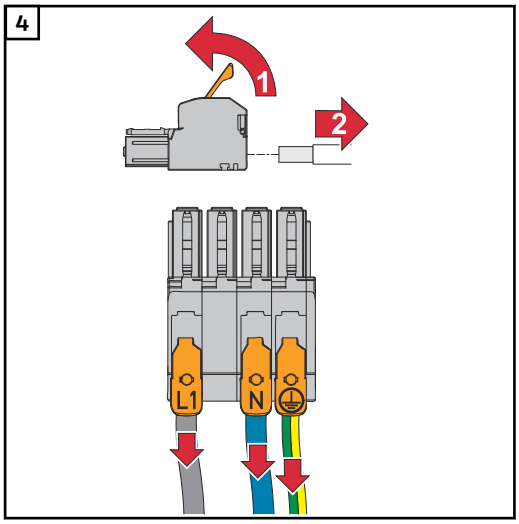
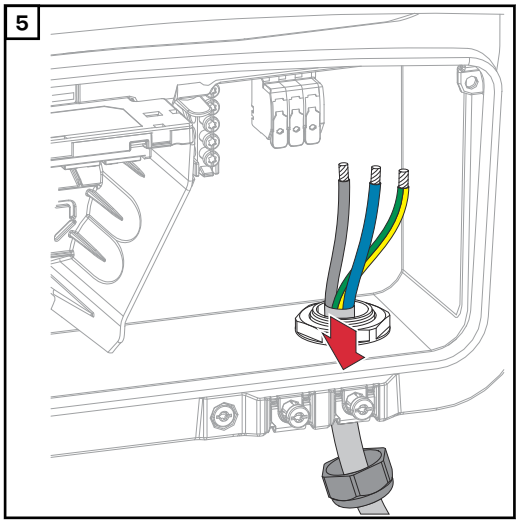
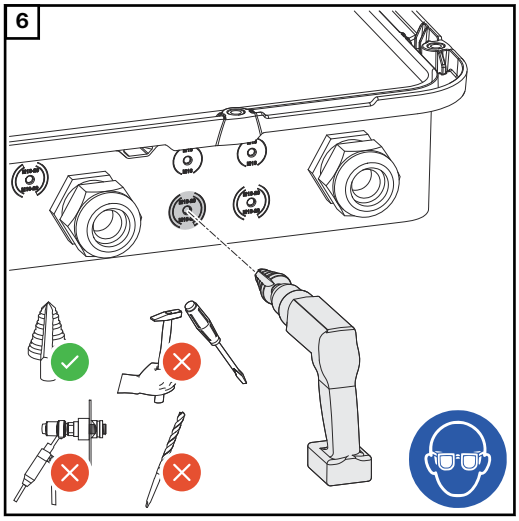


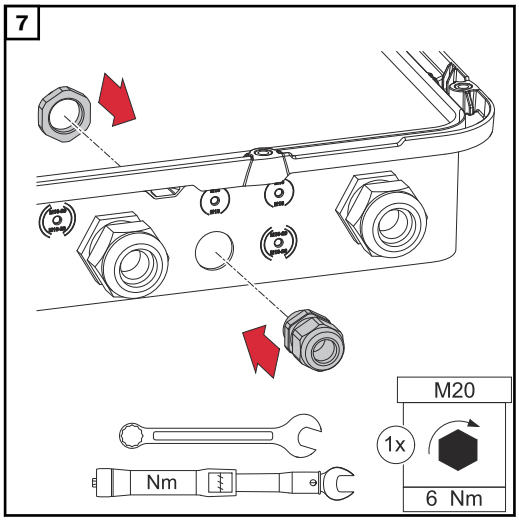
Disconnect the individual conductors from the AC terminal (only necessary if the installation already exists).



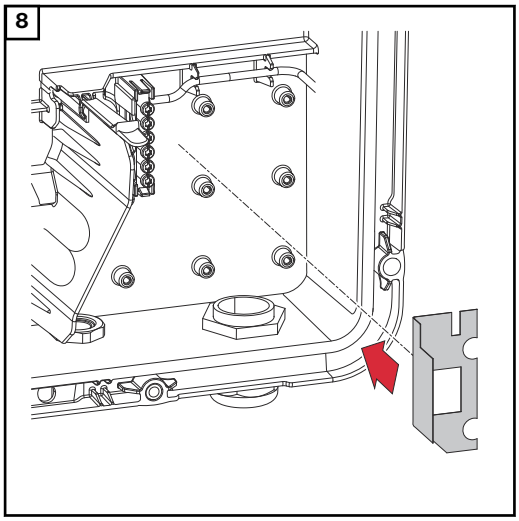
Remove the mains cable from the inverter.



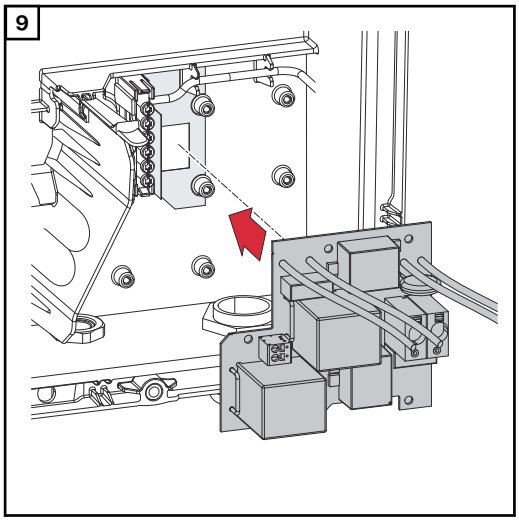
Drill out the optional cable guide with a step drill.



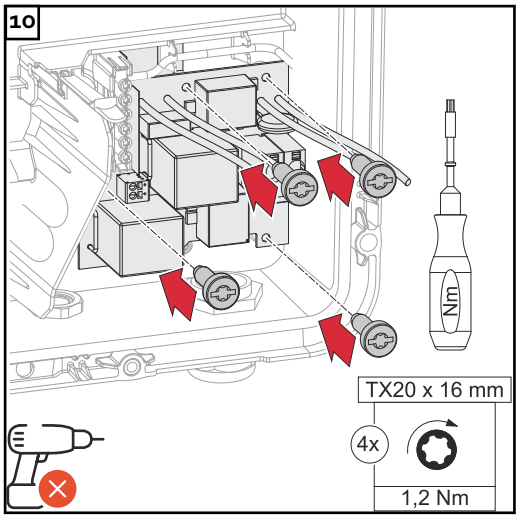
Insert the cable gland into the hole and tighten to a torque of 6 Nm.



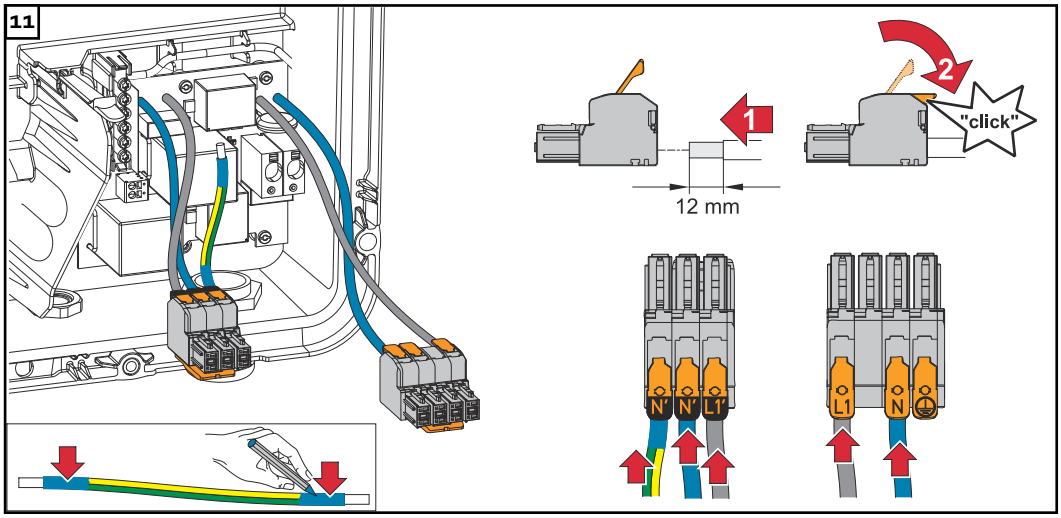
Insert the insulating film on the right side of the ground electrode terminal.



Insert the PC board into the inverter.

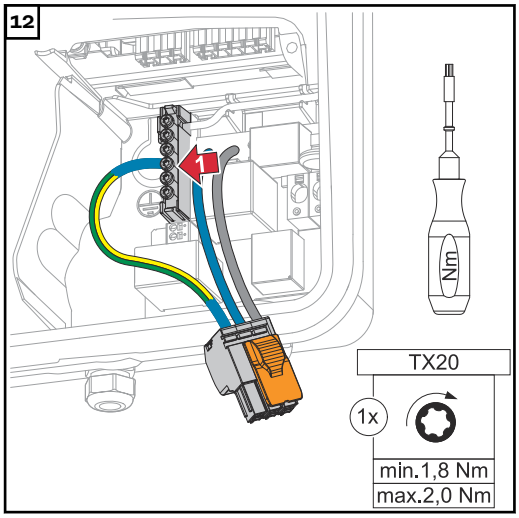


Fasten the PC board with the 4 screws (TX20) supplied and tighten to a torque of 1.2 Nm.



Strip the insulation of the single conductors by 12 mm. Lift to open the AC terminal's operating lever and insert the stripped single conductor into the slot provided, all the way up to the stop. Then close the operating lever until it engages.

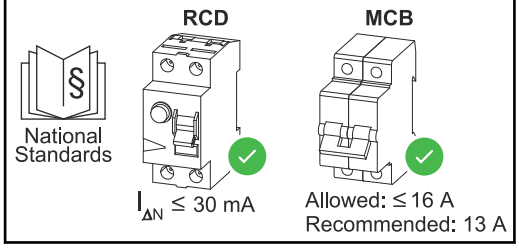
IMPORTANT!
The PEN conductor must be produced with ends that are permanently marked blue, according to the national provisions, and have a cross section of 10 mm².



Fasten the PEN conductor to the third input of the ground electrode terminal from below using a screwdriver (TX20) and a torque of 1.8 – 2 Nm.

13

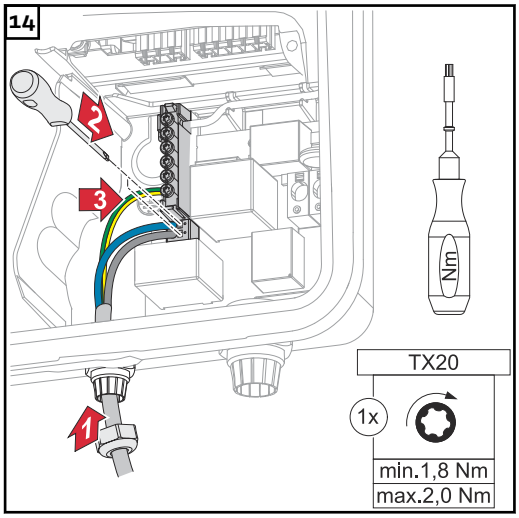
Inverter		Ø	
Primo GEN24 3 - 6 kW	Cu	2,5 - 10 mm²	12 mm
Primo GEN24 8 - 10 kW	Cu	2,5 - 16 mm²	19 mm
PV Point		Ø	
	Cu	1,5 - 2,5 mm²	12 mm



Strip the single conductors according to the specifications based on the power category of the inverter.
The cable cross-section must be selected according to the specifications for the respective power category of the inverter (see chapter **Permissible cables for the electrical connection** on page **67**).

IMPORTANT!
If necessary, an automatic circuit breaker with max. 16 A can also be used for protection. In backup power operation, a maximum of 13 A can be provided.
The residual current circuit breaker and automatic circuit breaker must be designed according to the national provisions

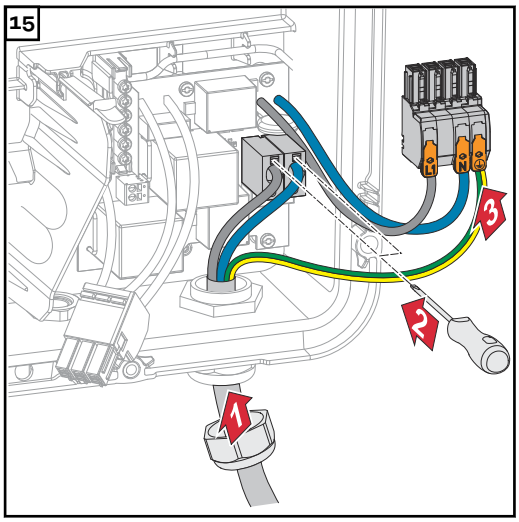
14



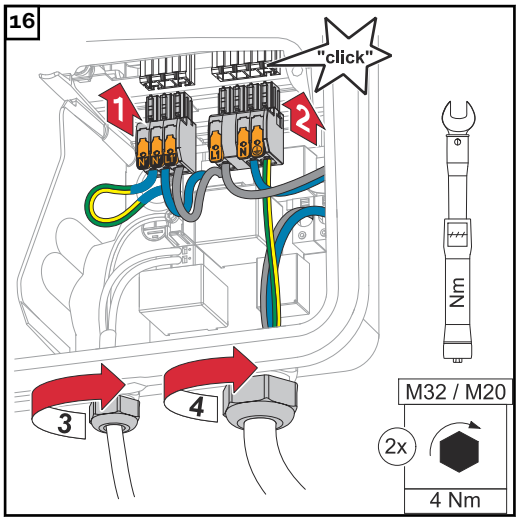
Connect the phase/neutral conductors to the terminals provided. Fasten the ground conductor at the first input to the ground electrode terminal using a screwdriver (TX20) and a torque of 1.8 – 2 Nm.

IMPORTANT!
The ground conductor must be connected with a movement loop so that if the cable gland fails, the ground conductor is disconnected last.

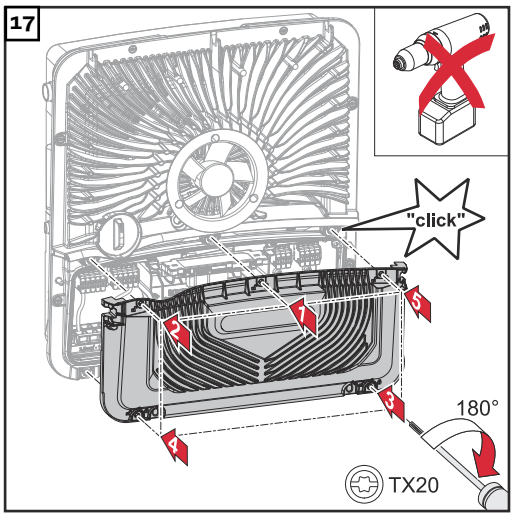
15



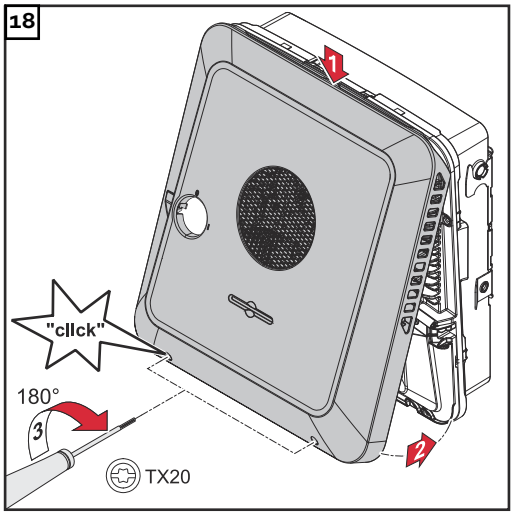
Connect the stripped phase/neutral conductors to the terminals provided.



Insert the terminals into the respective slot until they engage. Fasten the union nut of the cable gland to a torque of 4 Nm.

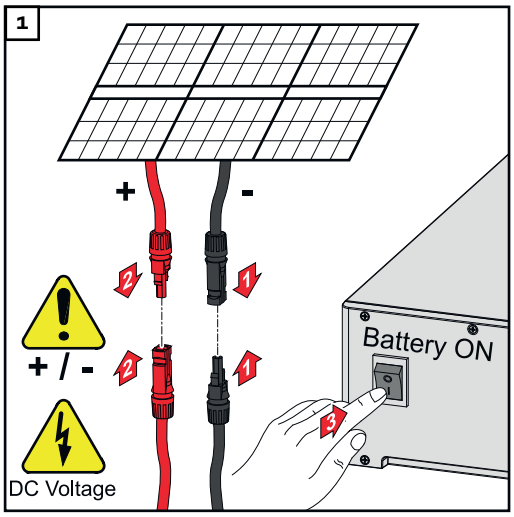


Place the cover on the connection area. Tighten the 5 screws by rotating them 180° to the right in the indicated order using a screwdriver (TX20).

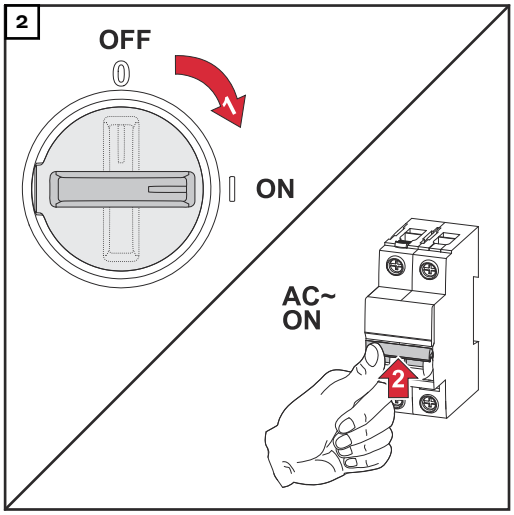


Clip the housing cover onto the inverter from above.
Press on the lower part of the housing cover and tighten the 2 screws by rotating them 180° to the right using a screwdriver (TX20).

Commissioning the inverter



Connect the solar module strings (+/-). Switch on the battery connected to the inverter.



Set the DC disconnector to the "On" switch position. Switch on the automatic circuit breaker.

Configuring PV Point Comfort

Firmware version 1.25.2 or higher is required to commission the PV Point Comfort. Outdated firmware versions could lead to incompatibilities between the inverter and PV Point Comfort. In this case, the inverter firmware should be updated in accordance with the instructions in **Update** on page **120**.

1. Access the user interface of the inverter.
   - Open your web browser.
   - In the address bar of the browser, enter the IP address (IP address for WLAN: 192.168.250.181, IP address for LAN: 169.254.0.180) or the host and domain name of the inverter and confirm.
   - The user interface of the inverter is displayed.
2. Click the **"Device configuration"** button.
3. Log in to the login area with the **"Technician"** user and the technician password.
4. Open the **"Functions and I/Os"** menu.
5. Enable **"Backup power"** mode.
6. Select **"PV Point"** in the **"Backup power mode"** drop-down list.
7. Click the **"Save"** button to save the settings.

"PV Point" backup power mode has been configured.

Testing backup power mode

After the initial installation and configuration of the backup power operation, it is recommended to test the backup power operation. For test mode, a battery charge of min. 30 % is recommended.

A description on how to run test mode can be found in the **backup power checklist** (https://www.fronius.com/en/search-page, item number: 42,0426,0365).

Appendix

Care, maintenance and disposal

General

The inverter is designed in such a way that no additional maintenance work builds up. Nevertheless, a few points must be considered during operation to ensure that the inverter works perfectly.

Cleaning

Clean the inverter as required with a damp cloth.
Do not use cleaning agents, abrasives solvents or similar to clean the inverter.

Maintenance

Maintenance and servicing may only be carried out by Fronius-trained service technicians.

Safety

The DC disconnector is used only to switch off power to the power stage set.
When the DC disconnector is turned off, the connection area is still energized.

⚠ WARNING!

Danger from grid voltage and DC voltage from PV modules.
This can result in serious injury and damage to property.
- ▶ The connection area must only be opened by an authorised electrician.
- ▶ The separate power stage set area must only be opened by Fronius-trained service technicians.
- ▶ Prior to any connection work, disconnect the inverter on the AC side and the DC side.

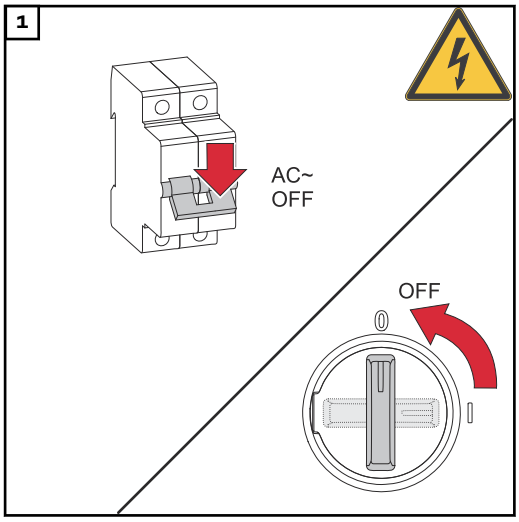
⚠ WARNING!

Danger of residual voltage from capacitors.
This can result in serious injury and damage to property.
- ▶ Allow the capacitors of the inverter to discharge (2 minutes).

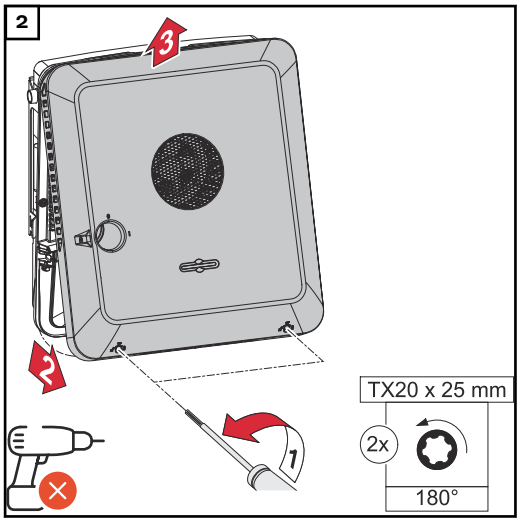
Operation in dusty environments

NOTE!

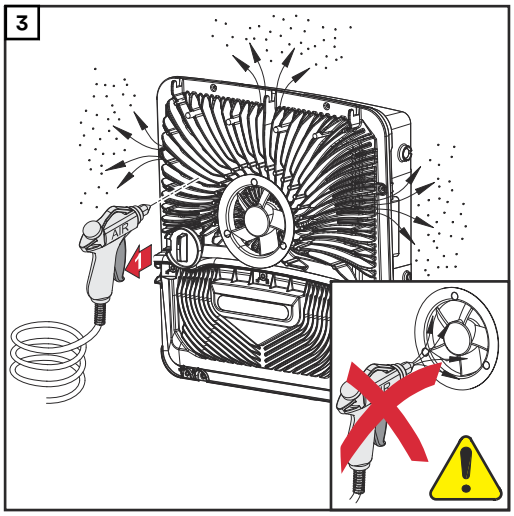
If the inverter is operated in dusty environments, dirt may build up on the heat sink and fan.
This may result in a loss of power due to insufficient cooling of the inverter.
- ▶ Make sure that the ambient air can always flow through the inverter's ventilation slots unimpeded.
- ▶ Remove any build-up of dirt on the heat sink and the fan.



Switch off power to the inverter and wait for the specified time until the capacitors have discharged and the fan has shut down.
Turn the DC disconnector to the "Off" switch position.



Loosen the screws on the underside of the housing cover by rotating them 180° to the left using a screwdriver (TX20). Then lift the housing cover away from the inverter at the bottom and detach from above.



Remove any build-up of dirt on the heat sink and fan using compressed air, or a cloth or brush.

NOTE!

Risk due to damage to the fan bearing from improper cleaning.
Excessive speed and pressure on the fan bearing can cause damage.

- ▶ Block the fan and clean it with compressed air.
- ▶ When using a cloth or brush, clean the fan without applying pressure to the fan.

To start up the inverter again, follow the steps listed above in reverse order.

Disposal

Waste electrical and electronic equipment must be collected separately and recycled in an environmentally responsible manner in accordance with the EU Directive and national law. Used equipment must be returned to the distributor or through a local, authorised collection and disposal system. Proper disposal of the old device promotes sustainable recycling of material resources. Ignoring this may lead to potential health/environmental impacts.

Packaging materials
Collected separately. Check your municipality's regulations. Reduce the volume of the box.

Guarantee provisions

Fronius manufacturer's warranty

Detailed, country-specific warranty terms are available on the internet: www.fronius.com/solar/warranty

To obtain the full warranty period for your newly installed Fronius inverter or storage system, please register at: www.solarweb.com.

Components for switching to backup power

Components for automatic Full Backup backup power changeover

Device name	Current transformer	Item number
Fronius Smart Meter 63A-1	✗	43,0001,1477
Fronius Smart Meter 50kA-3	✓	43,0001,1478
Fronius Smart Meter TS 100A-1	✗	43,0001,0045
Fronius Smart Meter TS 5kA-3	✓	43,0001,0046
Fronius Smart Meter WR	✓	43,0001,3591

Grid and system protection unit (fuse protection: 1-pin, 6 A)Other manufacturers and types are permissible if they are technically and functionally identical to the examples below:

- VMD460-NA-D-2 (Bender GmbH & Co. KG)
- RE-NA003-M64 (Tele Haase Steuergeräte Ges.m.b.H.)

K1 and K2 - installation contactor with auxiliary contact	
Number of pins	1-pin or 2-pin(depending on the cabling variant)
Rated current	depends on house connection
Coil voltage	230 V AC
Rated frequency	50/60 Hz
Coil fuse	6 A
Min. short circuit current	3 kA (make contacts)
Test standard	IEC 60947-4-1
Auxiliary contact	
Number of NC contacts	1
Switching voltage	12-230 V @ 50/60 Hz
Min. nominal current	1 A
Min. short circuit current	1 kA
Examples of contactors and relays	ISKRA IK63-40 / Schrack BZ326461

Buffer power supply for Fault Ride Through cabling variant.Other manufacturers and types are permissible if they are technically and functionally identical to the examples below:

- BKE JS-20-240/DIN_BUF

K1 and K2 - DC installation contactor with auxiliary contact **(Fault Ride Through)**	
Number of pins	1-pin or 2-pin(depending on the cabling variant)
Rated current	depends on house connection
Coil voltage	24 V_{DC}
Min. short circuit current	3 kA (make contacts)
Test standard	IEC 60947-4-1
Auxiliary contact	
Number of NC contacts	1
Switching voltage	24 V_{DC}
Min. nominal current	1 A
Min. short circuit current	1 kA
Examples of contactors and relays	Finder 22.64.0.024.4710

K3 - modular relay	
Number of changeover contacts	2
Coil voltage	12 V DC
Test standard	IEC 60947-4-1
Examples of contactors and relays	Finder 22.23.9.012.4000 / Schrack relay RT424012 (bracket RT17017, relay base RT78725)

K4 and K5 - installation contactor	
Number of NC contacts	2 (25 A)
Coil voltage	230 V AC (2P)
Rated frequency	50/60 Hz
Coil fuse	6 A
Min. short circuit current	3 kA (make contacts)
Test standard	IEC 60947-4-1
Examples of contactors and relays	ISKRA IKA225-02

Components for manual Full Backup backup power changeover

Device name	Current transformer	Item number
Fronius Smart Meter 63A-1	✕	43,0001,1477

Device name	Current trans-former	Item number
Fronius Smart Meter TS 100A-1	✕	43,0001,0045

Q1 manual changeover switch	
Number of pins	3-pin or 4-pin(depending on the cabling variant)
Rated current	depends on house connection
Coil voltage	230/400 V_{AC}
Rated frequency	50/60 Hz
Test standard	IEC 60947-4-1
Example	HIM306 / HIM406
Example	KA63B.T903.VE2 / KA40B.T904.VE2.F437

Status codes and remedy

Display

Status codes are displayed on the user interface of the inverter in the **"System"** → **"Event Log"** menu or in the user menu under **"Notifications"** or in Fronius Solar.web*.

* with corresponding configuration, see chapter **Fronius Solar.web** on page **17**.

Status Codes

1006 - ArcDetected (operation LED: flashes yellow)

Cause: An arc on the PV system was detected.

Remedy: No action required. Feed-in mode is started again automatically after 5 minutes.

1030 - WSD Open (operation LED: lights up red)

Cause: A device connected in the WSD chain has interrupted the signal line (e.g. a surge protective device) or the bypass ex works has been removed and no trigger device has been installed.

Remedy: If the SPD surge protective device is triggered, the inverter must be repaired by an authorised specialist.

OR: Install the bypass ex works or a trigger device.

OR: Set the WSD (wired shutdown) switch to position 1 (WSD primary device).

⚠ WARNING!

Danger due to work that has been carried out incorrectly.
This can result in serious injury and damage to property.

- ▶ Installing and connecting a surge protective device (SPD) must only be carried out by service personnel trained by Fronius and only within the scope of the respective technical regulations.
- ▶ Follow the safety rules.

1173 - ArcContinuousFault (operation LED: lights up red)

Cause: An arc on the PV system was detected and the maximum number of automatic switch-ons within 24 hours was reached.

Remedy: Press and hold the sensor on the inverter for 3 seconds (max. 6 seconds).

OR: Confirm the status **"1173 - ArcContinuousFault"** in the **"System"** → **"Event Log"** menu area on the user interface of the inverter.

OR: Confirm the status **"1173 - ArcContinuousFault"** in the **"Notifications"** user menu on the user interface of the inverter.

⚠ CAUTION!

Danger from damaged components of the photovoltaic system
This can result in severe personal injury/damage to property.

- ▶ Before the status **"1173 - ArcContinuousFault"** is confirmed, the entire photovoltaic system in question must be checked for possible damage.
- ▶ Have damaged components repaired by qualified personnel.

1191 - AfciDataTransfer (operation LED: flashes yellow)

Cause: An arc on the PV system was detected.

Remedy: No action required.

Technical data

Fronius Primo GEN24 3.0 / 3.0 Plus

DC input data	
MPP voltage range (at rated power)	190 – 530 V
Max. input voltage at 1000 W/m² / -10°C in an open circuit	600 V
Min. input voltage	65 V
Feed-in start-up input voltage in grid operation [5)]	80 V
Max. input current PV 1 PV 2	 22.0 A 12.0 A
Max. short circuit current of module array ($I_{SC\ PV}$) PV 1 PV 2	 36 A 19 A
Max. total short circuit current of module array ($I_{SC\ PV1} + I_{SC\ PV2} = I_{SC\ max}$)	55 A
Max. inverter backfeed current to the array [3)] PV 1 PV 2	 36 A 19 A
Number of inputs - PV 1	2
Number of inputs - PV 2	2
Maximum capacity of the PV generator against earth	600 nF
Insulation resistance test limit value between module array and earth (on delivery) [10)]	100 kΩ
Adjustable range of insulation resistance test between module array and earth [9)]	10 – 10,000 kΩ
Limit value and tripping time of the sudden residual current monitoring (on delivery)	30 / 300 mA / ms 60 / 150 mA / ms 90 / 40 mA / ms
Limit value and tripping time of the continuous residual current monitoring (on delivery)	300 / 300 mA / ms
Adjustable range of continuous residual current monitoring [9)]	30 – 300 mA
Cyclic repetition of the insulation resistance test (on delivery)	24 h
Adjustable range for the cyclic repetition of the insulation resistance test	-

DC input data, battery	
Max. voltage	455 V
Min. voltage	150 V
Max. current	22 A
Max. output	3000 W
DC inputs	1

AC input/output data	
Rated power (P_{nom})	3000 W
Max. output power	3000 W
Rated apparent power	3000 VA
Nominal grid voltage	1 ~ NPE 220V / 230V / 240 V
Min. grid voltage	155 V [1)]
Max. grid voltage	270 V [1)]
Max. output current	19.4 A
Current (inrush) [6)]	20 A / 1.3 ms
Nominal frequency	50/60 Hz [1)]
Nominal frequency for Full Backup	53/63 Hz [1)]
Initial short circuit alternating current / phase I_K	19.4 A
Total harmonic distortion	< 2%
Power factor cos phi [2)]	0.8 – 1 (adjustable)
Max. permitted mains impedance Z_{max} on PCC [4)]	None
Maximum output fault current / duration	29 A / 3 ms

AC output data PV Point / PV Point Comfort	
Max. output power	4133 W (for 5 s)
Rated power	3000 W
Nominal output current	13 A
Nominal grid voltage	1 ~ NPE 220 V / 230 V / 240 V
Nominal frequency	53/63 Hz [1)]
Switching time	< 90 s
Power factor cos phi [2)]	0 – 1

AC output data Full Backup	
Max. output power	4133 W (for 5 s)
Rated power	3000 W
Nominal output current	13 A

AC output data Full Backup	
Nominal grid voltage	1 ~ NPE 220 V 1 ~ NPE 230 V 1 ~ NPE 240 V
Nominal frequency for Full Backup	53/63 Hz [1)]
Switching time	< 90 s
Power factor cos phi [2)]	0 – 1

General data	
Maximum efficiency	97.6%
European efficiency ($U_{mpp\ nom}$)	96.8%
European efficiency ($U_{mpp\ max}$)	95.9%
European efficiency ($U_{mpp\ min}$)	95.3%
Self-consumption at night	8.2 W
Cooling	Controlled forced-air ventilation
Protection class	IP 66
Dimensions H x W x D	530 × 474 × 165 mm
Weight	17 kg
Inverter topology	Non-insulated transformerless
Permitted ambient temperature	-40 °C – +60 °C
Permissible humidity	0 – 100% (incl. condensation)
EMC emission class (according to IEC 61000-6-2, IEC 61000-6-3)	B
DC/AC overvoltage category (according to IEC 62109-1)	2 / 3
Pollution degree	2
Sound pressure	42 dB(A) (ref. 20µPa)
Safety class (according to IEC 62103)	1

Protection devices	
DC isolation measurement [11)]	Warning / shutdown at R_{ISO} < 100 kOhm
Overload performance	Operating point shift, power limitation
DC disconnector	Integrated
RCMU [11)]	Integrated
RCMU classification	The software class of the safety platform(s) is specified as a class B control function (single channel with periodic self-test) according to IEC 60730 Annex H.
Active anti-islanding method	Frequency conversion method
AFCI	Integrated

Protection devices	
AFPE (AFCI) classification (according to IEC63027) [11)]	= F-I-AFPE-1-4-1 Full coverage Integrated AFPE 1 monitored string per input port 4 input ports per channel (MPP1: 2, MPP2: 2) 1 monitored channel

Data communication	
WLAN SMA-RP connection (**FCC ID:** QKWPILOT01 / **IC ID:** 12270A-PILOT01)	802.11b/g/n (WPA, WPA2) Frequency: 2.4 GHz
Ethernet (LAN)	RJ45, 10/100 MBit
Wired shutdown (WSD)	Max. 28 devices / WSD chain Max. distance between two devices = 100 m
Modbus RTU SunSpec (2x)	RS485 2-wire
Voltage level of digital inputs	Low: min. 0 V – max. 1.8 V High: min. 4.5 V – max. 28.8 V
Input currents of digital inputs	Depending on the input voltage; input resistance = 70 kOhm
Total power for digital output (internal supply)	6 W at 12 V (USB not connected)
Power per digital output (external supply)	1 A at >12.5 V – 24 V (max. 3 A in total)
Datalogger/web server	Integrated

Fronius Primo GEN24 3.6 / 3.6 Plus

DC input data	
MPP voltage range (at rated power)	200 – 530 V
Max. input voltage at 1000 W/m² / -10°C in an open circuit	600 V
Min. input voltage	65 V
Feed-in start-up input voltage in grid operation [5)]	80 V
Max. input current PV 1 PV 2	 22.0 A 12.0 A
Max. short circuit current of module array ($I_{SC\ PV}$) PV 1 PV 2	 36 A 19 A

DC input data	
Max. total short circuit current of module array ($I_{SC\ PV1} + I_{SC\ PV2} = I_{SC\ max}$)	55 A
Max. inverter backfeed current to the array [3)] PV 1 PV 2	 36 A 19 A
Number of inputs - PV 1	2
Number of inputs - PV 2	2
Maximum capacity of the PV generator against earth	736 nF
Insulation resistance test limit value between module array and earth (on delivery) [10)]	100 kΩ
Adjustable range of insulation resistance test between module array and earth [9)]	10 – 10,000 kΩ
Limit value and tripping time of the sudden residual current monitoring (on delivery)	30 / 300 mA / ms 60 / 150 mA / ms 90 / 40 mA / ms
Limit value and tripping time of the continuous residual current monitoring (on delivery)	300 / 300 mA / ms
Adjustable range of continuous residual current monitoring [9)]	30 – 300 mA
Cyclic repetition of the insulation resistance test (on delivery)	24 h
Adjustable range for the cyclic repetition of the insulation resistance test	-

DC input data, battery	
Max. voltage	455 V
Min. voltage	150 V
Max. current	22 A
Max. output	3680 W
DC inputs	1

AC input/output data	
Rated power (P_{nom})	3680 W
Max. output power	3680 W
Rated apparent power	3680 VA
Nominal grid voltage	1 ~ NPE 220V / 230V / 240 V
Min. grid voltage	155 V [1)]
Max. grid voltage	270 V [1)]

AC input/output data	
Max. output current	23.7 A
Current (inrush) [6]	20 A / 1.3 ms
Nominal frequency	50/60 Hz [1]
Nominal frequency for Full Backup	53/63 Hz [1]
Initial short circuit alternating current / phase I_K	23.7 A
Total harmonic distortion	< 2%
Power factor cos phi [2]	0.8 – 1 (adjustable)
Max. permitted mains impedance Z_{max} on PCC [4]	None
Maximum output fault current / duration	29 A / 3 ms

AC output data PV Point / PV Point Comfort	
Max. output power	4133 W (for 5 s)
Rated power	3000 W
Nominal output current	13 A
Nominal grid voltage	1 ~ NPE 220 V / 230 V / 240 V
Nominal frequency	53/63 Hz [1]
Switching time	< 90 s
Power factor cos phi [2]	0 – 1

AC output data Full Backup	
Max. output power	5070 W (for 5 s)
Rated power	3680 W
Nominal output current	16 A
Nominal grid voltage	1 ~ NPE 220 V 1 ~ NPE 230 V 1 ~ NPE 240 V
Nominal frequency for Full Backup	53/63 Hz [1]
Switching time	< 90 s
Power factor cos phi [2]	0 – 1

General data	
Maximum efficiency	97.6%
European efficiency ($U_{mpp\ nom}$)	97.0%
European efficiency ($U_{mpp\ max}$)	96.3%
European efficiency ($U_{mpp\ min}$)	95.6%
Self-consumption at night	8.2 W
Cooling	Controlled forced-air ventilation

General data	
Protection class	IP 66
Dimensions H x W x D	530 × 474 × 165 mm
Weight	17 kg
Inverter topology	Non-insulated transformerless
Permitted ambient temperature	-40 °C – +60 °C
Permissible humidity	0 – 100% (incl. condensation)
EMC emission class (according to IEC 61000-6-2, IEC 61000-6-3)	B
DC/AC overvoltage category (according to IEC 62109-1)	2 / 3
Pollution degree	2
Sound pressure	42 dB(A) (ref. 20µPa)
Safety class (according to IEC 62103)	1

Protection devices	
DC isolation measurement [11)]	Warning / shutdown at R_{ISO} < 100 kOhm
Overload performance	Operating point shift, power limitation
DC disconnector	Integrated
RCMU [11)]	Integrated
RCMU classification	The software class of the safety platform(s) is specified as a class B control function (single channel with periodic self-test) according to IEC 60730 Annex H.
Active anti-islanding method	Frequency conversion method
AFCI	Integrated
AFPE (AFCI) classification (according to IEC63027) [11)]	= F-I-AFPE-1-4-1 Full coverage Integrated AFPE 1 monitored string per input port 4 input ports per channel (MPP1: 2, MPP2: 2) 1 monitored channel

Data communication	
WLAN SMA-RP connection (**FCC ID:** QKWPILOT01 / **IC ID:** 12270A-PILOT01)	802.11b/g/n (WPA, WPA2) Frequency: 2.4 GHz
Ethernet (LAN)	RJ45, 10/100 MBit
Wired shutdown (WSD)	Max. 28 devices / WSD chain Max. distance between two devices = 100 m
Modbus RTU SunSpec (2x)	RS485 2-wire

Data communication	
Voltage level of digital inputs	Low: min. 0 V – max. 1.8 V High: min. 4.5 V – max. 28.8 V
Input currents of digital inputs	Depending on the input voltage; input resistance = 70 kOhm
Total power for digital output (internal supply)	6 W at 12 V (USB not connected)
Power per digital output (external supply)	1 A at >12.5 V – 24V (max. 3 A in total)
Datalogger/web server	Integrated

Fronius Primo GEN24 4.0 / 4.0 Plus

DC input data	
MPP voltage range (at rated power)	210 – 530 V
Max. input voltage at 1000 W/m² / -10°C in an open circuit	600 V
Min. input voltage	65 V
Feed-in start-up input voltage in grid operation [5)]	80 V
Max. input current PV 1 PV 2	 22.0 A 12.0 A
Max. short circuit current of module array ($I_{SC\ PV}$) PV 1 PV 2	 36 A 19 A
Max. total short circuit current of module array ($I_{SC\ PV1} + I_{SC\ PV2} = I_{SC\ max}$)	55 A
Max. inverter backfeed current to the array [3)] PV 1 PV 2	 36 A 19 A
Number of inputs - PV 1	2
Number of inputs - PV 2	2
Maximum capacity of the PV generator against earth	800 nF
Insulation resistance test limit value between module array and earth (on delivery) [10)]	100 kΩ
Adjustable range of insulation resistance test between module array and earth [9)]	10 – 10,000 kΩ

DC input data	
Limit value and tripping time of the sudden residual current monitoring (on delivery)	30 / 300 mA / ms 60 / 150 mA / ms 90 / 40 mA / ms
Limit value and tripping time of the continuous residual current monitoring (on delivery)	300 / 300 mA / ms
Adjustable range of continuous residual current monitoring [9]	30 – 300 mA
Cyclic repetition of the insulation resistance test (on delivery)	24 h
Adjustable range for the cyclic repetition of the insulation resistance test	-

DC input data, battery	
Max. voltage	455 V
Min. voltage	150 V
Max. current	22 A
Max. output	4000 W
DC inputs	1

AC input/output data	
Rated power (P_{nom})	4000 W
Max. output power	4000 W
Rated apparent power	4000 VA
Nominal grid voltage	1 ~ NPE 220V / 230V / 240 V
Min. grid voltage	155 V [1]
Max. grid voltage	270 V [1]
Max. output current	25.8 A
Current (inrush) [6]	20 A / 1.3 ms
Nominal frequency	50/60 Hz [1]
Nominal frequency for Full Backup	53/63 Hz [1]
Initial short circuit alternating current / phase I_K	25.8 A
Total harmonic distortion	< 2%
Power factor cos phi [2]	0.8 – 1 (adjustable)
Max. permitted mains impedance Z_{max} on PCC [4]	None
Maximum output fault current / duration	29 A / 3 ms

AC output data PV Point / PV Point Comfort	
Max. output power	4133 W (for 5 s)

AC output data PV Point / PV Point Comfort	
Rated power	3000 W
Nominal output current	13 A
Nominal grid voltage	1 ~ NPE 220 V / 230 V / 240 V
Nominal frequency	53/63 Hz [1)]
Switching time	< 90 s
Power factor cos phi [2)]	0 – 1

AC output data Full Backup	
Max. output power	5510 W (for 5 s)
Rated power	4000 W
Nominal output current	17.4 A
Nominal grid voltage	1 ~ NPE 220 V 1 ~ NPE 230 V 1 ~ NPE 240 V
Nominal frequency for Full Backup	53/63 Hz [1)]
Switching time	< 90 s
Power factor cos phi [2)]	0 – 1

General data	
Maximum efficiency	97.6%
European efficiency ($U_{mpp\ nom}$)	97.1%
European efficiency ($U_{mpp\ max}$)	96.5%
European efficiency ($U_{mpp\ min}$)	95.8%
Self-consumption at night	8.2 W
Cooling	Controlled forced-air ventilation
Protection class	IP 66
Dimensions H x W x D	530 × 474 × 165 mm
Weight	17 kg
Inverter topology	Non-insulated transformerless
Permitted ambient temperature	-40 °C – +60 °C
Permissible humidity	0 – 100% (incl. condensation)
EMC emission class (according to IEC 61000-6-2, IEC 61000-6-3)	B
DC/AC overvoltage category (according to IEC 62109-1)	2 / 3
Pollution degree	2
Sound pressure	42 dB(A) (ref. 20µPa)
Safety class (according to IEC 62103)	1

Protection devices	
DC isolation measurement [11)]	Warning / shutdown at R_{ISO} < 100 kOhm
Overload performance	Operating point shift, power limitation
DC disconnector	Integrated
RCMU [11)]	Integrated
RCMU classification	The software class of the safety platform(s) is specified as a class B control function (single channel with periodic self-test) according to IEC 60730 Annex H.
Active anti-islanding method	Frequency conversion method
AFCI	Integrated
AFPE (AFCI) classification (according to IEC63027) [11)]	= F-I-AFPE-1-4-1 Full coverage Integrated AFPE 1 monitored string per input port 4 input ports per channel (MPP1: 2, MPP2: 2) 1 monitored channel

Data communication	
WLAN SMA-RP connection (**FCC ID:** QKWPILOT01 / **IC ID:** 12270A-PILOT01)	802.11b/g/n (WPA, WPA2) Frequency: 2.4 GHz
Ethernet (LAN)	RJ45, 10/100 MBit
Wired shutdown (WSD)	Max. 28 devices / WSD chain Max. distance between two devices = 100 m
Modbus RTU SunSpec (2x)	RS485 2-wire
Voltage level of digital inputs	Low: min. 0 V – max. 1.8 V High: min. 4.5 V – max. 28.8 V
Input currents of digital inputs	Depending on the input voltage; input resistance = 70 kOhm
Total power for digital output (internal supply)	6 W at 12 V (USB not connected)
Power per digital output (external supply)	1 A at >12.5 V – 24 V (max. 3 A in total)
Datalogger/web server	Integrated

Fronius Primo GEN24 4.6 / 4.6 Plus

DC input data	
MPP voltage range (at rated power)	230 – 530 V

DC input data	
Max. input voltage at 1000 W/m² / -10°C in an open circuit	600 V
Min. input voltage	65 V
Feed-in start-up input voltage in grid operation [5)]	80 V
Max. input current PV 1 PV 2	 22.0 A 12.0 A
Max. short circuit current of module array ($I_{SC\ PV}$) PV 1 PV 2	 36 A 19 A
Max. total short circuit current of module array ($I_{SC\ PV1} + I_{SC\ PV2} = I_{SC\ max}$)	55 A
Max. inverter backfeed current to the array [3)] PV 1 PV 2	 36 A 19 A
Number of inputs - PV 1	2
Number of inputs - PV 2	2
Maximum capacity of the PV generator against earth	920 nF
Insulation resistance test limit value between module array and earth (on delivery) [10)]	100 kΩ
Adjustable range of insulation resistance test between module array and earth [9)]	10 – 10,000 kΩ
Limit value and tripping time of the sudden residual current monitoring (on delivery)	30 / 300 mA / ms 60 / 150 mA / ms 90 / 40 mA / ms
Limit value and tripping time of the continuous residual current monitoring (on delivery)	300 / 300 mA / ms
Adjustable range of continuous residual current monitoring [9)]	30 – 300 mA
Cyclic repetition of the insulation resistance test (on delivery)	24 h
Adjustable range for the cyclic repetition of the insulation resistance test	-

DC input data, battery	
Max. voltage	455 V
Min. voltage	150 V
Max. current	22 A

DC input data, battery	
Max. output	4600 W
DC inputs	1

AC input/output data	
Rated power (P_{nom})	4600 W
Max. output power	4600 W
Rated apparent power	4600 VA
Nominal grid voltage	1 ~ NPE 220V / 230V / 240 V
Min. grid voltage	155 V [1)]
Max. grid voltage	270 V [1)]
Max. output current	27.5 A
Current (inrush) [6)]	20 A / 1.3 ms
Nominal frequency	50/60 Hz [1)]
Nominal frequency for Full Backup	53/63 Hz [1)]
Initial short circuit alternating current / phase I_K	27.5 A
Total harmonic distortion	< 2%
Power factor cos phi [2)]	0.8 – 1 (adjustable)
Max. permitted mains impedance Z_{max} on PCC [4)]	None
Maximum output fault current / duration	29 A / 3 ms

AC output data PV Point / PV Point Comfort	
Max. output power	4133 W (for 5 s)
Rated power	3000 W
Nominal output current	13 A
Nominal grid voltage	1 ~ NPE 220 V / 230 V / 240 V
Nominal frequency	53/63 Hz [1)]
Switching time	< 90 s
Power factor cos phi [2)]	0 – 1

AC output data Full Backup	
Max. output power	6338 W (for 5 s)
Rated power	4600 W
Nominal output current	20 A
Nominal grid voltage	1 ~ NPE 220 V 1 ~ NPE 230 V 1 ~ NPE 240 V
Nominal frequency for Full Backup	53/63 Hz [1)]

AC output data Full Backup	
Switching time	< 90 s
Power factor cos phi [2)]	0 – 1

General data	
Maximum efficiency	97.6%
European efficiency ($U_{mpp\ nom}$)	97.2%
European efficiency ($U_{mpp\ max}$)	96.6%
European efficiency ($U_{mpp\ min}$)	96.2%
Self-consumption at night	8.2 W
Cooling	Controlled forced-air ventilation
Protection class	IP 66
Dimensions H x W x D	530 × 474 × 165 mm
Weight	17 kg
Inverter topology	Non-insulated transformerless
Permitted ambient temperature	-40 °C – +60 °C
Permissible humidity	0 – 100% (incl. condensation)
EMC emission class (according to IEC 61000-6-2, IEC 61000-6-3)	B
DC/AC overvoltage category (according to IEC 62109-1)	2 / 3
Pollution degree	2
Sound pressure	42 dB(A) (ref. 20µPa)
Safety class (according to IEC 62103)	1

Protection devices	
DC isolation measurement [11)]	Warning / shutdown at R_{ISO} < 100 kOhm
Overload performance	Operating point shift, power limitation
DC disconnector	Integrated
RCMU [11)]	Integrated
RCMU classification	The software class of the safety platform(s) is specified as a class B control function (single channel with periodic self-test) according to IEC 60730 Annex H.
Active anti-islanding method	Frequency conversion method
AFCI	Integrated

Protection devices	
AFPE (AFCI) classification (according to IEC63027) [11)]	= F-I-AFPE-1-4-1 Full coverage Integrated AFPE 1 monitored string per input port 4 input ports per channel (MPP1: 2, MPP2: 2) 1 monitored channel

Data communication	
WLAN SMA-RP connection (**FCC ID:** QKWPILOT01 / **IC ID:** 12270A-PILOT01)	802.11b/g/n (WPA, WPA2) Frequency: 2.4 GHz
Ethernet (LAN)	RJ45, 10/100 MBit
Wired shutdown (WSD)	Max. 28 devices / WSD chain Max. distance between two devices = 100 m
Modbus RTU SunSpec (2x)	RS485 2-wire
Voltage level of digital inputs	Low: min. 0 V – max. 1.8 V High: min. 4.5 V – max. 28.8 V
Input currents of digital inputs	Depending on the input voltage; input resistance = 70 kOhm
Total power for digital output (internal supply)	6 W at 12 V (USB not connected)
Power per digital output (external supply)	1 A at >12.5 V – 24V (max. 3 A in total)
Datalogger/web server	Integrated

Fronius Primo GEN24 5.0 / 5.0 Plus

DC input data	
MPP voltage range (at rated power)	230 – 530 V
Max. input voltage at 1000 W/m² / -10°C in an open circuit	600 V
Min. input voltage	65 V
Feed-in start-up input voltage in grid operation [5)]	80 V
Max. input current PV 1 PV 2	 22.0 A 12.0 A
Max. short circuit current of module array ($I_{SC\ PV}$) PV 1 PV 2	 36 A 19 A

DC input data	
Max. total short circuit current of module array ($I_{SC\ PV1} + I_{SC\ PV2} = I_{SC\ max}$)	55 A
Max. inverter backfeed current to the array [3)] PV 1 PV 2	 36 A 19 A
Number of inputs - PV 1	2
Number of inputs - PV 2	2
Maximum capacity of the PV generator against earth	1000 nF
Insulation resistance test limit value between module array and earth (on delivery) [10)]	100 kΩ
Adjustable range of insulation resistance test between module array and earth [9)]	10 – 10,000 kΩ
Limit value and tripping time of the sudden residual current monitoring (on delivery)	30 / 300 mA / ms 60 / 150 mA / ms 90 / 40 mA / ms
Limit value and tripping time of the continuous residual current monitoring (on delivery)	300 / 300 mA / ms
Adjustable range of continuous residual current monitoring [9)]	30 – 300 mA
Cyclic repetition of the insulation resistance test (on delivery)	24 h
Adjustable range for the cyclic repetition of the insulation resistance test	-

DC input data, battery	
Max. voltage	455 V
Min. voltage	150 V
Max. current	22 A
Max. output	5000 W
DC inputs	1

AC input/output data	
Rated power (P_{nom})	5000 W
Max. output power	5000 W
Rated apparent power	5000 VA
Nominal grid voltage	1 ~ NPE 220V / 230V / 240 V
Min. grid voltage	155 V [1)]
Max. grid voltage	270 V [1)]

AC input/output data	
Max. output current	27.5 A
Current (inrush) [6]	20 A / 1.3 ms
Nominal frequency	50/60 Hz [1]
Nominal frequency for Full Backup	53/63 Hz [1]
Initial short circuit alternating current / phase I_K	27.5 A
Total harmonic distortion	< 2%
Power factor cos phi [2]	0.8 – 1 (adjustable)
Max. permitted mains impedance Z_{max} on PCC [4]	None
Maximum output fault current / duration	29 A / 3 ms

AC output data PV Point / PV Point Comfort	
Max. output power	4133 W (for 5 s)
Rated power	3000 W
Nominal output current	13 A
Nominal grid voltage	1 ~ NPE 220 V / 230 V / 240 V
Nominal frequency	53/63 Hz [1]
Switching time	< 90 s
Power factor cos phi [2]	0 – 1

AC output data Full Backup	
Max. output power	6890 W (for 5 s)
Rated power	5000 W
Nominal output current	21.7 A
Nominal grid voltage	1 ~ NPE 220 V 1 ~ NPE 230 V 1 ~ NPE 240 V
Nominal frequency for Full Backup	53/63 Hz [1]
Switching time	< 90 s
Power factor cos phi [2]	0 – 1

General data	
Maximum efficiency	97.6%
European efficiency ($U_{mpp\ nom}$)	97.2%
European efficiency ($U_{mpp\ max}$)	96.7%
European efficiency ($U_{mpp\ min}$)	96.3%
Self-consumption at night	8.2 W
Cooling	Controlled forced-air ventilation

General data	
Protection class	IP 66
Dimensions H x W x D	530 × 474 × 165 mm
Weight	17 kg
Inverter topology	Non-insulated transformerless
Permitted ambient temperature	-40 °C – +60 °C
Permissible humidity	0 – 100% (incl. condensation)
EMC emission class (according to IEC 61000-6-2, IEC 61000-6-3)	B
DC/AC overvoltage category (according to IEC 62109-1)	2 / 3
Pollution degree	2
Sound pressure	42 dB(A) (ref. 20µPa)
Safety class (according to IEC 62103)	1

Protection devices	
DC isolation measurement [11)]	Warning / shutdown at R_{ISO} < 100 kOhm
Overload performance	Operating point shift, power limitation
DC disconnector	Integrated
RCMU [11)]	Integrated
RCMU classification	The software class of the safety platform(s) is specified as a class B control function (single channel with periodic self-test) according to IEC 60730 Annex H.
Active anti-islanding method	Frequency conversion method
AFCI	Integrated
AFPE (AFCI) classification (according to IEC63027) [11)]	= F-I-AFPE-1-4-1 Full coverage Integrated AFPE 1 monitored string per input port 4 input ports per channel (MPP1: 2, MPP2: 2) 1 monitored channel

Data communication	
WLAN SMA-RP connection (**FCC ID:** QKWPILOT01 / **IC ID:** 12270A-PILOT01)	802.11b/g/n (WPA, WPA2) Frequency: 2.4 GHz
Ethernet (LAN)	RJ45, 10/100 MBit
Wired shutdown (WSD)	Max. 28 devices / WSD chain Max. distance between two devices = 100 m
Modbus RTU SunSpec (2x)	RS485 2-wire

Data communication	
Voltage level of digital inputs	Low: min. 0 V – max. 1.8 V High: min. 4.5 V – max. 28.8 V
Input currents of digital inputs	Depending on the input voltage; input resistance = 70 kOhm
Total power for digital output (internal supply)	6 W at 12 V (USB not connected)
Power per digital output (external supply)	1 A at >12.5 V – 24V (max. 3 A in total)
Datalogger/web server	Integrated

Fronius Primo GEN24 6.0 / 6.0 Plus

DC input data	
MPP voltage range (at rated power)	230 – 480 V
Max. input voltage at 1000 W/m² / -10°C in an open circuit	600 V
Min. input voltage	65 V
Feed-in start-up input voltage in grid operation [5)]	80 V
Max. input current PV 1 PV 2	 22.0 A 12.0 A
Max. short circuit current of module array ($I_{SC\ PV}$) PV 1 PV 2	 36 A 19 A
Max. total short circuit current of module array ($I_{SC\ PV1} + I_{SC\ PV2} = I_{SC\ max}$)	55 A
Max. inverter backfeed current to the array [3)] PV 1 PV 2	 36 A 19 A
Number of inputs - PV 1	2
Number of inputs - PV 2	2
Maximum capacity of the PV generator against earth	1200 nF
Insulation resistance test limit value between module array and earth (on delivery) [10)]	100 kΩ
Adjustable range of insulation resistance test between module array and earth [9)]	10 – 10,000 kΩ

DC input data	
Limit value and tripping time of the sudden residual current monitoring (on delivery)	30 / 300 mA / ms 60 / 150 mA / ms 90 / 40 mA / ms
Limit value and tripping time of the continuous residual current monitoring (on delivery)	300 / 300 mA / ms
Adjustable range of continuous residual current monitoring [9)]	30 – 300 mA
Cyclic repetition of the insulation resistance test (on delivery)	24 h
Adjustable range for the cyclic repetition of the insulation resistance test	-

DC input data, battery	
Max. voltage	455 V
Min. voltage	150 V
Max. current	22 A
Max. output	6000 W
DC inputs	1

AC input/output data	
Rated power (P_{nom})	6000 W
Max. output power	6000 W
Rated apparent power	6000 VA
Nominal grid voltage	1 ~ NPE 220V / 230V / 240 V
Min. grid voltage	155 V [1)]
Max. grid voltage	270 V [1)]
Max. output current	27.5 A
Current (inrush) [6)]	20 A / 1.3 ms
Nominal frequency	50/60 Hz [1)]
Nominal frequency for Full Backup	53/63 Hz [1)]
Initial short circuit alternating current / phase I_K	27.5 A
Total harmonic distortion	< 2%
Power factor cos phi [2)]	0.8 – 1 (adjustable)
Max. permitted mains impedance Z_{max} on PCC [4)]	None
Maximum output fault current / duration	29 A / 3 ms

AC output data PV Point / PV Point Comfort	
Max. output power	4133 W (for 5 s)

AC output data PV Point / PV Point Comfort	
Rated power	3000 W
Nominal output current	13 A
Nominal grid voltage	1 ~ NPE 220 V / 230 V / 240 V
Nominal frequency	53/63 Hz [1)]
Switching time	< 90 s
Power factor cos phi [2)]	0 – 1

AC output data Full Backup	
Max. output power	8268 W (for 5 s)
Rated power	6000 W
Nominal output current	26.1 A
Nominal grid voltage	1 ~ NPE 220 V 1 ~ NPE 230 V 1 ~ NPE 240 V
Nominal frequency for Full Backup	53/63 Hz [1)]
Switching time	< 90 s
Power factor cos phi [2)]	0 – 1

General data	
Maximum efficiency	97.6%
European efficiency ($U_{mpp\ nom}$)	97.1%
European efficiency ($U_{mpp\ max}$)	96.7%
European efficiency ($U_{mpp\ min}$)	96.1%
Self-consumption at night	8.2 W
Cooling	Controlled forced-air ventilation
Protection class	IP 66
Dimensions H x W x D	530 × 474 × 165 mm
Weight	17 kg
Inverter topology	Non-insulated transformerless
Permitted ambient temperature	-40 °C – +60 °C
Permissible humidity	0 – 100% (incl. condensation)
EMC emission class (according to IEC 61000-6-2, IEC 61000-6-3)	B
DC/AC overvoltage category (according to IEC 62109-1)	2 / 3
Pollution degree	2
Sound pressure	42 dB(A) (ref. 20µPa)
Safety class (according to IEC 62103)	1

Protection devices	
DC isolation measurement [11)]	Warning / shutdown at R_{ISO} < 100 kOhm
Overload performance	Operating point shift, power limitation
DC disconnector	Integrated
RCMU [11)]	Integrated
RCMU classification	The software class of the safety platform(s) is specified as a class B control function (single channel with periodic self-test) according to IEC 60730 Annex H.
Active anti-islanding method	Frequency conversion method
AFCI	Integrated
AFPE (AFCI) classification (according to IEC63027) [11)]	= F-I-AFPE-1-4-1 Full coverage Integrated AFPE 1 monitored string per input port 4 input ports per channel (MPP1: 2, MPP2: 2) 1 monitored channel

Data communication	
WLAN SMA-RP connection (**FCC ID:** QKWPILOT01 / **IC ID:** 12270A-PILOT01)	802.11b/g/n (WPA, WPA2) Frequency: 2.4 GHz
Ethernet (LAN)	RJ45, 10/100 MBit
Wired shutdown (WSD)	Max. 28 devices / WSD chain Max. distance between two devices = 100 m
Modbus RTU SunSpec (2x)	RS485 2-wire
Voltage level of digital inputs	Low: min. 0 V – max. 1.8 V High: min. 4.5 V – max. 28.8 V
Input currents of digital inputs	Depending on the input voltage; input resistance = 70 kOhm
Total power for digital output (internal supply)	6 W at 12 V (USB not connected)
Power per digital output (external supply)	1 A at >12.5 V – 24V (max. 3 A in total)
Datalogger/web server	Integrated

WLAN

WLAN	
Frequency range	2412–2462 MHz
Channels / power used	Channel: 1–11 b,g,n HT20 Channel: 3–9 HT40 <18 dBm

WLAN	
Modulation	802.11b: DSSS (1 Mbps DBPSK, 2 Mbps DQPSK, 5.5/11 Mbps CCK) 802.11g: OFDM (6/9 Mbps BPSK, 12/18 Mbps QPSK, 24/36 Mbps 16-QAM, 48/54 Mbps 64-QAM) 802.11n: OFDM (6.5 BPSK, QPSK, 16-QAM, 64-QAM)

Technical data of surge protective device DC SPD type 1+2 GEN24

General data	
Continuous operating current (I_{cpv})	< 0.1 mA
Rated discharge current (I_n) - 15 x 8/20 µs pulses	20 kA
Lightning surge current (I_{imp}) Max. discharge capacity @ 10/350 µs	6.25 kA
Protection level (U_p) (star-shaped mounting)	4 kV
Short-circuit strength PV (I_{scpv})	15 kA

Disconnector	
Thermal disconnector	Integrated
External fuse	None

Mechanical properties	
Disconnection indicator	Mechanical indicator (red)
Remote communication of the connection interruption	Output on the changeover contact
Housing material	Thermoplastic UL-94-V0
Test standards	IEC 61643-31 / DIN EN 50539-11 UL1449 ed.4 / VDE 0185-305-3 Bbl. 5

Explanation of footnotes

1) The values stated are defaults; the inverter is configured specifically to suit the requirements of the relevant country.
2) Depending on the country setup or device-specific settings (ind. = inductive; cap. = capacitive).
3) Maximum current from a defective PV module to all other PV modules. From the inverter itself to one PV side of the inverter, it is 0 A.
4) Guaranteed by the electrical configuration of the inverter.
5) For backup power mode (PV Point) without battery, a minimum voltage of 150 V is required.
6) Current peak when switching on the inverter.
7) The sum of the rated power per phase must not exceed the rated power of the inverter.

8) Valid for Fronius Primo GEN24 with battery connection and Fronius Primo GEN24 Plus.
9) Specified values are standard values; depending on the requirement and PV power, these values must be adjusted accordingly.
10) Specified value is a max. value; exceeding the max. value may negatively affect the function.
11) Software class B (single-channel with periodic self-test) per IEC 60730-1 Annex H.

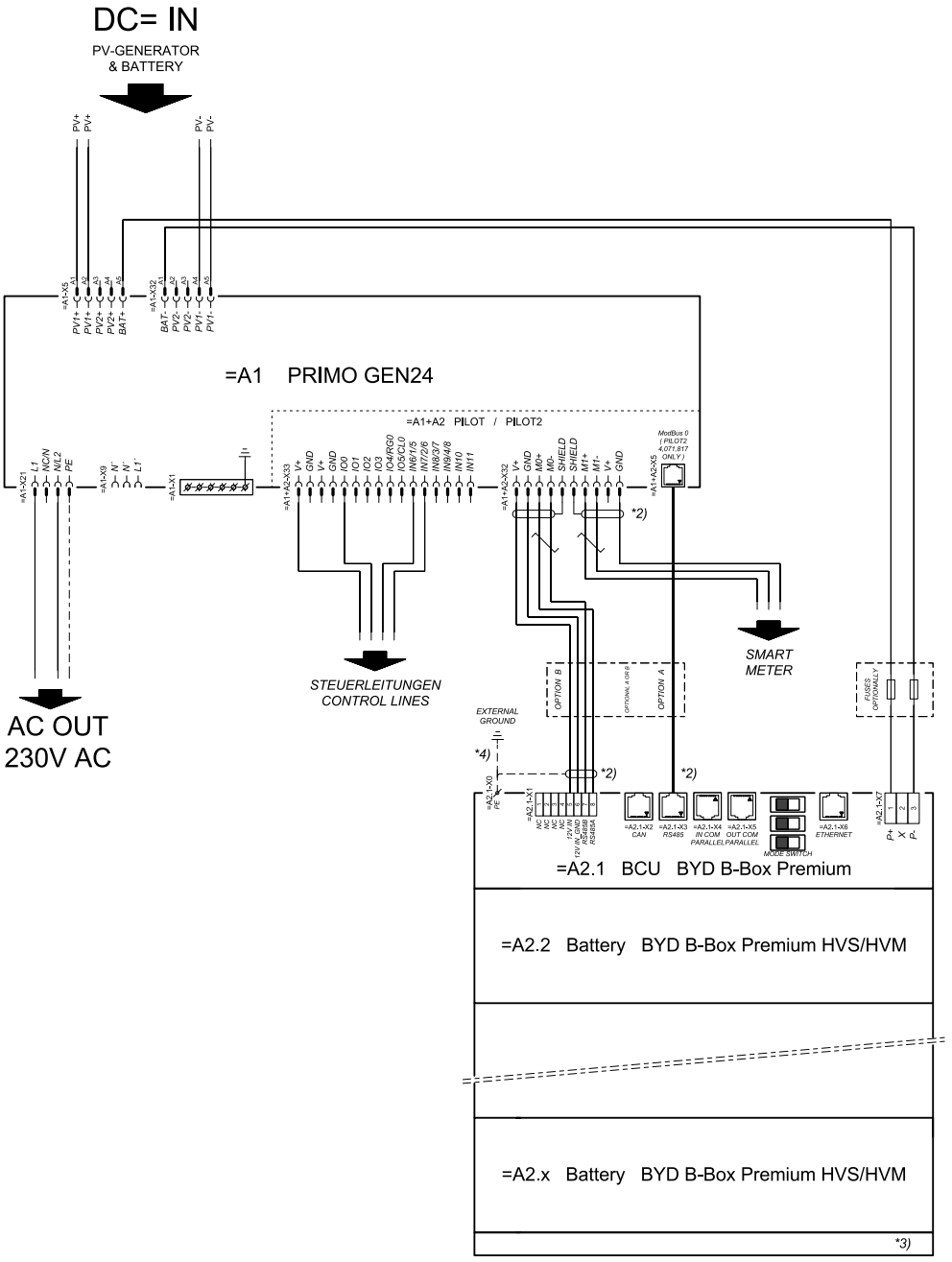
Integrated DC disconnector

General data	
Product name	Benedict LS32 E 7905
Rated insulation voltage	1000 V_{DC}
Rated impulse withstand voltage	8 kV
Suitability for insulation	Yes, DC only
Utilisation category and / or PV utilisation category	In accordance with IEC/EN 60947-3 utilisation category DC-PV2
Rated short-time withstand current (I_{cw})	Rated short-time withstand current (I_{cw}): 1000 A
Rated short-circuit making capacity (I_{cm})	Rated short-circuit making capacity (I_{cm}): 1000 A

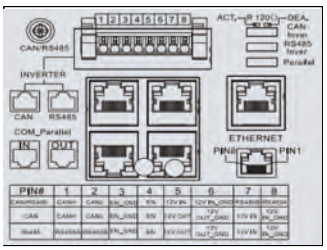
Rated operating current and rated breaking capacity				
Rated operating voltage (U_e)	Rated operating current (I_e)	$I_{(make)}$ / $I_{(break)}$	Rated operating current (I_e)	$I_{(make)}$ / $I_{(break)}$
≤ 500 V_{DC}	14 A	56 A	36 A	144 A
600 V_{DC}	8 A	32 A	30 A	120 A
700 V_{DC}	3 A	12 A	26 A	88 A
800 V_{DC}	3 A	12 A	17 A	68 A
900 V_{DC}	2 A	8 A	12 A	48 A
1000 V_{DC}	2 A	8 A	6 A	24 A
Number of pins	1	1	2	2

Circuit diagrams

Fronius Primo GEN24 and BYD Battery-Box Premium HV



connection area at BCU:



SYMBOL DEFINITION:

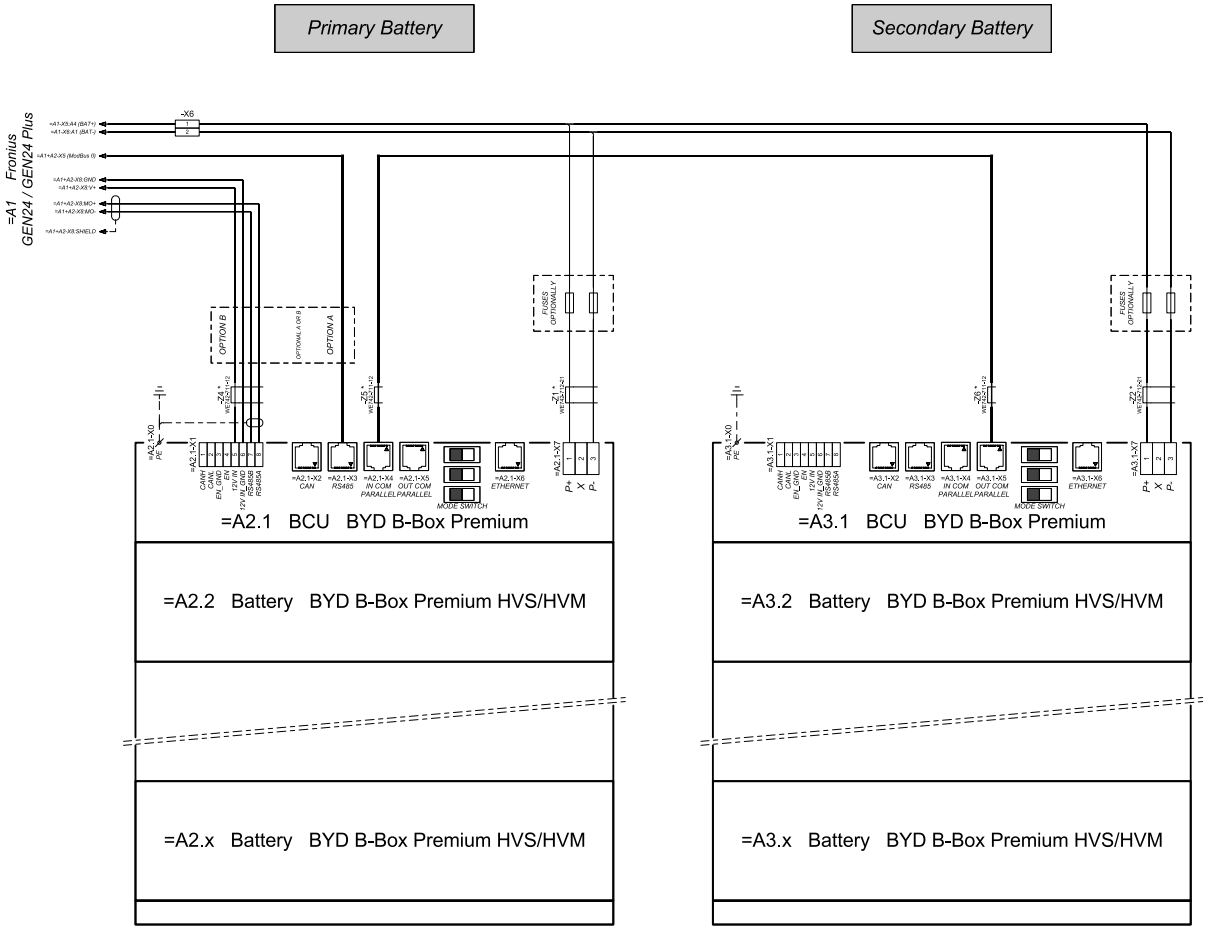
VERDRILLTE LEITUNG
TWISTED PAIR

2) DER MODBUS-KOMMUNIKATIONS-BUS ERFORDERT DEN ABSCHLUSS DER LEITUNGSENDEN MITTELS ABSCHLUSSWIDERSTÄNDE. DETAILS SIEHE WECHSELRICHTER-DOKUMENTATION.
THE MODBUS COMMUNICATION BUS REQUIRES THE TERMINATION OF CABLE ENDS WITH TERMINATION RESISTORS. DETAILS ACCORDING INVERTER MANUAL.

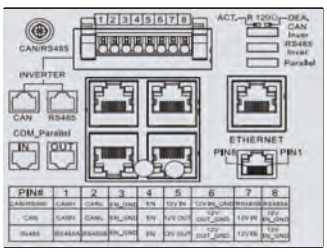
3) MIN/MAX ZULÄSSIGE MODULANZAHL LAUT WECHSELRICHTER-DOKUMENTATION
MIN/MAX POSSIBLE NUMBER OF MODULES ACCORDING INVERTER MANUAL

4) DEN QUERSCHNITT DER ERDUNGSLEITUNG AUS DER DOKUMENTATION DER BYD BATTERY-BOX PREMIUM ENTNEHMEN (-> 10 MM²)
REFER PE CABLE CROSS-SECTION ACCORDING TO BYD BATTERY-BOX PREMIUM MANUAL (-> 10 MM² / AWG7)

Fronius Primo GEN24 with two BYD Battery-Box Premium HV connected in parallel

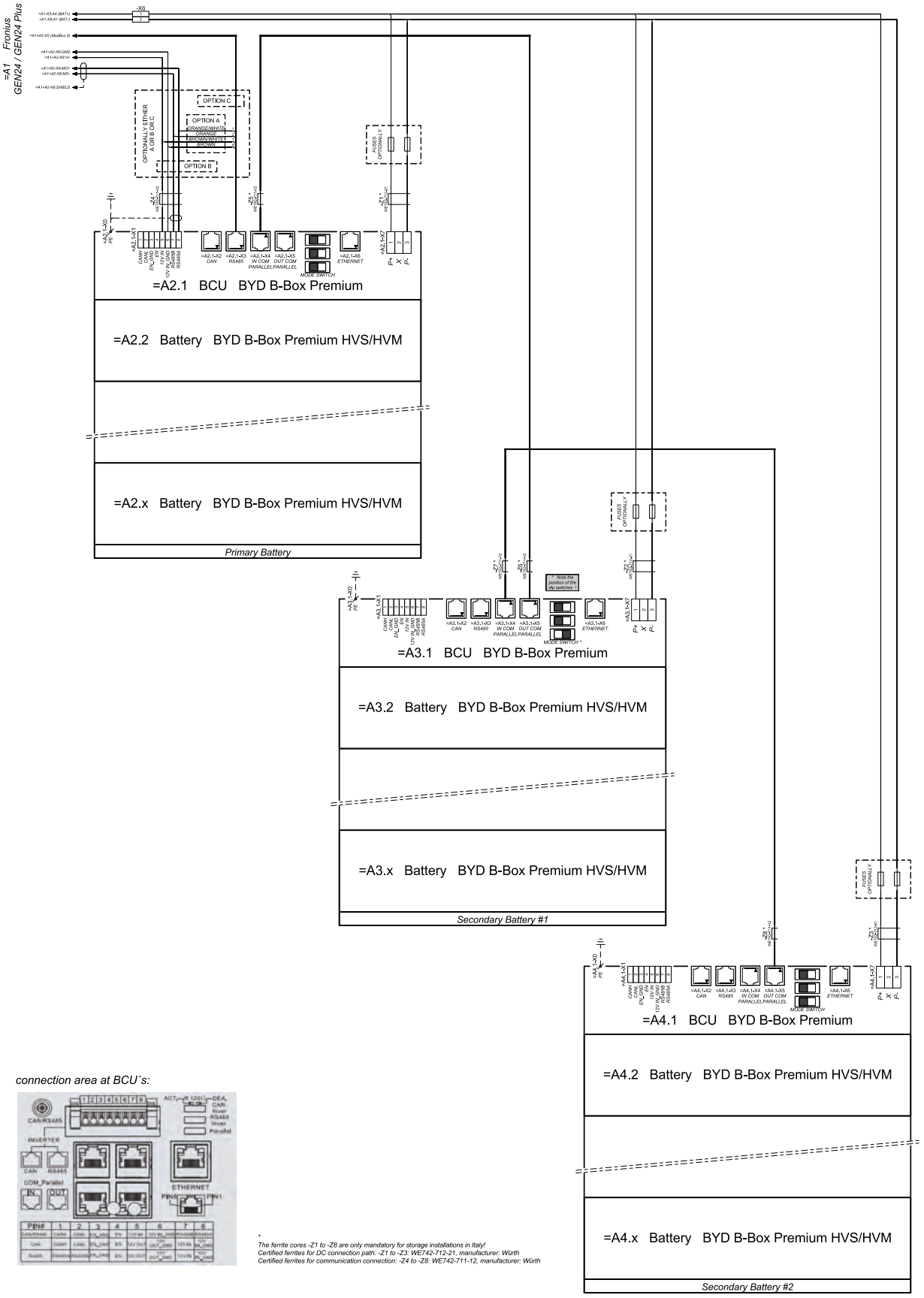


connection area at BCU´s:



*
The ferrite cores -Z1 to -Z8 are only mandatory for storage installations in Italy!
Certified ferrites for DC connection path: -Z1 and -Z2: WE742-712-21, manufacturer: Würth
Certified ferrites for communication connection: -Z4 to -Z6: WE742-711-12, manufacturer: Würth

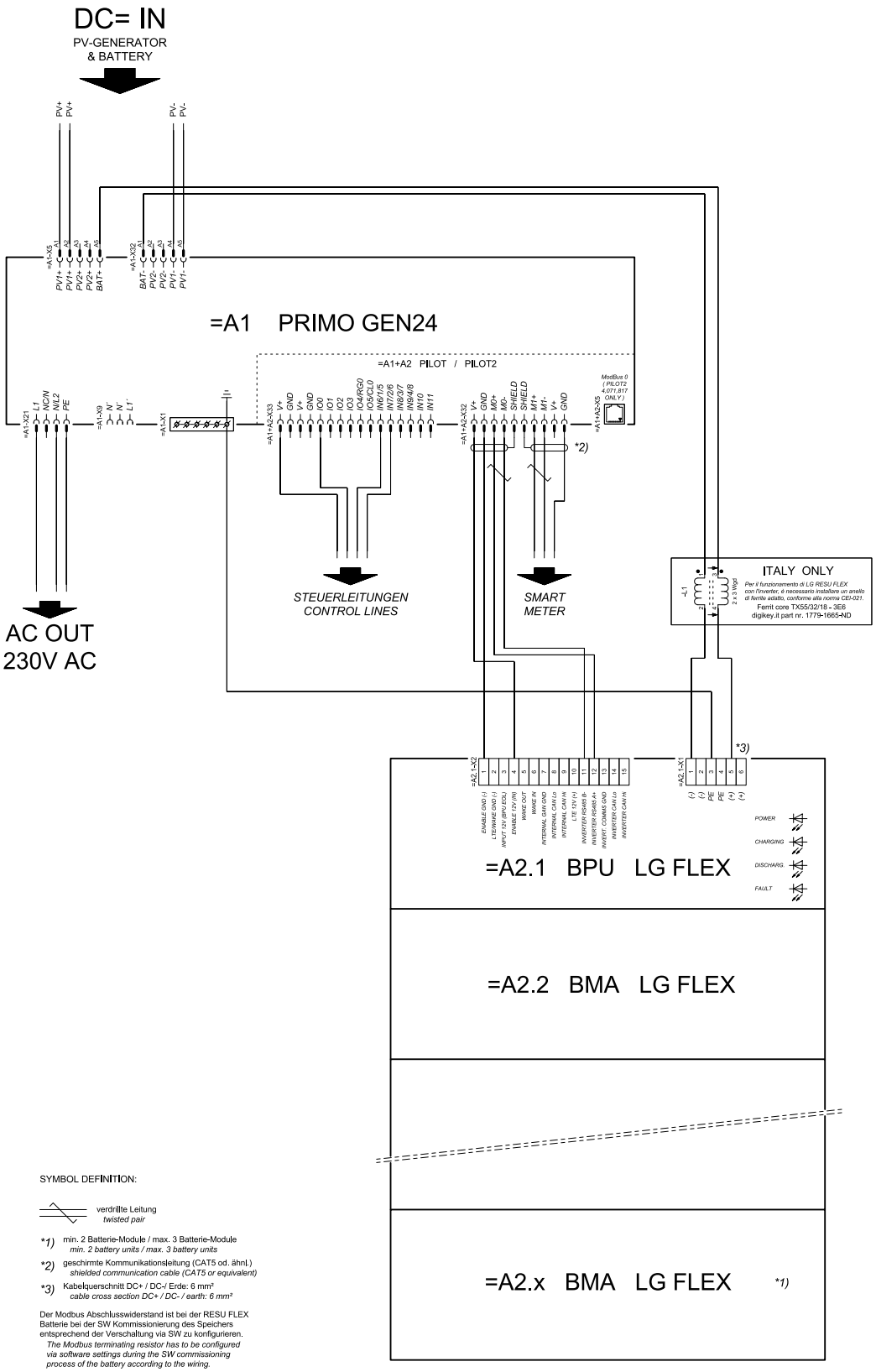
Fronius Primo GEN24 with three BYD Battery-Box Premium HV connected in parallel



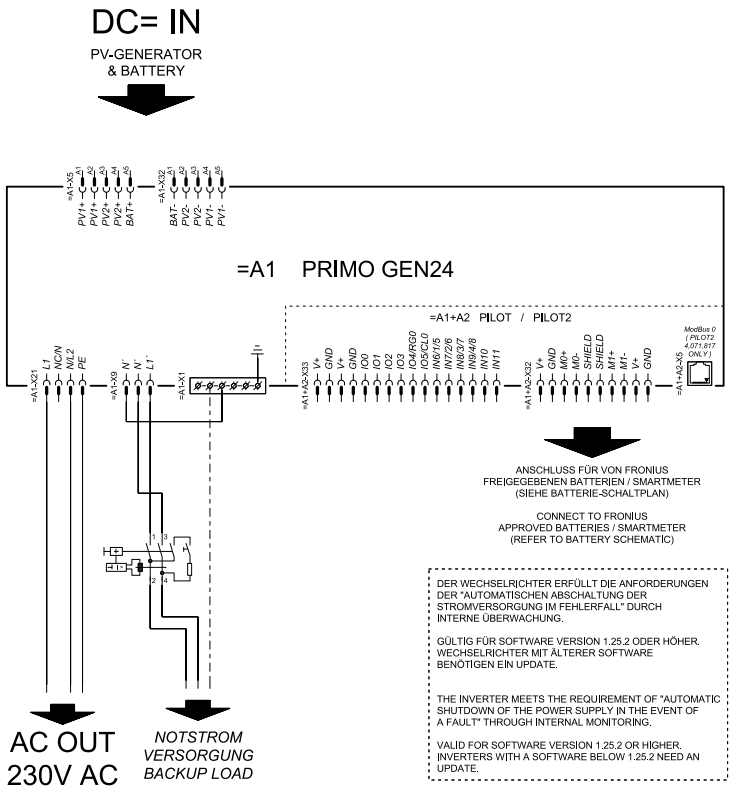
connection area at BCU´s:

The ferrite cores -Z1 to -Z8 are only mandatory for storage installations in Italy!
Certified ferrites for DC connection path: -Z1 to -Z3: WE742-712-21, manufacturer: Würth
Certified ferrites for communication connection: -Z4 to -Z8: WE742-711-12, manufacturer: Würth

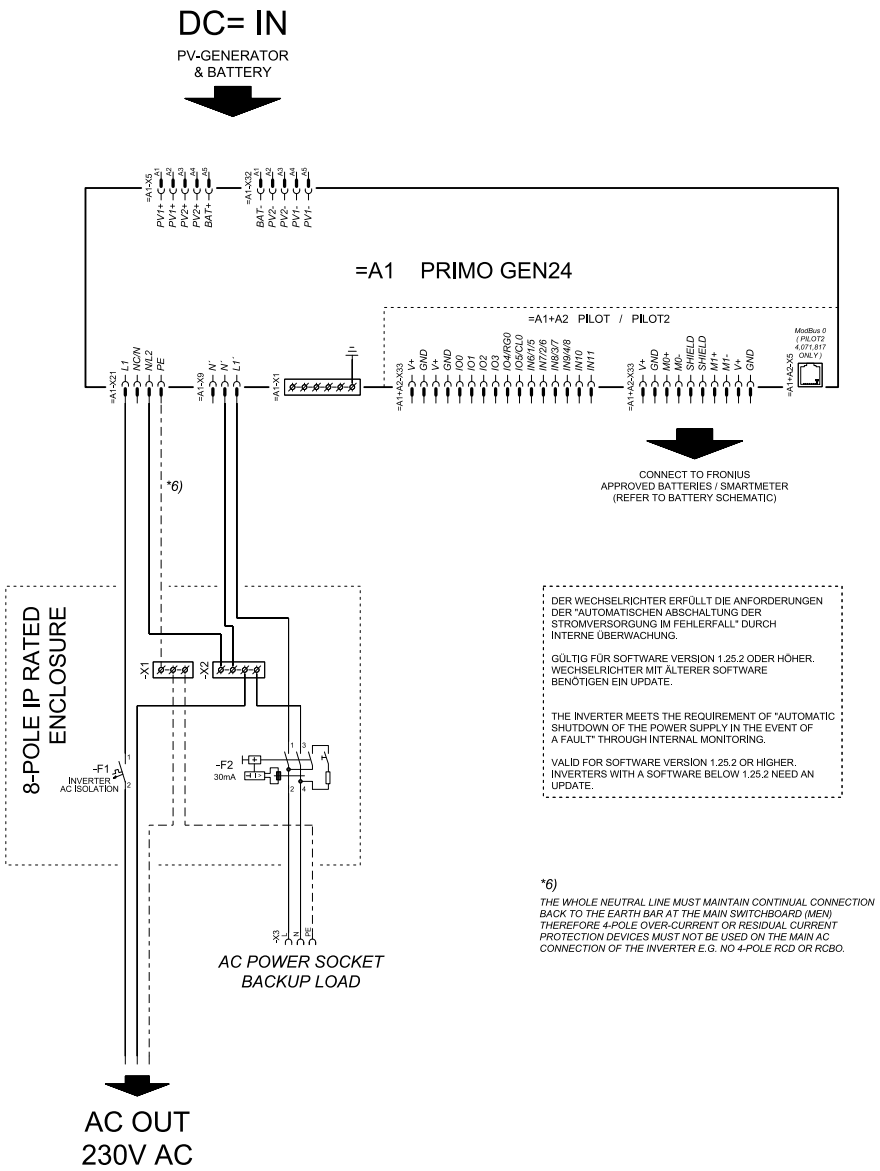
Fronius Primo GEN24 and LG FLEX



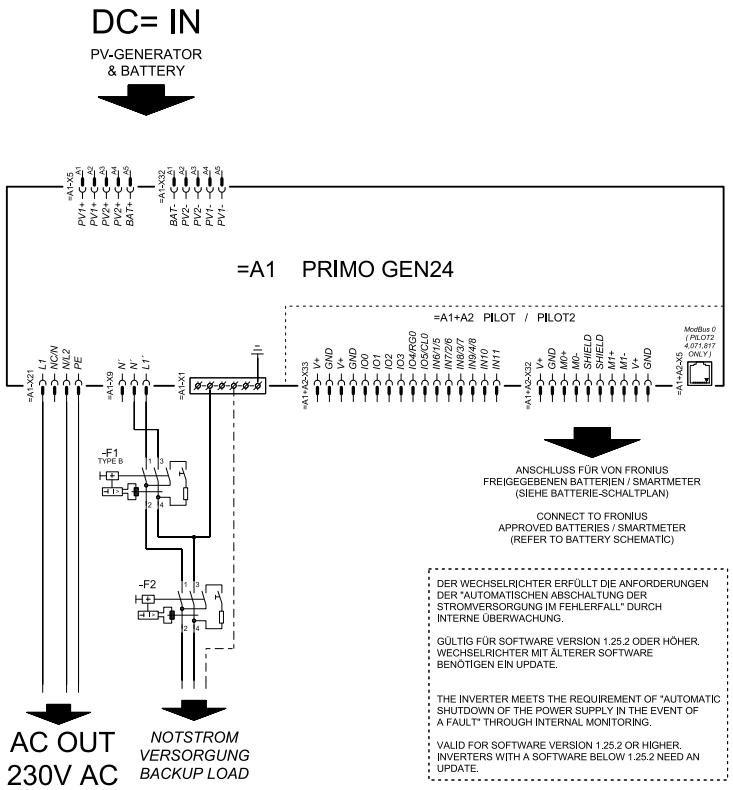
Circuit Diagram - PV Point (OP)



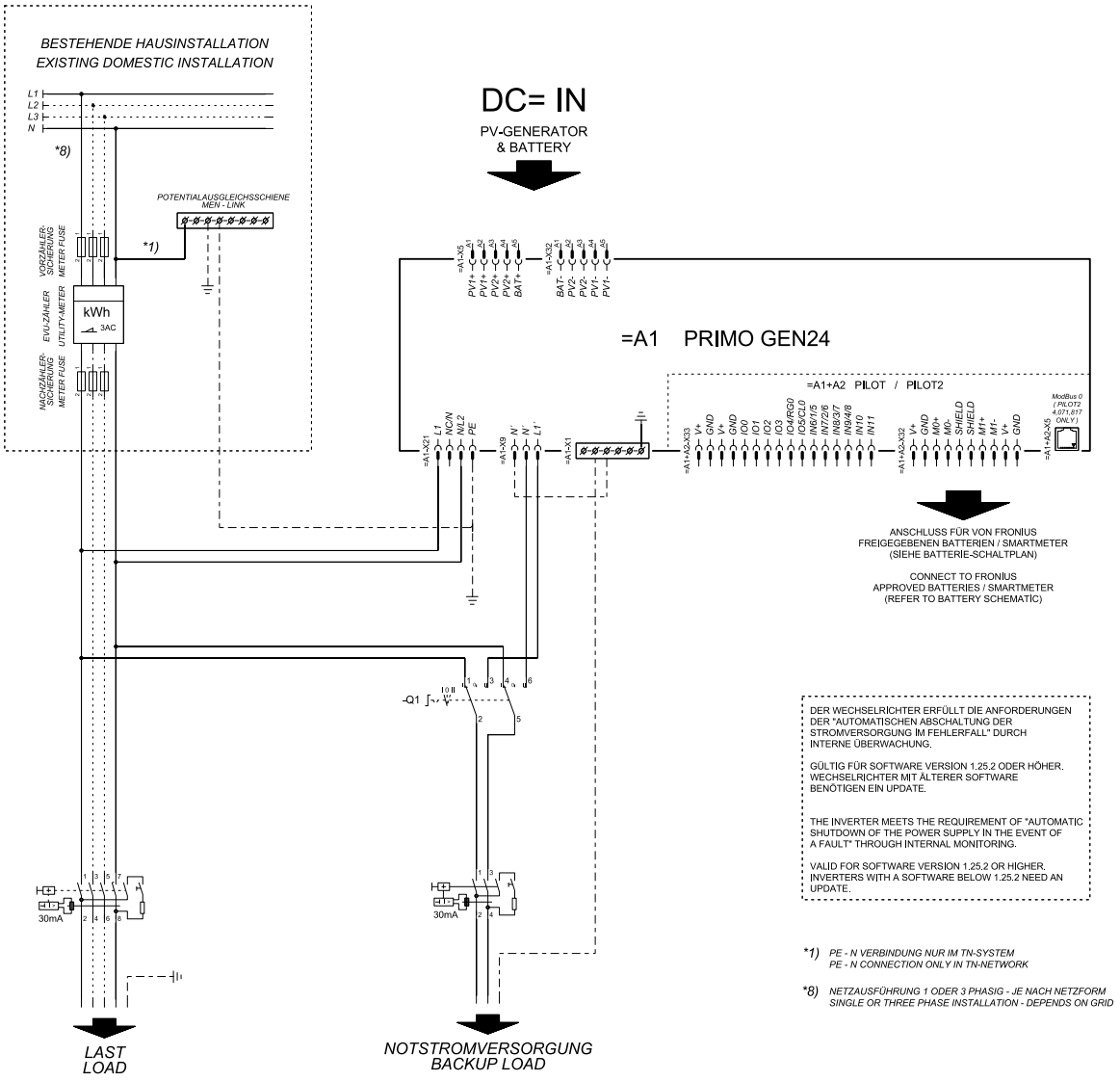
Circuit Diagram - PV Point (OP) Australia



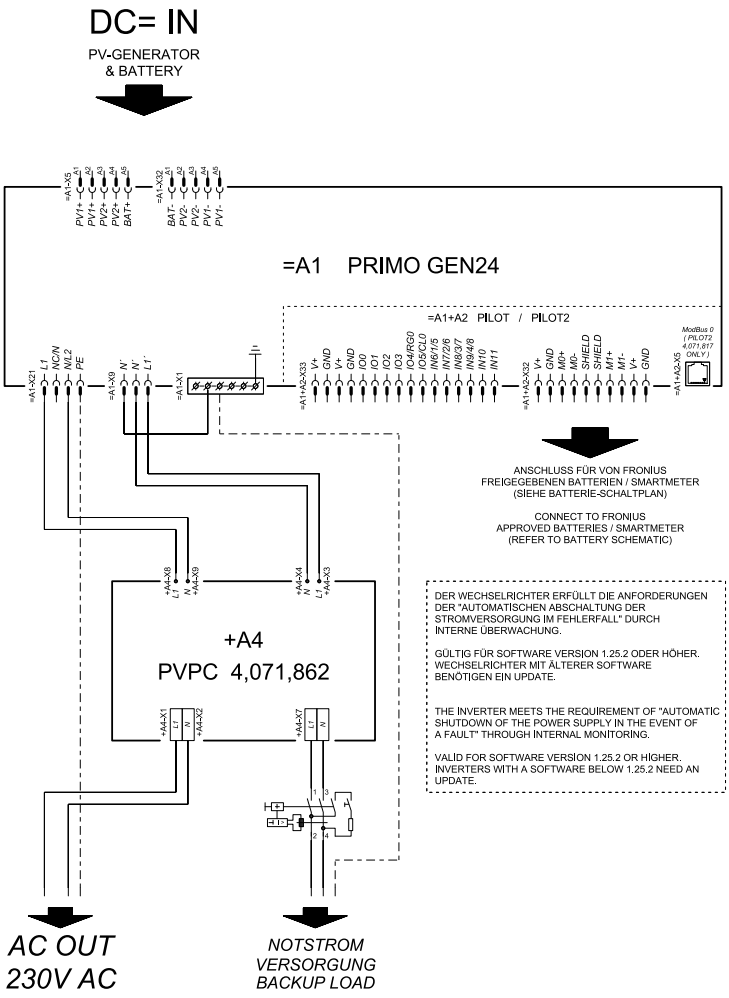
Backup power terminal - PV Point (OP) with battery only for France



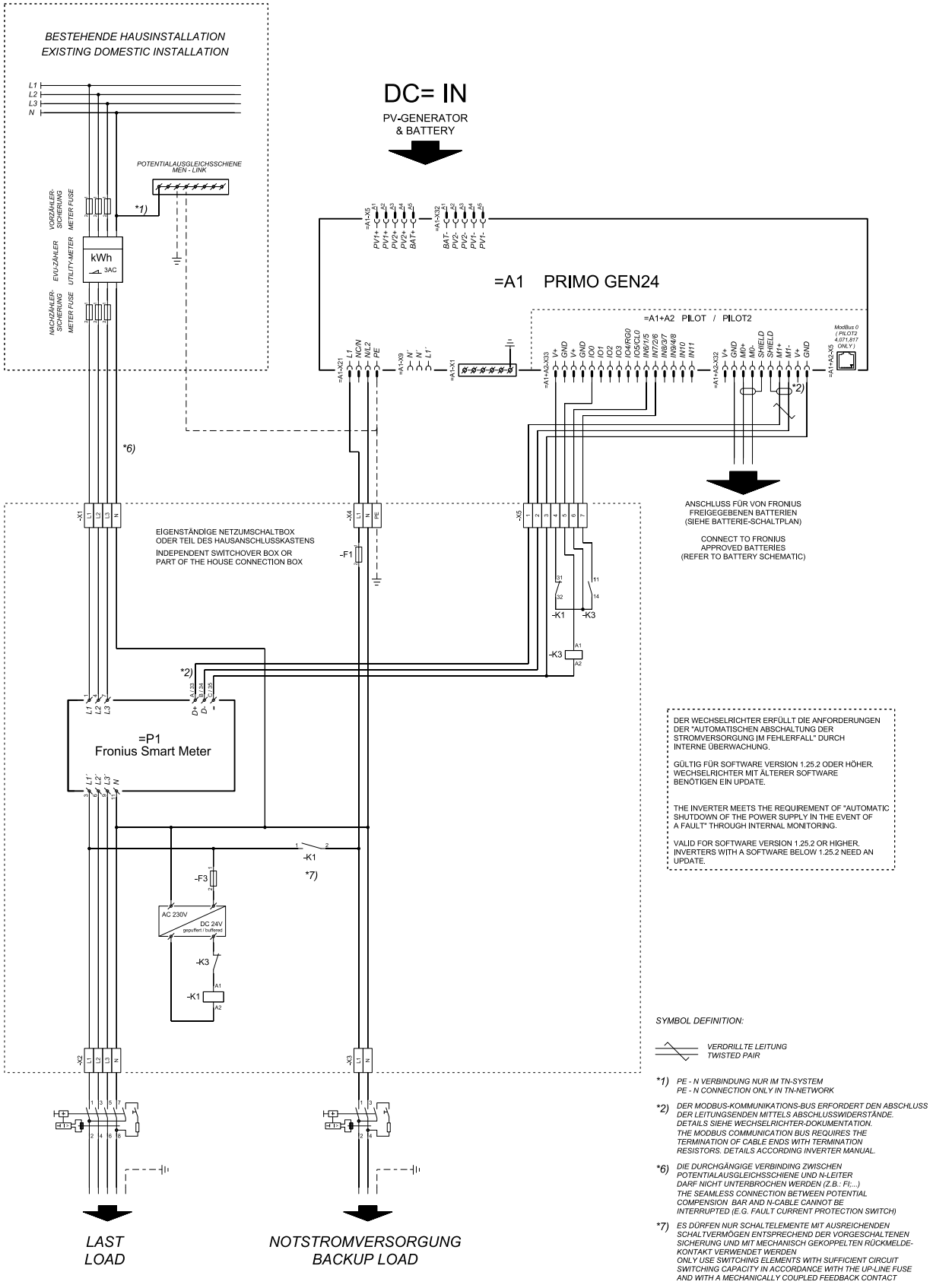
Backup power terminal - PV Point (OP) manual changeover



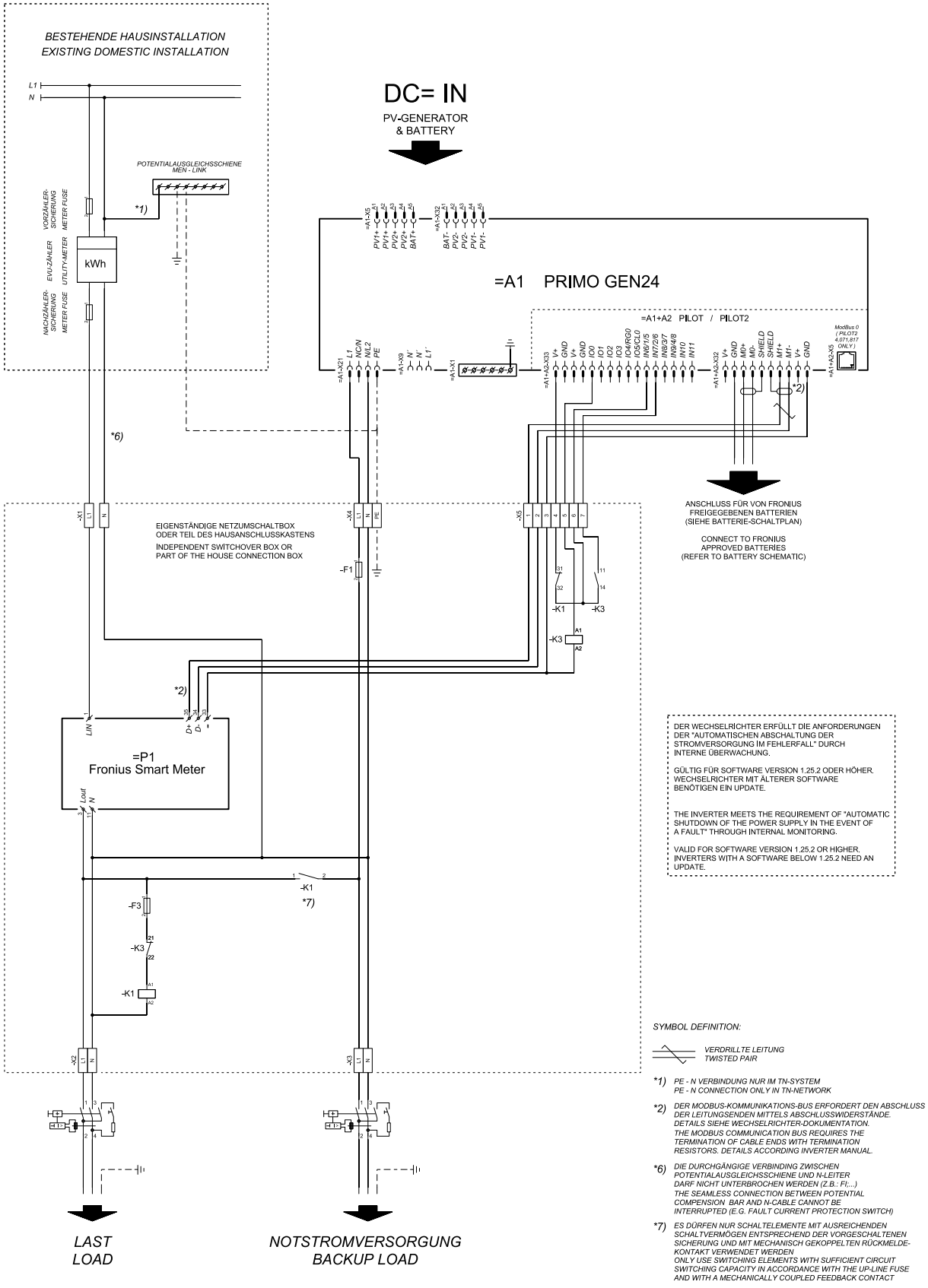
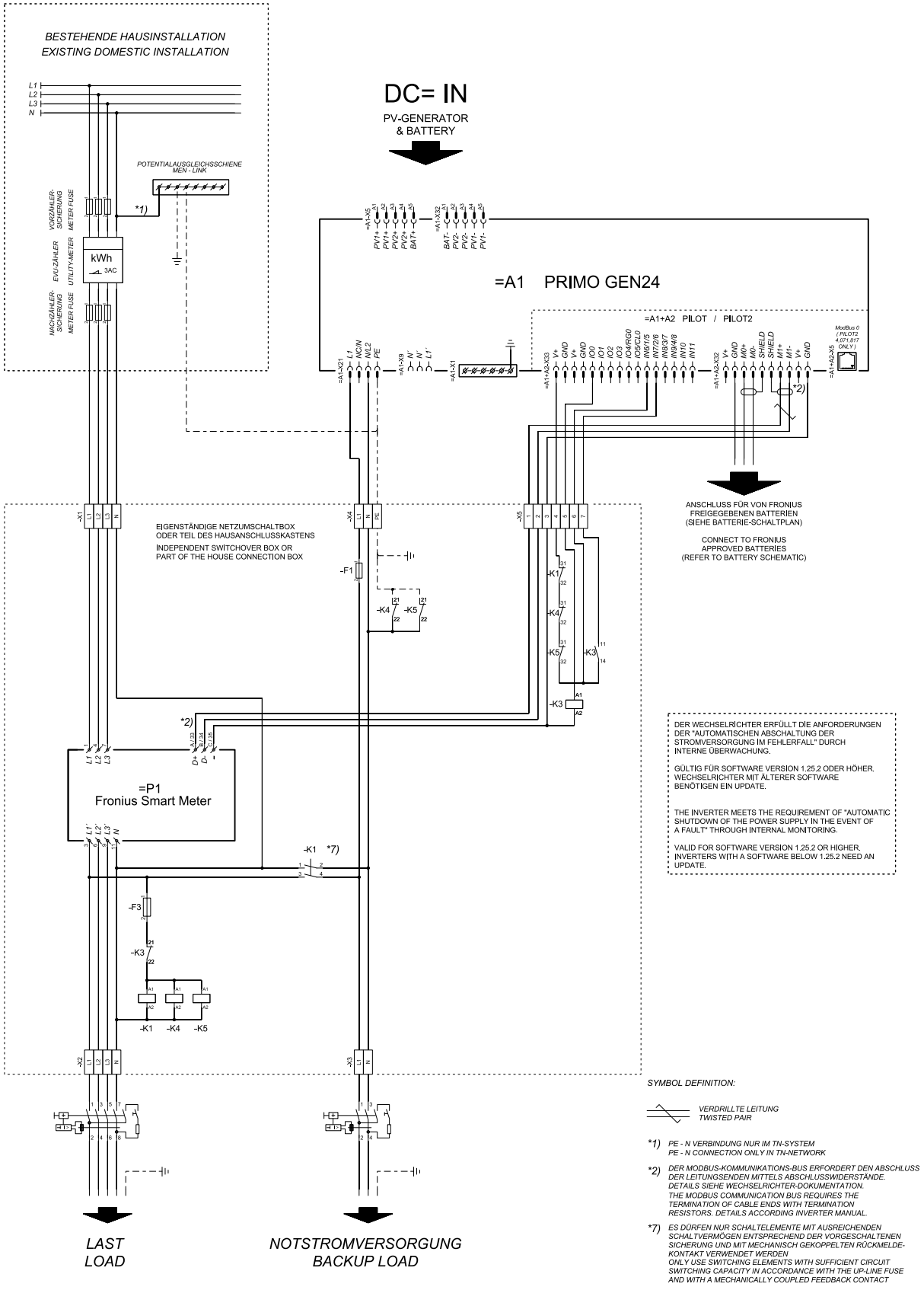
PV Point Comfort



Automatic switch to backup power 1-pin single separation - e.g. Austria



Automatic switch to backup power 1-pin single separation - e.g. Australia



Automatic switch to backup power 2-pin single separation - e.g. Germany