Control modules

UNIcon sensor control module for differential pressure/air flow (2nd edition)

The sensor control module for differential pressure and volume flow measures and indicates the pressure or, optionally, the volume flow in a ventilation system. The calculation of the volume flow is performed by entering the K-factor of the fan inlet ring.

Depending on the desired setpoint and control range, the sensor control module generates 0-10 V to control the EC fan or e.g., a frequency inverter.

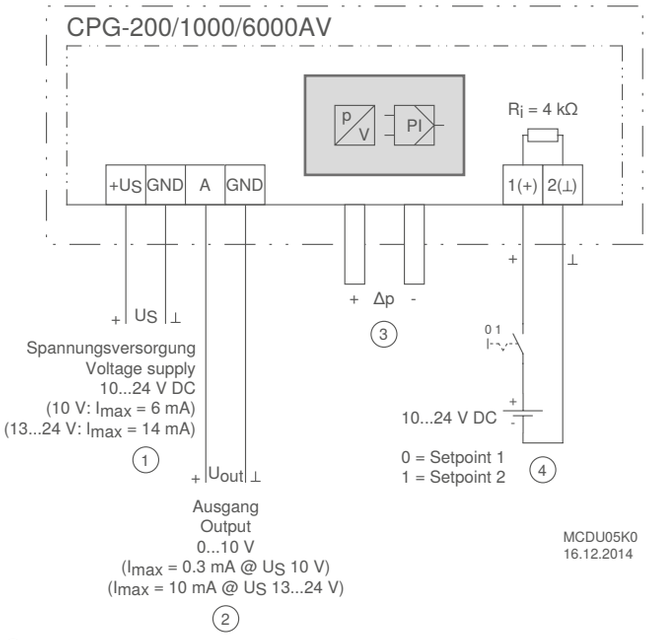
The sensor control module is supplied by the fan or frequency inverter which it controls, e.g., with 10-24 V DC. No additional supply voltage is necessary.

Input for sensors or speed settings through

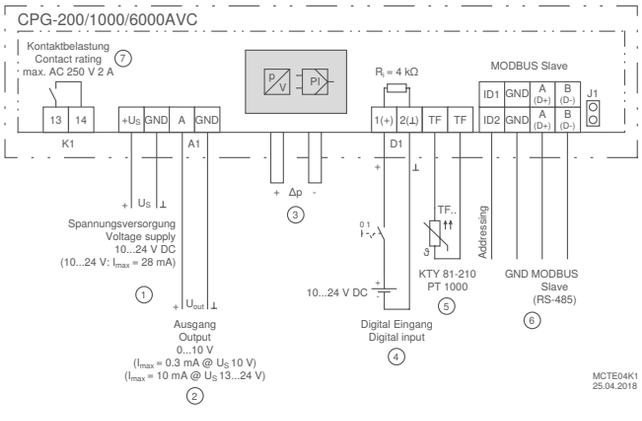
△Pa — Pressure sensor and control intelligence are combined in one device

m³ — Air flow sensor (by input of K-factor) and control intelligence are combined in one device

Connection diagram



① Line
② Outout
③ Connection sockets
④ Voltage input for switch



① Voltage supply 10...24 V DC
② Output 0...10 V
③ Pressure connections
④ Digital input (voltage ON/OFF)
⑤ Outdoor temperature sensor KTY81-210 or PT 1000
⑥ MODBUS Slave interface RS-485 (J1 plugged = Bus terminating resistor 150 Ω active)
⑦ Contact rating max. AC 250 V 2 A

Interference emission according to EN 61000-6-3 (domestic)
Interference immunity according to EN 61000-6-2 (industrial)

Equipment/properties

Integrated display:
For pressure or volumetric air flow display and for programming
It is possible to switch over the display from SI units to Imperial units.

Simple commissioning by operating modes:
Operation as pressure or volumetric air flow sensor
Operation as pressure or volumetric air flow controller

Simple programmability by 3 buttons:
Selection of measuring range, input of setpoints (1/2), Control range, K-factor for volumetric air flow determination, minimum or maximum output signal.

Different measuring ranges can be selected depending on the version:
CPG-200AV(C): 0-50 / 100 / 150 / 200 Pa
CPG-1000AV(C): 0-200 / 300 / 500 / 1000 Pa
CPG-6000AV(C): 0-2000 / 3000 / 4000 / 6000 Pa
Maximum air flow measuring range: 65,000 m^3/h

Voltage input D1 (digital input):
Version CPG-...AV: switch over setpoint 1 or 2
Extended versions CPG-...AVC:
Enable, display of external fault, switch over setpoint 1 or 2

1 analog output:
for activation of EC fans, frequency inverters, other devices

Additional CPG-...AVC
Digital output K1 in CPG-...AVC:
Operating indication, fault indication, external fault at digital input, indication of limits.

Real-time clock with timer in CPG-...AVC:
For example automatic setpoint switch over

Possibility to shift the setpoint depanding from outdoor temperature with CPG-...AVC:
In operation as pressure- or volumetric air flow controller the set-point can be shifted depending from outdoor temperature (to bring in less air during cold outdoor temperature)

CPG-...AVC with interface RS485 für MODBUS RTU:
Integration into network, manually or automatic addressing possible.

The sensor control module is connected to the ventilation system via 2 pressure ports (pressure socket + and -).
The differential pressure registered on the ventilation system affects the sensor on a silicone membrane in the device. The deformation of the membrane is registered through a measuring element and transmitted to the integrated electronics. Function: Pressure rise on +, compared to pressure on - connection.
Optionally, the device can be operated as a pressure sensor, i.e., pressure indicator and proportional output signal 0-10 V corresponding to the set measurement range.
Optional operation as a volume flow sensor, i.e. volume flow (by entering the K-factor of the centrifugal fans) and 0-10 V proportional output signal corresponding to the set measurement range.
Optional operation as a control module for pressure or volume flow. The entered setpoint is compared to the actual value; the 0-10 V output signal results from that. That is used to trigger EC fans, frequency inverters or other devices.

UNIcon sensor control module for pressure
DC 10...24 V

Type	Article no.	Minimum ambient temperature °C	Maximum ambient temperature °C	Protection class	Weight kg	Dimensions (W x H x D) mm
CPG-200AV	320063	-10	60	IP54	0.23	106.3 x 137 x 56
CPG-1000AV	320064	-10	60	IP54	0.23	106.3 x 137 x 56
CPG-6000AV	320065	-10	60	IP54	0.23	106.3 x 137 x 56
CPG-200AVC	320075	-10	60	IP54	0.25	106.3 x 137 x 56
CPG-1000AVC	320076	-10	60	IP54	0.25	106.3 x 137 x 56
CPG-6000AVC	320077	-10	60	IP54	0.25	106.3 x 137 x 56

Dimensions with cable gland