Life Is On | Eurotherm by Schneider Electric

Essential Power Control

EPack™ Lite-3PH Compact SCR Power Controllers Three Phase 3 Leg Control

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-3PH controller is the ideal solution for the control of non variable resistive or primary transformer loads The control of each phase ensures accurate control, even if the loads are unbalanced).

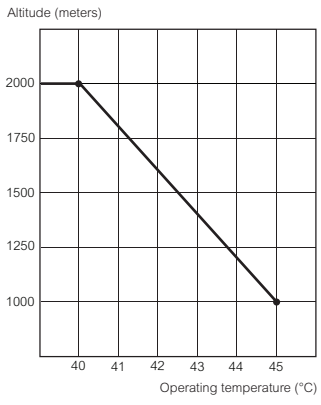
The currents and voltage measures also allow a high level of diagnostics, which can be used for alarm management.

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

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	
CE European Community	EN60947-4-3:2014: Low-voltage switchgear 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.
c UL us LISTED 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: IP10 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	

Mechanical details				
Unit	Height	Width	Depth	Weight
16 to 32A	229.5mm / 9.04in	140mm / 5.51in	192mm / 7.56in	3.06kg / 6.74lb
40 to 63A	229.5mm / 9.04in	140mm / 5.51in	227mm / 8.94in	3.51kg / 7.73lb
80 to 100A	291mm / 11.46in	160mm / 6.29in	242mm / 9.53in	5.83 kg / 12.85lb
125A	291mm / 11.46in	240mm / 9.44in	242mm / 9.53in	7.94kg / 17.50lb

Fuses		
Current Rating	Fuse Holder Size	Dimensions H x W x D
≤25A without MS	10x38mm / 13/32x1-1/2in	88.5x52.5x64.5mm / 3.48x2.07x2.54in
≤25A with MS	14x51mm / 9/16x2in	110.8x79.5x76.5mm / 4.36x3.13x3.01in
32A with or without MS	14x51mm / 9/16x2in	110.8x79.5x76.5mm / 4.36x3.13x3.01in
40A with or without MS	14x51mm / 9/16x2in	110.8x79.5x76.5mm / 4.36x3.13x3.01in
50A with or without MS	22x58mm / 7/8-29/32in	127.5x105x76.5mm / 5.02x4.13x3.01in
63A with or without MS	22x58mm / 7/8-29/32in	127.5x105x76.5mm / 5.02x4.13x3.01in
80A with or without MS	27x60mm / 1-1/16x2-3/8in	149.4x120x93.5mm / 5.88x4.72x3.68in
100A with or without MS	27x60mm / 1-1/16x2-3/8in	149.4x120x93.5mm / 5.88x4.72x3.68in
125A with or without MS	27x60mm / 1-1/16x2-3/8in	149.4x120x93.5mm / 5.88x4.72x3.68in

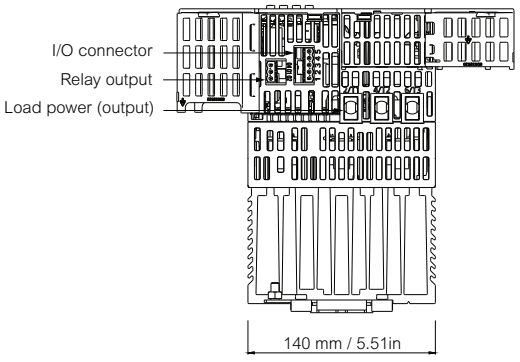
Power	
Nominal Current	4 to 125 amps
Nominal Voltage	100 to 500Vac +10%/–15%
Accuracy	±2% of full scale - from 100 to 500V +10%/–15%
Frequency	47Hz to 63Hz
Short Circuit Protection	By external supplemental high speed fuses
Rated Conditional Short-circuit Current	100kA (Coordination Type 2)
Type Of Loads	
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	Variable Modulation Burst firing (FC1, C16, C64), Fix modulation period (2 seconds fixed), Logic mode, Phase Angle, Intelligent Half Cycle
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 6mA<Iin<30mA Non-active level (low): -3V<Vin<5V with 2mA<Iin<30mA or 5V<Vin<11V with Iin<2mA PLC compatible inputs, types 1 & 2 according to IEC 61131-2
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

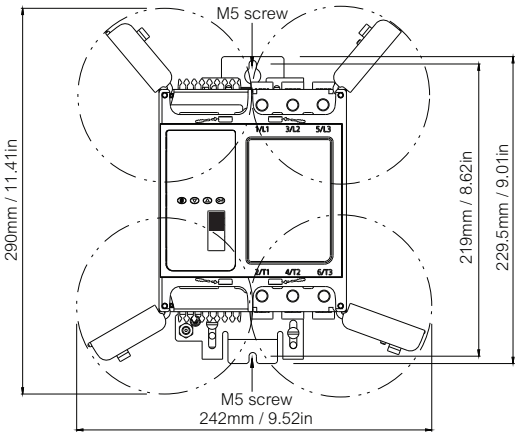
Display	
Technology	TFT
Size	1.5"
Messages	Messages for configuration, monitoring and diagnostics

Mechanical Details

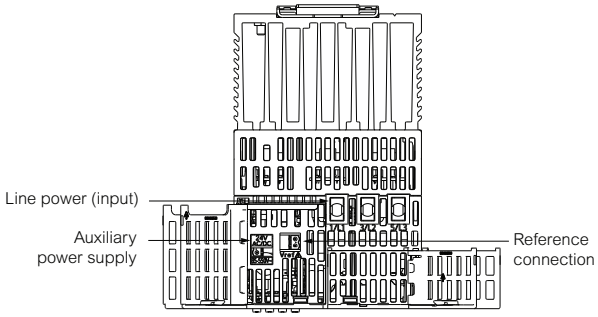
16A to 32A & 40A to 63A



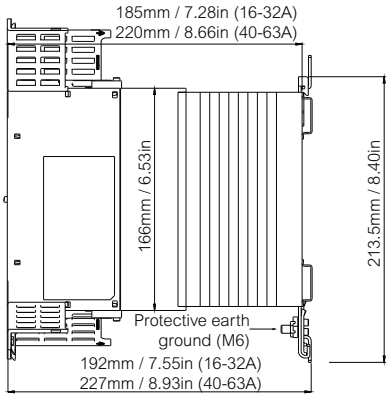
View on lower face



Front View



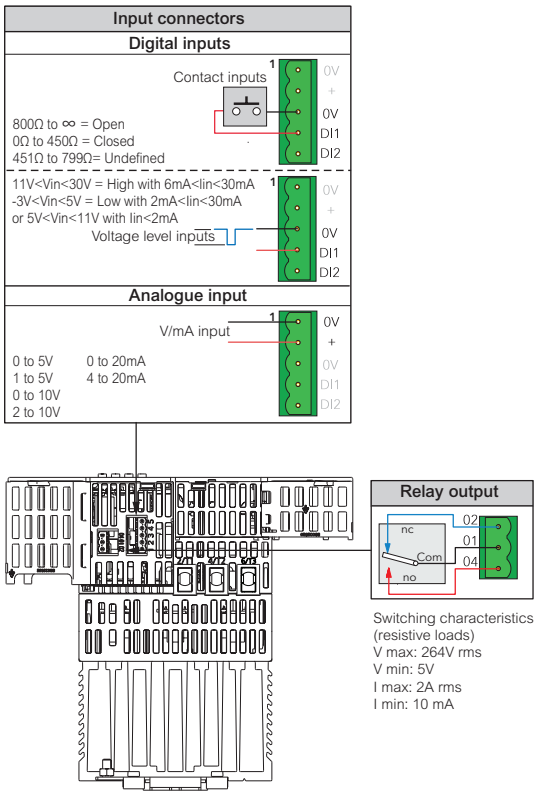
View on upper face



View on right hand side

Connector Details (pinout)

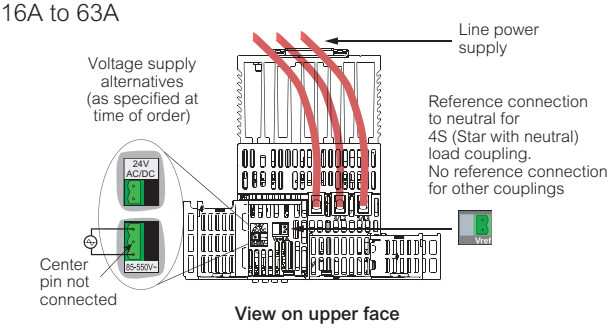
I/O Details



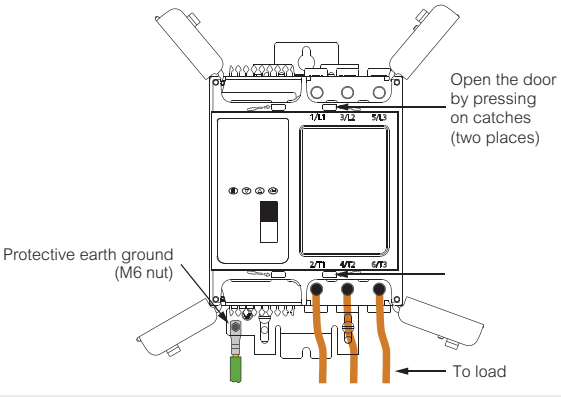
Switching characteristics
(resistive loads)
V max: 264V rms
V min: 5V
I max: 2A rms
I min: 10 mA

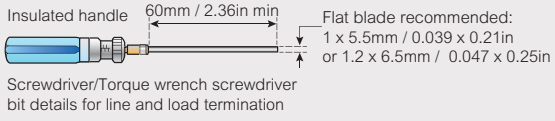
View on lower face
63A unit shown;
32a unit have same connections

Power Supply Details
16A to 63A



View on upper face
63A unit shown;
32A unit have same connections

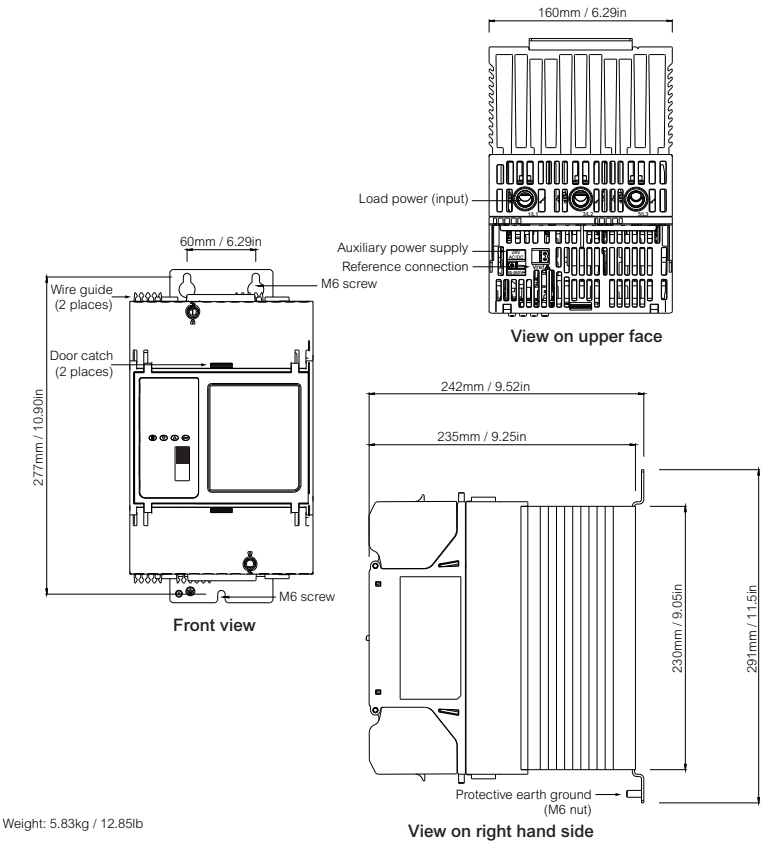




Screwdriver/Torque wrench screwdriver bit details for line and load termination

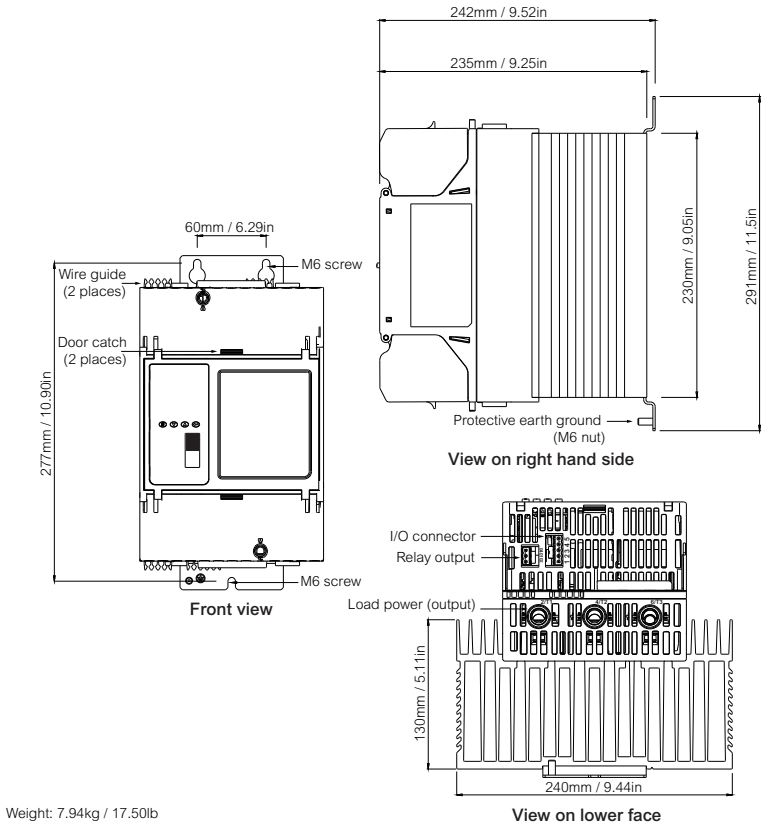
Mechanical Details

80A to 100A



Weight: 5.83kg / 12.85lb

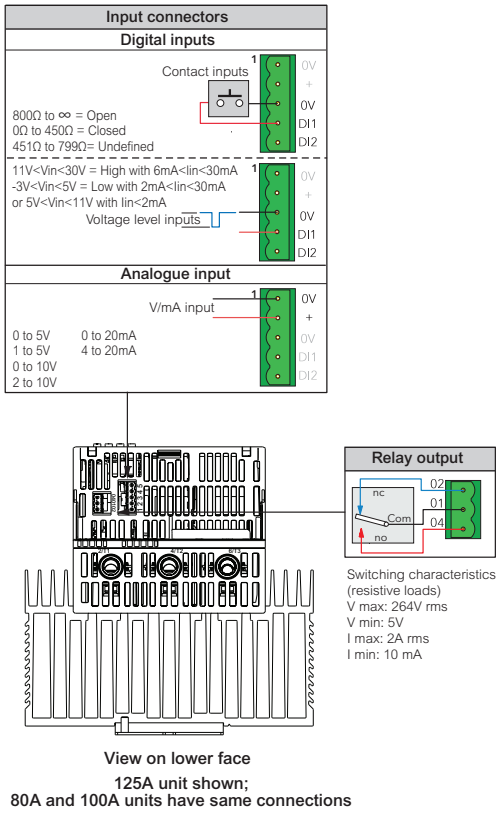
125A



Weight: 7.94kg / 17.50lb

Connector Details (pinout)

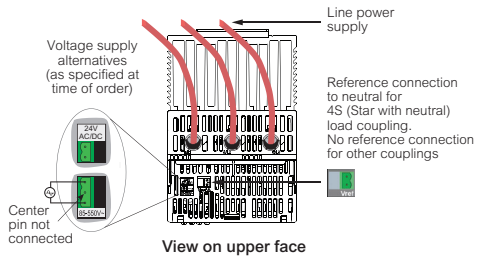
I/O Details



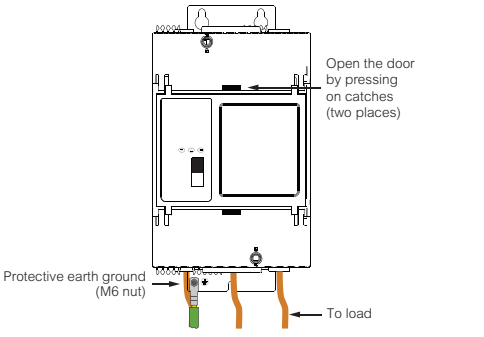
Switching characteristics (resistive loads)
V max: 264V rms
V min: 5V
I max: 2A rms
I min: 10 mA

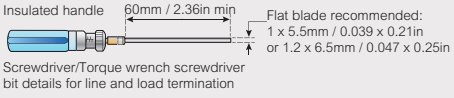
125A unit shown;
80A and 100A units have same connections

Power Supply Connection Details 80A to 125A



80A unit shown;
100A and 125A units have same connections





Screwdriver/Torque wrench screwdriver bit details for line and load termination

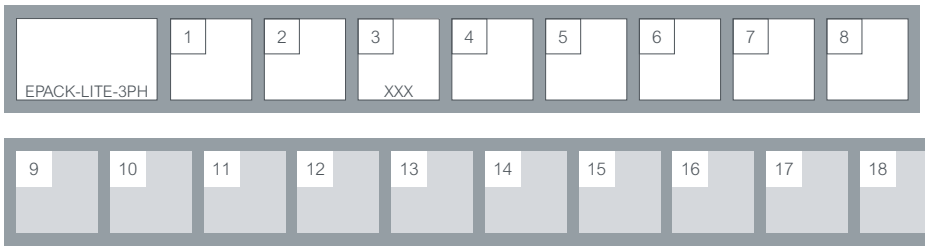
Order Codes

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	
EPACK LITE-3PH	Power Controller

1	Maximum Current
16A	16 amps
25A	25 amps
32A	32 amps
40A	40 amps
50A	50 amps
63A	63 amps
80A	80 amps
100A	100 amps
125A	125 amps

2	Auxillary Power Supply
500V	500V max
24V	24V ac/dc

3	Reserved
XXX	Reserved

4	Control Option
V2	V^2 control (standard)
I2	I^2 control
OL	Open loop

5	Warranty
XXX	Standard Warranty
WL005	5 Year Warranty
USWL3	US Extended Warranty

6	Custom Labelling
XXX	Standard (Eurotherm)
FXXXX	Special Label

7	Fuse
XXX	Without
HSP	High Speed fuse without microswitch
HSM	High Speed fuse with microswitch

8	Configuration
XXXXX	Default
LC	Long code

Optional configuration

9	Nominal Load Current
nnnA	1 - Value field 1

10	Nominal Line Voltage
100V	100 volts
110V	110 volts
115V	115 volts
120V	120 volts
127V	127 volts
200V	200 volts
208V	208 volts
220V	220 volts
230V	230 volts
240V	240 volts
277V	277 volts
380V	380 volts
400V	400 volts
415V	415 volts
440V	440 volts
460V	460 volts
480V	480 volts
500V	500 volts

11	Load Configuration
3S	Star without neutral
3D	Closed delta
4S	Star with neutral
6D	Open delta

12	Load Type
XX	Resistive
TR	Transformer primary

13	Heater Type
XX	Resistive

14	Firing Mode
PA	Phase Angle
IHC	Intelligent Half Cycle
BF	Variable Modulation Burst Firing
FX	Fix modulation period (default 2 seconds)
LGC	Logic mode

15	Burst Min ON Time
XXX	None
FC1	Single cycle 1 period min ON time
C16	Burst with 16 periods min ON time
C64	Burst with 64 periods min ON time

16	Analog Input Function
XX	None
SP	Setpoint

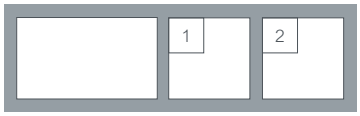
17	Analog Input Type
0V	0-10 volts
1V	1-5 volts
2V	2-10 volts
5V	0-5 volts
0A	0-20 mA
4A	4-20mA

18	Digital Input 1 Function
XX	None
FI	Firing
LG	Setpoint for logic mode
AK	Alarm acknowledgement
FB	Fuse Blown

19	Digital Input 2 Function
XX	None
FI	Firing
LG	Setpoint for logic mode
AK	Alarm acknowledgement
FB	Fuse Blown
SU	10V supply

20	Reserved
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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