

DANGER

HAZARD OF ELECTRICAL SHOCK, EXPLOSION OR ARC FLASH

1. If the product (EPower) is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired.
2. Any adjustment, maintenance and repair of the opened apparatus under voltage, is forbidden for safety reasons.
3. The product must be installed and maintained by suitably qualified personnel, authorized to work in an industrial low voltage environment.
4. The product is not suitable for isolation applications, within the meaning of EN60947-1.
5. The product is designed to be installed in a cabinet connected to the protective earth ground according to IEC60364-1 and IEC60364-5-54 or applicable national standards.
6. Electrically conductive pollution must be excluded from the cabinet in which the product is mounted. To ensure a suitable atmosphere in conditions of conductive pollution, fit adequate air conditioning/filtration/cooling equipment to the air intake of the cabinet, e.g. fitting fan-cooled cabinets with a fan failure detection device or a thermal safety cut-out.
7. Before carrying out any wiring to the product, it must be ensured that all relevant power and control cables, leads or harnesses are isolated from voltage sources.
8. Before any other connection is made, the protective earth ground terminal shall be connected to a protective conductor. The earth connection must be made by using a lug terminal of size as given in safety earth details.
9. Protective earth ground minimum size must be selected according to IEC 60364-5-54 table 54.2 or IEC61439-1 Table 5 or applicable national standards.
 - UL: The earth connection must be made using a UL-listed lug terminal. The cables must be rated 75°C stranded copper only. Wire conductor cross sections must comply with NEC requirements.
10. Any interruption of the protective earth ground conductor inside or outside the product, or disconnection of the protective earth ground terminal is likely to make the product dangerous under some conditions. Intentional interruption is prohibited. Whenever it is likely that protection has been impaired, the unit shall be made inoperative, and secured against accidental operation. The manufacturer's nearest service centre must be contacted for advice.
 - CE: Protective earth ground minimum size must be selected according to IEC 60364-5-54 table 54.2 or IEC61439-1 Table 5 or applicable national standards.
 - UL: The earth connection must be made using a UL-listed lug terminal. The cables must be rated 75°C stranded copper only. Wire conductor cross sections must comply with NEC requirements.
11. According to the CE and UL certifications, high speed fuses (supplemental fuses) are mandatory for compliant installation and protection of the EPower controller against short circuit. See paragraph 12.3 of user manual HA179769 for details.
12. The EPower's rated short-circuit conditional current is defined for co-ordination type 1. If opening of either the branch circuit protective or the supplemental (high speed) fuses occurs, the product shall be examined by suitably qualified personnel and replaced if damaged.
13. To achieve IP10 rating according to IEC60529, power connections must be made by using lug terminals of size as given in Line Load Termination details.
 - UL: Power connections connection must be made using UL-listed lug terminals.
14. The mains supply fuse within the Driver Module is not replaceable. If it is suspected that the fuse is faulty, the manufacturer's local service center should be contacted for advice.
15. The I/O Input & Output, the Communications ports are SELV circuit. They must be connected to SELV or PELV circuit.
16. The relays outputs are compliant to the SELV requirements; they can be connected to SELV, PELV circuit or to voltage up to 230V (maximum value of rated operational voltage to earth:300V).
17. Do not exceed the device's ratings.

Failure to follow these instructions will result in death or serious injury.

HAZARD OF FIRE

17. This product does not contain any branch-circuit protection or internal safety overload protection. The installer must add branch-circuit protection upstream of the unit, and provide external or remote safety overload protection to the end installation. Branch circuit shall be rated according to maximum current in each phase.
 - CE: branch-circuit protection must be selected according to IEC 60364-4-43 or applicable local regulations.
 - UL: branch-circuit protection must be selected according to NEC article 210.20, it is necessary for compliance with National Electric Code(NEC) requirements.
18. Power connections: The cables must be rated 90°C stranded copper only, the cross section must be selected according to the branch circuit protection rating.
 - CE: Wire conductor cross sections must comply with IEC 60364-5-52 or applicable national standards
 - UL: Wire conductor cross sections must comply with NEC Table 310.15(B)(16) (formerly Table 310.16) taking account of table 310.15(B)(2) for the ampacity correction factors or NFPA79 Table 12.5.1 taking account of Table 12.5.5(a) for the ampacity correction factors or applicable national standards.
19. Power terminals must be tightened according to the torque values defined in Table Line/Load Termination Details. Appropriate regular inspections must be performed. Periodicity depends on the local environment, but should not exceed 1 year.
20. The tightening torques for supplemental (high speed) fuses should be checked according to value defined in table 12.3. Ceramic fuse bodies should be checked for visible cracks. Appropriate regular inspections must be performed. Periodicity depends on the local environment, but should not exceed 1 year.
21. Neutral cross-sectional area when neutral is connected to the star point of the load (4S load type):
 - Without current limit activated, maximum neutral current is not upper than maximum current in each phase. The cross-sectional area of the neutral conductor, shall be sized to carry the maximum phase current.
 - With current limit activated, maximum neutral current may reach $\sqrt{3}$ x current limit setting. The cross-sectional area of the neutral conductor shall be sized to carry up to $\sqrt{3}$ x current limit setting.
 - CE: Wire conductor cross sections must comply with IEC 60364-5-52 or applicable national standards
 - UL: Wire conductor cross sections must comply with NEC Table 310.15(B)(16) (formerly Table 310.16) taking account of table 310.15(B)(2) for the ampacity correction factors or NFPA79 Table 12.5.1 taking account of Table 12.5.5(a) for the ampacity correction factors or applicable national standards.
22. The cables used to connect the remote voltage sensing inputs (if fitted) and the cable used to connect the reference input in 4S, 6D and two-leg configurations must be correctly protected by branch-circuit protection. It is the responsibility of the user to add branch-circuit protection. Such branch-circuit must comply with applicable local regulations.
 - UL: The above-mentioned branch-circuit protection is necessary for compliance with National Electric Code (NEC) requirements.
23. The cables used to connect the EPower auxiliary/fans supply must be correctly protected by 3A branch-circuit protection. (3A rating selected to protect AWG18 fan supply wiring). It is the responsibility of the installer to add branch-circuit protection. Such branch-circuit protection must comply with applicable local regulations.
 - UL: The Auxiliary (Fan) supply is installation category II. Supply to Auxiliary (Fan) supply shall be provided by isolated transformer secondary grounded protected by a listed 3A branch circuit fuse. The above-mentioned branch-circuit protection is necessary for compliance with National Electric Code (NEC) requirements.
24. EPower alarms protect thyristors and loads against abnormal operation, and provide the user with valuable information regarding the type of fault. Under no circumstances must these alarms be regarded as a replacement for proper personnel protection. It is strongly recommended that the installing authority include independent, system-safety mechanisms to protect both personnel and equipment against injury or damage, and that such safety mechanisms be regularly inspected and maintained. Consult the EPower supplier for advice.

Failure to follow these instructions will result in death or serious injury.

WARNING

HAZARD OF ELECTRICAL SHOCK, EXPLOSION OR ARC FLASH

1. The product shall have one of the following as a disconnecting device, fitted within easy reach of the operator, and labelled as the disconnecting device:
 - A switch or circuit breaker which complies with the requirements of IEC60947-1 and IEC60947-3.
 - A separable coupler which can be disconnected without the use of a tool.
2. In 4S, 6D and two-leg configurations do not use the reference terminal to replicate voltage signals (in a 'daisy chain'), as the PCB track between the two poles is not designed to withstand short-circuit.
 - Failure to follow these instructions can result in death, serious injury or equipment damage.
3. The product is designed to be mounted vertically. There must be no obstructions (above or below) which could reduce or hamper airflow. For more than one instance of the product is located in the same cabinet, they must be mounted in such a way that air from one unit is not drawn into another.
4. To reach the thermal performance the gap between two EPower must be at minimum 10mm.
5. The Driver Module power supply can work from any supply voltage between 85V ac and 265V ac. The fans (if fitted) on the power modules are specified for use at 115V ac or 230V ac, as defined at time of order. It must therefore be ensured that the fan voltage matches the supply voltage, or the fan will either fail within a short period, or it will be ineffective at cooling.
 - Failure to follow these instructions can result in death, serious injury or equipment damage.

UNINTENDED EQUIPMENT OPERATION

6. External feedback connections must be correctly phased (refer to Figure 2.2.2b in the User Guide) or the unit might switch to full conduction at start-up.
 - With external feedback: The current transformer should be chosen such that its full-scale output is 5 amps
 - Signal and power voltage wiring must be kept separate from one another. Where this is impractical, all wires must be rated to the power voltage & shielded cables are recommended for signal wiring.
8. This product has been designed for environment A (Industrial). Use of this product in environment B (domestic, commercial and light industrial) may cause unwanted electromagnetic disturbances in which cases the installer may be required to take adequate mitigation measures.
9. To ensure that EPower complies with Electromagnetic Compatibility requirements, ensure that the panel to which it is attached is correctly grounded. The ground connection, designed to ensure ground continuity, is not in any way a substitute for the protective earth ground connection.
 - Failure to follow these instructions can result in death, serious injury or equipment damage.

CAUTION

1. In burst mode and primary of transformer load, the star-star configuration is not recommended as it may become unstable, high speed fuse may blow.
2. Do not allow flammable or heat-sensitive parts in the immediate vicinity of hot surfaces.

NOTICE

1. In order to maintain protection against damage due to electrostatic discharge, any ribbon cable which is chafed, scratched or otherwise damaged must be replaced.
 - Failure to follow these instructions can result in equipment damage.

Eurotherm Limited
Faraday Close, Durrington,
Worthing, West Sussex,
BN13 3PL

T +44 (0)1903 268500
F +44 (0)1903 265982

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EPower Controller DVD Installation Instruction

Eurotherm®

by Schneider Electric

EPower™

Controller



DVD CONTENTS AND INSTALLATION

Product Documentation: the documentation on this DVD is in PDF format, which requires the use of Adobe® Acrobat® 4.0 or later to view it. The English language version of Adobe Acrobat 4.0 for Microsoft® Windows® NT may be installed from this DVD by following the instructions below. Adobe Acrobat for other platforms and languages may be downloaded from www.adobe.com.

DOCUMENTATION

Comms Manual reference HA179770 and EPower Controller User Guide reference HA179769

SOFTWARE

Tools with Wizards. The software licence On-Screen Licence Agreement Issue A (February 2001) is defined in license.doc (and license.txt). Read the terms and conditions set out in LICENCE.TXT carefully before using the software as by installing software supplied ON disks, or by using pre-installed software, you, the end user, are agreeing to become bound to us, Eurotherm Limited, by those terms

ELECTRICAL INSTALLATION

Drive Module Connectors

Beacons: Power Local Alarm
Pushbuttons: Return Scroll down Scroll up Enter

Configuration Port (EIA232)

SK1 Standard I/O

1	+10 Volts out
2	Analogue i/p 1 +
3	Analogue i/p 1 -
4	Analogue o/p 2 +
5	Analogue o/p 2 0V
6	Analogue o/p 1 +
7	Analogue o/p 1 0V
8	Digital i/o 1 +
9	Digital i/o 2 +
10	Digital i/o 0V

SK2 Predictive Load Management Option

1	Terminator A
2	Low
3	High
5	Terminator B

SK3 Optional I/O 1

1	+10 Volts out
2	Analogue i/p 3 +
3	Analogue i/p 3 -
4	Analogue o/p 2 +
5	Analogue o/p 2 0V
6	Digital i/p 3 +
7	Digital i/p 4 +
8	Digital 0V
9	Not used
10	Relay 2 NO (24)
11	Relay 2 Com (21)
12	Relay 2 NC (22)

SK4 Optional I/O 2

1	+10 Volts out
2	Analogue i/p 4 +
3	Analogue i/p 4 -
4	Analogue o/p 3 +
5	Analogue o/p 3 0V
6	Digital i/p 5 +
7	Digital i/p 6 +
8	Digital 0V
9	Not used
10	Relay 3 NO (34)
11	Relay 3 Com (31)
12	Relay 3 NC (32)

SK5 Optional I/O 3

1	+10 Volts out
2	Analogue i/p 5 +
3	Analogue i/p 5 -
4	Analogue o/p 4 +
5	Analogue o/p 4 0V
6	Digital i/p 7 +
7	Digital i/p 8 +
8	Digital 0V
9	Not used
10	Relay 4 NO (44)
11	Relay 4 Com (41)
12	Relay 4 NC (42)

SK6 Relay 1

SK7 Watchdog Relay

SK8 SK9 Remote display (isolated EIA485)

SK8 SK9 Supply output for power module fan(s)

SK8 SK9 Supply in N L N L E

External feedback connections

Load Current I1 I2

Load Voltage V1 V2

Neutral/phase reference (either pin)

Line/Load Termination Details

Max. load current	Stud diameter	Lug terminal size	Maximum Length (L)	Recommended torque setting
50A	M8	45mm	9 Nm (6.6 ft lb)	
100A	M8	45mm	9 Nm (6.6 ft lb)	
160A	M8	45mm	9 Nm (6.6 ft lb)	
250A	M10	60mm	15 Nm (11.1 ft lb)	
400A	M12	80mm	28.8 Nm (21.2 ft lb)	
500A	2 x M12	65mm	30 Nm (22.1 ft lb)	
630A	2 x M12	65mm	30 Nm (22.1 ft lb)	

Safety Earth Details

Max. load current	Earth Terminal Size	Tightening torque
50A	M6	5 Nm (3.7 ft lb)
100A	M6	5 Nm (3.7 ft lb)
160A	M6	5 Nm (3.7 ft lb)
250A	M8	12.5 Nm (9.2 ft lb)
400A	M10	15 Nm (11.1 ft lb)
500A	M12	25 Nm (18.4 ft lb)
630A	M12	25 Nm (18.4 ft lb)

Power Module Connectors

External Feedback Connector Pinout and Polarisng Details

Module 1	Module 2	Module 3	Module 4
Current feedback connector: I2	I1	I1 + I2	None
Voltage feedback connector: V1	V2	V1 + V2	None
Neutral/phase reference connector: V1	V2	V1 + V2	None

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COMMUNICATIONS

EtherNet/IP Connector Pinout

Pin	Function
1	Tx+
2	Tx-
3	Rx+
4	N/C
5	N/C
6	Rx-
7	N/C
8	N/C

Profinet IO Connector Pinout

Pin	Function
1	Tx+
2	Tx-
3	Rx+
4	N/C
5	N/C
6	Rx-
7	N/C
8	N/C

Modbus RTU Pinout

Pin	Signal (EIA485)
6	Reserved
7	Reserved
5	N/C
6	N/C
4	N/C
3	Isolated 0V
2	A
1	B

DeviceNet Connector Pinout

Pin	Function
1	V- (negative bus supply voltage)
2	CAN_L
3	Cable shield
4	CAN_H
5	V+ (positive bus supply voltage)

Profibus Connector Pinout

Pin	Function
9	N/C
8	A (Rx-/Tx-)
7	N/C
6	+5 V (1)
5	Isolated ground
4	RTS
3	B (Rx+/Tx+)
2	N/C
1	N/C

CC-Link Connector Pinout

Pin	Function
1	DA (Rx+/Tx+)
2	DB (Rx-/Tx-)
3	SLD (Cable Shield)
4	SLD and FG connected internally
5	FG (Protective Ground)

Modbus TCP (Ethernet 10baseT) Pinout

Pin	Function
8	N/C
7	N/C
6	Rx-
5	N/C
4	N/C
3	Rx+
2	Tx-
1	Tx+

Network Status LED

LED State	Description
Off	No power or no IP address
Green	Local in Process Active or idle state
Green, flashing	Waiting for connectors
Red	Duplicate IP address, or FATAL event
Red, flashing	Process Active Timeout

Module Status LED

LED State	Description
Off	No power
Green	Normal operation
Red	Minor fault: module is in state EXCEPTION or FATAL event
Red, flashing	Minor fault in diagnostic object IP conflict

LINK/Activity LEDs

LED State	Description
Off	No link, no activity
Green	Link established
Green, flashing	Activity

SPECIFICATION

General standards	EN60947-4-3:2014 Low-voltage switchgear and controlgear — Part 4-3: Contactors and motor-starters — AC semi-conductor controllers and contactors for non-motor loads (identical to IEC60947-4-3:2014) Declaration of conformity available on request.
CE	EN60947-4-3:2014
UL US LISTED	United States Standard UL508 17th Edition, Part VIII for versions rated up to 600V. Canadian National Standard C22.2 No. 14-10 for versions rated up to 600V. U.L. File N° E86160
ERC	GOST IEC60947-4-3: 2014 (identical to IEC 60947-4-3:1999 + AMD1:2006 + AMD2:2011) EAC Declaration of conformity for the Customs Union EurAsEC Other Russian approval: Pattern approval
Regulatory Compliance Mark (RCM)	Regulatory Compliance Mark (RCM) to Australian Communication and Media Authority Based on compliance to EN60947-4-3:2014

Installation categories	Installation category	Rated impulse voltage (Uimp)	Rated insulation voltage	Maximum value of rated operational voltage to ground
Communications	II	0.5kV	50V	50V
Standard/Optional I/O	II	0.5kV	50V	50V
Driver module powersupply & auxiliary (Fan) supply	II	2.5kV	230V	300V
Relays	III	4kV	230V	300V
Power modules (up to 600V)	III	6kV	600V	600V
Power modules (690V)	II	6kV	690V	690V

Power (at 40°C)	Driver module
Voltage range	100 to 240V ac (+10% - 15%)
Frequency range	47 to 63Hz
Power requirement	60W + Power Module fans (15W each for 400A/500A/630A power modules; 10W each for 160/250A modules)
Installation Category	Installation category II (category III for relays)
Power module	
Number of modules	up to four identical units per driver unit
Voltage range	100 to 600 V ac (+10% - 15%) (CE and UL units) or 100 to 690 V ac (+10% - 15%) (CE units only), as specified at time of order.
Frequency range	47 to 63Hz
Nominal current	16 to 630A depending on power module
Power dissipation	1.3W per Amp per phase
Rated short-circuit conditional current	CE: 92kA all modules except: 98kA for 500A modules; 105kA for 630A modules; 690 Volts Maximum; coordination type 1 UL: UL SCCR Rated: 100kA RMS symmetrical amperes, 600 Volts ac Maximum; coordination type 1
Cooling	

Up to and including 100A	Natural convection																																
Above 100A	Fan cooling. Fans are connected in parallel to driver module																																
Fan supply voltage	115 or 230V ac, as specified at time of order (+10% -15%)																																
Fan power requirement	10W for 160/250A modules; 15W for 400, 500 and 630A modules																																
Thyristor drive	RC circuits and high-speed fuses																																
Protection Fuse details (refer to danger notes)	<table border="1"> <tr> <th>Power unit rating</th> <th>Part number</th> <th>Terminal size</th> <th>Torque Nm (ft lb)</th> </tr> <tr> <td>50A</td> <td>CS179139U315</td> <td>M8</td> <td>12 (8.9)</td> </tr> <tr> <td>100A</td> <td>CS179139U315</td> <td>M8</td> <td>12 (8.9)</td> </tr> <tr> <td>160A</td> <td>CS179139U315</td> <td>M8</td> <td>12 (8.9)</td> </tr> <tr> <td>250A</td> <td>CS179139U350</td> <td>M8</td> <td>12 (8.9)</td> </tr> <tr> <td>400A</td> <td>CS179439U350</td> <td>M8</td> <td>15 (11.1)</td> </tr> <tr> <td>500A</td> <td>CS029859U900</td> <td>M10</td> <td>15 (11.1)</td> </tr> <tr> <td>630A</td> <td>CS029960U900</td> <td>M12</td> <td>15 (11.1)</td> </tr> </table>	Power unit rating	Part number	Terminal size	Torque Nm (ft lb)	50A	CS179139U315	M8	12 (8.9)	100A	CS179139U315	M8	12 (8.9)	160A	CS179139U315	M8	12 (8.9)	250A	CS179139U350	M8	12 (8.9)	400A	CS179439U350	M8	15 (11.1)	500A	CS029859U900	M10	15 (11.1)	630A	CS029960U900	M12	15 (11.1)
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630A	CS029960U900	M12	15 (11.1)																														
Pollution degree	Pollution degree 2 (EN60947-1)																																
Installation category																																	
Power network	Installation category III up to 600V; Installation category II up to 690V																																
Auxiliary (fan) supply	Installation category II assuming nominal phase voltage with respect to earth is <300V rms																																
Utilisation categories	AC51: non inductive or slightly inductive loads, resistance furnaces AC56a: switching of transformers																																
Overload conditions	AC51: 1 x 1e continuous																																
Rated Duties	Uninterrupted duty/continuous operation																																
Form designation	Form 4 (Semiconductor controller)																																
Load types	Single or multiphase control of resistive loads (low/high temperature coefficient and non-aging/aging types) and transformer primaries. Load voltage/current feedback either internal (standard) or external (option for use with transformer secondaries for example)																																

Physical	See Fixing Details																																								
Dimensions and fixing centres																																									
Weight (including 2kg for driver module)	<table border="1"> <tr> <th>Current</th> <th>1 phase</th> <th>2 phases</th> <th>3 phase</th> <th>4 phases</th> </tr> <tr> <td>50A</td> <td>6.5 (14.3)</td> <td>11.0 (24.3)</td> <td>15.5 (34.2)</td> <td>20.0 (44.1)</td> </tr> <tr> <td>100A</td> <td>6.5 (14.3)</td> <td>11.0 (24.3)</td> <td>15.5 (34.2)</td> <td>20.0 (44.1)</td> </tr> <tr> <td>160A</td> <td>6.9 (15.2)</td> <td>11.8 (26.0)</td> <td>16.7 (36.8)</td> <td>21.6 (47.6)</td> </tr> <tr> <td>250A</td> <td>7.8 (17.2)</td> <td>13.6 (30.0)</td> <td>19.4 (42.8)</td> <td>25.2 (55.6)</td> </tr> <tr> <td>400A</td> <td>11.8 (26.0)</td> <td>21.6 (47.6)</td> <td>31.4 (69.2)</td> <td>41.2 (90.8)</td> </tr> <tr> <td>500A</td> <td>14.0 (30.9)</td> <td>26.0 (57.3)</td> <td>38.0 (83.8)</td> <td>50.0 (110.2)</td> </tr> <tr> <td>630A</td> <td>14.5 (32.0)</td> <td>39.5 (87.1)</td> <td>39.5 (87.1)</td> <td>52.0 (114.6)</td> </tr> </table>	Current	1 phase	2 phases	3 phase	4 phases	50A	6.5 (14.3)	11.0 (24.3)	15.5 (34.2)	20.0 (44.1)	100A	6.5 (14.3)	11.0 (24.3)	15.5 (34.2)	20.0 (44.1)	160A	6.9 (15.2)	11.8 (26.0)	16.7 (36.8)	21.6 (47.6)	250A	7.8 (17.2)	13.6 (30.0)	19.4 (42.8)	25.2 (55.6)	400A	11.8 (26.0)	21.6 (47.6)	31.4 (69.2)	41.2 (90.8)	500A	14.0 (30.9)	26.0 (57.3)	38.0 (83.8)	50.0 (110.2)	630A	14.5 (32.0)	39.5 (87.1)	39.5 (87.1)	52.0 (114.6)
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Weights ± 50gm (2oz)																																									

Environment	
Temperature limits	
Operating	0°C to 40°C maximum at 1000m 0°C to 35°C maximum at 2000m refer to derating curve for upper temperature
Storage	-25°C to 70°C

Atmosphere	Non-explosive, non-corrosive and non-conductive
Humidity limits	5% to 95% RH (non-condensing)
Altitude (maximum)	1000m maximum at 40 °C; 2000 m maximum at 35°C refer to derating curve for upper temperature
Shock (EN60068-2-29)	10g Pk; 6ms duration; 100 bumps
Vibration (EN60068-2-6)	67-150Hz at 1g
Protection	CE: IP10 (according to EN60529) U.L.: Open type
External wiring	The cables must be rated 90°C stranded copper only CE: Must comply with IEC60364-5-52 and IEC60364-5-54 or applicable national standards UL: Wiring must comply with NEC and all applicable local regulations. Connection must be made by using listed lugs

EMC	
This product has been designed for environment A (Industrial). use of this product in environment B (domestic, commercial and light industrial) may cause unwanted electromagnetic disturbances in which cases the user may be required to take adequate mitigation measures	
Standard	EN60947-4-3:2014

SYMBOLS USED ON THE INSTRUMENT LABELLING

One or more of the symbols below may appear as a part of the instrument labelling.

	Protective conductor terminal		Risk of electric shock
	AC supply only		Precautions against static electrical discharge must be taken when handling this unit
	Underwriters Laboratories listed mark for Canada and the US		Refer to the manual for instructions
	Do not touch Heatsink Hot Surface		Declaration of conformity to European standard
	EAC Certificate for the Customs Union EAC		Regulatory Compliance Mark (RCM) to Australian Communication & Media Authority

FIXING DETAILS 50Amps/100Amps/160Amps/250Amps/400Amps/500Amps/630Amps
(dimensions mm (inches))

Bracket	Upper	Lower
2-phases	Use A & B	Use E & F
3-phases	Use A, B & C	Use E, F & G
4-phases	Use A, B, C & D	Use E, F, & H

