

Fiche produit Motralec Ziehl Abegg FKDM AM C 2Nd Edition - fiche technique | Motralec

■ **DEMANDE DE PRIX RAPIDE** : <https://www.motralec.com/demandeContact>

Frequency inverters www.motralec.com / service-commercial@motralec.com / 01.39.97.65.10

Frequency inverters

3~ Fcontrol for compressor control (2nd edition)



The 3~ Fcontrol frequency inverters with integrated all-pole effective sine filter are also available as special versions for controlling compressors in refrigerant technology. The integrated sine filter provides for operation of the compressor which is very kind on the motor. No shielded motor cables are required. The compressor is the component with the greatest energy requirement in the refrigerant circuit. The requirement-based control of this components brings considerable saving potential in comparison with the usual on and off switching operation. The frequency inverters are set as speed controllers for 0 – 10 V at the factory. The Fcontrol can autarchically control to the desired suction pressure in the plant optionally. For this we supply MBG pressure sensors with the measuring range -1 to +7 bar or 0 to 30 bar.

Advantages achieved by Fcontrol frequency inverters are:

- High energy saving
- Operation without shielded motor cables
- The cable length is not limited by the Fcontrol
- Operation without electromagnetic motor noises (ideal for noise sensitive areas)
- No danger to motors (these must not be suitable for frequency inverters) because they are supplied with sinusoidal voltage according to the mains voltage.

Input for sensors or speed settings through



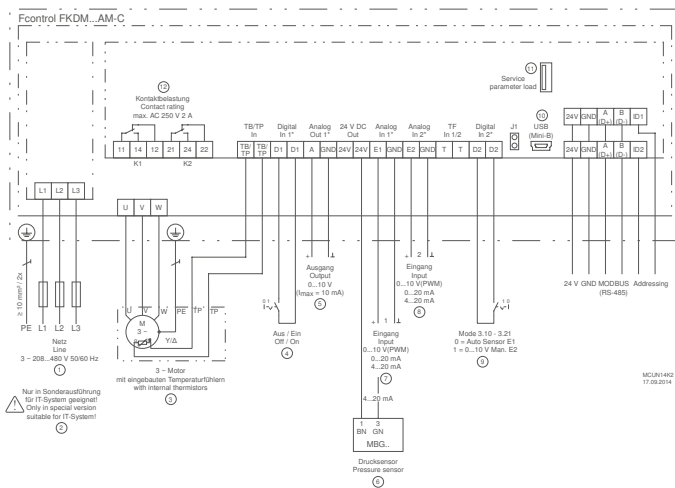
Setting of the desired speed through device or by external default, e.g. 0...10 V



Connection of pressure sensors (refrigerant)

Frequency inverters of the 2nd edition enable modern operation by capacitive keys. This means that no mechanical key is pressed but operation takes place capacitively by touching the key surface. In addition there is a directly selectable On/Off key and two keys the functions of which depend on where you currently are in the menu (softkeys). A commissioning wizard and help texts are available for commissioning. There is a 2nd control circuit in the device and the possibility of retrofitting a clock module as a timer.

Connection diagram



- ① Line
- ② Only suitable for IT system in special version!
- ③ 3~ motor with built-in thermostats
- ④ Off / On
- ⑤ Output
- ⑥ - ⑧ Input
- ⑨ Mode 3.10 - 3.21
- ⑩ USB interface
- ⑪ Addressing
- ⑫ Contact load

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

Equipment/properties

Integrated all-pole effective sine filter

Phase to phase and phase to PE conductor. Thus sinusoidal output voltage. Frequency inverter typical measures such as shielded motor cables are not necessary.

LC multifunction display with clear text display:

Different menu languages are selectable

Simple commissioning by operating modes:

Typical operating modes for compressor control can be selected.

Activation of a 2nd control circuit in the selected operating mode:

By assignment of the sensor function input E (E2) for the 2nd control circuit.

Simple programmability:

Typical settings can be made easily: 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, activation of 2nd control circuit

2 digital inputs D1 and D2:

Programmable, e.g. enable, switchover setpoint 1 or 2, switchover control or manual mode, output limitation, display of external fault, reset

1 analog output A1:

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, activation as output for 2nd control circuit

Setting by operating modes or manually programmable, e.g. operating indication, fault indication, limits, external fault at digital input, group control etc.

Integrated motor protection function:

Connection possibility of PTC thermistors or alternatively thermostats (TB or TP).

Interface RS485 for MODBUS RTU:

Integration into bus system, addressing of the unit manually or automatically possible

Interface USB:

For software update, communication with PC, etc.

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.

Optional equipment

Add-on modules for frequency inverters

- IO add-on module type Z-module, Article No. **380052**

If the integrated inputs and outputs are not sufficient, other inputs and outputs can be created with the Z-module-B. These are also programmable:

- 1 analog input
- 1 analog output
- 3 digital inputs
- 2 digital outputs (relays)

- Clock module Z-module-RTC, Article No. **380056**, for retrofitting real-time clock and timer function. The switching clock can be assigned the same functions as the digital inputs (D1...D2).

Fcontrol for compressor control

3~ 208...480V 50/60Hz

Type	Article no.	Rated voltage V	Rated current A	Rated temperature °C	Max. line fuse A	Max. heat dissipation W	Maximum ambient temperature °C	Protection class	Weight kg	Dimensions (W x H x D) mm
FKDM25AM-C	308290	400	25	55	35	550	55	IP54	21.50	279 x 405 x 260
FKDM32AM-C	308284		32	50	35	700	55		23.10	279 x 405 x 260

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance.

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Ventilateur Ziehl Abegg FKDM AM C 2ND EDITION



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