

Harmonic filter HF1P



General Data

Rated voltage 230 Vac
Rated current 0,84 - 25 A
THD-I 10 % at 50 Hz, 18 % at 60 Hz in rated operation
Load rated capacity 0.19 - 5.7 kW
Insulation class H
Ambient temperature -10 °C to +40 °C
Degree of protection IP 20

Advantages

Sinusoidal current consumption from the mains in devices with uncontrolled B2U diode rectifiers
Compliance with EN 61000-3-2, EN 61000-3-12
Support in the compliance with IEEE 519, D-A-CH-CZ
Power factor >0,95 at rated current
Operation at 50 - 60 Hz possible
Use of the HF1P as a central sum filter for multiple converters possible

Applications

Harmonic filter module to ensure sinusoidal mains currents, reduction of mains harmonic currents, increase in system service life and system reliability and compliance with power quality standards such as IEEE 519, TEC 61000-3-2, IEC 61000-3-12.

Standards

Harmonic filter in accordance with
EN 61558 Part 1, EN 61558 Part 20, UL 508 17th Ed., CSA 22.2 No. 14-10

Approvals





Harmonic filter HF1P



Typ	HF1P 0,19-230	HF1P 0,59-230	HF1P 1,01-230	HF1P 2,73-230	HF1P 3,68-230	HF1P 4,60-230
Electrical data						
Operating data						
Rated voltage	230 Vac	230 Vac	230 Vac	230 Vac	230 Vac	230 Vac
Voltage range	207-253 Vac	207-253 Vac	207-253 Vac	207-253 Vac	207-253 Vac	207-253 Vac
Rated current	0.84 A	2.50 A	4.44 A	11.90 A	16.00 A	20.00 A
Rated frequency	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
THD-I	10 % at 50 Hz, 18 % at 60 Hz (nominal load)	10 % at 50 Hz, 18 % at 60 Hz (nominal load)	10 % at 50 Hz, 18 % at 60 Hz (nominal load)	10 % at 50 Hz, 18 % at 60 Hz (nominal load)	10 % at 50 Hz, 18 % at 60 Hz (nominal load)	10 % at 50 Hz, 18 % at 60 Hz (nominal load)
Rated load power*	0.12 kW	0.42 kW	0.75 kW	2.20 kW	3.0 kW	4.0 kW
Description of the load	Symmetrical loading by converters with B2U input rectifiers	Symmetrical loading by converters with B2U input rectifiers	Symmetrical loading by converters with B2U input rectifiers	Symmetrical loading by converters with B2U input rectifiers	Symmetrical loading by converters with B2U input rectifiers	Symmetrical loading by converters with B2U input rectifiers
Ovrerrating Capacity	150 % for 60 sec. every 10 min.	150 % for 60 sec. every 10 min.	150 % for 60 sec. every 10 min.	150 % for 60 sec. every 10 min.	150 % for 60 sec. every 10 min.	150 % for 60 sec. every 10 min.
Power loss	27.0 W	27.0 W	55.0 W	50.0 W	80.0 W	80.0 W
Efficiency	85 %	95.5 %	95 %	98 %	97.8 %	98.2 %
Capacitive idle reactive power	0.1 kVAr	0.3 kVAr	0.7 kVAr	1.8 kVAr	2.6 kVAr	3.3 kVAr
Environment						
Ambient temperature	-10 °C to +40 °C, without condensation	-10 °C to +40 °C, without condensation	-10 °C to +40 °C, without condensation	-10 °C to +40 °C, without condensation	-10 °C to +40 °C, without condensation	-10 °C to +40 °C, without condensation
Cooling method	AN	AN	AN	AN	AN	AN
MTBF @ 50°C/500 V (MIL-HB-217F)	>500.000 h @ 40°C/400Vac	>500.000 h @ 40°C/400Vac	>500.000 h @ 40°C/400Vac	>500.000 h @ 40°C/400Vac	>500.000 h @ 40°C/400Vac	>500.000 h @ 40°C/400Vac
Safety and protection						
Type	Metal enclosure	Metal enclosure	Metal enclosure	Metal enclosure	Metal enclosure	Metal enclosure
Class of Insulation System	H	H	H	H	H	H
Protection index	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Safety class	I	I	I	I	I	I
Notes						
*	IE2 efficiencies of the motors and an efficiency >96 % assumed	IE2 efficiencies of the motors and an efficiency >96 % assumed	IE2 efficiencies of the motors and an efficiency >96 % assumed	IE2 efficiencies of the motors and an efficiency >96 % assumed	IE2 efficiencies of the motors and an efficiency >96 % assumed	IE2 efficiencies of the motors and an efficiency >96 % assumed
Order numbers						
Order Number	HF1P 0,19-230	HF1P 0,59-230	HF1P 1,01-230	HF1P 2,73-230	HF1P 3,68-230	HF1P 4,60-230

- 1.1
- 1.2
- 1.3
- 2.1
- 2.2
- 3.1
- 3.2
- 3.3
- 4.0
- 5.1
- 5.2



Harmonic filter HF1P



Typ HF1P 5,70-230	
Electrical data	
Operating data	
Rated voltage	230 Vac
Voltage range	207-253 Vac
Rated current	25.00 A
Rated frequency	50 Hz
THD-I	10 % at 50 Hz, 18 % at 60 Hz (nominal load)
Rated load power*	5.50 kW
Description of the load	Symmetrical loading by converters with B2U input rectifiers
Ovrerrating Capacity	150 % for 60 sec. every 10 min.
Power loss	70.0 W
Efficiency	98.7 %
Capacitive idle reactive power	4.5 kVAr
Environment	
Ambient temperature	-10 °C to +40 °C, without condensation
Cooling method	AN
MTBF @ 50°C/500 V (Mil-HB-217F)	>500.000 h @ 40°C/400Vac
Safety and protection	
Type	Metal enclosure
Class of Insulation System	H
Protection index	IP 20
Safety class	I
Notes	
*	IE2 efficiencies of the motors and an efficiency >96 % assumed
Order numbers	
Order Number	HF1P 5,70-230

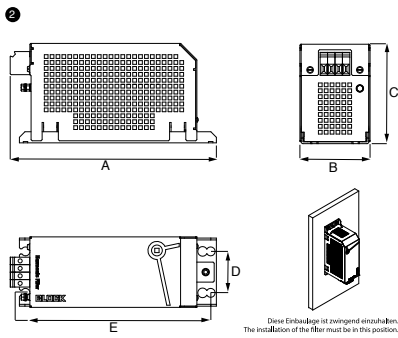


Harmonic filter HF1P



Type	Connections phase	Connections PE	Fixing method	Weight	Dimension picture (in mm)					
						A	B	C	D	E
HF1P 0,19-230	Screw clamp, 16 mm ²	Bolt, M6	Mounting lugs	1.78 kg		230	85	107	47	201
HF1P 0,59-230	Screw clamp, 16 mm ²	Bolt, M6	Mounting lugs	3.90 kg		280	95.2	135	56	252
HF1P 1,01-230	Screw clamp, 16 mm ²	Bolt, M6	Mounting lugs	5.60 kg		301	109	138	57	273
HF1P 2,73-230	Screw clamp, 16 mm ²	Bolt, M6	Mounting lugs	11.20 kg		385	132	182	72	357
HF1P 3,68-230	Screw clamp, 16 mm ²	Bolt, M6	Mounting lugs	21.40 kg		414	158.2	239	108	385
HF1P 4,60-230	Screw clamp, 16 mm ²	Bolt, M6	Mounting lugs	22.20 kg		456	143.2	210	93	428
HF1P 5,70-230	Screw clamp, 16 mm ²	Bolt, M6	Mounting lugs	33.70 kg		543	158.2	242	113	515

Dimension pictures



1.1

1.2

1.3

2.1

2.2

3.1

3.2

3.3

4.0

5.1

5.2