

Frequency converter
EFC 3600



Frequency converter

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Documentation



- Load-dependent adaptation of voltage/frequency curve
- Maximized energy efficiency and minimized motor noises through continuously adjustable pulse frequency
- Integrated brake chopper and mains filter
- Integrated operating panel for simple, fast commissioning
- Easy installation with plug-in I/O connection terminals

The Rexroth frequency converter EFC 3600 is the compact, affordable and energy-efficient drive solution for U/f operation in the 0.4 kW to 4 kW output range. Simple commissioning and installation enable a wide range of applications.

Technical data

		EFC3600-0K40-1P2	EFC3600-0K75-1P2	EFC3600-1K50-1P2	EFC3600-2K20-1P2	EFC3600-0K40-3P4	EFC3600-0K75-3P4	EFC3600-1K50-3P4	EFC3600-2K20-3P4	EFC3600-4K00-3P4
Performance data										
Rated capacity	[kW]	0.4	0.75	1.5	2.2	0.4	0.75	1.5	2.2	4
Continuous rated current ¹⁾	[A]	2.3	3.9	7	9.7	1.2	2.1	3.7	5.1	8.8
Motor rated voltage	Three phase, 0 V ... mains voltage									
Output voltage	0 V to mains voltage									
Output frequency	0 ... 400 Hz									
Mains connection voltage	1 AC	1 AC 200 ... 240 V (-10 % / +10 %)				3 AC 380 ... 480 V (-15 % / +10 %)				
	3 AC									
Frequency	50 ... 60 Hz (±5 %)									
Overload capacity	200 % I _n for 1 s, or 150 % I _n for 60 s									
Brake chopper / resistor										
Braking resistance	External									
Brake chopper	Internal									
Environmental conditions										
Permissible temperature (operation)	-10 ... +50 °C									
Permissible humidity (operation)	< 90 % (no condensation)									
Max. operating height	1000 m (> 1000 m Derating 1 % of the output power pro 100 m)									
Protection category	IP20									
Functions										
Control technology	V/f									
Pulse width modulation (PWM), adjustable in 1 kHz steps	[kHz]	1 ... 15								

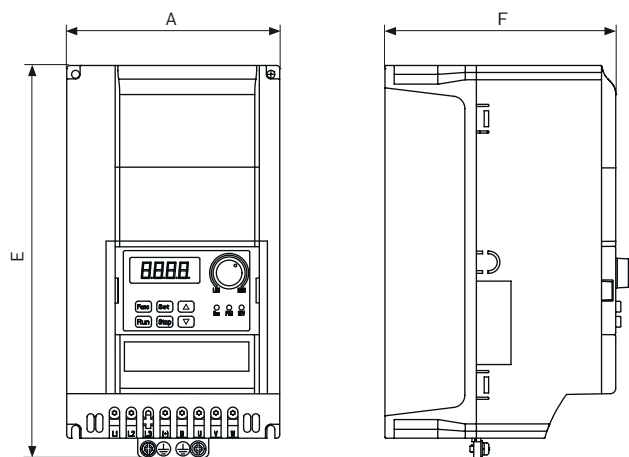
Frequency converter

EFC 3600

Type of modulation		Magnetic flux PWM modulation: SVPWM								
Speed control range	Without pulse generator	1 : 50								
	With pulse generator	–								
Start-up torque	V/f	100% at 1.5 Hz; 150% at 3 Hz								
Frequency resolution	Digital	0.01 Hz								
	Analog	Maximum frequency x 0.1%								
V/f curve		Freely definable								
Ramps		linear, S-curve								
DC disc brake	Start frequency	0 ... 50 Hz								
	Braking time	0 to 20 s								
Automatic energy saving function		Load-dependent adaptation of V/f curve								
Automatic PWM frequency adjustment		load-dependent adaptation of PWM frequency								
Integrated control		integrated step switching mechanism								
Frequency setting tolerance	Analog	0.1%								
	Digital	0.01%								
Controller		PID								
Bus systems		Modbus								
		PROFIBUS								
Status messages via digital outputs		Operation, target value achieved, etc.								
Number of relay outputs 230 VAC / 30 VDC / 3 A										
Display		4-digit LED: frequency, output voltage, output current, etc.								
Status LED		Rotation direction and operating status								
Weight										
Mass	[kg]	0.96	1.24	1.61	2.35	1.18	1.26	1.52	2.25	2.36
Norms and Standards										
Certification		EN 61800-3 ↔ EN 61800-5-1 ↔ UL 508 C ↔ RCM ↔ Gost R ↔								

Dimensions

Frequency converter

EFC 3600**Dimensions**

Type	A	E	F
	[mm]	[mm]	[mm]
EFC3600-0K40-1P2	90	146	105
EFC3600-0K75-1P2	95	156	120
EFC3600-1K50-1P2		196	125
EFC3600-2K20-1P2	120	221	130
EFC3600-0K40-3P4	95	156	120
EFC3600-0K75-3P4		196	125
EFC3600-1K50-3P4		221	130
EFC3600-4K00-3P4	120	221	130

Accessories

Type code	Description	Material number:
FRKB0002/005,0	Frequency converter connection cable for RS232/RS485 adapter, 5 m	R912001757
FEAA01.1-RS485-RS232-NNNN-NN	RS-232/RS-485 adapter	R912001656

Type code	Description	Material number:
FEAM01.1-EFC-SHIELDING-CONNECTOR	Shielding connector	R912004815

Type code	Description	Material number:
FPCC01.1-EBNN-7P-NNNN	Operating panel IP20	R912003767

Type code	Description	Material number:
FELR01.1N-0060-N400R-D-560-NNNN	Brake resistor 0.06 kW, 400 Ω - EFC 3600 400 W, 230 V, 10 % OT	R912004563
FELR01.1N-0100-N400R-D-560-NNNN	Brake resistor 0.10 kW, 400 Ω - EFC 3600 400 W, 230 V, 20 % OT	R912004564
FELR01.1N-0100-N190R-D-560-NNNN	Brake resistor 0.10 kW, 190 Ω - EFC 3600 750 W, 230 V, 10 % OT	R912004566

Frequency converter

EFC 3600

Type code	Description	Material number:
FELR01.1N-0200-N190R-D-560-NNNN	Brake resistor 0.20 kW, 190 Ω - EFC 3600 750 W, 230 V, 20 % OT	R912004567
FELR01.1N-0200-N095R-D-560-NNNN	Brake resistor 0.20 kW, 95 Ω - EFC 3600 1.5 kW, 230 V, 10 % OT	R912004569
FELR01.1N-0400-N095R-D-560-NNNN	Brake resistor 0.40 kW, 95 Ω - EFC 3600 1.5 kW, 230 V, 20 % OT	R912004570
FELR01.1N-0300-N065R-D-560-NNNN	Brake resistor 0.30 kW, 65 Ω - EFC 3600 2.2 kW, 230 V, 10% OT	R912004572
FELR01.1N-0500-N065R-D-560-NNNN	Brake resistor 0.50 kW, 65 Ω - EFC 3600 2.2 kW, 230 V, 20 % OT	R912004573
FELR01.1N-0060-N2K0R-D-560-NNNN	Brake resistor 0.06 kW, 2 k Ω - EFC 3600 400 W, 400 V, 10 % OT	R912004575
FELR01.1N-0100-N2K0R-D-560-NNNN	Brake resistor 0.10 kW, 2 k Ω - EFC 3600 400 W, 400 V, 20 % OT	R912004576
FELR01.1N-0100-N1K0R-D-560-NNNN	Brake resistor 0.10 kW, 1 k Ω - EFC 3600 750 W, 400 V, 10 % OT	R912004578
FELR01.1N-0200-N1K0R-D-560-NNNN	Brake resistor 0.20 kW, 1 k Ω - EFC 3600 750W, 400 V, 20 % OT	R912004579
FELR01.1N-0200-N500R-D-560-NNNN	Brake resistor 0.20 kW, 500 Ω - EFC 3600 1.5 kW, 400 V, 10 % OT	R912004581
FELR01.1N-0400-N500R-D-560-NNNN	Brake resistor 0.40 kW, 500 Ω - EFC 3600 1.5 kW, 400 V, 20 % OT	R912004582
FELR01.1N-0300-N330R-D-560-NNNN	Brake resistor 0.30 kW, 330 Ω - EFC 3600 2.2 kW, 400 V, 10 % OT	R912004584
FELR01.1N-0500-N330R-D-560-NNNN	Brake resistor 0.50 kW, 330 Ω - EFC 3600 2.2 kW, 400V, 20 % OT	R912004585
FELR01.1N-0500-N180R-D-560-NNNN	Brake resistor 0.5 kW, 180 Ω - EFC 3600 4.0 kW, 400 V, 10 % OT	R912004587
FELR01.1N-1K00-N180R-D-560-NNNN	Brake resistor 1.0 kW, 180 Ω - EFC 3600 4.0 kW, 400 V, 20 % OT	R912004588

Support with selecting EMC filters for frequency converter EFC 3600

Frequency converter	EMC filter type key	Purchase
EFC3600-0K40-1P2-MDA-7P-NNNN	FENF01.1B-A030-E0006-A-240-NNNN	1
EFC3600-0K75-1P2-MDA-7P-NNNN	FENF01.1B-A030-E0010-A-240-NNNN	1
EFC3600-1K50-1P2-MDA-7P-NNNN	FENF01.1B-A030-E0020-A-240-NNNN	1
EFC3600-2K20-1P2-MDA-7P-NNNN	FENF01.1B-A030-E0025-A-240-NNNN	1
EFC3600-0K40-3P4-MDA-7P-NNNNEFC3600-0K75-3P4-MDA-7P-NNNNEFC3600-1K50-3P4-MDA-7P-NNNNEFC3600-2K20-3P4-MDA-7P-NNNN	FENF01.1B-A030-E0008-A-480-NNNN	1
EFC3600-4K00-3P4-MDA-7P-NNNN	FENF01.1B-A030-E0020-A-480-NNNN	1

Ordering information

Type code	Description	Material number:
EFC3600-0K40-1P2-MDA-7P-NNNN	0.4 kW, 1 AC 200 ... 240 V, 50/60 Hz, 2.3 A	R912003758
EFC3600-0K75-1P2-MDA-7P-NNNN	0.75 kW, 1 AC 200 ... 240 V, 50/60 Hz, 3.9 A	R912003759
EFC3600-1K50-1P2-MDA-7P-NNNN	1.5 kW, 1 AC 200 ... 240 V, 50/60 Hz, 7 A	R912003760
EFC3600-2K20-1P2-MDA-7P-NNNN	2.2 kW, 1 AC 200 ... 240 V, 50/60 Hz, 9.7 A	R912003761
EFC3600-0K40-1P2-PDA-7P-NNNN	0.4 kW, 1 AC 200 ... 240 V, 50/60 Hz, 2.3 A, Profibus	R912005065
EFC3600-0K75-1P2-PDA-7P-NNNN	0.75kW, 1 AC 200 ... 240 V, 50/60 Hz, 3.9 A, Profibus	R912005066
EFC3600-1K50-1P2-PDA-7P-NNNN	1.5 kW, 1 AC 200 ... 240 V, 50/60 Hz, 7.0 A, Profibus	R912005067
EFC3600-2K20-1P2-PDA-7P-NNNN	2.2 kW, 1 AC 200 ... 240 V, 50/60 Hz, 1.2 A, Profibus	R912005068
EFC3600-0K40-3P4-MDA-7P-NNNN	0.4 kW, 3 AC 380 ... 480 V, 50/60 Hz, 1.2 A	R912003762
EFC3600-0K75-3P4-MDA-7P-NNNN	0.75 kW, 3 AC 380 ... 480 V, 50/60 Hz, 2.1 A	R912003763
EFC3600-1K50-3P4-MDA-7P-NNNN	1.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 3.7 A	R912003764
EFC3600-2K20-3P4-MDA-7P-NNNN	2.2 kW, 3 AC 380 ... 480 V, 50/60 Hz, 5.1 A	R912003765

Frequency converter

EFC 3600

Type code	Description	Material number:
EFC3600-4K00-3P4-MDA-7P-NNNN	4 kW, 3 AC 380 ... 480 V, 50/60 Hz, 8.8 A	R912003766
EFC3600-0K40-3P4-PDA-7P-NNNN	0.4 kW, 3 AC 380 ... 480 V, 50/60 Hz, 1.2 A, Profibus	R912005069
EFC3600-0K75-3P4-PDA-7P-NNNN	0.75 kW, 3 AC 380 ... 480 V, 50/60 Hz, 2.1 A, Profibus	R912005070
EFC3600-1K50-3P4-PDA-7P-NNNN	1.5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 3.7 A, Profibus	R912005071
EFC3600-2K20-3P4-PDA-7P-NNNN	2.2 kW, 3 AC 380 ... 480 V, 50/60 Hz, 5.1 A, Profibus	R912005072
EFC3600-4K00-3P4-PDA-7P-NNNN	4.0 kW, 3 AC 380 ... 480 V, 50/60 Hz, 8.8 A, Profibus	R912005073

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It must be remembered that our products are subject to a natural process of wear and aging.