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**Rexroth**  
Bosch Group

Frequency converters

# Frequency Converter Fe



Frequency converters

## Frequency Converter Fe

Documentation



- Broad performance spectrum
- High overcurrent carrying capacity
- Integrated brake chopper (< 15 kW)
- CE marking and UL certification
- Worldwide availability and service

Rexroth frequency converter Fe represents the economical line of converters for the power range from 0.75 kW to 160 kW. The frequency converter Fe is designed for V/f operation under rough environment, allowing a wide range of applications.

### Technical data

		FECG02.1-0K75- ...-SP	FECG02.1-1K50- ...-SP	FECG02.1-2K20- ...-SP	FECG02.1-4K00- ...-SP	FEC(G/P)02.1- 5K50-...-SP	FEC(G/P)02.1- 7K50-...-SP
<b>Performance data</b>							
Nominal power	[kW]	0.75	1.5	2.2	4	5.5	7.5
Rated continuous current	[A]	2.5	4	6	10	13	17
Motor nominal voltage		Three phase, 0 V ... mains voltage					
Output voltage		0 V ... mains voltage					
Output frequency		0 ... 650 Hz					
Overload capacity	G-type	200% In for 1 s or 150% In for 60 s					
	P-type	120% In for 60s or 105% In for 60 min					
Mains voltage	3 AC	3 AC 380 ... 480 V (-15%/+10%)					
Frequency		50 ... 60 Hz (±5%)					
<b>Brake chopper / resistor</b>							
Brake resistor		External					
Brake chopper		Internal					
<b>Ambient conditions</b>							
Permissible temperature (operation)		-10 ... +40 °C					
Permissible relative humidity (operation)		< 90%					
Max. installation height		Derating from 1000 m (1% of the power output per 100m)					
Category Total		IP20					
<b>Functions</b>							
Control technology		U/f					

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Pulse width modulation (PWM), continuously adjustable	[kHz]	1 ... 15					
Modulation type		Magnetic flux PWM-modulation: SVPWM					
Speed control range	Without pulse encoder	1:100					
	With pulse encoder	1:100					
Start-up torque	U/f	Max. start-up torque 150% at 5 Hz					
Frequency resolution	Digital	0,01 Hz					
	Analog	Max. frequency x 0.1%					
V/F curve		Freely definable					
Ramps		Linear, S-curve					
DC brake	Start frequency	0 ... 60 Hz					
	Braking time	0 ... 10 s					
Automatic energy saving function		Load-dependent adaptation of V/f curve					
Automatic PWM frequency adaptation		Load-dependent adaptation of PWM frequency					
Integrated controller		Integrated step switching mechanism					
Frequency setting accuracy	Analog	0,05 %					
	Digital	0,01 %					
Regulators		PI					
Bus systems		Modbus					
		PROFIBUS (ext. option)					
Status signal over digital output		Frequency					
Display		4-digit LED: frequency, output voltage, output current, etc.					
Status LED		Rotation direction and operating status					
<b>Weight</b>							
Mass	[kg]	3	3	3.2	3.2	3.5	3.5

		FEC(G/P)02.1-11K0-...-BN	FEC(G/P)02.1-15K0-...-BN	FEC(G/P)02.1-18K5-...-BN	FEC(G/P)02.1-22K0-...-BN	FEC(G/P)02.1-30K0-...-BN	FEC(G/P)02.1-37K0-...-BN
<b>Performance data</b>							
Nominal power	[kW]	11	15	18.5	22	30	37
Rated continuous current	[A]	24	33	39	44	60	75
Motor nominal voltage		Three phase, 0 V ... mains voltage					
Output voltage		0 V ... mains voltage					
Output frequency		0 ... 650 Hz					
Overload capacity	G-type	200% In for 1 s or 150% In for 60 s					
	P-type	120% In for 60s or 105% In for 60 min					
Mains voltage	3 AC	3 AC 380 ... 480 V (-15%/+10%)					
Frequency		50 ... 60 Hz (±5%)					

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Brake chopper / resistor								
Brake resistor					External			
Brake chopper		Internal		External				
Ambient conditions								
Permissible temperature (operation)		-10 ... +40 °C						
Permissible relative humidity (operation)		< 90%						
Max. installation height		Derating from 1000 m (1% of the power output per 100m)						
Category Total		IP20						
Functions								
Control technology		U/f						
Pulse width modulation (PWM), continuously adjustable	[kHz]	1 ... 8						
	Modulation type	Magnetic flux PWM-modulation: SVPWM						
Speed control range	Without pulse encoder	1:100						
	With pulse encoder	1:100						
Start-up torque	U/f	Max. start-up torque 150% at 5 Hz						
Frequency resolution	Digital	0,01 Hz						
	Analog	Max. frequency x 0.1%						
V/F curve		Freely definable						
Ramps		Linear, S-curve						
DC brake	Start frequency	0 ... 60 Hz						
	Braking time	0 ... 10 s						
Automatic energy saving function		Load-dependent adaptation of V/f curve						
Automatic PWM frequency adaptation		Load-dependent adaptation of PWM frequency						
Integrated controller		Integrated step switching mechanism						
Frequency setting accuracy	Analog	0,05 %						
	Digital	0,01 %						
Regulators		PI						
Bus systems		Modbus						
		PROFIBUS (ext. option)						
Status signal over digital output		Frequency						
Display		4-digit LED: frequency, output voltage, output current, etc.						
Status LED		Rotation direction and operating status						
Weight								
Mass	[kg]	10.7	10.9	16.2	16.9	21.5	22	
		FEC(G/P)02.1-45K0-...-BN	FEC(G/P)02.1-55K0-...-BN	FEC(G/P)02.1-75K0-...-BN	FEC(G/P)02.1-90K0-...-BN	FEC(G/P)02.1-110K-...-BN	FEC(G/P)02.1-132K-...-BN	FEC(G/P)02.1-160K-...-BN

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## Frequency Converter Fe

Performance data								
Nominal power	[kW]	45	55	75	90	110	132	160
Rated continuous current	[A]	95	110	152	183	223	265	325
Motor nominal voltage		Three phase, 0 V ... mains voltage						
Output voltage		0 V ... mains voltage						
Output frequency		0 ... 650 Hz						
Overload capacity	G-type	200% In for 1 s or 150% In for 60 s						
	P-type	120% In for 60s or 105% In for 60 min						
Mains voltage	3 AC	3 AC 380 ... 480 V (-15%/+10%)						
Frequency		50 ... 60 Hz (±5%)						
Brake chopper / resistor								
Brake resistor		External						
Brake chopper		External						
Ambient conditions								
Permissible temperature (operation)		-10 ... +40 °C						
Permissible relative humidity (operation)		< 90%						
Max. installation height		Derating from 1000 m (1% of the power output per 100m)						
Category Total		IP20						
Functions								
Control technology		U/f						
Pulse width modulation (PWM), continuously adjustable	[kHz]	1 ... 6						
	Modulation type	Magnetic flux PWM-modulation: SVPWM						
Speed control range	Without pulse encoder	1:100						
	With pulse encoder	1:100						
Start-up torque	U/f	Max. start-up torque 150% at 5 Hz						
Frequency resolution	Digital	0,01 Hz						
	Analog	Max. frequency x 0.1%				Max. frequency x 0.01 Hz		
V/F curve		Freely definable						
Ramps		Linear, S-curve						
DC brake	Start frequency	0 ... 60 Hz						
	Braking time	0 ... 10 s						
Automatic energy saving function		Load-dependent adaptation of V/f curve						
Automatic PWM frequency adaptation		Load-dependent adaptation of PWM frequency						
Integrated controller		Integrated step switching mechanism						
Frequency setting accuracy	Analog	0,05 %						
	Digital	0,01 %						

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**Frequency Converter Fe**

Regulators	PI							
Bus systems	Modbus							
	PROFIBUS (ext. option)							
Status signal over digital output	Frequency							
Display	4-digit LED: frequency, output voltage, output current, etc.							
Status LED	Rotation direction and operating status							
<b>Weight</b>								
Mass	[kg]	33.2	33.8	50.9	52.5	96.5	100	102

**Dimensions**

**Dimensions**

Type	A [mm]	E [mm]	F [mm]
FECG02.1-0K75-...-SP	125	220	176
FECG02.1-1K50-...-SP			
FECG02.1-2K20-...-SP			
FECG02.1-4K00-...-SP			
FEC(G/P)02.1-5K50-...-SP			
FEC(G/P)02.1-7K50-...-SP			
FEC(G/P)02.1-11K0-...-BN	220	392	218
FEC(G/P)02.1-15K0-...-BN			
FEC(G/P)02.1-18K5-...-BN	275	463	
FEC(G/P)02.1-22K0-...-BN			
FEC(G/P)02.1-30K0-...-BN	290	574	236
FEC(G/P)02.1-37K0-...-BN			
FEC(G/P)02.1-45K0-...-BN	364	602	260
FEC(G/P)02.1-55K0-...-BN			
FEC(G/P)02.1-75K0-...-BN	455	682	290
FEC(G/P)02.1-90K0-...-BN			



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### Dimensions

Type	A [mm]	E [mm]	F [mm]
FEC(G/P)02.1-110K-...-BN	570	850	360
FEC(G/P)02.1-132K-...-BN			
FEC(G/P)02.1-160K-...-BN			

### Accessories

Type code	Description	Part No.:
FEAA02.1-MODB*-PROFI-NNNN-NN	Communication adapter to connect a Rexroth Fe frequency converter to a PRO-FIBUS master	R912001501
FRKB0001/001,0	Cable to connect the PROFIBUS adapter, 1 m	R912001756
FRKB0002/005,0	Cable connecting the PROFIBUS adapter, 5 m	R912001757
FRKS0001/001,0	Connection cable for remote operating panel, 1 m	R912001754
FRKS0002/003,0	Connection cable for remote operating panel, 3 m	R912001755

### Order information

Type code	Description	Part No.:
FECG02.1-0K75-3P400-A-SP-MODB-01V01	0,75 kW, 3 AC 380 ... 480 V, 50/60 Hz, 2,5 A	R912001279
FECG02.1-1K50-3P400-A-SP-MODB-01V01	1,5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 4 A	R912001280
FECG02.1-2K20-3P400-A-SP-MODB-01V01	2,2 kW, 3 AC 380 ... 480 V, 50/60 Hz, 6 A	R912001281
FECG02.1-4K00-3P400-A-SP-MODB-01V01	4 kW, 3 AC 380 ... 480 V, 50/60 Hz, 10 A	R912001283
FECG02.1-5K50-3P400-A-SP-MODB-01V01	5,5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 13 A	R912001284
FECG02.1-7K50-3P400-A-SP-MODB-01V01	7,5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 17 A	R912001285
FECG02.1-11K0-3P400-A-BN-MODB-01V01	11 kW, 3 AC 380 ... 480 V, 50/60 Hz, 24 A	R912001286
FECG02.1-15K0-3P400-A-BN-MODB-01V01	15 kW, 3 AC 380 ... 480 V, 50/60 Hz, 33 A	R912001287
FECG02.1-18K5-3P400-A-BN-MODB-01V01	18,5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 39 A	R912001288
FECG02.1-22K0-3P400-A-BN-MODB-01V01	22 kW, 3 AC 380 ... 480 V, 50/60 Hz, 44 A	R912001289
FECG02.1-30K0-3P400-A-BN-MODB-01V01	30 kW, 3 AC 380 ... 480 V, 50/60 Hz, 60 A	R912001290
FECG02.1-37K0-3P400-A-BN-MODB-01V01	37 kW, 3 AC 380 ... 480 V, 50/60 Hz, 75 A	R912001291
FECG02.1-45K0-3P400-A-BN-MODB-01V01	45 kW, 3 AC 380 ... 480 V, 50/60 Hz, 95 A	R912001292
FECG02.1-55K0-3P400-A-BN-MODB-01V01	55 kW, 3 AC 380 ... 480 V, 50/60 Hz, 110 A	R912001293

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Type code	Description	Part No.:
FECG02.1-75K0-3P400-A-BN-MODB-01V01	75 kW, 3 AC 380 ... 480 V, 50/60 Hz, 152 A	R912001294
FECG02.1-90K0-3P400-A-BN-MODB-01V01	90 kW, 3 AC 380 ... 480 V, 50/60 Hz, 183 A	R912001295
FECG02.1-110K-3P400-A-BN-MODB-01V01	110 kW, 3 AC 380 ... 480 V, 50/60 Hz, 223 A	R912001296
FECG02.1-132K-3P400-A-BN-MODB-01V01	132 kW, 3 AC 380 ...480 V, 50/60 Hz, 265 A	R912001761
FECG02.1-160K-3P400-A-BN-MODB-01V01	160 kW, 3 AC 380 ... 480 V, 50/60 Hz, 325 A	R912001762

Type code	Description	Part No.:
FCEP02.1-5K50-3P400-A-SP-MODB-01V01	5,5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 13 A	R912001297
FCEP02.1-7K50-3P400-A-SP-MODB-01V01	7,5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 17 A	R912001298
FCEP02.1-11K0--3P400-A-BN-MODB-01V01	11 kW, 3 AC 380 ... 480 V, 50/60 Hz, 24 A	R912001299
FCEP02.1-15K0-3P400-A-BN-MODB-01V01	15 kW, 3 AC 380 ... 480 V, 50/60 Hz, 33 A	R912001300
FCEP02.1-18K5-3P400-A-BN-MODB-01V01	18,5 kW, 3 AC 380 ... 480 V, 50/60 Hz, 39 A	R912001301
FCEP02.1-22K0-3P400-A-BN-MODB-01V01	22 kW, 3 AC 380 ... 480 V, 50/60 Hz, 44 A	R912001302
FCEP02.1-30K0-3P400-A-BN-MODB-01V01	30 kW, 3 AC 380 ... 480 V, 50/60 Hz, 60 A	R912001303
FCEP02.1-37K0-3P400-A-BN-MODB-01V01	37 kW, 3 AC 380 ... 480 V, 50/60 Hz, 75 A	R912001304
FCEP02.1-45K0-3P400-A-BN-MODB-01V01	45 kW, 3 AC 380 ... 480 V, 50/60 Hz, 95 A	R912001305
FCEP02.1-55K0-3P400-A-BN-MODB-01V01	55 kW, 3 AC 380 ... 480 V, 50/60 Hz, 110 A	R912001306
FCEP02.1-75K0-3P400-A-BN-MODB-01V01	75 kW, 3 AC 380 ... 480 V, 50/60 Hz, 152 A	R912001307
FCEP02.1-90K0-3P400-A-BN-MODB-01V01	90 kW, 3 AC 380 ... 480 V, 50/60 Hz, 183 A	R912001308
FCEP02.1-110K-3P400-A-BN-MODB-01V01	110 kW, 3 AC 380 ... 480 V, 50/60 Hz, 223 A	R912001309
FCEP02.1-132K-3P400-A-BN-MODB-01V01	132 kW, 3 AC 380 ...480 V, 50/60 Hz, 265 A	R912001766
FCEP02.1-160K-3P400-A-BN-MODB-01V01	160 kW, 3 AC 380 ... 480 V, 50/60 Hz, 325 A	R912001767





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