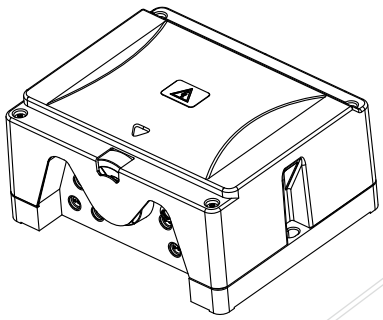
Aswich

THE Aswich DOMESTIC FIREFIGHTER SAFETY SWITCH

FOR PHOTOVOLTAIC INSTALLATIONS

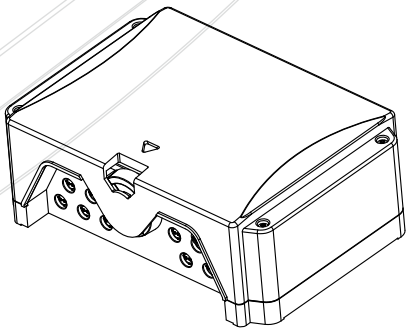
INSTALLATION MANUAL

CONTENT



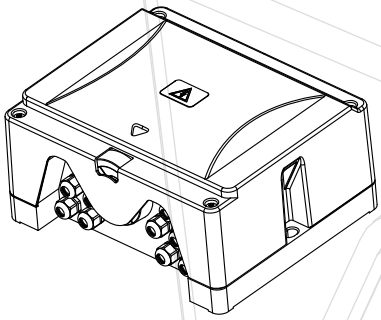
ERS-2/ERS-4

- Motor driven DC-disconnect switch in enclosure
- Installation manual
- ERS-2 weight: 1.17KG
- ERS-4 weight: 1.20KG
- Dimensions: 22×20×10.5cm



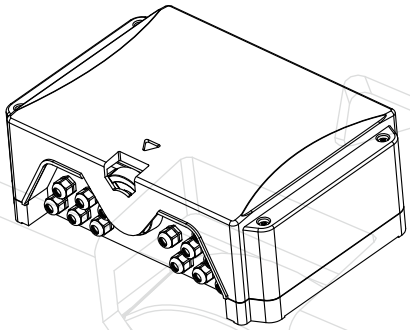
ERS-6/ERS-8

- Motor driven DC-disconnect switch in enclosure
- Installation manual
- ERS-6 weight: 1.52KG
- ERS-8 weight: 1.58KG
- Dimensions: 29.5×22.5×10.5cm



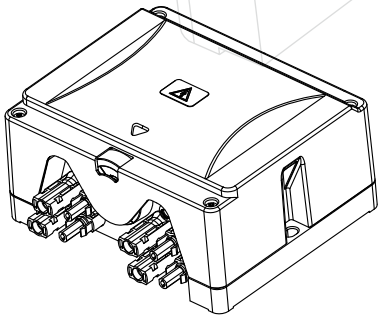
ERS-2-W/ERS-4-W

- Motor driven DC disconnect switch in enclosure
- Installation manual
- 5 x M12 glands / 9 x M12 glands
- ERS-2-W weight: 1.19KG
- ERS-4-W weight: 1.23KG
- Dimensions: 22×20×10.5cm



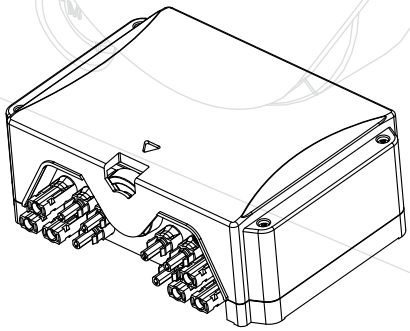
ERS-6-W/ERS-8-W

- Motor driven DC disconnect switch in enclosure
- Installation manual
- 13 x M12 glands / 17 x M12 glands
- ERS-6-W weight: 1.58KG
- ERS-8-W weight: 1.65KG
- Dimensions: 29.5×22.5×10.5cm



ERS-2-MC4/ERS-4-MC4

- Motor driven DC disconnect switch in enclosure
- Installation manual
- Pre-wired on MC4 connectors
- 1 x M12 gland / 1 x M12 gland
- ERS-2-MC4 weight: 1.30KG
- ERS-4-MC4 weight: 1.39KG
- Dimensions: 22×20×10.5cm



ERS-6-MC4/ERS-8-MC4

- Motor driven DC disconnect switch in enclosure
- Installation manual
- Pre-wired on MC4 connectors
- 1 x M12 gland
- ERS-6-MC4 weight: 1.88KG
- ERS-8-MC4 weight: 2.06KG
- Dimensions: 29.5×22.5×10.5cm

GENERAL NOTICE AND SAFETY INSTRUCTIONS

General notice
• Changes or modifications not explained/approved in this manual voids your authority to operate this equipment.
• Aswich shall not be held responsible for any damage caused due to incorrect installation of the product and/or the misunderstanding of this manual.
• Aswich reserves the right to make any modification to this manual or the information contained herein at any time without notice.
• No design data such as sample pictures provided in this manual may be modified or duplicated except for the purpose of personal use.
• Check the system regularly (once per 3 months) on faults.

Important safety precautions
Attention! Components in the installations are exposed to high voltages and currents. Follow these instructions carefully in order to reduce the risk of fire or electric shock.

The following regulations and standards are considered applicable and mandatory to read prior to the installation of electrical equipment:
• International Standards: IEC 60364-7-712 Electrical installations of buildings – Requirements for special installations or locations – Solar Photovoltaic (PV) power supply systems
• MIS3002: Microgeneration Installation Standard - requirements for contractors undertaking the supply, design, installation, set to work commissioning and handover of solar photovoltaic (PV) microgeneration systems
• Local building regulations
• Guidelines for lightning and overvoltage protection

Note!
• It is essential to uphold the limits for voltage and current in all possible operating conditions (see page 6; 'Technical Data'). Also keep in mind the literature on correct dimensioning and sizing of cabling and components.
• The installation of these devices may only be performed by certified technical personnel.
• The wiring schematics of the Domestic Firefighter safety Switch can be founde at the end of this manual.
• All the installation works should be tested in accordance with relevant local legislation at the time of installation.

Intended use of the Domestic Firefighter safety Switch
The Domestic Firefighter safety Switch (ERS) has been especially developed as a safety device for direct current (DC) photovoltaic installations. The DC disconnect switch is used to disconnect the connected strings of the installation in case of an emergency situation. Such an emergency situation could be in case of fire.

Location of the Domestic Firefighter Safety Switch
The ERS needs to be placed as close to the solar panels as possible. Due to its enclosure, the switch is protected against external influences like dust and moisture. The whole set-up is conforms to IP65 which makes it suitable for outdoor usage when needed.
NOTE: The switch enclosure may not be installed in direct sunlight or be in direct contact with (continuous) ingress water.

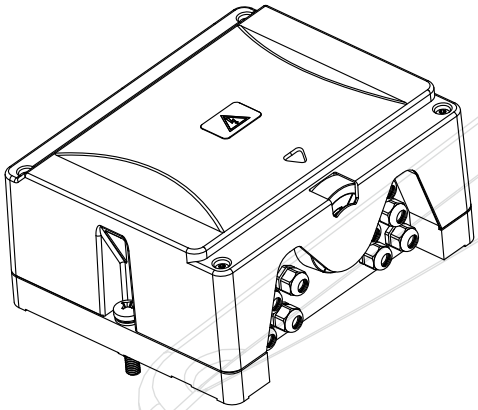
Normal operation:
The ERS will automatically switch to the off position, breaking the DC connection between the solar panels and the inverter, after the AC power to the ERS is interrupted in five seconds. The ERS will automatically switch to the on position, restoring the DC connection between the solar panels and the inverter, once the AC power to the ERS is restored longer than five seconds.

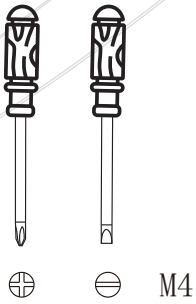
Special Operation:

When the installation is checked and the ERS is not affected, the ERS can be switched ON again by removal and re-applying the AC voltage to the ERS. The ERS will also automatically switch to OFF if there is an internal failure. If this occurs please try to reset the ERS by removal and re-applying the AC voltage to the ERS.

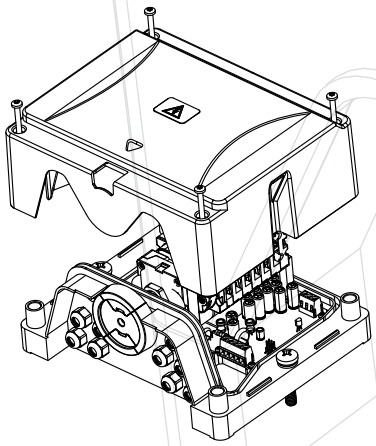
INSTALLATION

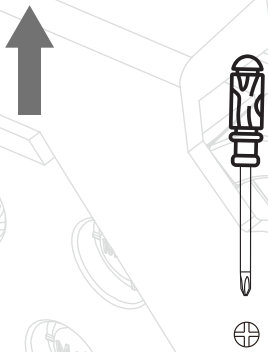
0 Installation Requirements



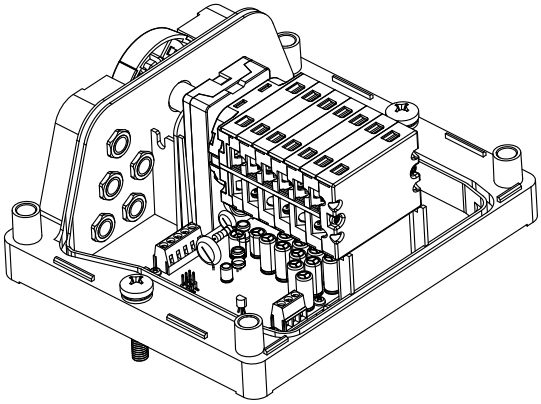


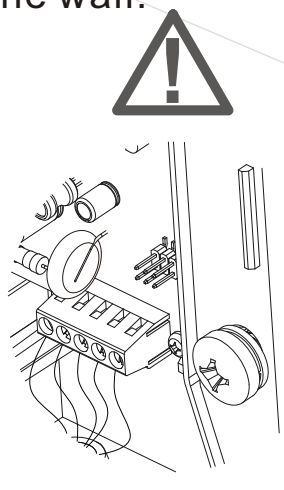
1 Remove the lid from the enclosure.





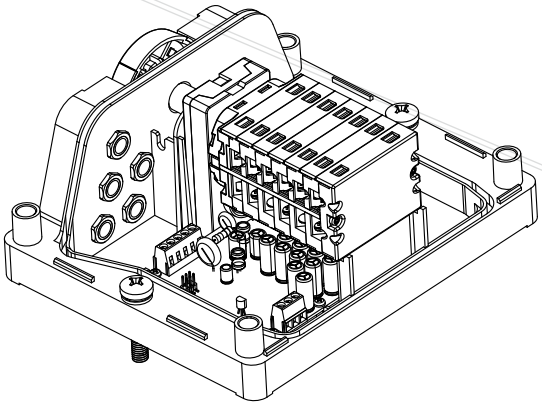
2 Mount the switch enclosure on the wall.

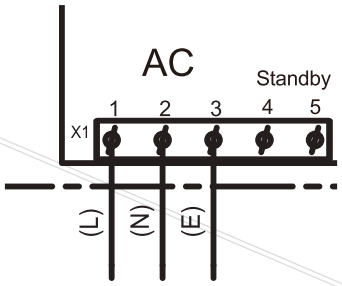




INSTALLATION

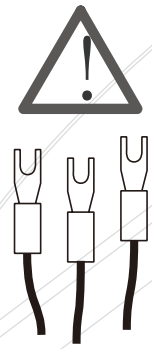
3 Wire the power connection to the terminals.



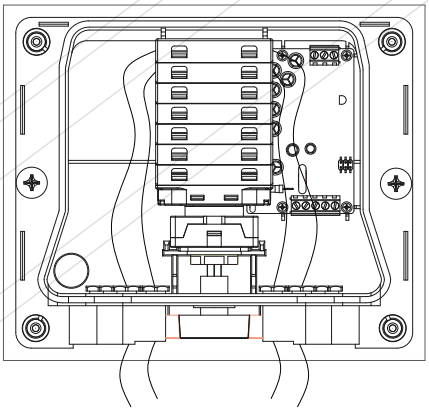


MAX. 0.75mm²

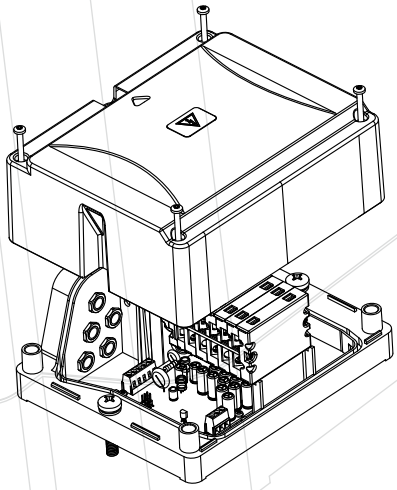
4 Wire the string cables to the switch.



MAX. 1.7Nm



5 Close the switch enclosure.



M4(4x) - Max. 1.7Nm

SPECIFICATIONS (IEC)

Technical Data

Data according to IEC/EN60947-3:2009+A1+A2, AS60947.3, UL508I, GB/T14048.3. Utilization category DC-PV1/DC-PV2.

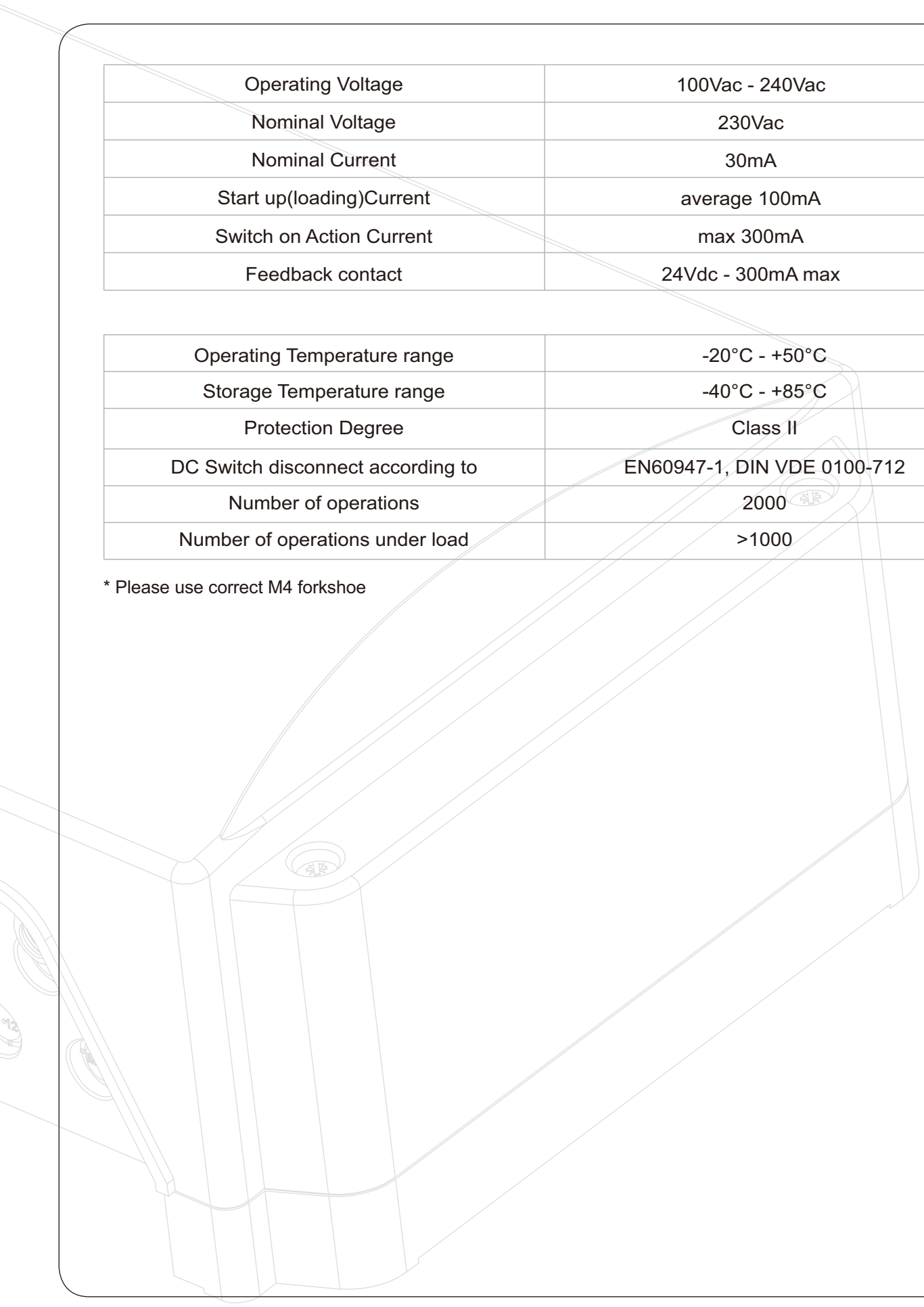
层 数	电压/电流（DC-PV1）				
	600Vdc	800Vdc	1000Vdc	1200Vdc	1500Vdc
2/3/4/6/8/10	32	26	13	10	5
	40	30	20	12	6
	55	45	25	15	8
	/	50	40	30	20
	/	55	50	40	30
4T/B/S	/	/	32	26	13
	/	/	40	30	20
	/	/	55	40	30
	/	/	/	/	45
	/	/	/	/	50
3T/6T/9T	/	/	32	23	10
	/	/	40	30	13
	/	/	55	40	20
	/	/	/	45	30
	/	/	/	50	40

SPECIFICATIONS (IEC)

Operating Voltage	100Vac - 240Vac
Nominal Voltage	230Vac
Nominal Current	30mA
Start up(loading)Current	average 100mA
Switch on Action Current	max 300mA
Feedback contact	24Vdc - 300mA max

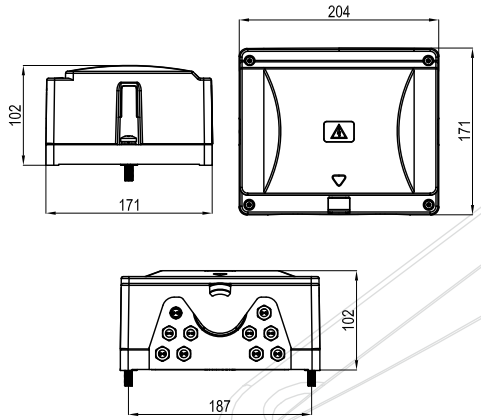
Operating Temperature range	-20°C - +50°C
Storage Temperature range	-40°C - +85°C
Protection Degree	Class II
DC Switch disconnect according to	EN60947-1, DIN VDE 0100-712
Number of operations	2000
Number of operations under load	>1000

* Please use correct M4 forkshoe

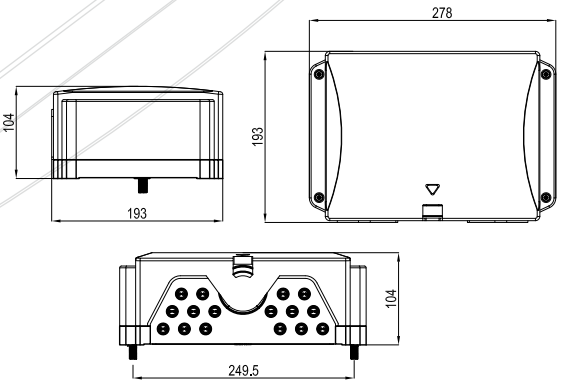


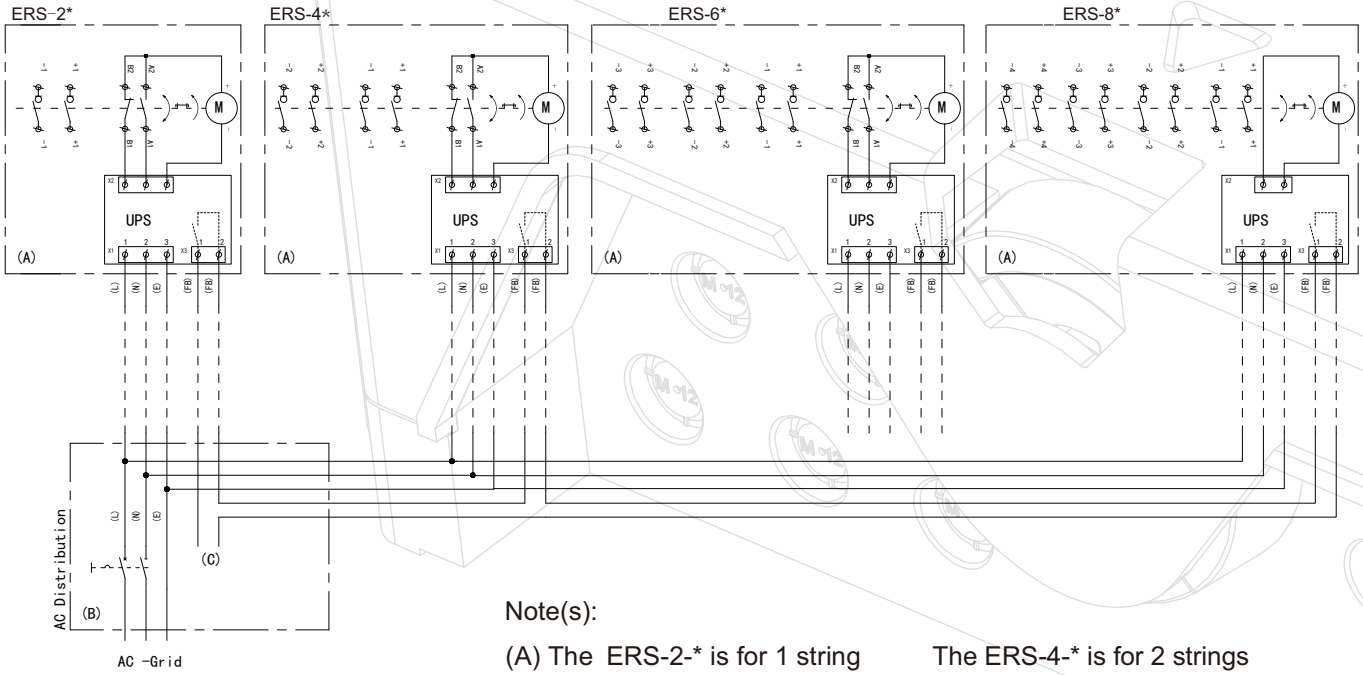
WIRING

ERS-4



ERS-6





Note(s):

(A) The ERS-2-* is for 1 string The ERS-4-* is for 2 strings
The ERS-6-* is for 3 string The ERS-8-* is for 4 string

(B) The AC distribution panel/power box can be fitted with a switch off device.
The switch off device is not included with the ERS.

(C) The ERS is equipped with a NO contact which can be connected in series with all ERS's in an installation to create a feedback loop for signaling purposes.