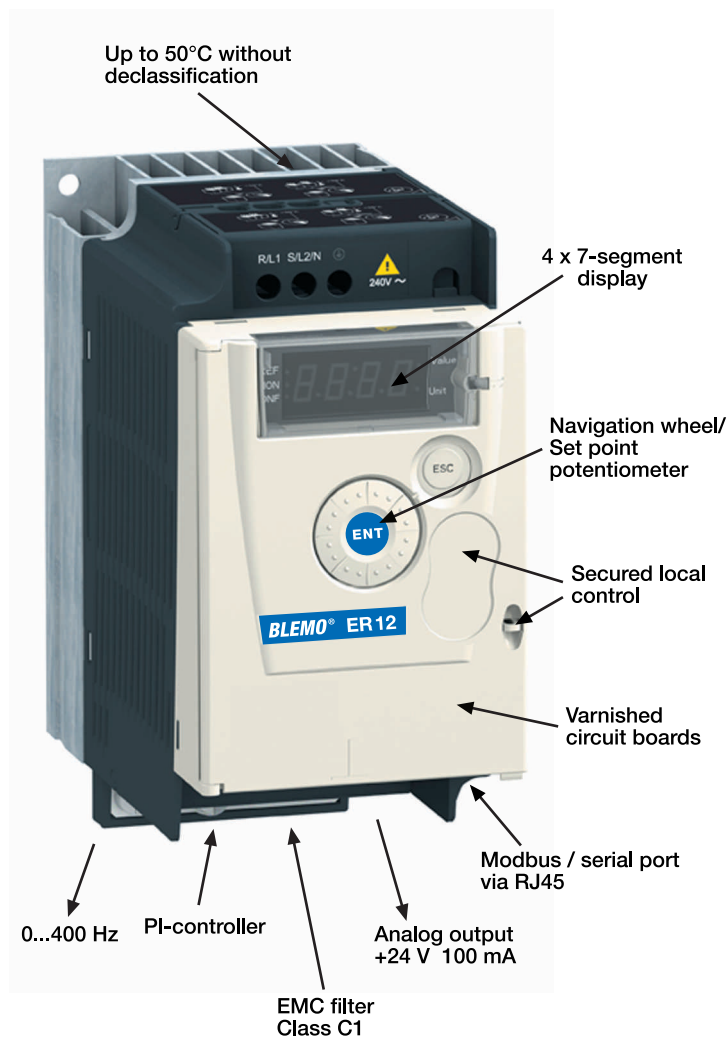


BLEMO® base-line frequency converter – a vector-controlled device with ranges from 0.18 to 4.0 kW



Standard features

- 4-digit 7-segment display
- 4 preprogrammed application macros
- Lacquered circuit boards
- Low leakage current up to 0.75 kW < 3.5 mA
- Output frequency 0...400 Hz
- Navigation wheel for programming and as set point potentiometer
- Local control with keys
- Analog output
- Built-in PID controller
- Modbus via RJ 45, RS 485
- Integrated EMC filter (type K and B), Class C1
- Field buses: Modbus integrated
- CE, UL, CSA, NOM, C-Tick, GOST

Type ER12

Frequency converter for speed adjustment of DS-asynchronous motors
 0.18 to 4.0 kW
 200 to 240 V, 1~, 3~
 100 to 120 V, 1~

Innovation

The ER12 is a sequel to the successful ER11 frequency converter series. Based on the proven functions and excellent quality, the ER12 has been further developed, improved and thus adapted to new market requirements. With the pre-programmed factory software, the devices can be put into operation immediately in 95% of all applications.

Feature enhancements

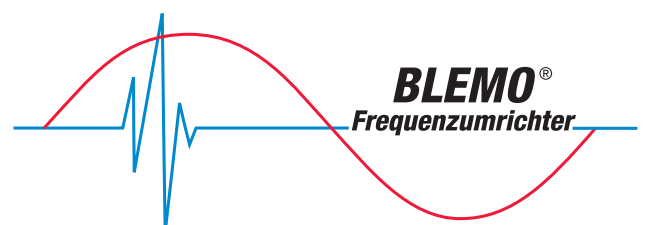
To open up new areas of applications, numerous functions in the ER12 have been expanded and completely new ones created. A navigation wheel, which can also be used as a set point potentiometer, has been newly installed, as well as a local control with keys and an analog output. The units are low leakage current up to 0.75 kW < 3.5 mA. The output frequency has been increased to 400 Hz and the units can be operated up to 50°C without declassification. Painted circuit boards and Modbus are standard. The power stages 3.0 and 4.0 kW were added.

Device versions

The ER12 in protection class IP20 is available in two housing versions ER12-...K with heat sink and ER12-...B with base plate and reduced height. The suffix U indicates the US version with a mains voltage of 1~ 100...120 V.

Compliance with EMC requirements

The ER12 series frequency converters (Type K and B) have a class C1 line filter integrated in the device, are CE-marked in accordance with the EU Low Voltage Directive and EMC Directive and comply with the applicable product standard for frequency converters EN 61800-3.



Device Overview ER12-...K/B/KU/BU

Voltage	Type	Rated output kW	Cont. output current A	Short term overcurrent 60 sec/10 min A	Power loss at full power W	Sizes K/B (HxWxD) mm	Mass kg
1~200...240 V 50/60 Hz	ER12-0.18K	0.18	1.4	2.1/2.3	18	142 x 72 x 102	0.7
	ER12-0.37K/B(1)	0.37	2.4	3.4/4.0	27	130 x 72 x 121/102	0.8
	ER12-0.55K/B	0.55	3.5	5.3/5.8	34	130 x 72 x 131/102	0.8
	ER12-0.75K/B	0.75	4.2	6.3/6.9	44	130 x 72 x 131/102	0.8
	ER12-1.5K	1.5	7.5	11.2/12.4	72	130 x 105 x 156	1.4
1(2)/3~200...240 V 50/60 Hz	ER12-2.2K	2.2	10.0	15.0/16.5	93	130 x 108 x 156	1.4
	ER12-0.18/3K	0.18	1.4	2.1/2.3	16	142 x 72 x 102	0.7
	ER12-0.37/3K/B	0.37	2.4	3.6/4.0	24	130 x 72 x 121/102	0.8
	ER12-0.75/3K/B	0.75	4.2	6.3/6.9	41	130 x 72 x 131/102	0.8
	ER12-1.5/3K/B	1.5	7.5	11.2/12.4	73	130 x 105 x 156/98	1.2
	ER12-2.2/3K/B	2.2	10.0	15.0/16.5	85	130 x 105 x 156/98	1.2
	ER12-3.0/3K/B	3.0	12.2	18.3/20.1	94	170 x 140 x 141/100	2.0
1~100...120 V	ER12-4.0/3K/B	4.0	16.7	25.0/27.6	128	170 x 140 x 141/100	2.0
	ER12-0.18KU	0.18	1.4	2.1/2.3	18	142 x 72 x 102	0.7
	ER12-0.37KU/BU	0.37	2.4	3.6/4.0	29	130 x 72 x 121/102	0.8
	ER12-0.75KU	0.75	4.2	6.3/6.9	48	130 x 105 x 156	1.3

(1) K/B: K = heat sink, B = baseplate, measurement D is reduced.

(2) For single phased connection is to be increased by one unit size.

Device types in bold print: Preferred type, available from stock. Subject to prior sale.

Technical Data

Network connection

Voltage: (tolerance -10%/+10%):

1-phase 200 to 240 V (0.25-2.2 kW)

1-phase, 100 to 120 V (0.37-7.5 kW)

Frequency: 50/60 Hz ± 10

Motor connection

Voltage: 3-phase, 0 to max. 240 V

Output frequency: 0 to 400 Hz

Overload torque: max. 150...170% of motor load torque

Max. overload current: 150% of rated current during 60 sec.

Braking torque: 70% of the rated motor torque without braking resistor. Up to 150% with optional brake chopper and braking resistance.

Nominal motor frequency: 10 to 400 Hz

Clock frequency: 2 to 16 kHz (factory setting 4 kHz)

Ramp times: 0 to 999.9 sec.

Control ports

2 analog inputs:

AI1: 0...+10 V, Ri = 30 kΩ

AIUI: Navigation wheel as set point potentiometer

1 analog output:

programmable as current or voltage output

AO1: 0(4)...20 mA, Ri = 800 Ω

AO1: 0...+10 V, Ri = 470 Ω

4 programmable digital inputs:

PLC compatibility level 1, EN 61131-2

Supply +24 VDC (min./max. 18/30 VDC),

Ri = 3.5 kΩ, sampling time < 20 ms

LI1: Start/Clockwise rotation

1 programmable relay output:

R1A, R1B, R1C: 1 protected relay output

1 "S" and 1 "Ö" with common root

Response time: max. 30 ms

1 programmable logic output:

+24 VDC with open collector, max. 100 mA

PLC compatibility level 1, EN 61131-2

2 internal voltage sources:

+24 VDC -15%/+20%, max. 100 mA

+5 VDC -5%/+5%, max. 10 mA

Ambient conditions

Ambient temperature:

-10 to +40°C without power reduction, with protective cover

-10 to +50°C without power reduction, without protective cover

-10 to +60°C with power reduction, without protective cover

Storage temperature: -25 to +70°C

Relative humidity: <95%, no condensation, IEC 60068-

2-3 **Installation altitude:** max. 1000 m a.s.l., up to 2000 m the nominal value must be reduced by 1% per additional 100 m

Maximum degree of contamination:

grade 2, EN 61800-5-1

Shock load:

15g during 11 ms, EN60068-2-27

Ambient conditions:

IEC 60721-3-3, class 3C3 and 3S2

Protection class:

IP 20

Approvals:

CE, UL, CSA, NOM, C-Tick, GOST

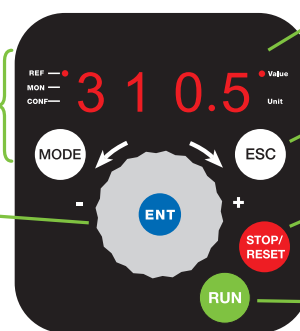
Operating panel

3 LEDs showing current mode

Mode Button
Choosing operation
REF Reference mode
MON Monitor mode
CONF Configuration mode

ENT for navigating and selecting

2 ways to utilize:
- set point potentiometer
- for navigating and selecting

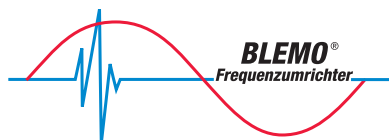


4 x 7-segment display
2 decimal points
3 + 2 LEDs
Value / Unit

ESC Button
navigating menu or reversing settings

Stop/Reset Button
Hold or freewheel (as configured)
Is always active or inactive as configured.
Resets after error status.

RUN Button
Starts if function was configured



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