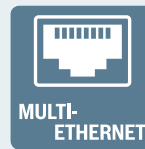


Frequency Converter EFC 3610, EFC 5610



Using valuable energy responsibly



Rising energy costs and increasing demands for environmentally-friendly production pose major challenges to the industry and, in particular, mechanical engineering. End customers demand energy-efficient machines and equipment to significantly reduce operating costs and CO₂ emissions especially in the field of drive technology.

With the new EFC 3610 and EFC 5610 frequency converters, Rexroth offers both economical and easy-to-use solutions for a variety of applications in which valuable energy has to be used responsibly. Rexroth EFC 3610 and EFC 5610 frequency converters for electronic speed and torque control contribute significantly to the energy savings desired by customers.

Rexroth EFC 3610 is a universal, low-cost converter for reliable speed control and demand-oriented energy supply. Rexroth EFC 5610 offers a power range of up to 90 kW (125 hp), an efficient vector control for an optimum torque curve and high starting torque.

Both series are designed with intelligent features such as expansion options through different I/O and fieldbus modules, an operator display panel with a parameter copy function or the standard integrated Modbus interface for networking.

For safety-relevant applications, the EFC 5610 with STO (Safety Torque Off) option offers up to Cat. 4/PL e, SIL3 safety levels.



The energy-efficient solution for most industry segments

EFC 3610, the energy-efficient solution for most industry segments:

- ▶ Pumps, compressors
- ▶ Ventilators, fans
- ▶ Woodworking machines
- ▶ Food and beverage manufacturing
- ▶ Paper manufacturing and processing
- ▶ Textile machines
- ▶ Environmental and processing systems
- ▶ Packaging machines

Typical applications

EFC 5610, the high-torque solution for special requirements:

- ▶ Logistics and material transport, conveyors, roller tables
- ▶ Processing systems: Mixers, agitators, centrifuges
- ▶ Building material machinery
- ▶ Building technology
- ▶ Plastic production and processing machines
- ▶ Machine tools



Highlights

- ▶ Power range
 - EFC 3610: 1AC 200-240V 0.4 kW (0.5 hp) to 3AC 380-480V 22 kW (30 hp)
 - EFC 5610: 1AC 200-240V 0.4 kW (0.5 hp) to 3AC 380-480V 90 kW (125 hp)
- ▶ Use in HD (heavy duty) or ND (normal duty) mode
- ▶ Operate permanent magnet motors with EFC 5610
- ▶ Built-in brake chopper (up to 22 kW [30 hp]) and mains filter
- ▶ Integrated operator display panel for easy start-up
- ▶ Expandable I/O, fieldbus, and encoder modules
- ▶ Side-by-side mounting (up to 22 kW [30 hp])
- ▶ Flexible expandability with application-specific firmware (ASF)



Perfect integration in a wide range of applications

Trouble-free assembly, simple to install and use: EFC 3610 and EFC 5610 frequency converters meet your engineering demands and the desires of your customers with respect to optimum handling as a whole and down to the smallest detail.

They impress as intelligent, economical, and compact solutions in a wide variety of applications: in pumps, compressors, fans, conveyors, packaging machines, hydraulic applications, and many more.



Intelligent features

- ▶ Detachable operator display panel with memory function for fast parameter transfer and commissioning
- ▶ Integrated diagnostic LEDs for operating without an operating panel
- ▶ Potentiometer for command value
- ▶ Analog inputs and outputs with switch-over option between current and voltage
- ▶ Digital inputs and outputs for direct PLC coupling
- ▶ Pulse-train input and output
- ▶ Simple parameter input and harmonized parameters throughout the whole series
- ▶ Clear visualization with 5-digit 7-segment LED display or optional LCD display
- ▶ Integrated sequence control (16 steps)
- ▶ Switch-over option between 2 sets of parameters
- ▶ Integrated PID controller
- ▶ Pump operation with protective function in idle mode
- ▶ Bridge for short-term power failures
- ▶ Integrated energy counter
- ▶ Application specific firmware (ASF) for enhanced functions



◀ Function extension through option card module for I/O and communication



▲ Detachable operator display panel with memory function for fast parameter transfer

Perfect service

- ▶ Long-term availability of components
- ▶ Fan replacement without tools (on units with fan)
- ▶ PCB varnish to protect against dirt and damage
- ▶ Easy and fast device exchange
- ▶ Fast worldwide delivery of spare parts
- ▶ Worldwide repair and on-site service

Electrical properties

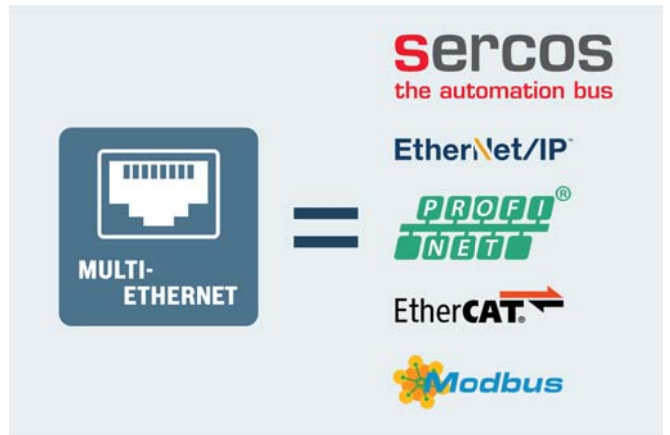
- ▶ Power supply: 1 x AC 200–240 V or 3 x AC 380–480 V
- ▶ Power range: 0.4 to 22 kW (0.5 to 30 hp) [EFC 3610]/ 0.4 to 90 kW (0.5 to 125 hp) [EFC 5610]
- ▶ High overload capacity: from 5.5 kW (7.5 hp) heavy duty (HD) mode at 150% for 60 sec or normal duty (ND) mode at 120% for 60 sec
- ▶ Optimum start torque: EFC 5610 with 200% at 0.5 Hz
- ▶ Motor temperature monitoring
- ▶ STO (safe torque off) with EFC 5610 up to Cat. 4/PL e, SIL3

Mechanical properties

- ▶ Space-saving installation due to compact design
- ▶ Easy DIN rail installation up to 7.5 kW (10 hp) and mounting holes for easy device mounting
- ▶ Gapless side-by-side mounting up to 22 kW (30 hp)
- ▶ Easy wiring through pluggable connection terminals for I/O connections
- ▶ Shield connection for optimum EMC properties (option)

Advantages at a glance

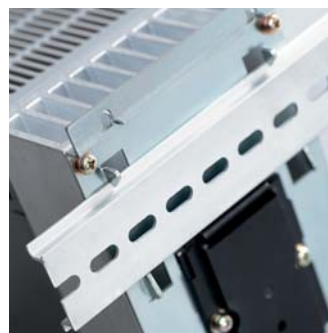
- ▶ Expanded power range from 5.5 kW (7.5 hp) and use with HD (heavy duty)/ND (normal duty) configuration
- ▶ Significant energy savings and longer engine life through freely definable V/f curve and optimal torque control
- ▶ EFC 5610 with efficient vector control for optimum torque curve
- ▶ Maximized energy efficiency and minimal engine noises through the option of using permanent magnet motors and an infinitely adjustable pulse frequency
- ▶ No external components needed due to the built-in brake chopper (up to 22 kW [30 hp]) and built-in mains filter (EN61800-3 C3)
- ▶ Fast start-up with the integrated operator display panel
- ▶ Extensive connectivity through Multi-Ethernet interface option (Sercos, EtherNet/IP, PROFINET, EtherCAT, and Modbus/TCP)



- ▶ Fieldbus options like Profibus DP and CANopen



- ▶ Flexible use with various I/O and fieldbus option modules



▶ Easy installation on TS35 (EN 50022) DIN rails for devices up to 7.5 kW (10 hp)

Optimal easy-to-use handling

Rexroth technology stands for easy installation and implementation. So the integrated user panel includes everything necessary for fast commissioning and operation of the EFC x610 frequency converters. And, with no need for a PC or an additional programming unit, commissioning is easy. For the configuration of several frequency converters with identical or similar parameterization, the copy function of the operating panel can be used.

Simply user-friendly: All parameter values are entered using robust keys. The 5-digit LED display visualizes all operating variables in a clear and obvious form. The documentation available, provides guidance for the parameterization and explains the menu structure.

With easy applications, the frequency converters can be controlled using both, the user panel, and the digital and analog inputs and outputs.

For straightforward, fast commissioning, the frequency converter EFC x610 can be parameterized using the user panel. The EFC 3610 and EFC 5610 can also be configured via a PC using the integrated mini USB interface with the ConverterWorks or IndraWorks Ds software tools.

Using an option module, all EFC 3610 and EFC 5610 can be extended by a Multi-Ethernet interface with Sercos, EtherNet/IP, PROFINET, EtherCAT and Modbus/TCP or fieldbus interfaces such as PROFIBUS or CANopen and can be integrated in all common automation solutions.

With the Multi-Ethernet interface and the OpenCore interface (OCI for Drives), EFC 3610/EFC 5610 are perfectly prepared for modern machine concepts in the environment for Industry 4.0. With available libraries, the EFC x610 can be controlled via most programming languages.



The user panel: Inputs, functions and displays

7-segment LED display	<ul style="list-style-type: none"> ▶ Output frequency ▶ Parameter values ▶ Error codes
Status LED	<ul style="list-style-type: none"> ▶ FWD: motor rotates forward ▶ REV: motor rotates backwards ▶ Run: operating mode
Function key	<ul style="list-style-type: none"> ▶ One menu level higher
Run button	<ul style="list-style-type: none"> ▶ Start the connected motor
Potentiometer	<ul style="list-style-type: none"> ▶ Command value
Arrow keys	<ul style="list-style-type: none"> ▶ Select parameter values ▶ Change parameter values
Stop button	<ul style="list-style-type: none"> ▶ Stop the connected motor ▶ Error reset
Set button	<ul style="list-style-type: none"> ▶ Confirm the entered values

Technical data

Performance data

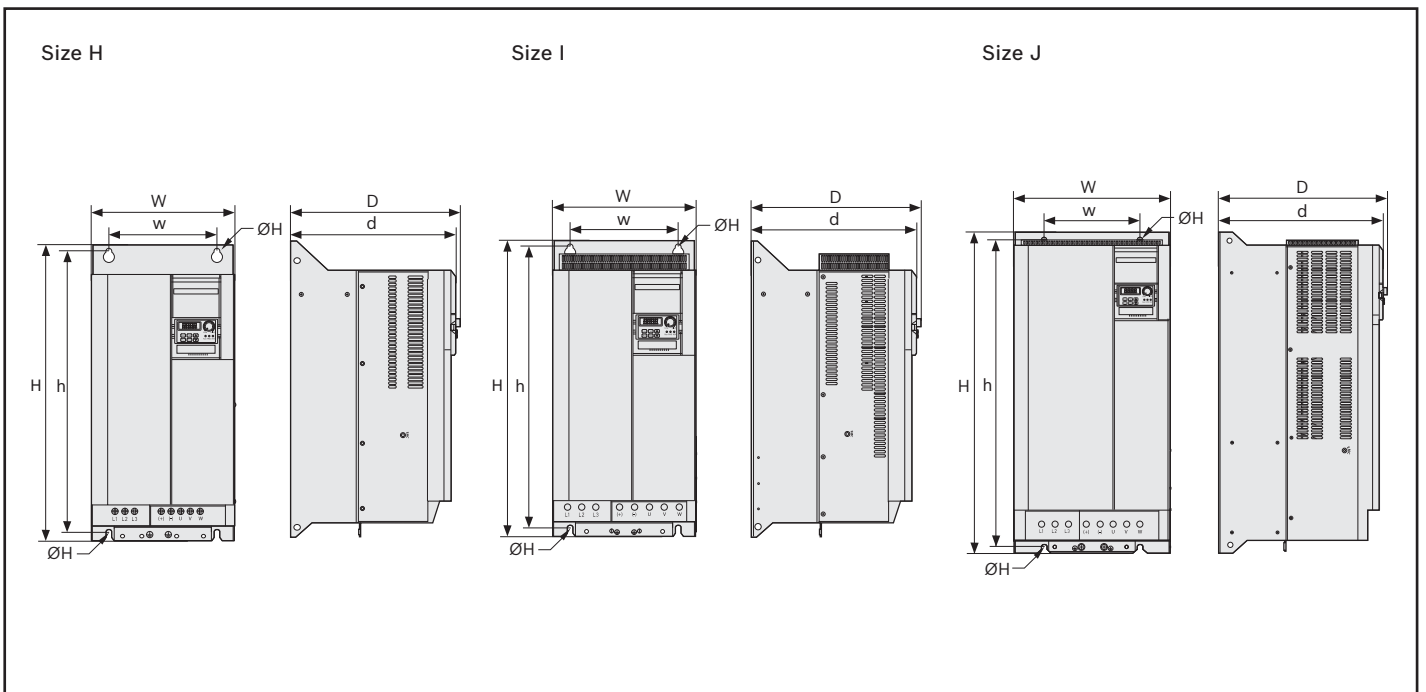
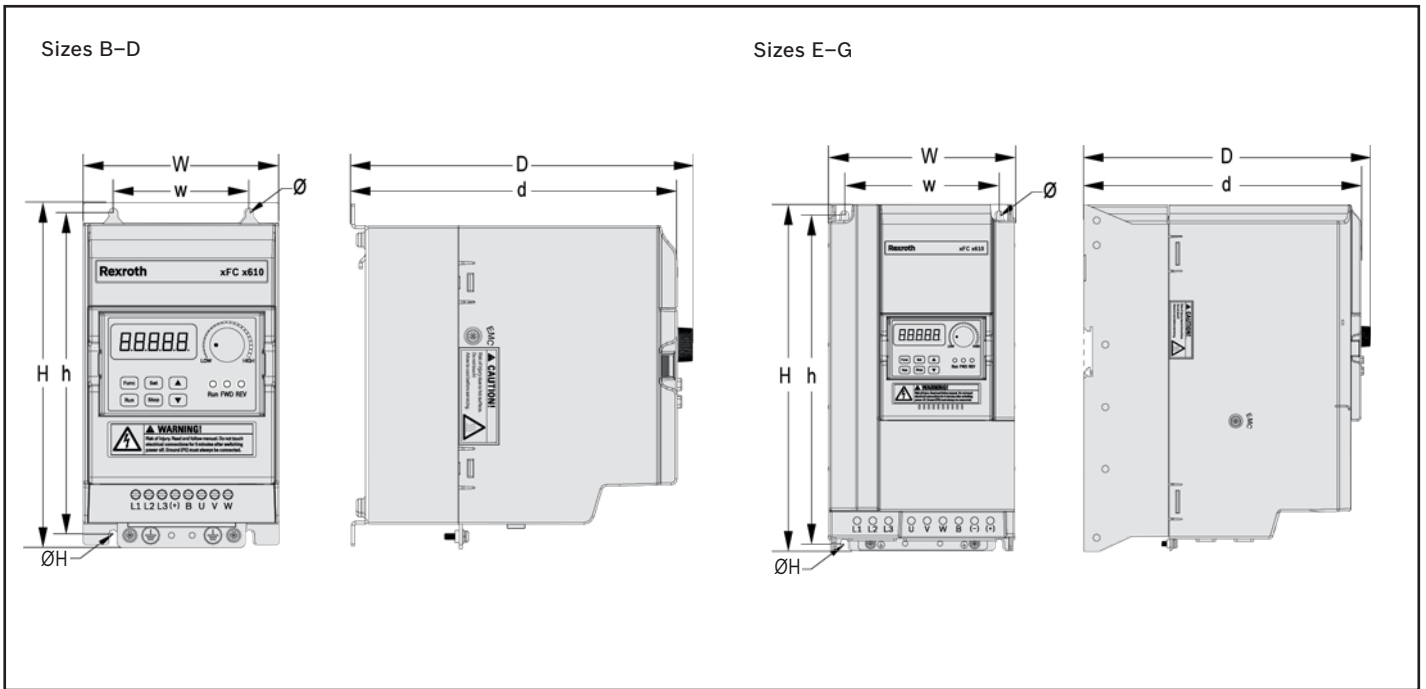
Type (1P 200–240 V AC ±10%)	Heavy duty		Normal duty	
	Rated continuous output current A 200V / 240V	Motor rating kW (hp)	Rated continuous output current A 200V / 240V	Motor rating kW (hp)
EFC3610-0K40-1P2-/EFC5610-0K40-1P2-	2.4 / 2.0	0.4 (0.5)	–	–
EFC3610-0K75-1P2-/EFC5610-0K75-1P2-	4.1 / 3.4	0.75 (1.0)	–	–
EFC3610-1K50-1P2-/EFC5610-1K50-1P2-	7.3 / 6.1	1.5 (2.0)	–	–
EFC3610-2K20-1P2-/EFC5610-2K20-1P2-	10.1 / 8.4	2.2 (3.0)	–	–

(3P 380–480 V AC -15%/+10%)	Rated continuous output current A 380V / 480V		Rated continuous output current A 380V / 480V	
	Rated continuous output current A 380V / 480V	Motor rating kW (hp)	Rated continuous output current A 380V / 480V	Motor rating kW (hp)
EFC3610-0K40-3P4-/EFC5610-0K40-3P4-	1.3 / 1.1	0.4 (0.5)	–	–
EFC3610-0K75-3P4-/EFC5610-0K75-3P4-	2.3 / 1.8	0.75 (1.0)	–	–
EFC3610-1K50-3P4-/EFC5610-1K50-3P4-	4.0 / 3.2	1.5 (2.0)	–	–
EFC3610-2K20-3P4-/EFC5610-2K20-3P4-	5.6 / 4.4	2.2 (3.0)	–	–
EFC3610-3K00-3P4-/EFC5610-3K00-3P4-	7.4 / 5.9	3.0 (4.0)	–	–
EFC3610-4K00-3P4-/EFC5610-4K00-3P4-	9.7 / 7.7	4.0 (5.0)	–	–
EFC3610-5K50-3P4-/EFC5610-5K50-3P4-	12.7 / 10.0	5.5 (7.5)	16.8 / 13.3	7.5 (10)
EFC3610-7K50-3P4-/EFC5610-7K50-3P4-	16.8 / 13.3	7.5 (10)	24.3 / 19.2	11.0 (15)
EFC3610-11K0-3P4-/EFC5610-11K0-3P4-	24.3 / 19.2	11.0 (15)	32.4 / 25.6	15.0 (20)
EFC3610-15K0-3P4-/EFC5610-15K0-3P4-	32.4 / 25.6	15.0 (20)	39.2 / 31.0	18.5 (25)
EFC3610-18K5-3P4-/EFC5610-18K5-3P4-	39.2 / 31.0	18.5 (25)	45.0 / 36.0	22.0 (30)
EFC3610-22K0-3P4-/EFC5610-22K0-3P4-	45.0 / 36.0	22.0 (30)	60.8 / 48.1	30.0 (40)
EFC5610-30K0-3P4-	60.8 / 48.1	30.0 (40)	73.7 / 58.3	37.0 (50)
EFC5610-37K0-3P4-	73.7 / 58.3	37.0 (50)	89.0 / 71.0	45.0 (60)
EFC5610-45K0-3P4-	89.0 / 71.0	45.0 (60)	108.0 / 86.0	55.0 (75)
EFC5610-55K0-3P4-	108.0 / 86.0	55.0 (75)	147.0 / 116.0	75.0 (100)
EFC5610-75K0-3P4-	147.0 / 116.0	75.0 (100)	176.0 / 139.0	90.0 (125)
EFC5610-90K0-3P4-	176.0 / 139.0	90.0 (125)	212.0 / 168.0	110.0 (150)

Type	EFC 3610/EFC 5610	
Mains voltage	V	1 AC 200–240 V (-10%/+10%) / 3 AC 380–480 V (-15%/+10%)
Mains frequency	Hz	50–60 (± 5%)
Rated motor voltage	V	3-phase, 0 ... mains voltage
Output voltage	V	0 ... mains voltage
Output frequency	Hz	0–400
Overload capacity		HD mode: 150% for 60 sec, 200% for 1 sec; ND mode: 120% for 60 sec

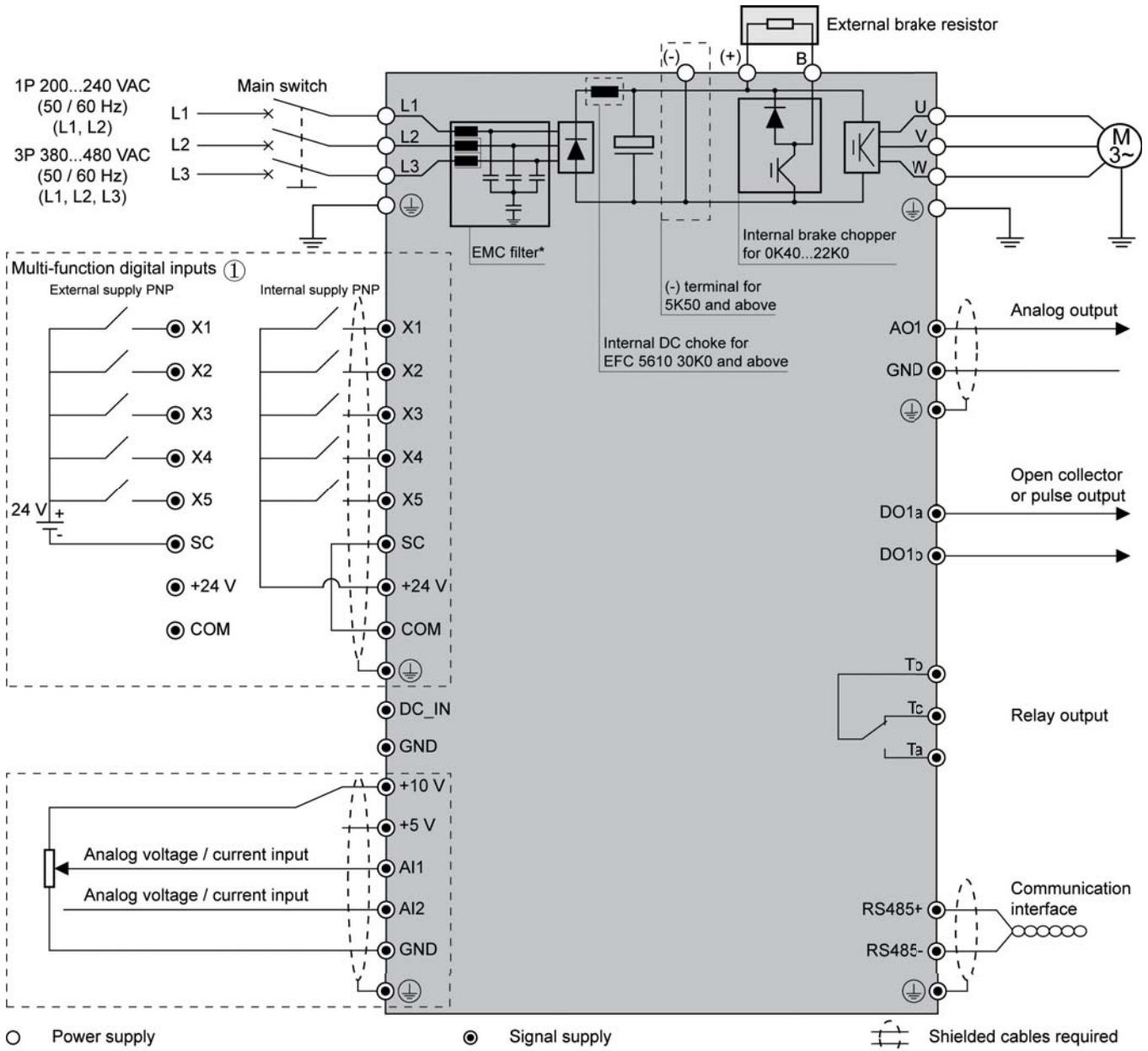
Type	EFC 3610	EFC 5610	
Functions			
Control technology	V/f (V/Hz)	V/f (V/Hz) or SVC (sensorless vector control)	
Pulse width modulation (PWM) for converters with 0.4–22 kW (0.5–30 hp)	1–15 kHz, adjustable in 1 kHz increments		
with 30–90 kW (40–125 hp)	1–12 kHz, adjustable in 1 kHz increments		
Speed control range	1:50	1:200	
Start-up torque	V/f (V/Hz)	100% at 1.5 Hz; 150% at 3 Hz	
	SVC	Not available	
Frequency resolution	Analog	1/1000 of output frequency (1024 bits)	
	Digital	0.01 Hz	
Frequency setting tolerance	Analog	0.4%	
	Digital	0.04%	
V/f curve	Linear, quadratic, can be set as desired		
Ramps for acceleration and braking	Linear, S curve		
DC brake	Start frequency	0–50 Hz	
	Braking time	0–10 sec	
Automatic PWM frequency adjustment	Load-dependent PWM frequency adjustment		
Integrated control	Integrated sequential circuit		
Controller	PID		
Bus systems	On-board: Modbus RTU		
	External options: PROFIBUS, CANopen, Multi-Ethernet (sercos, Ethernet/IP, PROFINET, EtherCat, Modbus/TCP)		
No. 24 V DC digital inputs	5 (one 50 kHz pulse train)		
No. 24 V DC/50 mA digital outputs	1 (32 kHz pulse train)		
No. 230 V AC/30 V DC/3 A relay outputs	1 (change-over contact)		
No. 0–10 V or 0–20 mA analog inputs	2		
No. 0–10 V or 0–20 mA analog outputs	1		
STO (Safe Torque Off)	Not available	up to Cat. 4/ PL e, SIL3 (option)	
Display	5-digit LED display (std.); Dust cover w/ 4 diagnostic LEDs (option); LCD display (optional accessory)		
Status LED	Rotational direction and operating state		
Brake			
Brake chopper	Internal ≤ 22 kW (30 hp) ; External brake chopper (optional) ≥ 30 kW (40 hp)		
Brake resistor	External		
Motor cable length			
Internal C3 filter	0.4–4 kW	m	15
	5.5–22 kW	m	30
	30–90 kW	m	50
External C3 filter	0.4–4 kW	m	30
	5.5–22 kW	m	50
	30–90 kW	m	100
Ambient conditions			
Ambient temperature (in operation)	-10 °C–45 °C (1.5% output power derating per 1° from 45 °C–55 °C)		
Max. operating elevation	Derating at 1,000 m or higher (1% of output power per 100 m)		
Relative humidity	< 90% (no condensation)		
IP rating	IP20		
Certifications	CE, UL, cUL, EAC, C-Tick (RCM), RoHS, TÜV (with STO devices)		

Device dimensions

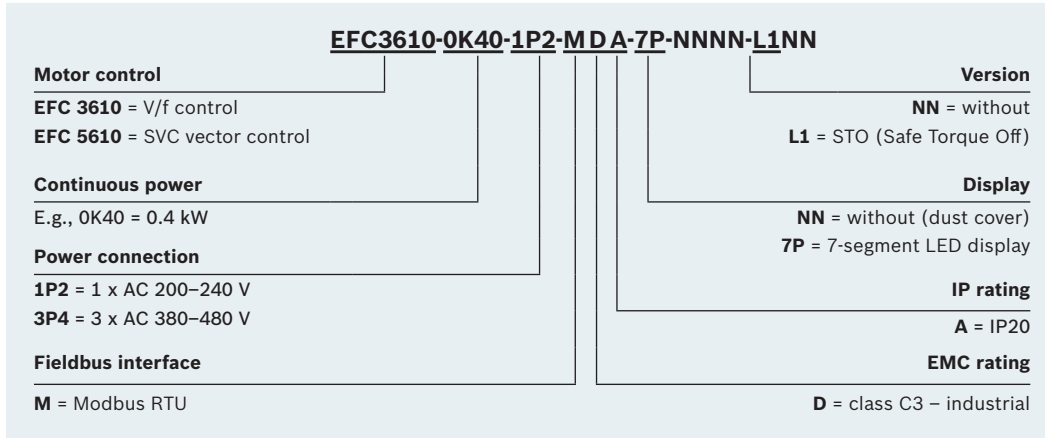


Size	Type	Dimensions [mm]							Mass [kg]
(1P 200–240 V AC ±10%)		W	w	H	h	D	d	ØH	
B	EFC3610-0K40-1P2-/EFC5610-0K40-1P2-	95	66	166	156	167	159	4.5	1.5
B	EFC3610-0K75-1P2-/EFC5610-0K75-1P2-	95	66	166	156	167	159	4.5	1.5
C	EFC3610-1K50-1P2-/EFC5610-1K50-1P2-	95	66	206	196	170	162	4.5	1.9
D	EFC3610-2K20-1P2-/EFC5610-2K20-1P2-	120	80	231	221	175	167	4.5	2.6
(3P 380–480 V AC -15%/+10%)		W	w	H	h	D	d	ØH	
B	EFC3610-0K40-3P4-/EFC5610-0K40-3P4-	95	66	166	156	167	159	4.5	1.5
B	EFC3610-0K75-3P4-/EFC5610-0K75-3P4-	95	66	166	156	167	159	4.5	1.5
C	EFC3610-1K50-3P4-/EFC5610-1K50-3P4-	95	66	206	196	170	162	4.5	1.9
C	EFC3610-2K20-3P4-/EFC5610-2K20-3P4-	95	66	206	196	170	162	4.5	1.9
D	EFC3610-3K00-3P4-/EFC5610-3K00-3P4-	120	80	231	221	175	167	4.5	2.6
D	EFC3610-4K00-3P4-/EFC5610-4K00-3P4-	120	80	231	221	175	167	4.5	2.6
E	EFC3610-5K50-3P4-/EFC5610-5K50-3P4-	130	106	243	228	233	225	6.5	3.9
E	EFC3610-7K50-3P4-/EFC5610-7K50-3P4-	130	106	243	228	233	225	6.5	4.3
F	EFC3610-11K0-3P4-/EFC5610-11K0-3P4-	150	125	283	265	233	225	6.5	5.7
F	EFC3610-15K0-3P4-/EFC5610-15K0-3P4-	150	125	283	265	233	225	6.5	6.4
G	EFC3610-18K5-3P4-/EFC5610-18K5-3P4-	165	140	313	295	241	233	6.5	8
G	EFC3610-22K0-3P4-/EFC5610-22K0-3P4-	165	140	313	295	241	233	6.5	8.8
H	EFC5610-30K0-3P4-	250	200	510	492	272	264	7	28.0
H	EFC5610-37K0-3P4-	250	200	510	492	272	264	7	29.0
I	EFC5610-45K0-3P4-	265	200	610	580	314	306	11	43.0
I	EFC5610-55K0-3P4-	265	200	610	580	314	306	11	44.0
J	EFC5610-75K0-3P4-	325	200	750	717	342	334	11	52.0
J	EFC5610-90K0-3P4-	325	200	750	717	342	334	11	60.0

Block diagram



Ordering information



Type code
Frequency converter
EFC 3610/EFC 5610

Ordering Information EFC 3610

Description	hp rating	Type code	Material number
EFC 3610 0,4 kW, 1AC 200–240V, 50/60 Hz, 2,4 A, LED display	0.5	EFC3610-0K40-1P2-MDA-7P-NNNNN-NNNN	R912005713
EFC 3610 0,75 kW, 1AC 200–240V, 50/60 Hz, 4,1 A, LED display	1	EFC3610-0K75-1P2-MDA-7P-NNNNN-NNNN	R912005714
EFC 3610 1,5 kW, 1AC 200–240V, 50/60 Hz, 7,3 A, LED display	2	EFC3610-1K50-1P2-MDA-7P-NNNNN-NNNN	R912005715
EFC 3610 2,2 kW, 1AC 200–240V, 50/60 Hz, 10,1 A, LED display	3	EFC3610-2K20-1P2-MDA-7P-NNNNN-NNNN	R912005716
EFC 3610 0,4 kW, 3AC 380–480V, 50/60 Hz, 1,3 A, LED display	0.5	EFC3610-0K40-3P4-MDA-7P-NNNNN-NNNN	R912005717
EFC 3610 0,75 kW, 3AC 380–480V, 50/60 Hz, 2,3 A, LED display	1	EFC3610-0K75-3P4-MDA-7P-NNNNN-NNNN	R912005718
EFC 3610 1,5 kW, 3AC 380–480V, 50/60 Hz, 4,0 A, LED display	2	EFC3610-1K50-3P4-MDA-7P-NNNNN-NNNN	R912005719
EFC 3610 2,2 kW, 3AC 380–480V, 50/60 Hz, 5,6 A, LED display	3	EFC3610-2K20-3P4-MDA-7P-NNNNN-NNNN	R912005720
EFC 3610 3,0 kW, 3AC 380–480V, 50/60 Hz, 7,4 A, LED display	4	EFC3610-3K00-3P4-MDA-7P-NNNNN-NNNN	R912005721
EFC 3610 4,0 kW, 3AC 380–480V, 50/60 Hz, 9,7 A, LED display	5	EFC3610-4K00-3P4-MDA-7P-NNNNN-NNNN	R912005722
EFC 3610 5,5 kW, 3AC 380–480V, 50/60 Hz, 12,7 A, LED display	7.5	EFC3610-5K50-3P4-MDA-7P-NNNNN-NNNN	R912005091
EFC 3610 7,5 kW, 3AC 380–480V, 50/60 Hz, 16,8 A, LED display	10	EFC3610-7K50-3P4-MDA-7P-NNNNN-NNNN	R912005092
EFC 3610 11 kW, 3AC 380–480V, 50/60 Hz, 24,3 A, LED display	15	EFC3610-11K0-3P4-MDA-7P-NNNNN-NNNN	R912005093
EFC 3610 15 kW, 3AC 380–480V, 50/60 Hz, 32,4 A, LED display	20	EFC3610-15K0-3P4-MDA-7P-NNNNN-NNNN	R912005094
EFC 3610 18,5 kW, 3AC 380–480V, 50/60 Hz, 39,2 A, LED display	25	EFC3610-18K5-3P4-MDA-7P-NNNNN-NNNN	R912005723
EFC 3610 22 kW, 3AC 380–480V, 50/60 Hz, 45,2 A, LED display	30	EFC3610-22K0-3P4-MDA-7P-NNNNN-NNNN	R912006279
EFC 3610 0,4 kW, 1AC 200–240V, 50/60 Hz, 2,4 A, dust cover	0.5	EFC3610-0K40-1P2-MDA-NN-NNNNN-NNNN	R912005698
EFC 3610 0,75 kW, 1AC 200–240V, 50/60 Hz, 4,1 A, dust cover	1	EFC3610-0K75-1P2-MDA-NN-NNNNN-NNNN	R912005699
EFC 3610 1,5 kW, 1AC 200–240V, 50/60 Hz, 7,3 A, dust cover	2	EFC3610-1K50-1P2-MDA-NN-NNNNN-NNNN	R912005700
EFC 3610 2,2 kW, 1AC 200–240V, 50/60 Hz, 10,1 A, dust cover	3	EFC3610-2K20-1P2-MDA-NN-NNNNN-NNNN	R912005701
EFC 3610 0,4 kW, 3AC 380–480V, 50/60 Hz, 1,3 A, dust cover	0.5	EFC3610-0K40-3P4-MDA-NN-NNNNN-NNNN	R912005702
EFC 3610 0,75 kW, 3AC 380–480V, 50/60 Hz, 2,3 A, dust cover	1	EFC3610-0K75-3P4-MDA-NN-NNNNN-NNNN	R912005703
EFC 3610 1,5 kW, 3AC 380–480V, 50/60 Hz, 4,0 A, dust cover	2	EFC3610-1K50-3P4-MDA-NN-NNNNN-NNNN	R912005704
EFC 3610 2,2 kW, 3AC 380–480V, 50/60 Hz, 5,6 A, dust cover	3	EFC3610-2K20-3P4-MDA-NN-NNNNN-NNNN	R912005705
EFC 3610 3,0 kW, 3AC 380–480V, 50/60 Hz, 7,4 A, dust cover	4	EFC3610-3K00-3P4-MDA-NN-NNNNN-NNNN	R912005706
EFC 3610 4,0 kW, 3AC 380–480V, 50/60 Hz, 9,7 A, dust cover	5	EFC3610-4K00-3P4-MDA-NN-NNNNN-NNNN	R912005707
EFC 3610 5,5 kW, 3AC 380–480V, 50/60 Hz, 12,7 A, dust cover	7.5	EFC3610-5K50-3P4-MDA-NN-NNNNN-NNNN	R912005708
EFC 3610 7,5 kW, 3AC 380–480V, 50/60 Hz, 16,8 A, dust cover	10	EFC3610-7K50-3P4-MDA-NN-NNNNN-NNNN	R912005709
EFC 3610 11 kW, 3AC 380–480V, 50/60 Hz, 24,3 A, dust cover	15	EFC3610-11K0-3P4-MDA-NN-NNNNN-NNNN	R912005710
EFC 3610 15 kW, 3AC 380–480V, 50/60 Hz, 32,4 A, dust cover	20	EFC3610-15K0-3P4-MDA-NN-NNNNN-NNNN	R912005711
EFC 3610 18,5 kW, 3AC 380–480V, 50/60 Hz, 39,2 A, dust cover	25	EFC3610-18K5-3P4-MDA-NN-NNNNN-NNNN	R912005712
EFC 3610 22 kW, 3AC 380–480V, 50/60 Hz, 45,2 A, dust cover	30	EFC3610-22K0-3P4-MDA-NN-NNNNN-NNNN	R912006278

Ordering information EFC5610 without STO 0.4–22 kW (0.5–30 hp)

Description	hp rating	Type code	Material number
EFC 5610 0,4 kW, 1AC 200-240V, 50/60 Hz, 2,4A, LED display	0.5	EFC5610-0K40-1P2-MDA-7P-NNNNN-NNNN	R912005739
EFC 5610 0,75 kW, 1AC 200-240V, 50/60 Hz, 4,1A, LED display	1	EFC5610-0K75-1P2-MDA-7P-NNNNN-NNNN	R912005740
EFC 5610 1,5 kW, 1AC 200-240V, 50/60 Hz, 7,3A, LED display	2	EFC5610-1K50-1P2-MDA-7P-NNNNN-NNNN	R912005741
EFC 5610 2,2 kW, 1AC 200-240V, 50/60 Hz, 10,1A, LED display	3	EFC5610-2K20-1P2-MDA-7P-NNNNN-NNNN	R912005742
EFC 5610 0,4 kW, 3AC 380-480V, 50/60 Hz, 1,3A, LED display	0.5	EFC5610-0K40-3P4-MDA-7P-NNNNN-NNNN	R912005743
EFC 5610 0,75 kW, 3AC 380-480V, 50/60 Hz, 2,3A, LED display	1	EFC5610-0K75-3P4-MDA-7P-NNNNN-NNNN	R912005744
EFC 5610 1,5 kW, 3AC 380-480V, 50/60 Hz, 4,0A, LED display	2	EFC5610-1K50-3P4-MDA-7P-NNNNN-NNNN	R912005745
EFC 5610 2,2 kW, 3AC 380-480V, 50/60 Hz, 5,6A, LED display	3	EFC5610-2K20-3P4-MDA-7P-NNNNN-NNNN	R912005746
EFC 5610 3,0 kW, 3AC 380-480V, 50/60 Hz, 7,4A, LED display	4	EFC5610-3K00-3P4-MDA-7P-NNNNN-NNNN	R912005747
EFC 5610 4,0 kW, 3AC 380-480V, 50/60 Hz, 9,7A, LED display	5	EFC5610-4K00-3P4-MDA-7P-NNNNN-NNNN	R912005748
EFC 5610 5,5 kW, 3AC 380-480V, 50/60 Hz, 12,7A, LED display	7.5	EFC5610-5K50-3P4-MDA-7P-NNNNN-NNNN	R912005099
EFC 5610 7,5 kW, 3AC 380-480V, 50/60 Hz, 16,8A, LED display	10	EFC5610-7K50-3P4-MDA-7P-NNNNN-NNNN	R912005100
EFC 5610 11 kW, 3AC 380-480V, 50/60 Hz, 24,3A, LED display	15	EFC5610-11K0-3P4-MDA-7P-NNNNN-NNNN	R912005101
EFC 5610 15 kW, 3AC 380-480V, 50/60 Hz, 32,4A, LED display	20	EFC5610-15K0-3P4-MDA-7P-NNNNN-NNNN	R912005102
EFC 5610 18,5 kW, 3AC 380-480V, 50/60 Hz, 39,2A, LED display	25	EFC5610-18K5-3P4-MDA-7P-NNNNN-NNNN	R912005749
EFC 5610 22 kW, 3AC 380-480V, 50/60 Hz 45.2A, LED display	30	EFC5610-22K0-3P4-MDA-7P-NNNNN-NNNN	R912005980
EFC 5610 0,4 kW, 1AC 200-240V, 50/60 Hz, 2,4A, dust cover	0.5	EFC5610-0K40-1P2-MDA-NN-NNNNN-NNNN	R912005724
EFC 5610 0,75 kW, 1AC 200-240V, 50/60 Hz, 4,1A, dust cover	1	EFC5610-0K75-1P2-MDA-NN-NNNNN-NNNN	R912005725
EFC 5610 1,5 kW, 1AC 200-240V, 50/60 Hz, 7,3A, dust cover	2	EFC5610-1K50-1P2-MDA-NN-NNNNN-NNNN	R912005726
EFC 5610 2,2 kW, 1AC 200-240V, 50/60 Hz, 10,1A, dust cover	3	EFC5610-2K20-1P2-MDA-NN-NNNNN-NNNN	R912005727
EFC 5610 0,4 kW, 3AC 380-480V, 50/60 Hz, 1,3A, dust cover	0.5	EFC5610-0K40-3P4-MDA-NN-NNNNN-NNNN	R912005728
EFC 5610 0,75 kW, 3AC 380-480V, 50/60 Hz, 2,3A, dust cover	1	EFC5610-0K75-3P4-MDA-NN-NNNNN-NNNN	R912005729
EFC 5610 1,5 kW, 3AC 380-480V, 50/60 Hz, 4,0A, dust cover	2	EFC5610-1K50-3P4-MDA-NN-NNNNN-NNNN	R912005730
EFC 5610 2,2 kW, 3AC 380-480V, 50/60 Hz, 5,6A, dust cover	3	EFC5610-2K20-3P4-MDA-NN-NNNNN-NNNN	R912005731
EFC 5610 3,0 kW, 3AC 380-480V, 50/60 Hz, 7,4A, dust cover	4	EFC5610-3K00-3P4-MDA-NN-NNNNN-NNNN	R912005732
EFC 5610 4,0 kW, 3AC 380-480V, 50/60 Hz, 9,7A, dust cover	5	EFC5610-4K00-3P4-MDA-NN-NNNNN-NNNN	R912005733
EFC 5610 5,5 kW, 3AC 380-480V, 50/60 Hz, 12,7A, dust cover	7.5	EFC5610-5K50-3P4-MDA-NN-NNNNN-NNNN	R912005734
EFC 5610 7,5 kW, 3AC 380-480V, 50/60 Hz, 16,8A, dust cover	10	EFC5610-7K50-3P4-MDA-NN-NNNNN-NNNN	R912005735
EFC 5610 11 kW, 3AC 380-480V, 50/60 Hz, 24,3A, dust cover	15	EFC5610-11K0-3P4-MDA-NN-NNNNN-NNNN	R912005736
EFC 5610 15 kW, 3AC 380-480V, 50/60 Hz, 32,4A, dust cover	20	EFC5610-15K0-3P4-MDA-NN-NNNNN-NNNN	R912005737
EFC 5610 18,5 kW, 3AC 380-480V, 50/60 Hz, 39,2A, dust cover	25	EFC5610-18K5-3P4-MDA-NN-NNNNN-NNNN	R912005738
EFC 5610 22 kW, 3AC 380-480V, 50/60 Hz 45.2A, dust cover	30	EFC5610-22K0-3P4-MDA-NN-NNNNN-NNNN	R912005987

Ordering information EFC5610 with STO 0.4–90 kW (0.5–125 hp)

Description	hp rating	Type code	Material number
EFC 5610 0,4 kW, 1AC 200-240V, 50/60 Hz, 2,4A, LED display, STO	0.5	EFC5610-0K40-1P2-MDA-7P-NNNNN-L1NN	R912007268
EFC 5610 0,75 kW, 1AC 200-240V, 50/60 Hz, 4,1A, LED display, STO	1	EFC5610-0K75-1P2-MDA-7P-NNNNN-L1NN	R912007269
EFC 5610 1,5 kW, 1AC 200-240V, 50/60 Hz, 7,3A, LED display, STO	2	EFC5610-1K50-1P2-MDA-7P-NNNNN-L1NN	R912007270
EFC 5610 2,2 kW, 1AC 200-240V, 50/60 Hz, 10,1A, LED display, STO	3	EFC5610-2K20-1P2-MDA-7P-NNNNN-L1NN	R912007271
EFC 5610 0,4 kW, 3AC 380-480V, 50/60 Hz, 1,3A, LED display, STO	0.5	EFC5610-0K40-3P4-MDA-7P-NNNNN-L1NN	R912007272
EFC 5610 0,75 kW, 3AC 380-480V, 50/60 Hz, 2,3A, LED display, STO	1	EFC5610-0K75-3P4-MDA-7P-NNNNN-L1NN	R912007273
EFC 5610 1,5 kW, 3AC 380-480V, 50/60 Hz, 4,0A, LED display, STO	2	EFC5610-1K50-3P4-MDA-7P-NNNNN-L1NN	R912007274
EFC 5610 2,2 kW, 3AC 380-480V, 50/60 Hz, 5,6A, LED display, STO	3	EFC5610-2K20-3P4-MDA-7P-NNNNN-L1NN	R912007275
EFC 5610 3,0 kW, 3AC 380-480V, 50/60 Hz, 7,4A, LED display, STO	4	EFC5610-3K00-3P4-MDA-7P-NNNNN-L1NN	R912007276
EFC 5610 4,0 kW, 3AC 380-480V, 50/60 Hz, 9,7A, LED display, STO	5	EFC5610-4K00-3P4-MDA-7P-NNNNN-L1NN	R912007277
EFC 5610 5,5 kW, 3AC 380-480V, 50/60 Hz, 12,7A, LED display, STO	7.5	EFC5610-5K50-3P4-MDA-7P-NNNNN-L1NN	R912007278
EFC 5610 7,5 kW, 3AC 380-480V, 50/60 Hz, 16,8A, LED display, STO	10	EFC5610-7K50-3P4-MDA-7P-NNNNN-L1NN	R912007279
EFC 5610 11 kW, 3AC 380-480V, 50/60 Hz, 24,3A, LED display, STO	15	EFC5610-11K0-3P4-MDA-7P-NNNNN-L1NN	R912007280
EFC 5610 15 kW, 3AC 380-480V, 50/60 Hz, 32,4A, LED display, STO	20	EFC5610-15K0-3P4-MDA-7P-NNNNN-L1NN	R912007281
EFC 5610 18,5 kW, 3AC 380-480V, 50/60 Hz, 39,2A, LED display, STO	25	EFC5610-18K5-3P4-MDA-7P-NNNNN-L1NN	R912007282
EFC 5610 22 kW, 3AC 380-480V, 50/60 Hz 45.2A, LED display, STO	30	EFC5610-22K0-3P4-MDA-7P-NNNNN-L1NN	R912007283
EFC 5610 30 kW, 3 AC 380-480V, 50/60 Hz 60.8A, LED display, STO	40	EFC5610-30K0-3P4-MDA-7P-NNNNN-L1NN	R912005981
EFC 5610 37 kW, 3 AC 380-480V, 50/60 Hz 73.7A, LED display, STO	50	EFC5610-37K0-3P4-MDA-7P-NNNNN-L1NN	R912005982
EFC 5610 45 kW, 3 AC 380-480V, 50/60 Hz 89.0A, LED display, STO	60	EFC5610-45K0-3P4-MDA-7P-NNNNN-L1NN	R912005983
EFC 5610 55 kW, 3 AC 380-480V, 50/60 Hz 108A, LED display, STO	75	EFC5610-55K0-3P4-MDA-7P-NNNNN-L1NN	R912005984
EFC 5610 75 kW, 3 AC 380-480V, 50/60 Hz 147A, LED display, STO	100	EFC5610-75K0-3P4-MDA-7P-NNNNN-L1NN	R912005985
EFC 5610 90 kW, 3 AC 380-480V, 50/60 Hz 176A, LED display, STO	125	EFC5610-90K0-3P4-MDA-7P-NNNNN-L1NN	R912005986
EFC 5610 0,4 kW, 1AC 200-240V, 50/60 Hz, 2,4A, dust cover, STO	0.5	EFC5610-0K40-1P2-MDA-NN-NNNNN-L1NN	R912007066
EFC 5610 0,75 kW, 1AC 200-240V, 50/60 Hz, 4,1A, dust cover, STO	1	EFC5610-0K75-1P2-MDA-NN-NNNNN-L1NN	R912007067

EFC 5610 1,5 kW, 1AC 200-240V, 50/60 Hz, 7,3A, dust cover, STO	2	EFC5610-1K50-1P2-MDA-NN-NNNNN-L1NN	R912007068
EFC 5610 2,2 kW, 1AC 200-240V, 50/60 Hz, 10,1A, dust cover, STO	3	EFC5610-2K20-1P2-MDA-NN-NNNNN-L1NN	R912007069
EFC 5610 0,4 kW, 3AC 380-480V, 50/60 Hz, 1,3A, dust cover, STO	0.5	EFC5610-0K40-3P4-MDA-NN-NNNNN-L1NN	R912007042
EFC 5610 0,75 kW, 3AC 380-480V, 50/60 Hz, 2,3A, dust cover, STO	1	EFC5610-0K75-3P4-MDA-NN-NNNNN-L1NN	R912007043
EFC 5610 1,5 kW, 3AC 380-480V, 50/60 Hz, 4,0A, dust cover, STO	2	EFC5610-1K50-3P4-MDA-NN-NNNNN-L1NN	R912007044
EFC 5610 2,2 kW, 3AC 380-480V, 50/60 Hz, 5,6A, dust cover, STO	3	EFC5610-2K20-3P4-MDA-NN-NNNNN-L1NN	R912007045
EFC 5610 3,0 kW, 3AC 380-480V, 50/60 Hz, 7,4A, dust cover, STO	4	EFC5610-3K00-3P4-MDA-NN-NNNNN-L1NN	R912007046
EFC 5610 4,0 kW, 3AC 380-480V, 50/60 Hz, 9,7A, dust cover, STO	5	EFC5610-4K00-3P4-MDA-NN-NNNNN-L1NN	R912007047
EFC 5610 5,5 kW, 3AC 380-480V, 50/60 Hz, 12,7A, dust cover, STO	7.5	EFC5610-5K50-3P4-MDA-NN-NNNNN-L1NN	R912007048
EFC 5610 7,5 kW, 3AC 380-480V, 50/60 Hz, 16,8A, dust cover, STO	10	EFC5610-7K50-3P4-MDA-NN-NNNNN-L1NN	R912007049
EFC 5610 11 kW, 3AC 380-480V, 50/60 Hz, 24,3A, dust cover, STO	15	EFC5610-11K0-3P4-MDA-NN-NNNNN-L1NN	R912007050
EFC 5610 15 kW, 3AC 380-480V, 50/60 Hz, 32,4A, dust cover, STO	20	EFC5610-15K0-3P4-MDA-NN-NNNNN-L1NN	R912007051
EFC 5610 18,5 kW, 3AC 380-480V, 50/60 Hz, 39,2A, dust cover, STO	25	EFC5610-18K5-3P4-MDA-NN-NNNNN-L1NN	R912007266
EFC 5610 22 kW, 3AC 380-480V, 50/60 Hz 45.2A, dust cover, STO	30	EFC5610-22K0-3P4-MDA-NN-NNNNN-L1NN	R912007267
EFC 5610 30 kW, 3AC 380-480V, 50/60 Hz 60.8A, dust cover, STO	40	EFC5610-30K0-3P4-MDA-NN-NNNNN-L1NN	R912005988
EFC 5610 37 kW, 3AC 380-480V, 50/60 Hz 73.7A, dust cover, STO	50	EFC5610-37K0-3P4-MDA-NN-NNNNN-L1NN	R912005989
EFC 5610 45 kW, 3AC 380-480V, 50/60 Hz 89.0A, dust cover, STO	60	EFC5610-45K0-3P4-MDA-NN-NNNNN-L1NN	R912005990
EFC 5610 55 kW, 3AC 380-480V, 50/60 Hz 108A, dust cover, STO	75	EFC5610-55K0-3P4-MDA-NN-NNNNN-L1NN	R912005991
EFC 5610 75 kW, 3AC 380-480V, 50/60 Hz 147A, dust cover, STO	100	EFC5610-75K0-3P4-MDA-NN-NNNNN-L1NN	R912005992
EFC 5610 90 kW, 3AC 380-480V, 50/60 Hz 176A, dust cover, STO	125	EFC5610-90K0-3P4-MDA-NN-NNNNN-L1NN	R912005993

Accessories

Description	Type code	Material number
Shield plate for 0.4–4 kW	FEAM03.1-001-NN-NNNN	R912006012
Shield plate for 5.5–22 kW	FEAM03.1-002-NN-NNNN	R912006013
Shield plate for 30-37 kW	FEAM03.1-003-NN-NNNN	R912006460
Shield plate for 45-90 kW	FEAM03.1-004-NN-NNNN	R912006461
Brake chopper for EFC5610 30-55 kW	FEAE07.1-EA1-NNNN	R912007181
Brake chopper for EFC5610 75-90 kW	FEAE07.1-EA2-NNNN	R912007182
LED user panel, IP20, medium gray (RAL7046)	FPCC02.1-EANN-7P-NNNN	R912005783
LCD user panel, IP20, medium gray (RAL7046)	FPCC02.1-EANN-LP-NNNN	R912006375
Dust cover, IP20, medium gray (RAL7046)	FPCC02.1-EANN-NN-NNNN	R912005785
Mounting plate for IP20 user panel, medium gray (RAL7046)	FEAM02.1-EA-NN-NNNN	R912005787
Connection cable for user panel, 2m length	FRKS0006/002.0	R912004657
Connection cable for user panel, 3m length	FRKS0004/003.0	R912004410
Replacement plug set for EFC x610	FEAE05.1-B2-NNNN	R912006054
USB commissioning cable, 1.8m (6 ft.) length	USB CABLE 2.0A-MINI-B 5POL 6FT	R911376069

Option cards

Description	Type code	Material number
Option card module	FEAE02.1-EA-NNNN	R912006052
I/O card	FEAE04.1-IO1-NNNN	R912006050
Relay card	FEAE04.1-IO2-NNNN	R912006051
I/O Plus card	FEAE04.1-IO3-NNNN	R912007257
TTL/HTL Encoder card	FEAE04.1-EN1-NNNN	R912006414
Resolver card	FEAE04.1-EN2-NNNN	R912006415
CANopen interface	FEAE03.1-CO-NNNN	R912006133
PROFIBUS interface	FEAE03.1-PB-NNNN	R912006132
Multi-Ethernet interface	FEAE03.1-ET-NNNN	R912006134

Brake resistors

Description	Type code	Material number
Brake resistor, 60W 400 Ω xFC 230V 400W 10% OT	FCAR01.1W0060-N400R0-B-03-NNNN	R911370664
Brake resistor, 100W 400 Ω xFC 230V 400W 20% OT	FCAR01.1W0100-N400R0-B-03-NNNN	R911370667
Brake resistor, 100W 190 Ω xFC 230V 750W 10% OT	FCAR01.1W0100-N190R0-B-03-NNNN	R911370666
Brake resistor, 200W 190 Ω xFC 230V 750W 20% OT	FCAR01.1W0200-N190R0-B-03-NNNN	R911370670
Brake resistor, 200W 95 Ω xFC 230V 1.5 kW 10% OT	FCAR01.1W0200-N095R0-B-03-NNNN	R911370669
Brake resistor, 400W 95 Ω xFC 230V 1.5 kW 20% OT	FCAR01.1W0400-N095R0-B-03-NNNN	R911370676
Brake resistor, 300W 65 Ω xFC 230V 2.2 kW 10% OT	FCAR01.1W0300-N065R0-B-03-NNNN	R911370674
Brake resistor, 500W 65 Ω xFC 230V 2.2 kW 20% OT	FCAR01.1W0500-N065R0-B-03-NNNN	R911370677
Brake resistor, 80W 750 Ω xFC 400V 400W & 750W 10% OT	FCAR01.1W0080-N750R0-B-05-NNNN	R911370665
Brake resistor, 150W 750 Ω xFC 400V 400W & 750W 20% OT	FCAR01.1W0150-N750R0-B-05-NNNN	R911370668

Brake resistor, 260W 400 Ω xFC 400V 1.5 kW 10% OT	FCAR01.1W0260-N400R0-B-05-NNNN	R911370671
Brake resistor, 520W 350 Ω xFC 400V 1.5 kW 20% OT	FCAR01.1W0520-N350R0-A-05-NNNN	R911370678
Brake resistor, 260W 250 Ω xFC 400V 2.2 kW 10% OT	FCAR01.1W0260-N250R0-B-05-NNNN	R911370673
Brake resistor, 520W 230 Ω xFC 400V 2.2 kW 20% OT	FCAR01.1W0520-N230R0-A-05-NNNN	R911370679
Brake resistor, 390W 150 Ω xFC 400V 3.0 kW & 4.0 kW 10% OT	FCAR01.1W0390-N150R0-B-05-NNNN	R911370675
Brake resistor, 780W 140 Ω xFC 400V 3.0 kW & 4.0 kW 20% OT	FCAR01.1W0780-N140R0-A-05-NNNN	R911370681
Brake resistor, 780W 75 Ω xFC 400V 5.5 kW & 7.5 kW 10% OT	FCAR01.1W0780-N075R0-A-05-NNNN	R911370680
Brake resistor, 1560W 70 Ω xFC 400V 5.5 kW & 7.5 kW 20% OT	FCAR01.1W1K56-N070R0-A-05-NNNN	R911370683
Brake resistor, 1560W 40 Ω xFC 400V 11 kW & 15 kW 10% OT	FCAR01.1W1K56-N040R0-A-05-NNNN	R911370682
Brake resistor, 2000W 47 Ω xFC 400V 11 kW 20% OT	FCAR01.1W02K0-N047R0-A-05-NNNN	R911370684
Brake resistor, 3000W 34 Ω xFC 400V 15 kW 20% OT	FCAR01.1W03K0-N034R0-A-05-NNNN	R911370685
Brake resistor, 3500W 18,9 Ω xFC 400V 18,5 & 22 kW 10 % OT	FCAR01.1W3K50-N018R9-A-05-NNNN	R911378270
Brake resistor, 10000W 28 Ω xFC 400V 18.5 kW 20% OT	FCAR01.1W10K0-N028R0-A-05-NNNN	R911370687
Brake resistor, 4000W 16 Ω xFC 400V 30 & 37 kW 10 % OT	FCAR01.1W4K00-N016R0-A-05-NNNN	R911378271
Brake resistor, 6500W 10 Ω xFC 400V 45 & 55 kW 10 % OT	FCAR01.1W6K50-N010R0-A-05-NNNN	R911378272
Brake resistor, 10000W 6 Ω xFC 400V 75 & 90 kW 10 % OT	FCAR01.1W10K0-N006R0-A-05-NNNN	R911378273

Mains filters

Description	Type code	Material number
Mains filter, EFC x610 230V 0.4–0.75 kW	FCAF01.1A-A050-E-0010-N-03-NNNN	R911370804
Mains filter, EFC x610 230V 1.5 kW	FCAF01.1A-A050-E-0020-N-03-NNNN	R911370805
Mains filter, EFC x610 230V 2.2 kW	FCAF01.1A-A050-E-0025-N-03-NNNN	R911370806
Mains filter, EFC x610 400V 0.4–4.0 kW	FCAF01.1A-A050-E-0025-A-05-NNNN	R911370807
Mains filter, EFC x610 400V 5.5–7.5 kW	FCAF01.1A-A050-E-0036-A-05-NNNN	R911370811
Mains filter, EFC x610 400V 11–15 kW	FCAF01.1A-A050-E-0050-A-05-NNNN	R911370813
Mains filter, EFC x610 400V 18.5 kW	FCAF01.1A-A050-E-0066-A-05-NNNN	R911371977
Mains filter, EFC x610 400V 22 kW	FCAF01.1A-A050-E-0090-A-05-NNNN	R911370814
Mains filter, EFC 5610 400V 30–37 kW	FCAF01.1A-A100-E-0120-A-05-NNNN	R911370815
Mains filter, EFC 5610 400V 45–55 kW	FCAF01.1A-A100-E-0250-N-05-NNNN	R911370817
Mains filter, EFC 5610 400V 75–90 kW	FCAF01.1A-A100-E-0320-N-05-NNNN	R911370818

Software



Rexroth frequency converters EFC 3610 and EFC 5610 can be commissioned and remotely controlled by use of the free downloadable software tools ConverterWorks or IndraWorks Ds. The connection with the PC is established via a standard USB interface. Using the software, it is possible to specify converter speeds, to control start and stop, and to adjust the parameters. Parameters can be saved and stored in order to ensure reliable archiving.

With the optional Multi-Ethernet interface, the EFCx610 frequency converters can be integrated into Rexroth control systems making engineering possible in a single IndraWorks project.

Free software tools download available from www.boschrexroth-us.com/efcx610



◀ **USB commissioning cable available for EFCx610 (R911376069)**

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