Produal Proxima® CU multifunctional control unit

BACnet is a registered trademark of ASHRAE. ASHRAE does not endorse, approve or test products for compliance with ASHRAE standards. Compliance of listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet International. BTL is a registered trademark of BACnet International.

Produal Proxima® CU is a control unit for advanced room and zone control applications that demand more functionality than traditional controllers can provide. With this control unit you can control, for example, heating, cooling and ventilation using a wide range of actuators.

The control unit has two separate controllers and a cascade controller. The unit has three operation modes for energy saving control functions. You can configure the outputs, setpoints and the controller dead zone separately for each operation mode.

The control unit inputs (6 pcs) are multifunctional, and they support passive NTC10 or PT1000 sensors, 0...10 Vdc transmitter signals and contact functions. You can select the input functions separately for each input, for example, to read temperature or CO_2 measurement, change operation mode using contact functions, override outputs, activate alarm functions, or detect occupancy

The control unit outputs (6 pcs) are multifunctional. They support 0...10 Vdc, 0...20 mA and 24 Vac actuators with different output functions, such as heating, cooling, 6-way valve control, 3-point actuator, fan speed or VAV.

You can connect up to two room units to one control unit for controlling up to two rooms with the same unit. The control unit supports the following devices as room units:

- Produal Proxima® RU
- RT and RTX
- TRI
- ROU-S

If it is necessary to protect the cables from tampering, use the CUCC cable covers.

The control unit supports the following communication protocols: Modbus RTU, Modbus TCP, BACnet MS/TP and BACnet IP.

You can configure the control unit settings with the MyProdual smartphone application, which speeds up the commissioning. You can save the control unit configuration to Produal MyCloud cloud service by using the application. You can also update the control unit firmware using the MyProdual application.

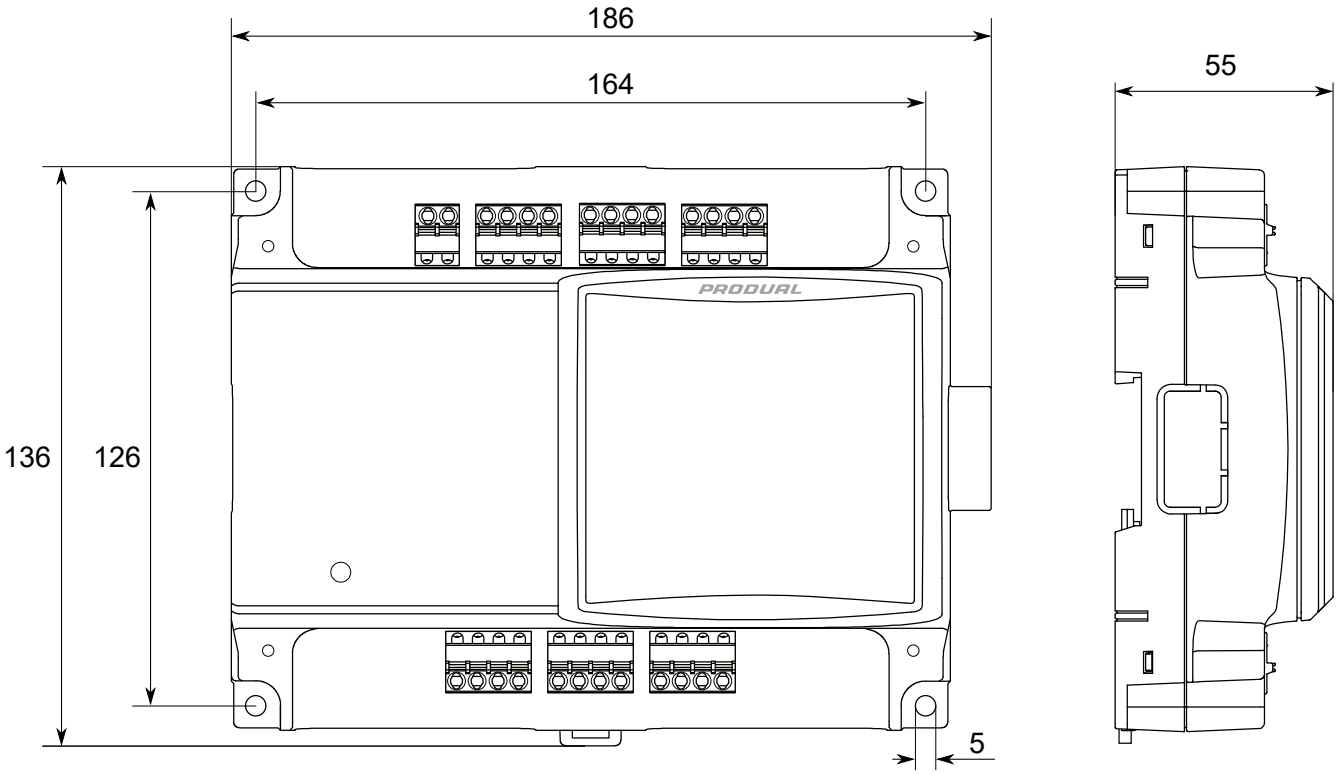
Technical specifications

Property	Value
Supply	24 Vac/dc (22...26 V), < 7 VA **Note:** Only the DC functions work when using DC supply voltage. To get full functionality, use AC supply.
Multifunctional inputs	The device has 6 input connectors.
Voltage input	6 x 0...10 Vdc, freely scalable within this range
Resistive temperature input	6 x NTC 10 / Pt1000
Digital input	6 x resistive contact input
Room units	The device has a room unit connector (*Slave units*), which supports up to two room units.
Controller	Two P/PI controllers, cascade controller
Control functions	Temperature control (heating, cooling, heating and cooling, changeover, thermostat), fan control, ventilation control and floor heating control.
Multifunctional outputs	The device has 6 output connectors.
Voltage output	6 x 0...10 Vdc (-0.5...+2 mA), freely scalable within this range
Current output	2 x 0...20 mA (< 700 Ω), freely scalable within this range
PWM output	4 x 24 Vac (switched to 0 V, <1 A)
Supply output	2 x 24 Vac, total load < 8 A
Modbus communication	
Protocol	Modbus RTU / Modbus TCP
Bus speed	9600*/14400/19200/38400/57600/115200 bit/s
Data bits	8
Parity	none*/odd/even
Stop bits	1* or 2
Unit load	UL 1/4
BACnet communication	
Protocol	BACnet MSTP / BACnet IP
Bus speed	9600*/14400/19200/38400/57600/115200 bit/s
Data bits	8
Parity	none*/odd/even
Stop bits	1* or 2
Unit load	UL 1/4
Default Ethernet network settings	
IP address	192.168.1.1
Subnet mask	255.255.255.0
Gateway	192.168.0.1
Primary DNS server	10.10.1.7

Property	Value
Secondary DNS server	10.10.1.6
Commissioning tool	MyProdual
Appliance class (IEC 60664-1)	III
Operating conditions	
Ambient temperature	-5...50 °C
Ambient humidity	0...90 %rH (non-condensing)
Wiring terminals	1.5 mm^2, spring terminals
Housing	
Protection class	IP22
Materials	PC plastic
Colour	
White models	RAL9016
Black models	RAL9011
Mounting	on the wall surface or on 35 mm DIN rail
Dimensions (w x h x d)	186 x 136 x 55 mm
Warranty	5 years
CE UKCA	Refer to the EU Declaration of Conformity or the UK Declaration of Conformity for compliance information. You can find the declarations on this product's page at www.produal.com.
Company certificates	
Quality management	ISO 9001
Environmental management	ISO 14001

Dimensions

All dimensions are in millimeters (mm).



Wiring

WARNING: Device wiring and commissioning can only be carried out by qualified professionals. Always make the device wirings in de-energised electricity network.

WARNING: External power sources and power wiring must be protected with a fuse or circuit breaker. Rating depends on the overall system load, but the maximum rating for the external circuit breaker is 16 A (limited by internal structure of the product).

WARNING: This product is appliance class III product according to IEC 60664-1. The product may only be connected to SELV (separated extra low voltage) electricity network.

CAUTION: The product may only be connected to overvoltage category I, II or III electricity network according to IEC 60664-1.

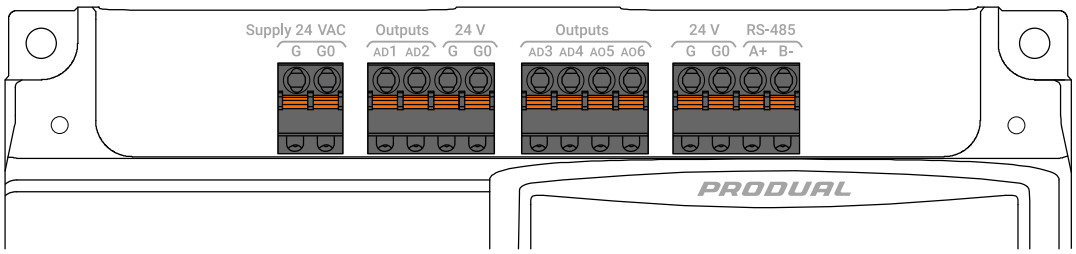
Important: This product has no capability to detect an abnormal condition of input or output ports. External supervising (automated/human) may be needed depending on the application where this product is used.

The device terminals are grouped according to their functions to avoid any wiring mistakes. You can get supply voltage for other devices by connecting them to the additional supply voltage connectors.

Use a maximum of 1.5 mm^2 wires for wiring. Use twisted pair cables (2x2 pairs) for communication (RS-485). Connect room units to the control unit with cables that are less than 10 m in length.

Note: The supply voltage potential must be the same in this device and in the connected 24 Vac actuators.

Top connectors



Supply 24 VAC

G	24 Vac/dc supply input, < 7 VA **Note:** Only the DC functions work when using DC supply voltage. To get full functionality, use AC supply.
G0	0 V

Outputs

AD1	Output 1. 24 Vac (switched to 0 V, < 1 A) / 0...10 Vdc (-0.5...+2 mA) output.
AD2	Output 2. 24 Vac (switched to 0 V, < 1 A) / 0...10 Vdc (-0.5...+2 mA) output.

24 V

G	24 Vac supply output, < 8 A (total load for all supply outputs). Additional supply voltage connectors for connected devices.
G0	0 V

Outputs

AD3	Output 3. 24 Vac (switched to 0 V, < 1 A) / 0...10 Vdc (-0.5...+2 mA) output.
AD4	Output 4. 24 Vac (switched to 0 V, < 1 A) / 0...10 Vdc (-0.5...+2 mA) output.
AO5	Output 5. 0...20 mA (< 700 Ω) / 0...10 Vdc (-0.5...+2 mA) output.
AO6	Output 6. 0...20 mA (< 700 Ω) / 0...10 Vdc (-0.5...+2 mA) output.

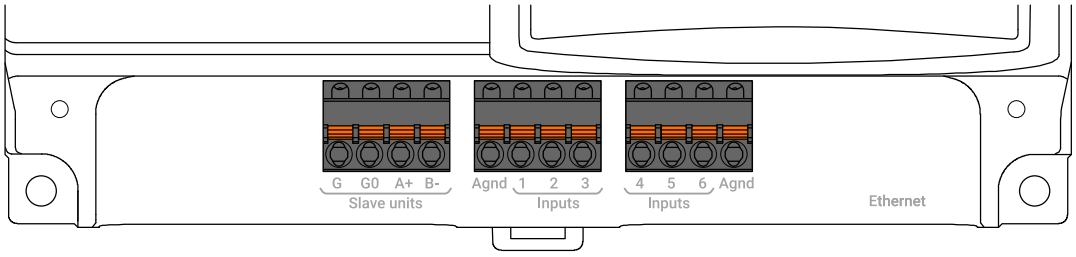
24 V

G	24 Vac supply output, < 8 A (total load for all supply outputs). Additional supply voltage connectors for connected devices.
G0	0 V

RS-485

A+	RS-485 bus connection for Modbus RTU and BACnet MS/TP.
B-	

Bottom connectors



Slave units

G	24 Vac supply for room unit.
G0	0 V
A+	RS-485 bus for room unit.
B-	

Inputs

Agnd	0 V
1	Input 1. NTC10 / PT1000 / 0...10 Vdc / Resistive / Contact
2	Input 2. NTC10 / PT1000 / 0...10 Vdc / Resistive / Contact
3	Input 3. NTC10 / PT1000 / 0...10 Vdc / Resistive / Contact
4	Input 4. NTC10 / PT1000 / 0...10 Vdc / Resistive / Contact
5	Input 5. NTC10 / PT1000 / 0...10 Vdc / Resistive / Contact
6	Input 6. NTC10 / PT1000 / 0...10 Vdc / Resistive / Contact
Agnd	0 V

Ethernet

Ethernet	RJ-45 connector for Modbus TCP and BACnet IP.

Ordering information

	Type	Product number	Description
	CU	520101000	Control unit, white
	CUB	520101003	Control unit, black
	CUCC	5201010400	Cable covers (includes two covers and four fixing screws)