.5mm / 5.88x1.57x3.68in	
125A with or without MS	27x60mm / 1-1/16x2-3/8in	149.4x40x93.5mm / 5.88x1.57x3.68in	

Power	
Nominal Current	4 to 125 amps
Nominal Voltage	100 to 500Vac +10%/-15%
Accuracy	±2% of full scale - from 100 to 500V +10%/-15%
Frequency	47Hz to 63Hz
Short Circuit Protection	By external supplemental high speed fuses
Rated Conditional Short-circuit	100kA (Coordination Type 1)
Current	
Type Of Loads	
AC51	Resistive or slightly inductive load (cos phi>0.8)
AC-56a	Transformer Primary

Control		
Auxillary Power Supply	100V to 500V +10%/-15% or 24 ac/dc (±20%)	
Control Setpoint	Analog or Logic input	
Analogue Input Signal		
Voltage	Range: 0-5V, 1-5 V, 0-10V or 2-10V Impedance: 140 k Ohms typical (0-10V signal)	
Current	Range: 0-20mA or 4-20mA Input resistance: 100 ohms to allow three units wired in series to be driven from a single controller's analogue output	
Resolution	11 bits	
Linearity	±0.1% of Scale	
Firing Mode	Phase Angle, Intelligent Half cycle, Variable Modulation Burst firing (FC1, C16, C64), Fix modulation period (2 seconds fixed), Logic mode	
Control Mode	V ² control, I ² control, Open loop	
Configurable Digital Inputs	Input 1: enable by default Input 2: setpoint, alarm acknowledgment, 10V supply,	
Voltage Inputs	Active level (high): 11V <vin<30v with<br="">6mA<lin<30ma Non-active level (low): -3V<vin<5v with<br="">2mA<lin<30ma 5v<vin<11v="" lin<2ma<br="" or="" with="">PLC compatible inputs, types 1 & 2 according to IEC 61131-2</lin<30ma></vin<5v></lin<30ma </vin<30v>	
Contact Closure Inputs	Source current: 10mA min; 15mA max Open contact (non active) resistance: 800 Ohms to ∞ Closed contact (active) resistance: 0 to 450 Ohms Absolute Maximum ±30V or ±25mA	
One Alarm Relay	Changeover relay 2A rms - 264V rms normally energised. (250V rms max for UL) This relay will be de-energised by default in case of serious alarms: short circuit thyristor, open circuit, fuse blown, missing main, chop off	

Display	
Technology	TFT
Size	1.5"
Messages	Messages for configuration, monitoring and diagnostics

Mechanical Details

Connector Details (pinout)









Mechanical Details

Connector Details (pinout)



Order Codes

The EPack Lite power controller is ordered using a short code for the chargeable options and an extended option configuration code for commissioning.

If the extended code is not used, the software configuration is completed using a quick start procedure.

Current rating of EPack Lite controllers may be upgraded at any time using a software key order code.

Product Coding



Model			5	W	/arranty
EPACK LITE-1PH Power Controller		XX W US	(X L005 SWL3	Standard Warranty 5 Year Warranty 3 US Extended Warranty	
1 Max	imum Cu	rrent			
16A	16 amps	;	6	Сι	ustom Labelling
25A 32A	5A 25 amps 2A 32 amps		XX FX	(X (XXX	Standard (Eurotherm) Special Label
40A	40 amps				
63A	63 amps))	7	Fu	use
80A 100A 125A	80 amps 100 amps 125 amps			KX SP SM	Without High Speed fuse without microswitch High Speed fuse
2 Auxi	illary Pow	er Supply			with microswitch
500V 24V	500V ma	ix lc	8	Co	onfiguration
2 Roo	arved			(XXX ;	C Default Long code
3 Nes	Decembra	el.			
***	Reserve	u			
4 Con	trol Optio	'n			
V2 I2 OL	V ² control I ² control Open loo	ol (standard) I op control			

Open loop control

9 1 - Value field 1 nnnA 10 Nominal Line Voltage 100V 100 volts 110V 110 volts 115V 120V 115 volts 120 volts 127V 127 volts 200V 200 volts 208V 220V 208 volts 220 volts 230V 230 volts 240V 240 volts 277 volts 380 volts 277V 380V 400V 400 volts 415V 415 volts 440V 440 volts 460V 480V 500V 460 volts 480 volts 500 volts 11 Load type XX TR Resistive Transformer primary 12 Resistive ΧХ 13 Firing Mode PA Phase Angle IHC BF Intelligent Half Cycle Variable Modulation Burst Firing FX Fix modulation period (default 2 seconds) LGC Logic mode 19 Reserved

14	Burst Min ON Time
XXX FC1 C16 C64	None Single cycle 1 period min ON time Burst with 16 periods min ON time Burst with 64 periods min ON time
15	Analog Input Function
XX SP	None Setpoint
16	Analog Input Type
0V 1V 2V 5V 0A 4A	0-10 volts 1-5 volts 2-10 volts 0-5 volts 0-20 mA 4-20mA
17	Digital Input 1 Function
XX FI LG AK FB	None Firing Setpoint for logic mode Alarm acknowledgement Fuse Blown
18	Digital Input 2 Function
XX FI LG AK	None Firing Setpoint for logic mode Alarm acknowledgement
FB	Fuse Blown

XXX

Reserved

Software Upgrade Options



1	Serial Number Instrument	
nnnn		Serial number

2	Current Ratings Upgrade		
XXX	<	No change	
16A-25A		16A to 25A	
16A-32A		16A to 32A	
25A-32A		25A to 32A	
40A-50A		40A to 50A	
40A-63A		40A to 63A	
50A-63A		50A to 63A	
80A-100A		80A to 100A	



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