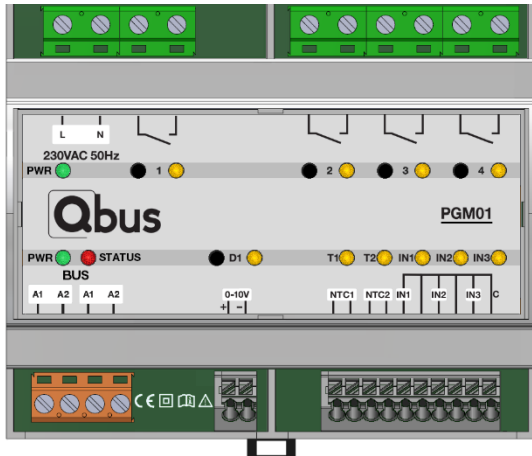


Pump group module for one pump group (PGM01)



PGM01: Pumpgroup module

1. Product description

The pump group module (PGM01) has the necessary I/Os for controlling a single pump group. By entering the serial number of the pump group module into System Manager III, you can easily have the required I/Os and underlying logic automatically created. The pump group module is suitable for controlling various types of pump groups as well as convectors. Both pump groups with 3-point control via 230V control contacts and valves controlled via 0-10V can be connected.

The module has 4 potential-free contacts, each rated for 10A, for controlling a pump and a 3-way valve. There is one 0-10V control for controlling a three-way valve. Two NTC sensors can be connected for temperature measurements. Three freely programmable inputs are provided for potential-free contacts.

The PGM01 is connected to the two-wire bus of a CTD. Once the CTD has an internet connection, the operation and visualization of the outputs can be displayed via Qbus Cloud, Qbus Control App, EQommand, and other compatible visualization software.

A safe operating mode can be set in case communication with the CTD is interrupted.

In case devices with heavy inductive loads, large capacity, or when two-pole applications need to be connected, a contactor should be used. A relay contact of the PGM01 will then activate the coil of the contactor.

Like every Qbus module, the PGM01 has a unique serial number which is entered during configuration in the System Manager III configuration software. All programmed data remains internally stored in permanent memory.

The operating mode of the PGM01 can only be adjusted via the Qbus configuration software (System Manager III).

The following "Modes" are applicable:

- Bistable (relay contacts and inputs)
- Timer 1 (relay contacts and inputs)
- Timer 2 (relay contacts and inputs)
- Timer 3 (relay contacts and inputs)
- Interval (relay contacts and inputs)
- Roller blind 1T (relay contacts and inputs)
- Roller blind 2T (relay contacts and inputs)

- Thermostat (relay contacts and NTC inputs)
- Dimmer 1T and 2T (0-10V control and inputs)

If the module is restarted after a power interruption, the outputs will be in their last position, taking into account the set safe operating mode.

2. Safety instructions



Read the full manual before installing and activating the module.

ATTENTION

- The module must be installed, started up, and maintained by a certified electrical installer in accordance with the applicable legal regulations of the country.
- This module is only suitable for DIN rail installation EN50022. The module must be installed in a fireproof, enclosed distribution box with ventilation grilles.
- Before working on the PGM01, the power must be switched off.
- Danger of injury! Ensure that during operations, there can be no unwanted or incorrect control of the devices.
- Qbus is not responsible for any damage resulting from incorrect handling or misuse of the module.
- The module must not be opened. The warranty will be void if the module is opened!
- Do not use the module in an environment accessible to children

3. Installation and cabling

WARNING: DISCONNECT THE POWER SUPPLY TO THE MODULE BEFORE WORKING ON THE MODULE!

The PGM01 can be used in various ways. However, the following features remain the same for each wiring method:

Placement: nap the module onto a DIN rail DIN EN50022.

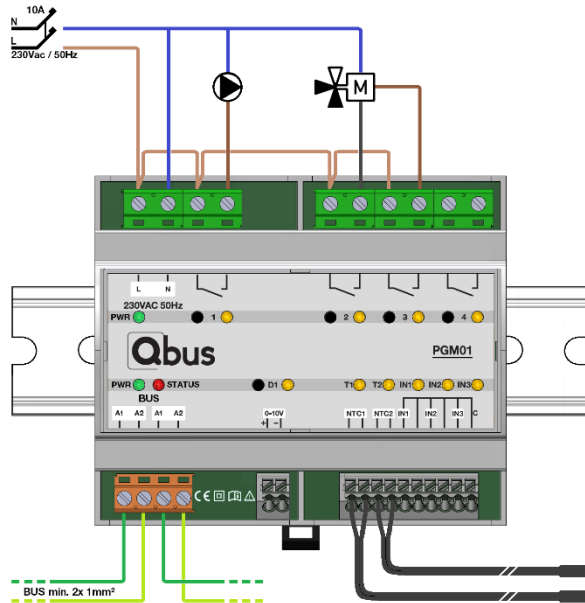
Power Supply: A two-pole automatic fuse with a maximum of C10A must be connected to the 230Vac module power supply. Conductor cross-section: minimum 1.5mm² at 10A. Remove approximately 7mm of insulation from the conductor and screw the conductor into the L-N connector.

Load: The PGM01 is suitable for directly powering and controlling resistive loads with a maximum power of 10A at 230VAC (cos. phi = 1) per relay contact. The relay contacts are single-pole and potential-free. Both solid and flexible wires can be used. The conductor cross-section is minimum 1.5mm² with a protection of up to C10A.

Remove approximately 7mm of insulation from the conductors and screw the conductors into the connectors. For flexible wires, ferrules must be crimped onto the flexible wires before inserting them into the terminal blocks. Use a flat-head screwdriver with a size of 0.5mm x 3mm to tighten the screw of the terminal block.

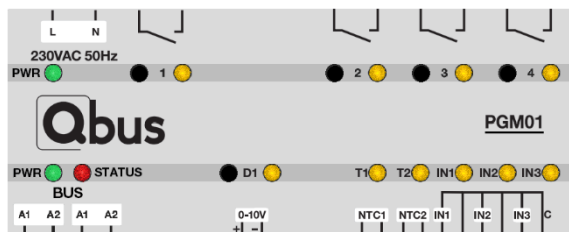
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Only switch on the power after all connections have been checked and the outputs have been connected.



LED indication on the module:

- **Green:** Power (above) OK / Bus OK (below)
- **Red:** Status LED flashes for 2 seconds during startup and then during programming.
- **Orange:** Lights up when an input or output is active.



Manual operation: Used to directly control the outputs on the module. The buttons are positioned next to the LED feedback for the 4 relay outputs and 0-10V dimmer. As long as the button is pressed, the output is on; releasing the button turns it off again.

Inputs: Remove approximately 7mm of insulation from the cable and insert the cable into terminals 1 to A. Both solid and flexible wire between 0.5 – 1.5 mm² can be used; for inserting flexible wire, a screwdriver must be pressed into the designated place on the terminal while inserting the wire. To release and remove wires, press at the designated location on the terminal with a screwdriver and pull the wire out.

Qbus bus cabling:

Any shielded cable with conductors of at least 2 x 1 mm² can be used as bus cable. The green shielded EIB cable is the recommended cable when the conductors are twisted together in pairs to obtain a section of at least 2 x 1 mm².

IMPORTANT: THE BUS CABLE MUST BE SHIELDED AND GROUNDED. CONNECT THE GROUND TO THE BUILDING'S MAIN GROUNDING.

4. Technical Data

General Specifications:

- Power Supply: 230Vac +/-10%, 50Hz - maximum protection C10A/2P
- Breakdown Voltage: tested at 3 kVdc
- Typical Consumption: max. 20mA (all relay outputs on)
- Operating Temperature:
- Operational Temperature: 10°C to 50°C
- Storage Temperature: -10°C to 60°C
- Maximum Humidity: 93%, non-condensing
- Bus Load: 2mA at nominal voltage 13.8V
- Maximum Installation Altitude: 2,000 meters above sea level

Outputs:

- 1 – 4: Potential-free normally open contacts
- Maximum Current:
- Resistive Load (cos.phi = 1): 10A at 230Vac / 5A at 30VDC
- Inductive Load (cos.phi = 0.4; L/R = 7 ms): 5A at 230Vac / 30VDC
- Maximum Load:
- Resistive Load (cos.phi = 1): 2300VA at 230Vac, 150W at 30Vdc
- Inductive Load (cos.phi = 0.4; L/R = 7 ms): 1840VA at 230Vac, 150W at 30Vdc
- Contact Resistance: 100mΩ
- Set/Reset Time: 15ms max / 5ms max
- Lifespan: 20 million operations
- 0-10V output for max. 5mA sourcing control and 20mA sinking control

Physical Specifications:

- Housing: Plastic, self-extinguishing in accordance with UL94-V0
- Protection Rating: IP20, EN60529
- Installation: quick installation on DIN-RAIL, width 6 modules
- Dimensions (HxWxL): 62mm x 107mm x 90mm
- Weight: approximately 0.426 kg

Electrical Protection

- Bus: 13.8Vdc -18Vdc very low safety voltage.
- Compliant with EN50491-5-1, EN50491-5-2, EN60529
- Breakdown Voltage: module tested and approved at 3kVac. (50 Hz, 1 min)
- Non-toxic, compliant with WEEE/RoHS

CE

- Qbus declares that this product complies with all applicable European directives and regulations.
- The EU Declaration of Conformity is available upon request

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5. Dimensioning diagram

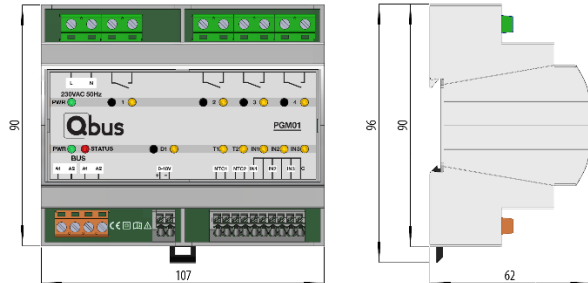


Figure 2 PGM01 Dimensions

6. Explanation of Symbols



Equipment where protection against the risk of electric shock is not only based on basic insulation but also on additional protection such as double insulation or reinforced insulation. There is no possibility of grounding.



Before connecting the device, it is mandatory to read the manual of the respective product. ISO7000-0434



Mains connection (230V) to the power connector. IEC 60417-5036



CE conformity. All conformity declarations are available upon request.

7. Warranty Terms

Warranty Period: 2 years from the date of delivery. The warranty is no longer valid if the module has been opened! The warranty period is extended by 2 years if it was installed by an authorized Qbus installer.

In case of defects, Qbus support must be contacted first. If a defect occurs, modules will be sent free of seal to our service department:

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