



Frequency inverters


3~ Icontrol, universal controller with display





The Icontrol frequency inverters are provided preferably for the requirement-based and energy saving speed control of internal rotor motors (IEC standard motors). All ZIEHL-ABEGG sensors can be combined with the universal frequency inverters. The actual value measured at the sensor is compared with the setpoint. This results in activation of the connected fan. It can be controlled to air flow or differential pressure especially for application in air conditioning. Simple start-up is possible with the selectable operating modes available in the device. Processes in other application areas can also be controlled. The frequency inverters can be used flexibly. Versions with integrated main switch are available optionally.


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Setting of the desired speed through device or by external default, e.g. 0...10 V
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Connecting pressure sensors (refrigeration), e.g. type MBG.. sensors, measuring range 0...30 bar, 0...50 bar
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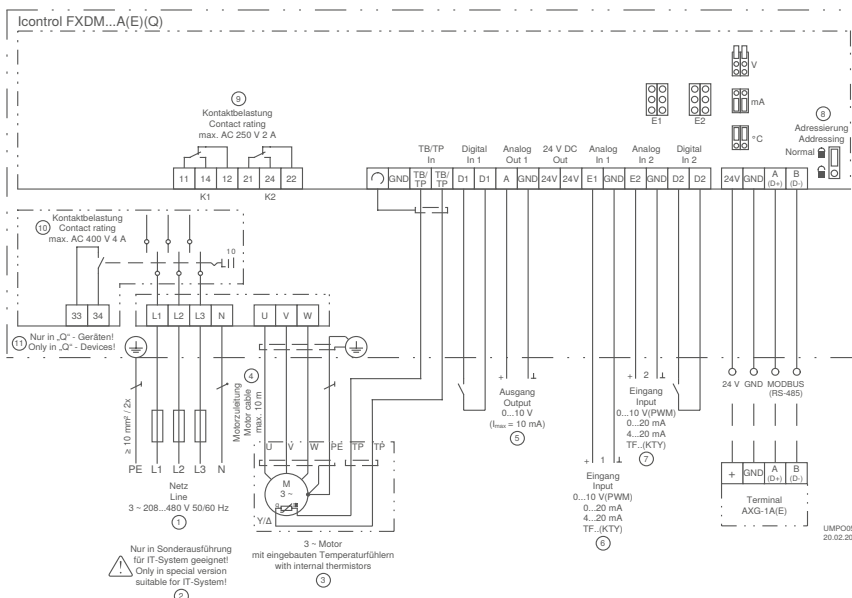
Connection of thermistors, e. g. sensors type TF.. e. g. active sensor type MTG..
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Connecting differential pressure sensors (air conditioning), e.g. type MPG.. sensors, measuring range 0...6000 Pa, acquisition of volume flows up to 65000 m³/h
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Connecting air velocity sensors, e.g. type MAL.. sensors, measuring range 0...1 m/s, 0...10 m/s
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Connecting additional sensors, e.g. combination sensors, CO₂, sensor signal 0...10 V / 0...20 mA / 4...20 mA

Connection diagram



- ① Mains
- ② 3~ motor with thermistors
- ③ Motor supply line
- ④ Output
- ⑤ Input 1
- ⑥ Input 2
- ⑦ Addressing
- ⑧ Max. contact rating
- ⑨ Max. contact rating

Standard conformity

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

Equipment/characteristics:

Multifunctional display with plain text:

Various menu languages can be selected

Simple commissioning through operating modes:

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

Easy to program:

Typical settings can be made: e.g., default a minimum rotational speed, limit the maximum rotational speed, inverting and limits. Setting, e.g. for 2-stage mode

2 analogue inputs for sensors or set-point signals:

Analogue input E1 and E2: Setting through operating modes or manually programmable, e.g. 0-10 V, 0-20 mA, 4-20 mA
Analogue input E2: programmable, e.g. comparison to Sensor 1, difference Sensor 1, average calculation, set-point input, set-point adjustment (e.g. dependent on outdoor temperature)

2 digital inputs D1 and D2:

Programmable, e.g., enable function, switching Nominal value 1 or 2, switching control or manual operation, switching E1 or E2, reverse control function, limitation output, display external malfunction, reset, reverse the rotary direction

1 analogue output A1:

Setting through operating modes or manually programmable, e.g. e.g. output signal proportional control, output signal proportional input signal, invertible, 10 V fixed voltage, group control

2 digital outputs (relays) K1 and K2:

Setting through operating modes or manual programming, e.g. operating status, limits, external fault on digital input, enabling external devices, e.g. heating, dampers, group control of fans, etc.

Integrated motor protection function:

Connection facility for PTC thermistors or alternatively thermal contacts (TB or TP).

Interface RS485 MODBUS RTU:

Integration into bus system

Settings protection:

Enable settings protection from unauthorised access, restore implemented settings

Event memory:

Query events that have occurred, operating times, etc.

Optional equipment

The Icontrol frequency inverters are also available with an integrated main switch.

Type designation FXDM...AQ

The integrated main switch has the switch positions 0 and I (On/Off). In position 0 the switch can be locked with a padlock. An integrated auxiliary contact can be used to indicate the switch position. This enables you to recognise whether the switch has been actuated, for example, when a fault indication relay drops out.

Add-on modules for frequency inverters

- IO add-on module type Z-Modul-B, Article No. 380052
If the integrated inputs and outputs are not sufficient, other inputs and outputs can be created with the Z-Modul-B. These are also programmable:
 - 1 analog input
 - 1 analog output
 - 3 digital inputs
 - 2 digital outputs (relays)
- LON[®] Add-on module type Z-Modul-L, Article No. 380086
For integration into a bus system LON[®] by a two-wire

Information

Motor protection

Fcontrol, Icontrol

UNIcon

Acontrol, Ucontrol, Dcontrol

Transformer

System components

Appendix

Frequency inverter

3~ Icontrol, universal controller with display

Icontrol without main switch

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

Type	Article no.	Rated voltage	Rated current	Rated power	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	kW	°C	A	W	°C		kg	mm
FXDM2.6A	308063	400	2.6	1.1	40	6	45	55	IP54	3.20	240 x 284 x 115
FXDM4.2A	308148		4.2	1.5	40	10	70			6.40	250 x 302 x 195.5
FXDM5A	308149		5	2.2	40	10	80			6.40	250 x 302 x 195.5
FXDM7.5A	308150		7.5	3.0	40	10	125			7.30	250 x 302 x 195.5
FXDM8.5A	308151		8.5	4.0	40	10	150			7.30	250 x 302 x 195.5
FXDM12A	308152		12	5.5	40	16	210			7.50	250 x 302 x 195.5
FXDM17A	308153		17	7.5	40	20	300			7.50	250 x 302 x 195.5
FXDM25A	308112		25	11	40	35	480			12.50	280 x 355 x 239
FXDM32A	308078		32	15	50	35	750			24.50	386 x 525 x 283
FXDM39A	308080		39	18.5	55	50	900			26.30	386 x 525 x 283
FXDM46A	308088		46	22	50	50	1050			26.30	386 x 525 x 283
FXDM62A	308092		62	30	40	63	1250			26.30	386 x 525 x 283

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance
rated power = power rating of the internal rotor motor. The motor rated current is decisive for the assignment of the frequency inverter.

Icontrol without main switch, with UL authorisation

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

Type	Article no.	Rated voltage	Rated current	Rated power	Rated temperature	Max. line fuse	Max. heat dissipation	Maximum ambient temperature	Protection class	Weight	Dimensions (W x H x D)
		V	A	kW	°C	A	W	°C		kg	mm
FXDM32A	308078-UL	400	32	15	50	35	750	55	IP54	23.50	386 x 525 x 283
FXDM32AE	308079-UL		32	15	50	35	750	55	IP20	28.10	343 x 600 x 280

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Frequency inverter

3~ Icontrol, universal controller with display

Icontrol with main switch 3~ 208...480V 50/60Hz											
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		V	A	kW	°C	A	W	°C		kg	mm
FXDM2.6AQ	308161	400	2.6	1.1	40	6	45	55	IP54	3.40	240 x 284 x 149
FXDM4.2AQ	308162		4.2	1.5	40	10	70	55		6.60	250 x 302 x 229.5
FXDM5AQ	308163		5	2.2	40	10	80	55		6.60	250 x 302 x 229.5
FXDM7.5AQ	308164		7.5	3.0	40	10	125	55		7.50	250 x 302 x 229.5
FXDM8.5AQ	308165		8.5	4.0	40	10	150	55		7.50	250 x 302 x 229.5
FXDM12AQ	308166		12	5.5	40	16	210	55		7.70	250 x 302 x 229.5
FXDM17AQ	308167		17	7.5	40	20	300	55		7.70	250 x 302 x 229.5
FXDM25AQ	308168		25	11	40	35	480	55		12.80	280 x 355 x 273
FXDM32AQ	308169		32	15	50	35	750	55		25.30	386 x 525 x 317
FXDM39AQ	308170		39	18.5	55	50	900	55		27.10	386 x 525 x 317
FXDM46AQ	308171		46	22	50	50	1050	55		27.10	386 x 525 x 317
FXDM62AQ	308172		62	30	40	63	1250	55		27.10	386 x 525 x 317

Devices with a rated temperature below 55 °C can be used up to 55 °C with a reduction in performance
 rated power = power rating of the internal rotor motor. The motor rated current is decisive for the assignment of the frequency inverter.

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