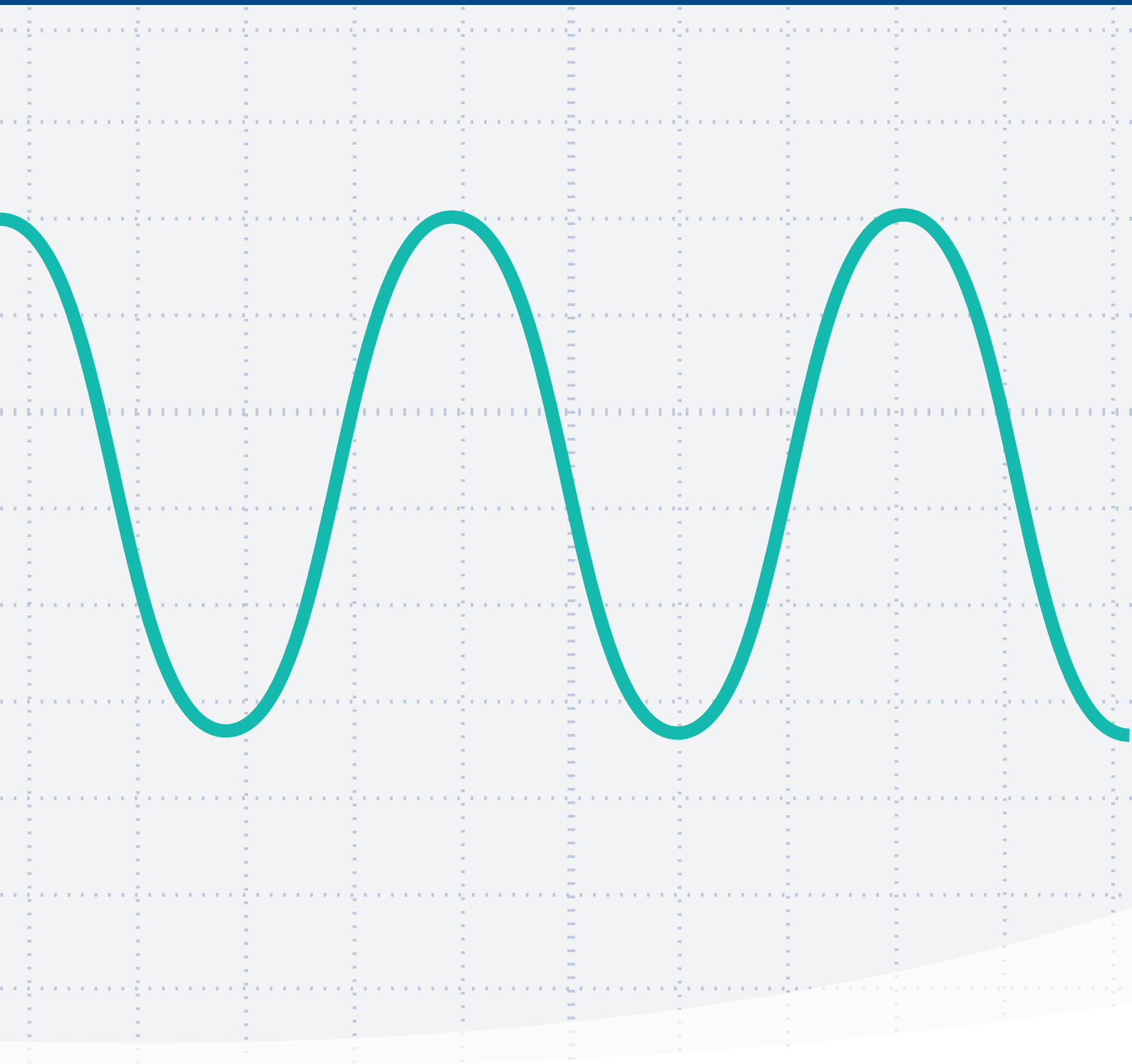


Frequency inverter FRQ

Intelligent, simple and energy efficient speed control



Frequency inverter FRQ

Intelligent, simple and energy efficient speed control

A frequency inverter is one of the most energy efficient ways of controlling motors. With the mandatory introduc-

tion of the energy efficiency class IE2 as minimum standard with motors within the European Union, the

option for voltage control of motors with a capacity of more than 0,75 kW is no longer available.

The solution: Systemair FRQ!

FRQ: Brilliantly simple!



The Systemair FRQ series is a plug-and-play solution. The models are pre-configured from factory and ensure a quick and cost-efficient commissioning. A configuration of the frequency inverter on site is not necessary any more.

Connect, switch-on, ready!

With FRQ today on the technical standard of tomorrow!

New standards

In the IEC 60034-30 new efficiency classes for asynchronous motors were defined (IE = International Efficiency):

- IE1 (Standard Efficiency)
- IE2 (High Efficiency)
- IE3 (Premium Efficiency)

- **From January 1st, 2015:** Within Europe, legally required minimum standard IE3 for capacities from 7,5 kW up to 375 kW or alternatively IE2 motor plus frequency inverter

- **From January 1st, 2017:** Within Europe, legally required minimum standard IE3 for capacities from 0,75 kW up to 375 kW or alternatively IE2 motor plus frequency inverter, equating IE3.

IE2 + Systemair FRQ = IE3-solution

Energy efficiency class IE2

Since June 16th, 2011 motor manufacturers may only distribute high efficient motors with the minimum energy efficiency class IE2. The new EU-Directive 2009/125/EG (Ecodesign-Directive) applies to low voltage asynchronous motors between 0,75 and 375 kW. Due to

the lower energy consumption the CO2 emissions and operating costs are reduced.

These innovations also effect the products of Systemair. They concern all single-level and voltage controlled motors that are built in thermofans,

like MUB, DVN, PRF, KBT/KBR or AXC. Those motors cannot be voltage controlled any longer. Only a frequency inverter (FI) is able to control the speed of these motors.

FRQS: Your carefree package!



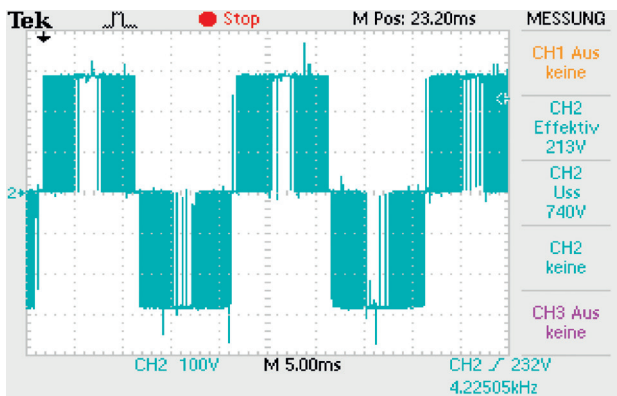
The version FRQS additionally comes with an all pole sine filter.

This means for you: With FRQS you can easily retrofit all existing systems without changing anything. FRQS also controls fans reliably which, due to their design, are usually not considered suitable for frequency inverter operation, i.e. external rotor motors.

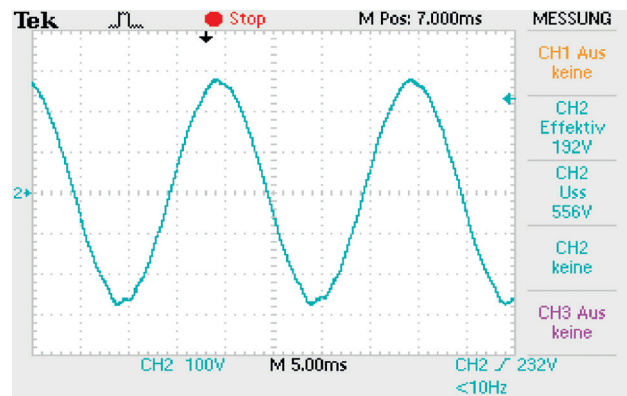
Further advantages: Existing, non-shielded cables can be retained; the length of the supply cable is almost unlimited. Now there is no need any more to configurate the inverter and the fan.

Enjoy your carefree package for easy speed control of fans.

Output of standard frequency inverters



Output of FRQS with all pole sine filter



FRQ(5) and FRQ(5)S

FRQ and FRQS are also available with integrated 5-step switch (FRQ5/FRQ5S) or for connection of an external

potentiometer (FRQ/FRQS). Choose the best version for your application!

You have the choice!

	Without all pole sine filter				With all pole sine filter			
	FRQ-4A	34222	FRQ5-4A	34223	FRQS-4A	34226	FRQ5S-4A	34227
FRQ-10A	34224	FRQ5-10A	34225	FRQS-10A	34228	FRQ5S-10A	34229	
Pre-configured from factory (plug and play-solution)	•		•		•		•	
Speed control of a single fan suitable for VFD-operation	•		•		•		•	
Parallel operation of several fans possible					•		•	
Control of motors which, due to their design, are usually not considered suitable for FI-operation (i. e. external rotor motor)					•		•	
Alarm relay	•		•		•		•	
Enable contact section	•		•		•		•	
Motor protection by connecting thermostats / thermistors	•		•		•		•	
Interference emission EN 61000-6-3	•		•		•		•	
Interference immunity EN 61000-6-2	•		•		•		•	
Protection class IP 54 serial	•		•		•		•	
Retrofit of installations without changing anything (e. g. existing unshielded cables can be retained)					•		•	
Filtering of voltage peaks; no bearing currents					•		•	
Almost unlimited motor cable length					•		•	
Quiet operation: no electromagnetic motor noise					•		•	
Speed setting with external potentiometer	•				•			
Speed setting with integrated 5-step switch			•				•	

FRQ and FRQ5

FRQ: Speed controller with 0-10V input for 3~ fan
FRQ5: Speed controller with 5-step switch for 3~ fan

		FRQ-4A 34222	FRQ-10A 34224	FRQ5-4A 34223	FRQ5-10A 34225
Voltage	V	208...480	208...480	208...480	208...480
Phase	~	3	3	3	3
Frequency	Hz	50...60	50...60	50...60	50...60
Max. current	A	4	10	4	10
Max. load	kW	1.5	4	1.5	4
Recommended fuse	A	16	16	16	16
Permitted relative humidity, non condensating	%	85	85	85	85
Enclosure class	IP	54	54	54	54
Weight	kg	2.3	5.3	2.4	5.4

- Optimized frequency inverters for the control of one fan motors suitable for frequency control
- 5-step switch with external LED to indicate the operating status
- Alarm relay
- Enable contact section
- Motor protection by connecting thermostats or thermistors
- Interference emission EN 61000-6-3
- Interference immunity EN 61000-6-2
- Parallel operation of several motors is not allowed
- Max. length of controller (poti) cable 100m
- Max. length of motor cable 10m (screened)
- Please note: Not suitable for external rotor motor!

When using in EX-areas, install FI outside explosive atmosphere!

FRQS and FRQ5S

FRQS: Speed controller with 0-10V input for 3~ fans equipped with all pole sine filter
FRQ5S: Speed controller with 5-step switch for 3~ fan with all pole sine filter

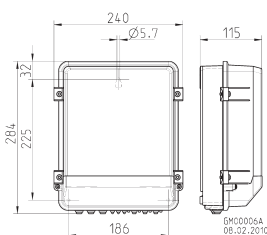
		FRQS-4A 30226	FRQS-10A 34228	FRQ5S-4A 34227	FRQ5S-10A 34229
Voltage	V	208...480	208...480	208...480	208...480
Phase	~	3	3	3	3
Frequency	Hz	50...60	50...60	50...60	50...60
Max. current	A	4	10	4	10
Max. load	kW	1.5	4	1.5	4
Recommended fuse	A	16	16	16	16
Permitted relative humidity, non condensating	%	85	85	85	85
Enclosure class	IP	54	54	54	54
Weight	kg	2.3	5.3	2.4	5.4

- Save and trouble free motor operation with integrated, all pole effective sine filter
- 5-step switch with external LED to indicate the operating status
- Enable contact section
- Motor protection by connecting thermostats or thermistors
- Interference emission EN 61000-6-3
- Interference immunity EN 61000-6-2
- Trouble free parallel operation of motors
- No danger to the motors through voltage peaks, bearing current, etc.
- No limit of motor cable length
- Retrofit in installations with existing wiring (unshielded cables)
- For speed control of motors which, due to their design, are usually not considered suitable for frequency inverter operation i.e. external rotor motors
- Operation without electromagnetic motor noise

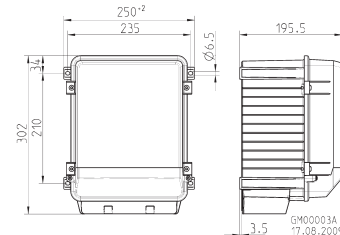
When using in EX-areas, install FI outside explosive atmosphere!

Measurements

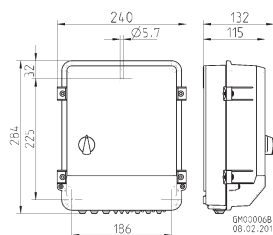
FRQ-4A / FRQS-4A



FRQ-10A / FRQS-10A

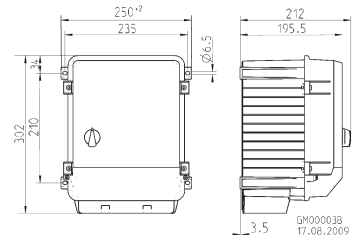


FRQ5-4A / FRQ5S-4A



Darstellung der Schalterposition unverbindlich!

FRQ5-10A / FRQ5S-10A



Darstellung der Schalterposition unverbindlich!

Accessories for Systemair FRQ series

Potentiometer for FRQ and FRQS

External potentiometer for speed controlling of fans



MTP 10, 10 K 32731

- Continuously variable speed control
- For flush or surface mounting, without lower casing part



MTP 20 310220

- Three-step speed control with on/off function
- For flush or surface mounting



MTV-1/010 30650

- Continuously variable speed control
- For flush or surface mounting, without lower casing part
- 230 V connection necessary

On-off switch

For a safe disconnection of the fan directly at the unit during maintenance and cleaning work.



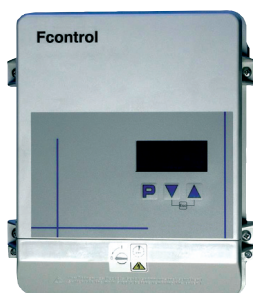
REV-5/05 ON/OFF 33979

REV-5/05 ON/OFF EMC 34549

For frequency inverters without all pole sine filter.
Incl. EMV-KIT, screened input line, terminal box / connecting line PTC.

		MTP 10,10K	MTP 20	MTV-1/010
Art. No		32731	310220	30650
Voltage supply	V	10 DC	10...15 DC	230
Controlsignal	kOhm	0...10	0...20	
Rangeability	V	0...10	0...10	
Contact		1 NO		
Switching capacity	A/V	4 / 250		
Enclosure class	IP	44	44...54	44
Weight	kg	0.2	0,2	0,2

Frequency converter FXDM - the high-end-version



The FXDM is the high-end-version of the Systemair frequency inverters.

This unit features an integrated all pole sine filter and suits all 3~ motors. The FXDM series ensures a maximized application variety because of its many possible set-ups. Due to the multifunctional display a simple handling is guaranteed.

Find more information in our online catalogue under www.systemair.com

		Art. No.
FXDM5AM	IP 54	31387
FXDM8AM	IP 54	31388
FXDM14AM	IP 54	31389
FXDM18AM	IP 54	31390

