PDC2

Compact and scalable remote terminal unit for secondary substations

PDC2 is a compact and scalable remote terminal unit with advanced functions for supervision and control of small to medium sized secondary substations.

The PDC2 base unit has inputs and outputs for smaller secondary substations, and it can be expanded with additional input or output modules. The PDC2 device has a built-in web interface for local and remote configuration using TCP/IP.

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PDC2

RTU, base module PDC2

PDC2 is a compact DIN mounted remote terminal unit with scalable architecture. It has system interfaces for IEC 60870-5-101 och -104. The following objects can be transmitted.

Binary objects: Binary inputs
                   Binary outputs
                   Temperature alarm

Analog objects: Temperature

Other functions

Scalable

The backplane expansion bus allows PDC2 to connect to and identify additional input and output modules. The PDC2 base module powers the expansion modules through the backplane.

Physical User Interface

Active binary inputs and outputs are indicated by separate LEDs.

LEDs also provide status for power supply, internal supervision, and activity of the communication ports.

Web Interface

The PDC2 device has a built-in web interface for local and remote access using TCP/IP. This interface enables the user to access status information and to configure the device. It is also possible to upgrade firmware from the web interface.

Master for Slave RTUs

PDC2 can act master (IEC -101) for slave RTUs in a local bus. The interface is 2- or 4-wire RS485 and can only be used when the device is acting IEC -104 slave.

The master RTU function is specified as an option at order, refer to section 'Ordering Information'.

Technical Data

General

Dimensions[1]:	45 × 111 × 99 mm (w × h × d)
Weight:	220 g
Assembly:	DIN bracket
Ambient temp:	-40 – +70 °C
Supply voltage:	24 – 48 VDC
Supply current[2]:	appr 30 mA at 24 VDC
Standards:	EN 61000-6-2 – Immunity EN 61000-6-4 – Emission Class B EN 61000-6-5 – For installation in medium voltage substations EN 60068-2 – Environmental
Tests according to:	EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-6 EN 60068-2-1 EN 60068-2-2 EN 60068-2-30
EU directives:	ROHS, EMC

[1] PDC2 without expansion modules. The width 45 mm is not taking the backplane contact into account.

[2] PDC2 without expansion modules.

Inputs and Outputs:

Binary inputs:	One group with 9 BI , 24 – 110 VDC. One group with 4 BI, 24 – 110 VDC.
Binary outputs:	Two groups with 4 relays, max 115 VAC / 150 VDC. Breaking current 5 A at 30 VDC.
Analog input:	1 AI, 2- or 3-wire Pt100

Service Port:

USB:	Type B
Ethernet:	RJ45 10/100Base – TX Full Dupl.

Time Synchronisation:

Standard:	IEC60870-5-101/104 or NTP
Clock drift:	Max. 3 ppm

System Port, Slave:

RS485:   Plugin contact at PxC modem front. Both 2- and 4-wire[3] RS485 communication is supported. 1 200 - 115 200 bps. Bus termination can be done by connecting X1:4 and X1:5, also see section 'Overview Diagrams'.

Ethernet: RJ45 10/100Base – TX Full Dupl. (slave only)

[3] PxC is available in two versions – isolated and non-isolated RS485. Isolated PxC can be configured for 2- or 4-wire RS485. Non-isolated PxC is designed for 2-wire RS485.

Communication Protocol, Slave:

Standard: IEC 60870-5-101/104

System Port, Master[4]:

RS485:   Plugin contact at PxC modem front.

[4] The master interface is only available when the device is configured to use the IEC -104 slave interface.

Communication Protocol, Master:

Standard: IEC60870-5-101

Ordering Information

Product Code

Basic version PDC2:   303211

Options

The following extra functionality can be specified upon order.

Software options:

IEC -101 master[5]:   807821

[5] Only available in conjunction with IEC 60870-5-104 slave.

Accessories

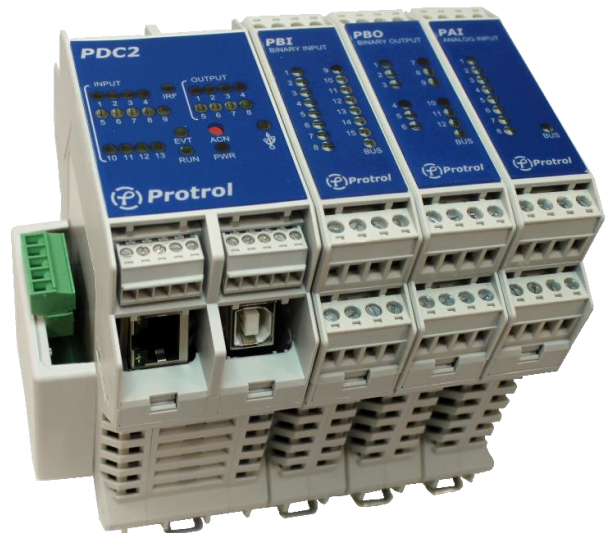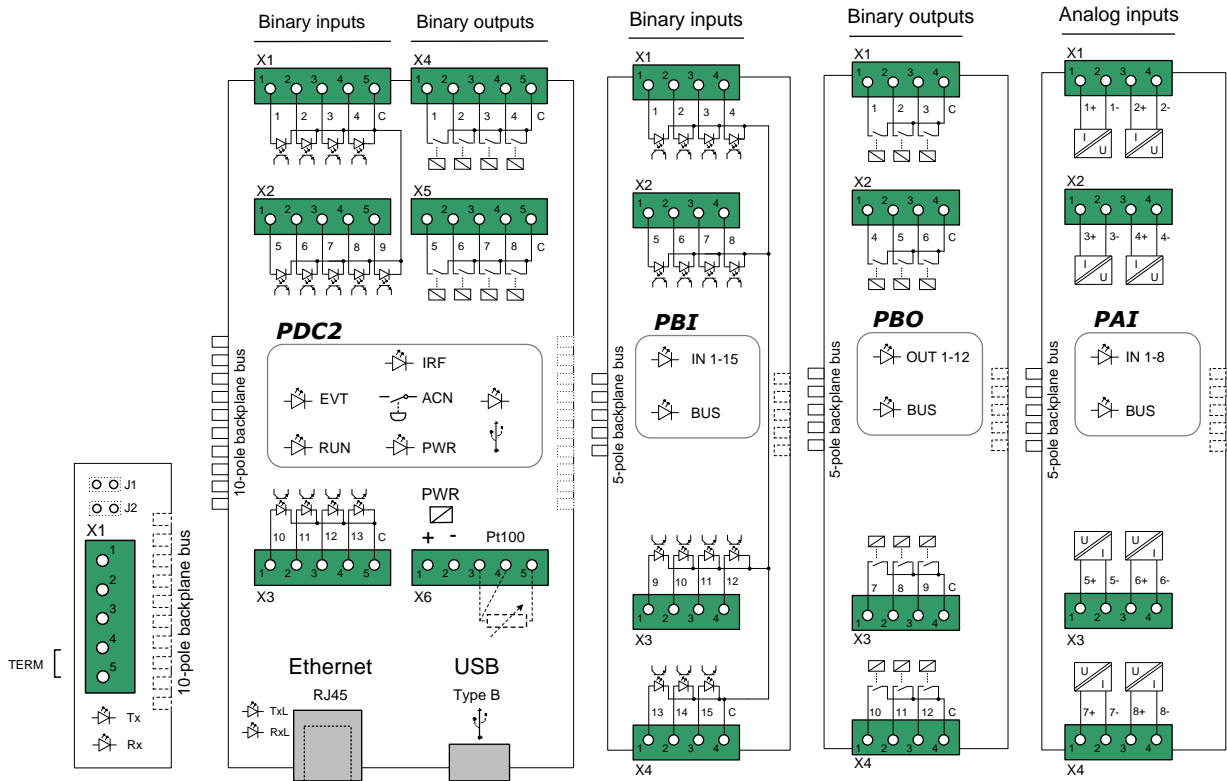|	
PBI, 15 binary inputs:	303220
PBO, 12 binary inputs:	303230
PAI, 8 analog inputs, 0/4-20 mA:	303240
PxC, RS485 modem, isolated RS485:	404330
PxC, RS485 modem, non-isolated RS485:	404331

Binary inputs and outputs of expansion modules have identical technical data as those of PDC2. The analog inputs are isolated.

Overview Diagrams

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Scalable

PDC2 can be expanded with additional module for inputs and outputs. These interface modules are jacked onto the PDC2 device, thus connecting the added modules to the backplane bus. The grey module to the left in the picture below is the compact RS485 modem PxC. This module also jacks directly onto the backplane bus of the PDC2.

The scalable architecture results in a versatile system that is well adapted to both small and large secondary substations.

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