Fiche produit Motralec Ziehl Abegg Control Modules - fiche technique | Motralec
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Control module

UNIcon universal control module with MODBUS Master function (2nd edition)

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All ZIEHL-ABEGG sensors can be combined with the UNIcon CXE/CXG universal control module. The actual value measured at the sensor is compared with the setpoint. This results in the 0-10 V output signal. Two 0-10 V outputs are integrated. These serve to activate EC fans, frequency inverters and other devices.
Optionally, connected field devices can be activated by MODBUS-RTU. ZIEHL-ABEGG frequency inverters or ECblue fans can be conveniently addressed quickly and automatically. Universal control module also contains two separate control circuits, a real time clock and timer functions.
UNIcon universal control modules are especially suitable for the following applications: Refrigeration, air conditioning, general ventilation tasks, clean room technology. For applications in the areas mentioned, fast start-up is possible by selecting preset operating modes.

Input for sensors or speed settings through

0-10V — Setting of the desired speed through device or by external default, e.g. 0…10 V

0-30 0-50 bar — Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar

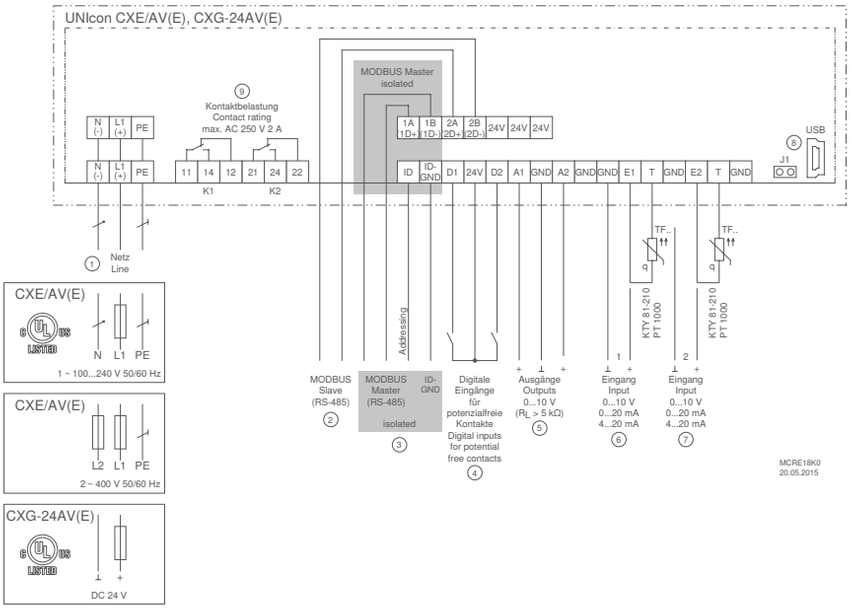
°C — Connection of thermistors, e. g. sensors type TF.. e. g. active sensor type MTG..

△Pa — Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h

m / s — Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s

CO_2 % °C — Connecting additional sensors, e.g. combination sensors, CO_2, sensor signal 0...10 V / 0...20 mA / 4...20 mA

Connection diagram



① Line
② MODBUS Slave
③ MODBUS Master
④ Digital inputs for potential-free
⑤ Outputs A1 and A2
⑥ Input E1
⑦ Input E2
⑧ Jumpter for boot loader
⑨ Digital outputs (Relais)

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Standard conformity

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

Equipment/properties

Multifunction display with clear text display:
Different menu languages are selectable

Simple commissioning by operating modes:
Typical operating modes, e.g. for air-conditioning, refrigeration or ventilation technology can be selected.

Activation of a second control circuit in the selected operating mode:
By assignment of the sensor function input 2 (E2) for the second control circuit.

Simple programmability:
e. g. setting of a minimum speed, limitation of the maximum speed, inversions and limits.
Setting, e.g. for 2-step mode

2 analog inputs for sensors or setting signals:
Analog input E1 and E2: Setting by operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA
Analog input E2: programmable, e.g. comparison with sensor 1, difference to sensor 1, average value formation, setpoint setting, setpoint adaptation (e.g. outside temperature-dependent)

2 digital inputs D1, D2:
Programmable, e.g. enable, switch over setpoint 1 or 2, switchover control or manual mode, switchover E1 or E2, control function reversal, output limitation, display of external fault

2 analog outputs for controlling external speed controllers, EC fans, other devices:
Analog output A1 and A2: Setting by operating modes or manually programmable, e.g. output signal proportional to modulation, output signal proportional to input signal, invertible, 10 V constant voltage, group control

2 digital outputs (relays) K1 and K2:
Setting by operating modes or manually programmable, e.g. operating indication, fault indication, limits, external fault at digital input, activation of external devices, e.g. heating, group control fans, etc.

2 interfaces RS485:
③ For connecting ZIEHL-ABEGG field devices with MODBUS RTU interface (e.g. field devices with integrated add-on module “AM-MODBUS”). With the possibility of automatic addressing of these field devices.
② MODBUS Slave function of the UNIcon, for connection to a master control station (GLT).

Set protection/memory for settings:
Activation of set protection against unauthorised access, restoration of made settings

Event memory:
Query of occurred events, operating times etc.

Integrated real-time clock with timer:
The timer function behaves like a digital input, the desired function can be selected accordingly. Up to four switching times per day can be set for the desired function.

Optional equipment

Z-Modul-B02, article no. 380099, as additional I/O expansion.
- Two additional inputs E3 + E4 (0-10 V), option to program as digital inputs (see inputs D1,D2)
- One additional analog output (0-10 V), adjustable (see output A1, A2)

AM-BACNET-U, article no. 349088, for integration of the UNIcon MODBUS Master 2nd edition
into BACNET networks.

UNIcon universal control module, with UL authorisation (2nd edition)
1~ 100...240V 50/60Hz

Type	Article no.	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		A	W	°C		kg	mm
CXE/AV	320066	10	10	55	IP54	0.63	166x175x60
CXE/AVE	320067	10	10	55	IP00	0.55	182x118x57.5

UNIcon universal control module, with UL authorisation (2nd edition)
24 V DC, max. 70 mA

Type	Article no.	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		A	W	°C		kg	mm
CXG-24AV	320068	10	10	55	IP54	0.60	166x175x60
CXG-24AVE	320069	10	10	55	IP00	0.52	182x118x57.5

UNIcon universal control module, without UL authorisation (2nd edition)
2~ 400V 50/60Hz

Type	Article no.	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		A	W	°C		kg	mm
CXE/AV	320070	10	10	55	IP54	0.74	166x175x60

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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.

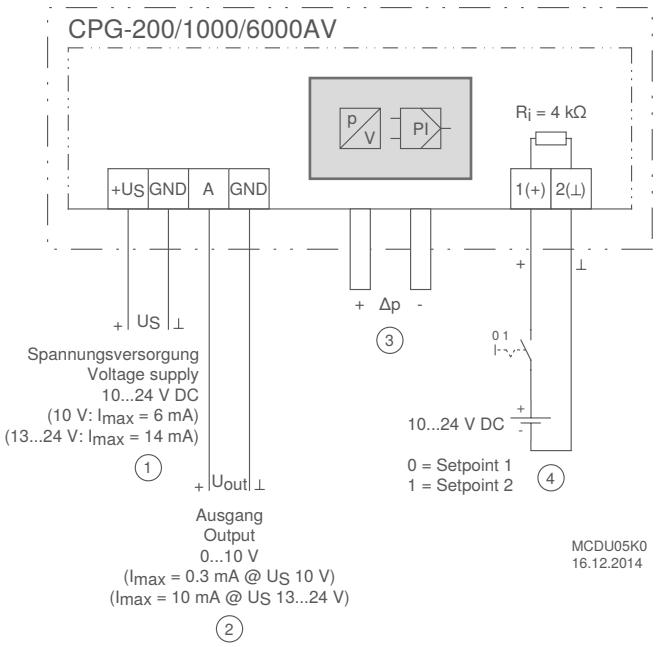
The sensor control module is supplied by the fan or frequency inverter which it controls, e.g., with 10-24 V DC. No additional supply voltage is necessary.

Input for sensors or speed settings through

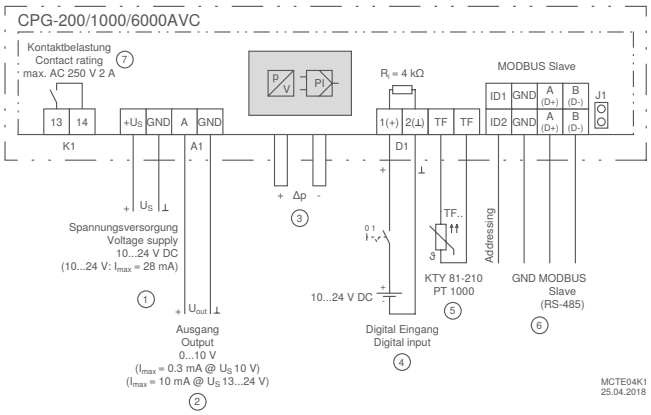
△Pa — Pressure sensor and control intelligence are combined in one device

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

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Standard conformity

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.

Application/Function

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
DC10...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	106.3x137x56
CPG-1000AV	320064	-10	60	IP54	0.23	106.3x137x56
CPG-6000AV	320065	-10	60	IP54	0.23	106.3x137x56
CPG-200AVC	320075	-10	60	IP54	0.25	106.3x137x56
CPG-1000AVC	320076	-10	60	IP54	0.25	106.3x137x56
CPG-6000AVC	320077	-10	60	IP54	0.25	106.3x137x56

Dimensions with cable gland

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Control modules

UNIcon temperature control module (2nd edition)

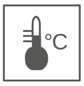
The CTG temperature control module can be combined with various temperature sensors.

The actual value measured on the sensor is compared with the set-point. That produces the 0-10 V output signal. This is used to trigger EC fans, frequency inverters or other devices.

The control module is supplied with 10-24 V DC from the fan or frequency inverter it is triggering. No additional power supply necessary.

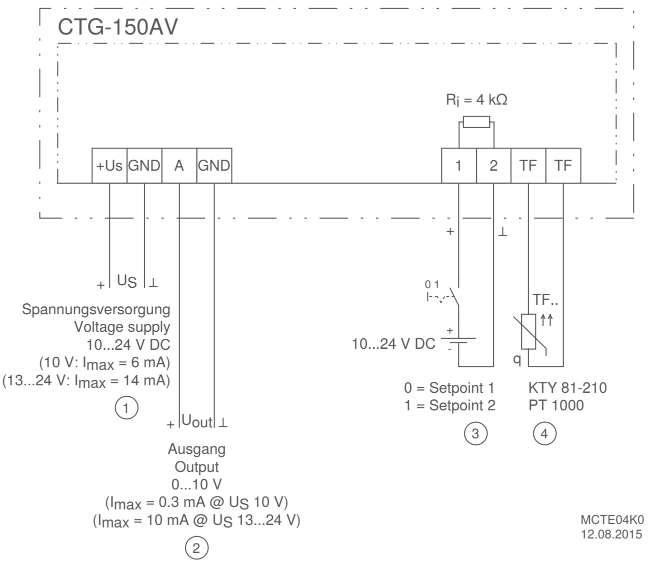
Optionally, the module can also be used as a temperature display. The 0-10 V output signal is then proportional to the set measurement range.

Input for sensors or speed settings through

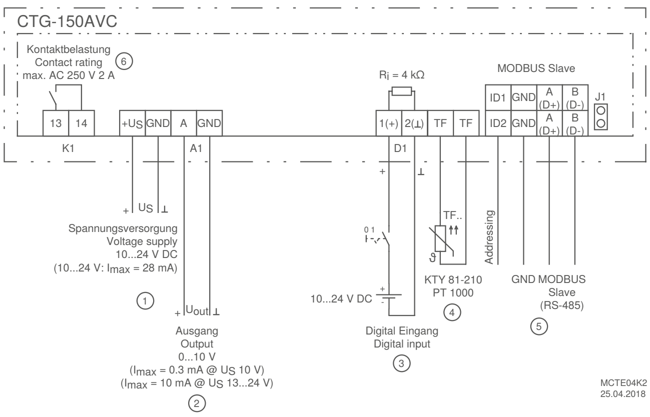


Connection of temperature sensors,
e.g. Type TF.. sensors, device measurement range -50...+150 °C

Connection diagram



① Input 10...24V DC
② Output 0...10 V
③ Temperature sensor KTY 81-210 or PT 1000
④ Voltage input for switch



① Input 10...24 V DC
② Output 0...10 V
③ Digital input (voltage ON/OFF)
④ Temperature sensor KTY 81-210 or PT 1000
⑤ MODBUS Slave interface RS-485 (J1 plugged = Bus terminating resistor 150 Ω active)
⑥ Contact rating max. AC 250 V 2 A

Interference emission according to EN 61000-6-3 (domestic)
Interference immunity according to EN 61000-6-1 (domestic)

Equipment/Characteristics

Integrated display:
For temperature display and for programming

Simple commissioning of the operating modes:
Operation as temperature sensor or temperature controller

Easy to program using 3 buttons:
Select measurement range, enter setpoint (1/2), control range, Minimum or maximum output signal

Adjustable measurement range when using as temperature sensor:
-50 °C...+150 °C

Voltage input D1 (digital input)
Versions CTG-150AV: Switchover setpoint 1 or 2
Extended versions: CTG-150AVC:
Enable, display of external fault, switch over setpoint 1 or 2

1 analogue output:
To control EC fans, frequency inverters, other devices

Additional CTG-150AVC:
Digital output K1 in CPG-150AVC:
Operating indication, fault indication, external fault at digital input, indication of limits two-positition controller “heating/cooling”

Real-time clock with timer in CTG-150AVC:
For example automatic setpoint switch over

CTG-150AVC with interface RS485 for MODBUS RTU:
Integration into network, manually or automatic addressing possible

UNIcon temperature control module
DC10...24 V

Type	Article no.	Minimum ambient temperature °C	Maximum ambient temperature °C	Protection class	Weight kg	Dimensions (W x H x D) mm
CTG-150AV	320073	-10	60	IP54	0.21	106.3x137x56
CTG-150AVC	320074	-10	60	IP54	0.22	106.3x137x56

Dimensions with cable gland

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