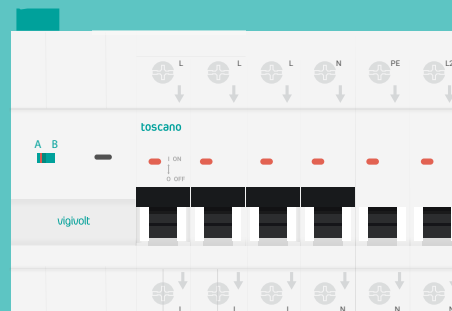
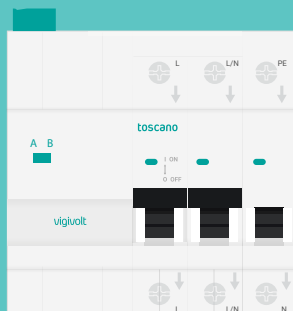


COMBI-PRO-MAX-2.1

Automatic control and protection for photovoltaic applications with backup



Cod. 50023359. Ed.1.26



¡WARNING!

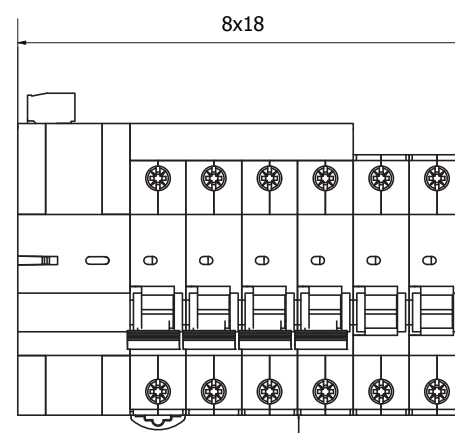
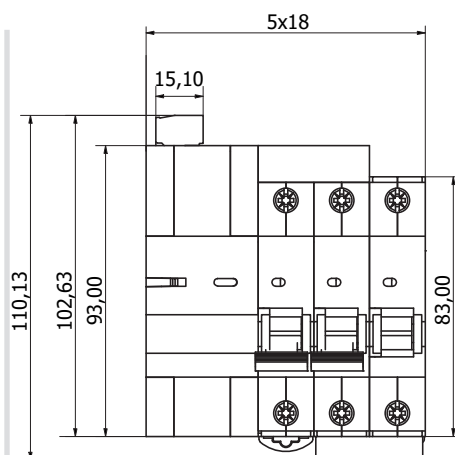
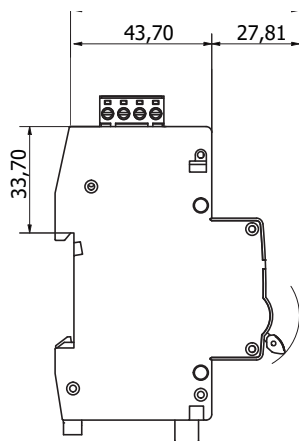
- The installation, maintenance and eventual replacement of this device must only be carried out by a qualified electrician.
- This device must not be repaired.
- All applicable local, regional and national regulations must be complied with during the installation, use, maintenance and replacement of this device.
- This device should not be installed if, when unpacking it, you observe that it is damaged.
- Toscano cannot be held responsible in the event of non-compliance with the instructions in this document and in the documents to which it refers.
- The service instruction must be observed throughout the product life time of this device.



HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

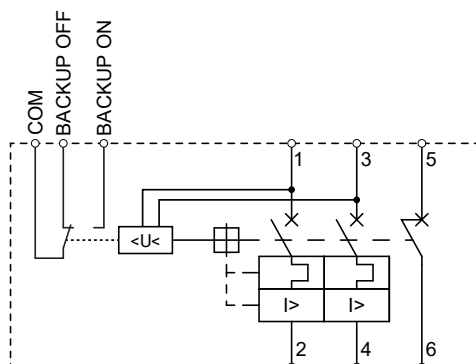
- Turn off all power supplying this device before working on it.
- Use a voltage tester with a suitable rated voltage in order to check that all active conductors aren't energized.
- Failure to follow these instructions will result in death or serious injury.

Dimensiones

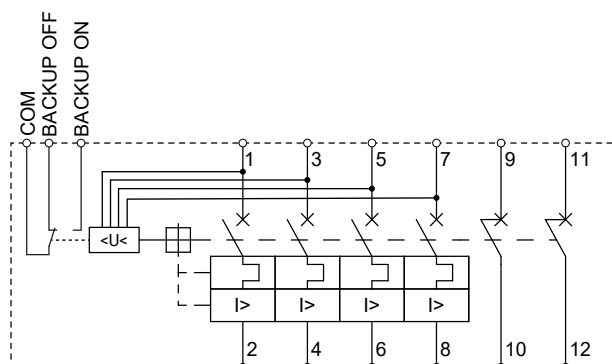


Electrical diagrams

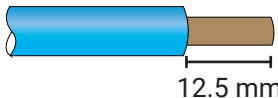
COMBI-PRO-MAX-2.1-2P



COMBI-PRO-MAX-2.1-4P



Power wiring

POWER	 PZ2	L1/L2/L3/N	PE
	2.5 Nm	 12.5 mm	 12.5 mm
CONTROL	 SL2.5	COMMON/BACKUP ON/BACKUP OFF/X	
	0.25 Nm	 6 mm	

Technical specifications

	COMBI-PRO-MAX-2.1-2P	COMBI-PRO-MAX-2.1-4P
GENERALS	Nominal Operational Voltage	240 VAC (L/N)/(L/L)
	Supply frequency	50-60 Hz
	Maximum power consumption	5 W
	Nominal power consumption	1,5 W
	Maximum terminal cross-section	25 mm ² (power) / 2,5 mm ² (control)
	Environmental limits	-25° +55° C / 80% H.R.
	N° of DIN modules	5 8
BACKUP	Response time	2 s
	Reconnection time	180 s
	Contact	12 VAC/VDC 0,1 A
PERM.	Disconnection voltage	
	Disconnection time	according to UNE-EN IEC-63052
	Reconnection voltage	<255 V ±2 %
	Reconnection time	200 s ±5 %
UNDERVOLT.	Disconnection voltage	<170 V ±2 %
	Disconnection time	10 s ±5 %
	Reconnection voltage	>200 V ±2 %
	Reconnection time	200 s ±5 %
MCB	Rated current	16, 20, 25, 32, 40, 50, 63 A (according to model)
	Tripping curve code	C
	Breaking Capacity (I _{cn})	6 kA
MECHANICAL	Protection degree	IP20
	Polution degree	2
	Power terminal torque	2,5 Nm
	Mounting	Rail DIN 35 mm
	Net weight	0,45 Kg 0,7 Kg
	Gross weight	0,5 kg 0,8 kg
	Dimensions	90 (h) x 90 (w) x 70 (d) mm 90 (h) x 140 (w) x 70 (d) mm
STANDARDS	POP	UNE-EN IEC 63052
	MCB	UNE-EN IEC 60898
	ARD	UNE-EN IEC 63024

Operation

Backup:

In the event of a mains voltage loss ($V < 100 \text{ VAC}$) or permanent overvoltage ($V > 275 \text{ VAC}$), COMBI-PRO-MAX isolates the electrical installation from the grid, connects N and PE, and activates the inverter's backup mode. The operating time is 2 seconds, although the inverter may take longer to activate. COMBI-PRO-MAX allows manual reconnection to the grid by deactivating the backup mode.

If the mains voltage is restored to normal values ($200 \text{ VAC} \leq V \leq 265 \text{ VAC}$), after 3 minutes, COMBI-PRO-MAX deactivates the backup mode of the inverter, disconnects N and PE, and reconnects the installation to the electrical grid.



Overvoltage and undervoltage:

When the mains voltage exceeds or drops below the values established in the UNE-EN IEC 63052 standard, COMBI-PRO-MAX protects the electrical installation by isolating it from the grid. The operating time depends on the detected voltage level, in accordance with this standard.

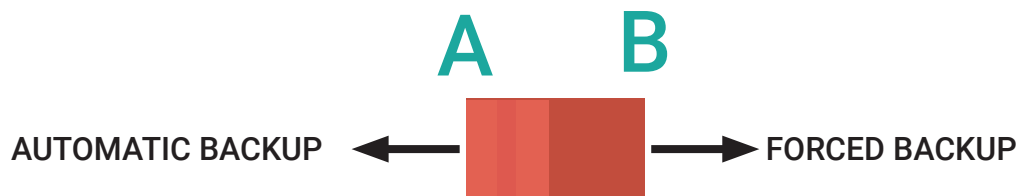
Disconnection time according UNE-EN IEC 63052		
U	Tmin	Tmax
275 VAC	3 s	15 s
300 AC	1 s	5 s
350 VAC	0.25 s	0.75 s
400 VAC	0.07 s	0.20 s

If the voltage is restored to normal values ($200 \text{ VAC} \leq V \leq 265 \text{ VAC}$), COMBI-PRO-MAX will reconnect the installation to the grid.

Test:

COMBI-PRO-MAX is equipped with a switch that allows the installation to be set to forced backup mode. This way, the installation can be tested, maintained, or any other work or inspection can be carried out.

To activate manual backup mode, move the mode switch to position B. This will activate backup mode. In this mode, COMBI-PRO-MAX does not allow manual reset. To deactivate forced backup mode, move the switch to position A. COMBI-PRO-MAX will enter normal operating mode.



Status indicator:

The device is also equipped with an LED light that indicates the status of the input voltage and the island mode:

- Green: voltage within normal, island mode deactivated.
- Green flashing: Timing for automatic switch-on.
- Red flashing fast: Overvoltage, goes low on MCB and island mode is activated.
- Slow flashing red: Undervoltage, goes low on MCB and island mode is activated.
- Red: MCB is down due to overcurrent, short circuit or manually. Island mode disabled.
- Off: Loss of power supply. Island mode activated.

Models

COMBI-PRO-MAX-2.1-2P

Code	Reference
10006161	COMBI-PRO-MAX-2.1-2P16
10006162	COMBI-PRO-MAX-2.1-2P20
10006163	COMBI-PRO-MAX-2.1-2P25
10006164	COMBI-PRO-MAX-2.1-2P32
10006165	COMBI-PRO-MAX-2.1-2P40
10006166	COMBI-PRO-MAX-2.1-2P50
10006167	COMBI-PRO-MAX-2.1-2P63

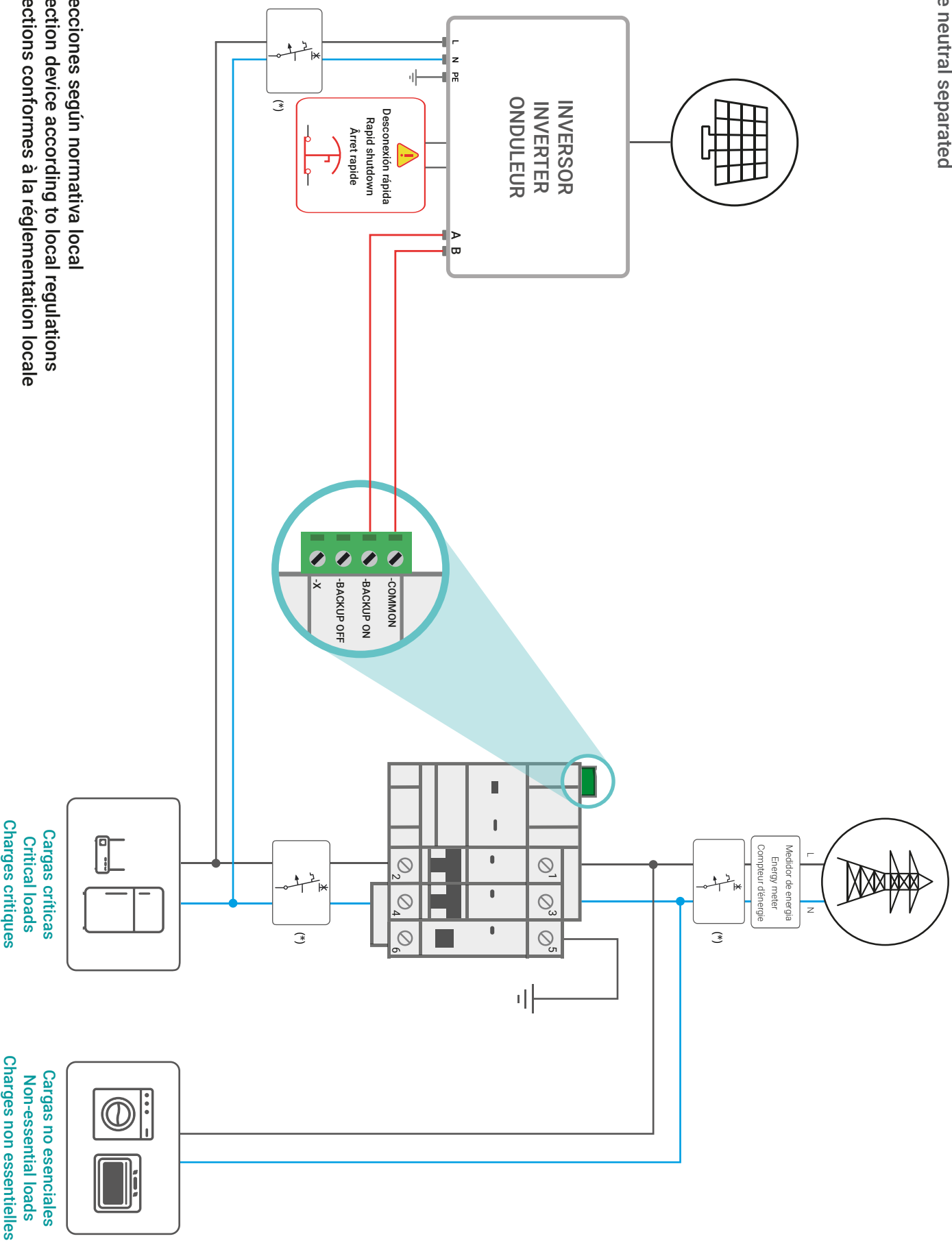
COMBI-PRO-MAX-2.1-4P

Code	Reference
10006168	COMBI-PRO-MAX-2.1-4P16
10006169	COMBI-PRO-MAX-2.1-4P20
10006170	COMBI-PRO-MAX-2.1-4P25
10006171	COMBI-PRO-MAX-2.1-4P32
10006172	COMBI-PRO-MAX-2.1-4P40
10006173	COMBI-PRO-MAX-2.1-4P50
10006174	COMBI-PRO-MAX-2.1-4P63

Compatible inverters

COMBI-PRO-MAX-2.1 2P	COMI-PRO-MAX-2.1 4P
Huawei SUN2000-(2KTL-6KTL)-L1	Huawei SUN2000-3KTL-12KTL)-M1
Huawei SUN2000-(8K-10K)-LC0	Kostal Plenticore G3

Single-phase neutral separated

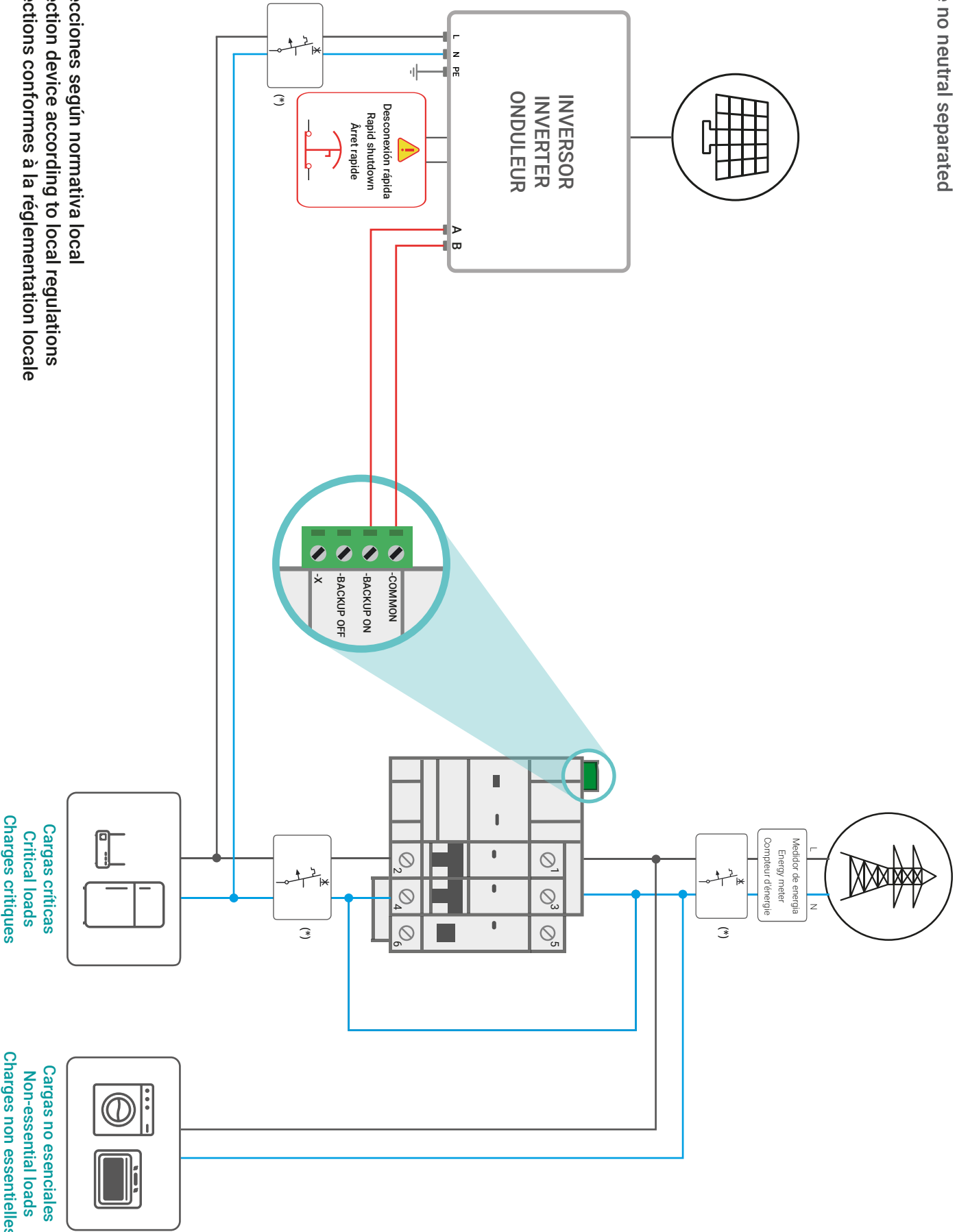


(*) Protecciones según normativa local

(*) Protection device according to local regulations

(*) Protections conformes à la réglementation locale

Single-phase no neutral separated

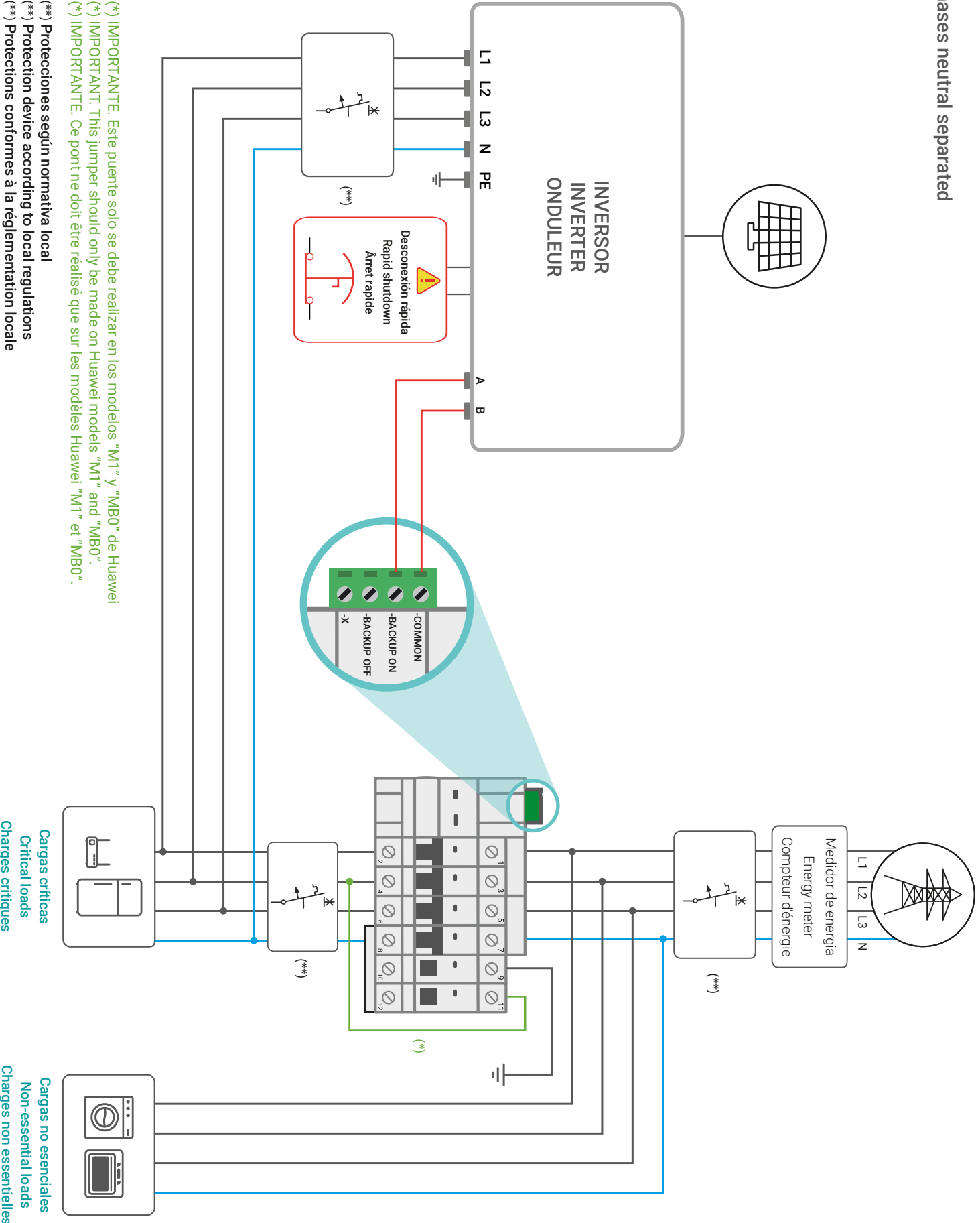


(*) Protecciones según normativa local

(*) Protection device according to local regulations

(*) Protections conformes à la réglementation locale

Three phases neutral separated



Three phases no neutral separated

