PCU-SC-16DIDO-485-USV-EEM-104 - Switchgear and controlgear assembly

1673231

https://www.phoenixcontact.com/gb/products/1673231

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Power generation plant control cabinet with certified power control unit in accordance with VDE-AR-N 4110/4120/4130 including UPS and measuring device. Router can be retrofitted. Prepared for a customer-specific PCU application with a remote control connection in accordance with IEC 60870-5-104.

Product description

The Phoenix Contact switchgear and controlgear assembly contains a PLCnext Control, which must be extended via a basic application subject to license to create a power control unit (PCU) in accordance with VDE-AR-N 4110:2018 (4120:2018 and 4130:2018) in conjunction with FGW TR8 Rev.09. The licenses for the basic application are available in the PLCnext Store.

The connection to the grid operator’s remote control system is established via a separate Ethernet module via the IEC 60870-5-104 protocol. This means that a hardware firewall is available.

The PLCnext components included in the basic application satisfy the following requirements:

Active power control

• Setpoint definition by the grid operator and third parties
• P(f) characteristic curve

Reactive power control

• cos(φ)
• Reactive power control with voltage limitation function
• Q(U) characteristic curve
• Q(P) characteristic curve

Other

• Reactive power prioritizing operating mode
• Controller bypass (bypass mode)
• Monitoring voltage conditions at the grid connection point for connecting the power generation unit after protection is triggered at the power generation unit (VDE-AR-N 4120:2018)
• Multiple instantiation of the PLCnext components is possible for independent closed-loop control of multiple power generation unit types, e.g. , system part 1: PV, system part 2: CHP plant, etc.
• UPS designed for a buffer time of at least 8 hours.

IMPORTANT INFORMATION

The interfaces (power providers, direct sellers, energy measuring devices, power generation units, portal connection, etc.) are to be connected by the user on the basis of the specific project.
The PCU functionality is subject to a license. The license required depends on the maximum possible AC feed-in power. The following licenses are available from our e-shop:

• License for a feed-in power rating of up to 270 kW, 1 MW, 2 MW, 5 MW, 10 MW, 20 MW, 50 MW, and UNLIMITED (no limit on the feed-in power)

You can also purchase and download the licenses from the PLCnext Store (www.plcnextstore.com/eu/app/346).

Your advantages

- Supports high-level languages
- Customer-specific expansion possible with open interfaces
- Network-operator-specific control of power generation systems
- Stabilizing local power grids

Commercial data

Item number	1673231
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DTHAAA
Product key	DTHAAA
GTIN	4067923221956
Weight per piece (including packing)	45 kg
Weight per piece (excluding packing)	45 kg
Customs tariff number	85371098
Country of origin	DE

Technical data

Notes

Notes on operation	To operate the product, you will need a product-specific license based on the AC feed-in power of the generating plant. You can purchase the license in the PLCnext Store (www.plcnextstore.com/eu/app/346)

Product properties

Product type	Switchgear and controlgear assembly

Insulation characteristics

Protection class	I

Electrical properties

General

Control voltage	24 V DC
Nominal voltage U_N	230 V AC
Nominal current I_N	1.2 A
Nominal power	250 VA

Fuse

Recommended backup fuse:	16 A (Characteristic B, 1-pos.)

Surge protection

Surge protection	Nominal voltage
	Network
	Control voltage (can be retrofitted)
	Serial communication (can be retrofitted)

Output data

Output voltage	24 V DC

Energy storage

Battery capacity	12 Ah
Battery technology	VRLA-AGM

Interfaces

Communication: Erzeugungsanlage

Communication protocol	Ethernet
	Serial
	Modbus
	Sunspec
	All inverter protocols in accordance with the Solarworx library

Communication: Netzbetreiber

Communication protocol	IEC 60870-5-104

Digital inputs

Number of interfaces	16 (extendable, 2 Smart Elements slots free)

Digital outputs

Number of interfaces	16 (extendable, 2 Smart Elements slots free)

Analog inputs

Number of interfaces	0 (extendable, 2 Smart Elements slots free)

Analog outputs

Number of interfaces	0 (extendable, 2 Smart Elements slots free)

RS-485

Number of interfaces	2 (extendable, 2 Smart Elements slots free)

FL SWITCH 1008N

Number of interfaces	8 (RJ45)

2. Network

Number of interfaces	1 (separate Ethernet interface)

Dimensions

External dimensions

Width / Height / Depth	600 mm / 800 mm / 260 mm (Housing dimensions)

Material specifications

RAL color	7035
Material	Sheet steel (dip-primed, powder-coated on the outside, textured finish)

Cable/line

Cable entry

Type of cable entry	Cable gland

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP54
Ambient temperature (operation)	0 °C ... 35 °C
Permissible humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Air pressure (operation)	70 kPa ... 106 kPa (up to 2000 m above mean sea level)

Classifications

ECLASS

ECLASS-13.0	27370190
ECLASS-15.0	27370190

ETIM

ETIM 10.0	EC012357

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(a), 7(a), 7(c)-I

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)

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