SOL-SC-PCU-1-000-2-0-0 - Switchgear and controlgear assembly

1160749

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Control cabinet solution with a PLCnext Control device. Prepared for a customer-specific application with a power generation plant controller. Basis for the feed-in management of power generation systems that feed into medium- and high-voltage grids.

Product description

The Phoenix Contact switchgear and controlgear assembly contains a PLCnext Control device, which must be extended via a basic application subject to license to create a power generation plant controller in accordance with VDE-AR-N 4110:2018 (and 4120:2018) in combination with FGW TR8 Rev.09 for type 1 and type 2 systems. The licenses for the basic application are available in the PLCnext Store.
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 (type 2 systems only)

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 control of multiple power generation unit types, e.g., system part 1: PV, system part 2: CHP plant, etc.

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 power generation plant controller functionality is subject to a license. The license required depends on the maximum possible system power. The following licenses are available:

• Power Control Unit - 250 kW (for an active power sum of up to 250 kW)
• Power Control Unit - 1 MW (for an active power sum of up to 1 MW)
• Power Control Unit - 5 MW (for an active power sum of up to 5 MW)
• Power Control Unit - 10 MW (for an active power sum of up to 10 MW)
• Power Control Unit - 50 MW (for an active power sum of up to 50 MW)
• Power Control Unit - UNLIMITED (no limit to the active power sum)

You can purchase and download the licenses in the PLCnext Store (for links, see the “Downloads” tab).

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	1160749
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DTHAAA
GTIN	4063151169329
Weight per piece (including packing)	33 kg
Weight per piece (excluding packing)	33 kg
Country of origin	DE

Technical data

Notes

Notes on operation	To operate the product, you will need a product-specific license based on the active power sum of the generating plant. You can purchase the license in the PLCnext Store (for the link, see the “Downloads” tab).

Product properties

Product type	Switchgear and controlgear assembly
Design	without special equipment

Insulation characteristics

Protection class	I

Electrical properties

Control voltage	24 V DC
Nominal voltage U_N	230 V AC
Nominal current I_N	10.6 A
Nominal power	135.5 W

Fuse

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

Output data

Output voltage	24 V DC

Energy storage

Charging current	200 mA
Battery capacity	2x 0.8 Ah
Buffer period (Buffer time 1)	45 min (0.5 A)
Buffer period (Buffer time 2)	20 min (1 A)
Buffer period (Buffer time 3)	8 min (2 A)
Buffer period (Buffer time 4)	5 min (2.5 A)
Battery technology	Lead rechargeable battery module

Dimensions

External dimensions

Width / Height / Depth	600 mm / 600 mm / 210 mm (Housing dimensions)

Material specifications

RAL color	7035
Material Housing	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	IP65
Ambient temperature (operation)	-15 °C ... 43 °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

ETIM

ETIM 9.0	EC012357

UNSPSC

UNSPSC 21.0	39121100

Environmental product compliance

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com