



## AFQm-4WF-100C-400

AFQm-4WF-100C-400, Active multifunctionfilter, 4 wires

Code: R7RF2F.

- > System: 4 wires, 230...400 V
- > Phase current (A): 100
- > Peak current (A): 200
- > Max.neutral current (A): 300
- > Mounting: Floor-mounted

### Description

The wall-mounted **AFQm** multilevel active filters are the most complete solution for solving power quality problems in three-phase industrial, commercial or service installations caused by the presence of harmonics and the consumption of reactive power. These following characteristics and functions have been implemented:

- Filtering capacity of 30 A, 75 A and 100 A
- Small wall-mounted cabinet easy to install thanks to its small dimensions
- Range for installations with 3 wires (3W model) or 4 wires (4W model)
- Multi-range voltage and dual frequency (50/60 Hz)
- Reduction of harmonic currents up to the fiftieth harmonic (2,500 Hz)
- Selection of harmonic frequencies to be filtered for maximum filter effectiveness
- Power factor correction both inductive and capacitive
- Phase current balancing, improvement of consumption in neutral (4W model)

If higher filtering capabilities are required, up to 100 filters can be connected in parallel (the filters must all be of the same 3 or 4-wire model).

### Application

They are an ideal solution for installations with a large amount of single-phase and three-phase loads generating harmonics, such as computers, UPS units, lights, lifting equipment, air-conditioning systems with variable speed drives, etc.

They can also be used in installations that require a good power quality for the purpose of increasing production efficiency and improve supply continuity in the system.



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## Specifications

### AC power supply

Installation category	4 kV, CAT III Class 1
Consumption	2070 W
Frequency	50 / 60 Hz (± 5 %)
Nominal voltage	208 ... 400 V~ F-F (± 10 %)

### Mechanical characteristics

Size (mm) width x height x depth	608 x 1890 x 812 (mm)
Envelope	Free-standing sheet steel cabinet, for installation indoors, without removable parts.
Connection type	Network: plate 30x3, Ground: Ring terminal 8 mm, Current: spring 2,5 mm <sup>2</sup> , Neutral: plate 50x10, Ethernet: RJ-45
Weight (kg)	190

### Environmental characteristics

Protection class	IP 21 (IP 41 on demand) / IK10
Relative humidity (without condensation)	0 ... 95 %
Storage temperature	-20 ... +50 °C
Working temperature	-10 ... +45 °C

### Electrical characteristics

Conditional short-circuit current (Icc)	40 kA
Rated peak current Ipk	84 kA
Current crest factor	2:1
Maximum phase current	100 A (RMS)
Maximum neutral current	300 A (RMS)
Rated diversity factor (RDF), simultaneity	1
Earthing system	TN, TT

### Current measurement circuit

Transformation ratio	5 ... 5000 / 5A
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### Communication Network

Protocol	TCP/IP, Modbus TCP
Technology / Type	Ethernet

### Standards

Electrical safety, Maximum height (m)	3000 (2000 m without performance degradation)
Standards	IEC 62477-1:2012, IEC 55011:2011, IEC 61000-6-2, IEC 61000-6-4:2007, IEC 61439-1:2011



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## User interface

Display type	TFT color, 3.5" touchscreen
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## Measurement accuracy

Voltage harmonics (THD)	25 % (max)
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## Features / performance

Phase compensation	Selectable
Reactive power compensation (Kvar)	selectable
Filtering / Response time	2° ... 50° harmonic (selectable) / < 100 µs
Parallel assembly/installation	Up to 100 units, with different gauges. Transformer connection only to the Master unit
Priority scheduling	selectable

## Power supply output

Power	69000 VA
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## Serial communication

Protocol	Modbus/RTU
Technology / Type	RS-485

## AFQm

Active multifunction filter, 50 / 60 Hz

CODE	TYPE	System	Phase current (A)	Peak current (A)	Max.neutral current (A)
3 wires 480 V, Wall-mounted cabinet					
R7MAF.	AFQm-3WF-075M-480	3 wires, 230...480 V	75	150	
R7MM2F.	AFQm-3WF-100M-480	3 wires, 230...480 V	100	200	
4 wires 400 V, Wall-mounted cabinet					
R7RM0F.	AFQm -4WF-030M-400	4 wires, 230...400 V	30	60	90
R7RMAF.	AFQm -4WF-075M-400	4 wires, 230...400 V	75	150	225
R7RM2F.	AFQm-4WF-100M-400	4 wires, 230...400 V	100	200	300
3 wires 480 V, Floor-mounted cabinet					
R7MF2F.	AFQm-3WF-100C-480	3 wires, 230...480 V	100	200	
R7MF3F.	AFQm-3WF-200C-480	3 wires, 230...480 V	200	400	
R7MF4F.	AFQm-3WF-300C-480	3 wires, 230...480 V	300	600	
R7MF5F.	AFQm-3WF-400C-480	3 wires, 230...480 V	400	800	
3 wires 690 V, Floor-mounted cabinet					
R7JF6F.	AFQm-3WF-070C-690	3 wires, 400...690 V	70	140	
R7JF7F.	AFQm-3WF-140C-690	3 wires, 400...690 V	140	280	
R7JF8F.	AFQm-3WF-210C-690	3 wires, 400...690 V	210	420	



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CODE	TYPE	System	Phase current (A)	Peak current (A)	Max.neutral current (A)
R7JF9F.	AFQm-3WF-280C-690	3 wires, 400...690 V	280	560	
4 wires 400 V, Floor-mounted cabinet					
R7RF2F.	AFQm-4WF-100C-400	4 wires, 230...400 V	100	200	300
R7RF3F.	AFQm-4WF-200C-400	4 wires, 230...400 V	200	400	600
R7RF4F.	AFQm-4WF-300C-400	4 wires, 230...400 V	300	600	900
R7RF5F.	AFQm-4WF-400C-400	4 wires, 230...400 V	400	800	1200
4 wires 550 V, Floor-mounted cabinet					
R7NF6F.	AFQm-4WF-070C-550	4 wires, 400...550 V	70	140	210
R7NF7F.	AFQm-4WF-140C-550	4 wires, 400...550 V	140	280	420
R7NF8F.	AFQm-4WF-210C-550	4 wires, 400...550 V	210	420	630
R7NF9F.	AFQm-4WF-280C-550	4 wires, 400...550 V	280	560	840
Rack module					
R7JR6F.	AFQm-3WF-070R-690	3 wires, 400...690 V	70	140	
R7NR6F.	AFQm-4WF-070R-550	4 wires, 400...550 V	70	140	210
R7MR2F.	AFQm-3WF-100R-480	3 wires, 230...480 V	100	200	
R7RR2F.	AFQm-4WF-100R-400	4 wires, 230...400 V	100	200	300

Please contact our technical department for networks with high THD(V) levels.  
All equipment has built-in EMI filters



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## Dimensions



## Connections

