

Produal Proxima® CU-LH - multifunctional control unit



Produal Proxima® CU-LH control unit is designed especially for more advanced room and zone control applications that demand more functionality than traditional controllers. The control unit supports the Modbus RTU communication protocol. The control unit is built on the Produal PUMP® (Produal unified and modular platform).

The control unit is equipped with two separate control loops and a cascade controller loop. The unit has three operation modes for energy saving control functions. The outputs, set points and the controller dead zone can be configured separately for each operation mode.

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

The control unit inputs are multifunctional, and they support passive NTC10 sensors, 0...10 Vdc transmitter signals and contact functions. The input functions can be selected separately for each input e.g. for temperature and CO₂ measurement or contact functions for operation mode changes, output override or alarm functions etc.




The control unit settings can be configured with Produal MyTool® Android application together with MyTool Connect Bluetooth dongle, which speeds up the commissioning. The controller configuration can be saved to Produal MyCloud cloud service by using the application.

Up to two Produal Proxima® RU room units can be connected to one control unit for controlling up to two rooms with the same unit.

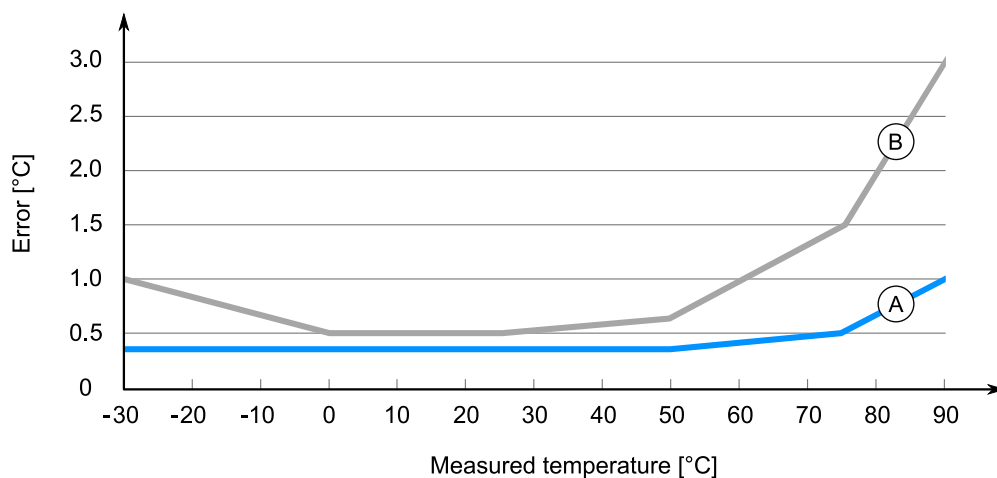
If strain relief is needed for the cables, use the CA-SR strain relief set.

Technical specifications

Property	Value
Supply	24 Vac/dc (22...26 V), < 2 VA NOTE Only the DC functions work when using DC supply voltage. To get full functionality, use AC supply.
Inputs	3 x multifunctional input (NTC 10 / Resistive / Potential free contact / 0...10 Vdc)
NTC 10	-30...100 °C. See the temperature input accuracy from the chapter NTC 10 input accuracy on page 2.
Resistive / contact	0...300 kΩ, ±3...10 %
0...10 Vdc	0...10 Vdc. See the voltage input accuracy from the chapter Voltage input accuracy on page 3.

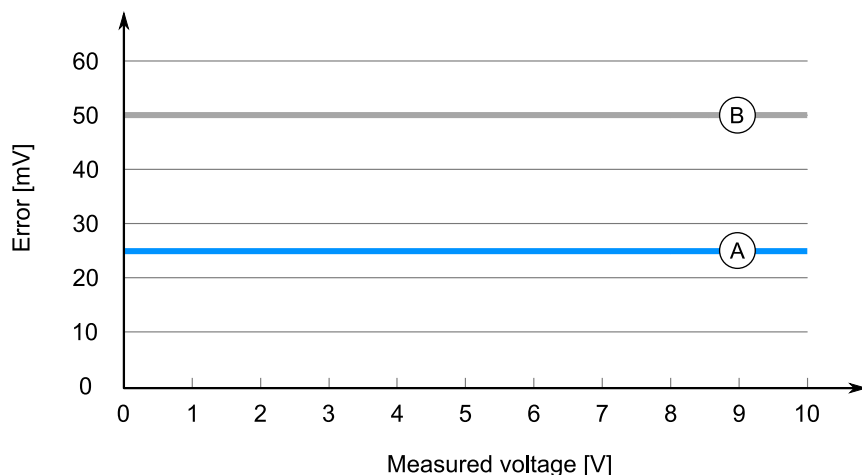
Property	Value
Outputs	4 x multifunctional output (2 x 0...10 Vdc / 24 Vac (PWM) and 2 x 0...10 Vdc)
0...10 Vdc	-0,5...+2 mA
24 Vac	PWM, < 1 A
Supply output	2 x 24 Vac, total load < 6 A
Communication	Modbus RTU
Bus speed	9600*/14400/19200/38400/57600/115200 bit/s
Data bits	8
Parity	none*/odd/even
Stop bits	1* or 2
Network size	up to 127 devices per segment
Commissioning tool	Produal MyTool®
<div>  NOTE You need MyTool Connect for connecting Produal MyTool® to the device. </div> <div>  </div>	
Operating conditions	
Temperature	0...50 °C
<div>  Important: The maximum ambient temperature is 40 °C when there is maximum load (1 A) in two 24 Vac (PWM) outputs. </div>	
Humidity	0...85 %rH (non-condensing)
Wiring terminals	2,5 mm ² , plug-in screw terminals
Mounting	on the wall surface or on 35 mm DIN rail
Housing	ABS, IP44
Product dimensions (w x h x d)	116 x 128 x 47 mm
Package dimensions (w x h x d)	130 x 130 x 50 mm
Total weight (including the package)	270 g

NTC 10 input accuracy



- A. Error in typical ambient temperature (15...35 °C).
B. Maximum error in the full ambient temperature range.

Voltage input accuracy



- A. Error in typical ambient temperature (15...35 °C).
B. Maximum error in the full ambient temperature range.

Wiring



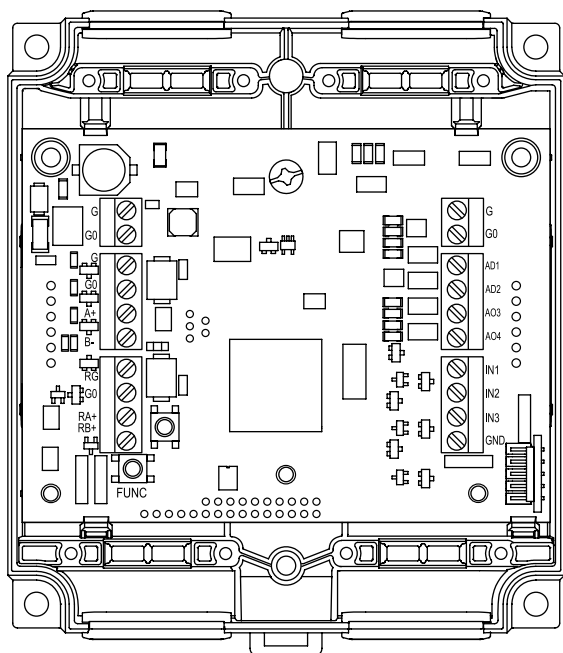
CAUTION: Device wiring and commissioning can only be carried out by qualified professionals. Always make the wirings while the power is switched off.

The device terminals are grouped according to the functions to avoid any wiring mistakes. There are extra G and G0 terminals for connecting the separate supply voltage for other devices.

The terminals are designed for maximum of 2,5 mm² cable area. Please note that the cables for communication (RS-485) should be twisted pair (2x2 pairs). The cable length to the room units should not exceed 10 m.



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



Connectors on the left side:

G	24 Vac/dc supply, < 2 VA NOTE Only the DC functions work when using DC supply voltage. To get full functionality, use AC supply.
G0	0 V

G	24 Vac supply output, <6 A (total load for all supply outputs)
G0	0 V
A+	RS-485 bus connection for Modbus RTU.
B-	

RG	24 Vac supply output for room unit, <0,25 A.
G0	0 V
RA+	RS-485 bus connection for room unit.
RB-	





Connectors on the right side:

G	24 Vac supply output, <6 A (total load for all supply outputs)
G0	0 V

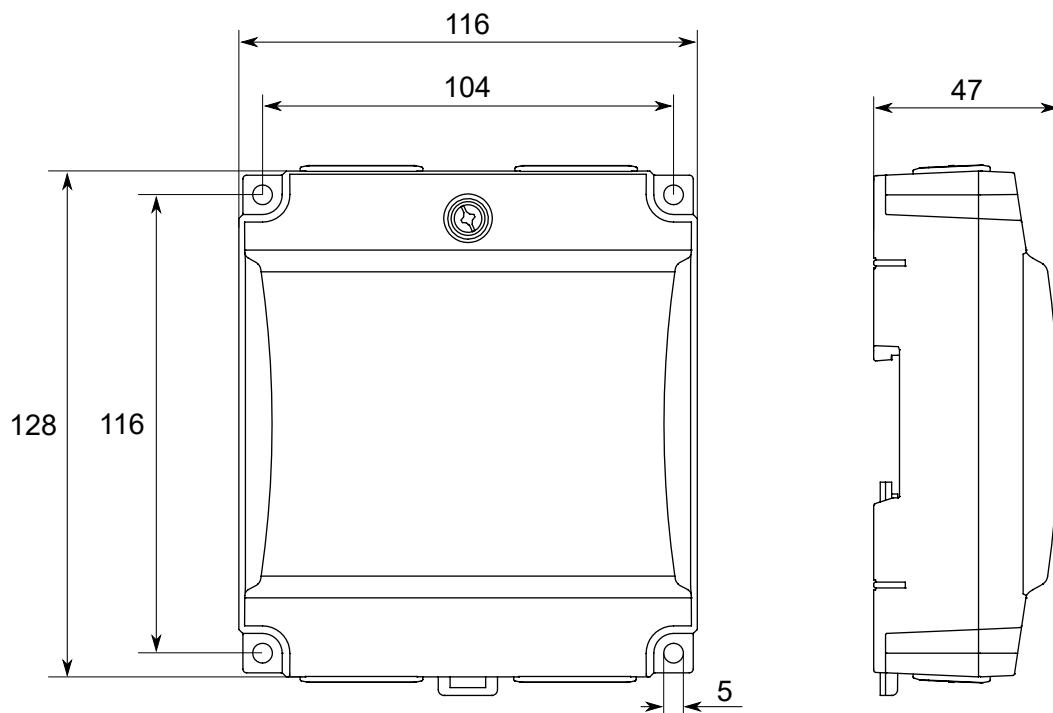
AD1	Output 1. 24 Vac (<1 A) / 0...10 Vdc (-0,5...+2 mA) output.
AD2	Output 2. 24 Vac (<1 A) / 0...10 Vdc (-0,5...+2 mA) output.
AO3	Output 3. 0...10 Vdc (-0,5...+2 mA) output.
AO4	Output 4. 0...10 Vdc (-0,5...+2 mA) output.

IN1	Input 1. NTC10 / 0...10 Vdc / Resistive / Contact
IN2	Input 2. NTC10 / 0...10 Vdc / Resistive / Contact
IN3	Input 3. NTC10 / 0...10 Vdc / Resistive / Contact
GND	0 V

Ordering information

	Type	Product number	Description
	CU-LH-MOD	52011W00000	Control unit, white
	CU-LHB-MOD	52011B00000	Control unit, black
	CA-SR	5201A00S00	Cable strain relief set
	MYT-CON	510002000	MyTool Connect, a Bluetooth dongle for Produal MyTool® connection.

Dimensions



Supported standards and directives

Standard	Description
2014/30/EU	Electromagnetic Compatibility (EMC).
2011/65/EU	Restriction of Hazardous Substances (RoHS2) Directive.
(EU) 2015/863	Commission Delegated Directive, amending Annex II to Directive 2011/65/EU.
EN 61000-6-2:2019	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments.
EN 61000-6-3:2007/A1:2011	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.
EN 61000-4-2:2009	Electromagnetic compatibility (EMC). Testing and measuring techniques - Electrostatic discharge immunity test.
EN 61000-4-3:2006/AMD2:2010	Electromagnetic compatibility (EMC). Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test.
EN 61000-4-4:2012	Electromagnetic compatibility (EMC). Testing and measurement techniques - Electrical fast transient/burst immunity test.
EN 61000-4-5:2014/AMD1:2017	Electromagnetic compatibility (EMC). Testing and measurement techniques - Surge immunity test.
EN 61000-4-6:2014	Electromagnetic compatibility (EMC). Testing and measurement techniques. Immunity to conducted disturbances, induced by radio-frequency fields.