



BASIC

COMPACT

MULTI

COMBIVERT

F5

0.37 ... 630 kW

KEB



With KEB COMBIVERT, reputable manufacturers have for years produced innovative high quality machine systems.

On the basis of this experience combined with the use of ultramodern electronic modules, the digital power transmission is placed on a new level.



KEB COMBIVERT



Frequency inverter solutions in three technical designs are combined in one product series with the aim of:

optimal use of resources and materials,

minimum expense in design and implementation of applications,

practical structures in application



Simply handling and versatile features

were in the past often mutually contradictory. CP-Mode ensures comfortable user handling, i.e. KEB COMBIVERT F5 is the world's first drive generation to have a fully programmable user interface.



BASIC

Frequency inverter **0.37 ... 15 kW**

- the new class of compact, functional and economical units



COMPACT

Frequency inverter **0.37 ... 90 kW**

- universal features form the basis for the design of high-quality machines and systems



MULTI

Closed loop drive technology **0,37 ... 630 kW**

- one unit for asynchronous and synchronous servo motors with feedback from
 - resolver
 - incremental encoder
 - Sin / Cos - encoder
 - absolute encoder
 - HIPERFACE® and ENDAT®

and high end open loop performance in the range of **0.37 ... 630 kW**

- Customized equipment solutions tailored to operating conditions and requirements:
We call it

APPLICATION





BASIC

The new frequency inverter class for simple to sophisticated tasks throughout the mechanical engineering sector...



- connection 1/3 phase 230 V and 3 phase 400 V optional AC- or DC-supply in one unit
- optimized KEB - **SMM** control procedure (sensorless motor management)
- 17 pluggable control terminals, PNP-logic
- analog input 0...10 V, ± 10 V, 0/4 ... 20 mA (housing D, E)
- programmable analog output 0...10 V
- 5 programmable digital inputs
- 2 programmable relay outputs
- 4 programmable software inputs/outputs
- 8 free-to-programm parameter sets including S-curve, ramp stop, Power-Off-function, DC-braking, PID technology regulator, electronic motor protection, brake control, internal timer, counter input
- output frequencies up to 1600 Hz, output voltage control, adjustable switching frequencies up to 16 kHz
- controlled positioning to end position
- high-dynamic sampling of the control terminals and the serial interface in less than 2 ms
- + / - intermediate circuit connection, internal braking chopper
- motor-PTC-evaluation, hardware current control
- integrated filter according to EN 55011/B (option: B, D, E-housing)
- potential-free operator connection and serial interfaces for:

CANopen

ETHERNET

KEB-HSP 5/
DIN 66019-II

PROFI
BUS

MODBUS



DeviceNet

SERCOS
interface

1/3 ph. 230 V (180... 260 V)

3 ph. 400 V (305... 500 V)



P_N [kW]	design	I_N [A]	I_{max} [A]	f_{nom}/f_{max} [kHz]	suppression EN55011	part number
0.37	A*	2.3	5	4/8	B ●	05.F5.B3A-090A
0.75		4	8.6	8	B ●	07.F5.B3A-0A0A
1.5	B	7	15.1	16	B ◆	09.F5.B1B-2B0A
2.2		10	21.6	8/16	B ◆	10.F5.B1B-2A0A
4	D**	16.5	35.6	8/16	B ◆	12.F5.B1D-1A0A
5.5	E**	24	43	8/16	B ◆	13.F5.B1E-160A
7.5		33	59	4/16	B ◆	14.F5.B1E-150A
0.37	A	1.3	2.8	4	B ●	05.F5.B3A-390A
0.75		2.6	5.6	4	B ●	07.F5.B3A-390A
1.5		4.1	8.9	4	B ●	09.F5.B3A-390A
2.2	B	5.8	12.5	8/16	B ◆	10.F5.B1B-3A0A
4		9.5	21	4	B ◆	12.F5.B1B-350A
5.5	D	12	25.9	4/16	B ◆	13.F5.B1D-390A
7.5		16.5	35.6	2	B ◆	14.F5.B1D-380A
11	E	24	43	4/16	B ◆	15.F5.B1E-350A
15		33	59	2	B ◆	16.F5.B1E-340A

● incorporated in series
 * only 1-phase 230 V AC
 ◆ footprint option
 ** only 3-phase 230 V AC

General: Product standard EN 61800-2, -5-1
 Emitted interference EN 61800-3
 EN61000-6 -1...4
 Enclosure IP 20/ VBG 4
 Storage temperature -25 ... 70 °C
 Operation temperature -10 ... 45 °C
 Short-circuit and earth fault monitoring
 Acceptance UL/ cUL





COMPACT

- More than just a frequency inverter -
 Leading technique for controlled drive systems



- ▲ wide power range for 230 V- and 400 V-connection
- ▲ optional AC- or DC-connection
- ▲ optimal performance at motor shaft in various areas of application with KEB - **SMM** (sensorless motor management)
- ▲ 29 plug-in control terminals
- ▲ 2 analog inputs 0... 10 V, ± 10 V, 0/4... 20 mA
- ▲ 2 programmable analog outputs 0... 10 V
- ▲ 8 programmable digital inputs
- ▲ programmable outputs: 2 x relay, 2 x transistor
- ▲ 4 programmable software inputs/outputs
- ▲ 8 freely programmable parameter sets including S-curves, ramp stop, Power-Off-function, DC-braking, PID technology regulator, electronic motor protection, brake control, internal timer, counter input, output frequencies up to 1600 Hz, output voltage control, switching frequencies up to 16 kHz, output phase monitoring
- ▲ sampling time of the control terminals 2 ms
- ▲ ± intermediate circuit connection, internal braking chopper (in series up to housing size G), motor-PTC-analysis, hardware current control
- ▲ controlled positioning to end position/counting pulse
- ▲ optional: protection against accidental restart by voltage-free switching in driver section
- ▲ potential-free operator connection and serial interfaces for

3 ph. 230 V (180... 260 V)

P_N [kW]	design	I_N [A]
0.37	B*	2.3
0.75		4
1.5		7
2.2		10
4	D	16.5
5.5	E	24
7.5		33
11	G	48
15	H	66
18.5		84
22	R	100
30		120
37		150
45		180

● internal option
 * 1/3 phase 230 V

General:

CANopen

ETHERNET

MODBUS

KEB-HSP 5/
 DIN 66019-II

PROFI
 BUS



DeviceNet

SERCOS
 interface

I_{max} [A]	f_{nom}/f_{max} [kHz]	EN 55011	part number
5	16	B ◆	05.F5.C1B-2B0A
8.6	16	B ◆	07.F5.C1B-2B0A
15.1	16	B ◆	09.F5.C1B-2B0A
21.6	8/16	B ◆	10.F5.C1B-2A0A
35.6	8/16	B ◆	12.F5.C1D-1A0A
48	8/16	B ◆	13.F5.C1E-160A
66	4/16	B ◆	14.F5.C1E-150A
85	4/8	B ◆	15.F5.C1G-150A
115	16	B ◆	16.F5.C0H-170A
150	8/16	B ◆	17.F5.C0H-160A
175	8/16	B ●	18.F5.C0R-760A
210	8/16	B ●	19.F5.C0R-760A
265	8/16	B ▲	20.F5.C0R-760A
315	8/16	A/B ▲	21.F5.C0R-760A

3 ph. 400 V (305... 500 V)

P_N [kW]	design	I_N [A]	I_{max} [A]	f_{nom}/f_{max} [kHz]	EN 55011	part number
0.37		1.3	2.8	16	B ◆	05.F5.C1B-3B0A
0.75		2.6	5.6	16	B ◆	07.F5.C1B-3B0A
1.5	B	4.1	8.9	8/16	B ◆	09.F5.C1B-3A0A
2.2		5.8	12.5	8/16	B ◆	10.F5.C1B-3A0A
4		9.5	21	4	B ◆	12.F5.C1B-350A
5.5	D	12	25.9	4/16	B ◆	13.F5.C1D-390A
7.5		16.5	35.6	2/16	B ◆	14.F5.C1D-380A
11	E	24	48	4/16	B ◆	15.F5.C1E-350A
15		33	59	2/16	B ◆	16.F5.C1E-340A
18.5	G	42	75	4/16	B ◆	17.F5.C1G-350A
22		50	90	2/16	B ◆	18.F5.C1G-340A
30	H	60	108	4/16	B ◆	19.F5.C0H-350A
37		75	135	2/4	B ◆	20.F5.C0H-940A
45	R	90	162	4/16	B ●	21.F5.C0R-950A
55		115	207	4/16	B ●	22.F5.C0R-950A
75★		150	227	2/12	B ●	23.F5.C0R-940A
90★		180	270	2/8	B ▲	24.F5.C0R-940A



- ◆ footprint option
- ▲ book-style option

- internal option
- ▲ book-style option
- ◆ footprint option
- ★ Operation generally with line reactor

Product standard EN 61800-2, -5-1

Emitted interference EN 61800-3
EN 61000-6-1...4

Enclosure IP 20/VBG 4

Storage temperature -25... 70 °C

Operation temperature -10... 45 °C
upto 90 kW -10... 40 °C

Short-circuit and earth fault monitoring

Acceptance UL/ cUL





MULTI

the universal open and closed loop drive controller for synchronous and asynchronous motors

equipped with all functions and characteristics of the KEB COMBIVERT F5 - Compact series, especially prepared for regulated use.

Particularly variable through plug-in feedback:

- RESOLVER
 - TTL or HTL INCREMENTAL ENCODER, INITIATOR
 - SIN/COS- ENCODER
 - ABSOLUTE VALUE ENCODER
 - HIPERFACE®, ENDAT® or Tacho

optional in the operation methods

- KEB-SMM** (sensorless motor management) as **F5-G**
- Field-oriented control** **F5-M**
- Synchronous motor control** **F5-S**

Decentralized automation in the drive actuator with

- ◆ speed and torque control
- ◆ position control
- ◆ synchro-control, electronic gears or customized solutions like:
 - cam switches
 - electronic cams
 - single-axis positioning
 - rotary indexing positioning
 - register function

relieves load on higher control systems and creates clear, compact programs. All actuators have a

- ◆ potential-free operator connection and serial interfaces for

CANopen **ETHERNET** **KEB-HSP 5 / DIN 66019-II** **PROFI BUS**
MODBUS
INTERBUS **DeviceNet** **SERCOS interface**

<i>P_N</i> [kW]	<i>design</i>	<i>I_N</i> [A]
2.2	D*	10
4		16.5
5.5	E	24
7.5		33
11	G	48
15	H	66
18.5		84
22	R	100
30		120
37		150
45		180

* 1,5 ... 2,2 kW = 1/3

● internal option

★ Operation generally

General:



I_{max} [A]	f_{nom}/f_{max} [kHz]	EN 55011	part number
12.6	16	B ◆	09.F5.M1D-2B_A
18	16	B ◆	10.F5.M1D-2B_A
29.7	8/16	B ◆	12.F5.M1D-1A_A
36	8/16	B ◆	13.F5.M1E-16_A
49.5	4/16	B ◆	14.F5.M1E-15_A
72	8/16	B ◆	15.F5.M1G-16_A
99	16	B ◆	16.F5.M1H-17_A
126	8/16	B ◆	17.F5.M1H-17_A
150	8/16	B ●	18.F5.M1R-76_A
172	8/16	B ●	19.F5.M1R-76_A
217	8/16	B ▲	20.F5.M1R-76_A
270	8/16	A/B ▲	21.F5.M1R-76_A

phase 230 V

◆ footprint option
with line reactor ▲ book-style option

Product standard EN 61800-2, -5-1
Emitted interference EN 61800-3
EN 61000-6-1...4

Enclosure IP 20/VBG 4

Storage temperature -25... 70 °C

Operation temperature -10... 45 °C

up to 90 kW -10... 40 °C

Short-circuit and earth fault monitoring

Acceptance UL/ cUL



3 ph. 400 V (305... 500 V)

P_N [kW]	design	I_N [A]	I_{max} [A]	f_{nom}/f_{max} [kHz]	EN 55011	part number
0.75	D	2.6	5.6	8/16	B ◆	07.F5.M1D-3A_A
1.5		4.1	7.4	8/16	B ◆	09.F5.M1D-3A_A
2.2		5.8	10.4	4/16	B ◆	10.F5.M1D-3A_A
4		9.5	17	8/16	B ◆	12.F5.M1D-3A_A
5.5		12	21.6	4/16	B ◆	13.F5.M1D-39_A
7.5		16.5	29.7	2/16	B ◆	14.F5.M1D-38_A
11	E	24	36	4/16	B ◆	15.F5.M1E-35_A
15		33	49.5	2/16	B ◆	16.F5.M1E-34_A
18.5	G	42	63	4/16	B ◆	17.F5.M1G-35_A
22		50	75	2/16	B ◆	18.F5.M1G-34_A
30	H	60	90	4/16	B ◆	19.F5.M1H-35_F
37		75	112	2/4	B ●	20.F5.M1H-34_F
45	R	90	135	4/16	B ●	21.F5.M1R-95_A
55		115	172	4/16	B ●	22.F5.M1R-95_A
75★		150	225	2/12	B ●	23.F5.M1R-94_A
90★		180	270	2/8	B ▲	24.F5.M1R-94_A
110★		210	263	4/8	A/B ▲	25.F5.M1U-91_A
132★	U	250	313	4/8	A/B ▲	26.F5.M1U-91_A
160★		300	375	2/8	A/B ▲	27.F5.M1U-90_A
200★		370	463	2/4	A ▲	28.F5.M1P-90_A
250★	P	460	575	2/4	A ▲	29.F5.M1P-90_A
315★		570	713	2/4	A ▲	30.F5.M1W-A0_A
355★	W	630	787	2/4	A ▲	31.F5.M1W-90_A
400★		710	887	2/4	A ▲	32.F5.M1W-90_A
450★	2xP	800	1000	2/4	A ▲	33.F5.M1P-90_A
500★		890	1112	2/4	A ▲	34.F5.M1P-90_A
560★	3xP	1000	1250	2/4	A ▲	35.F5.M1P-90_A
630★		1150	1435	2/4	A ▲	36.F5.M1P-90_A



Selection and dimensioning of synchronous and asynchronous servo motors according to „KEB COMBIVERT-Motors“ catalogue



Based on the open modular framework of the COMBIVERT F5-series, in close cooperation with OEM users KEB has adapted modified drive systems for standard machines.



We call it

APPLICATION

The engineering knowledge resulting from many years experience in the field of

packing, textiles, plastics, printing / paper industry, wood working, compressor, HVAC, pump, storage and transport technology or lift industry

have been integrated in customized software modules or modified hardware, e.g.

- *state - machine, i.e. complete functional processes in the frequency inverter*
- *adaption to serial protocols*
- *industry-specific software*
- *flexible cooling systems*
- *complete control cabinets*
- *or compact inverter-motor-modules*



THE UNIFIED DRIVE platform...

e. g. KEB Open operator

the cost effective programable hardware for software extension in single drive applications. (C- / assembler programming, free memory: 64 k -flash, RS 232/485 connection)

e. g. crane - slewing, hoist or travel drives,

lift - specific data input and I/O handling

e. g. modular cooling concept

FLAT-REAR-cooling plate

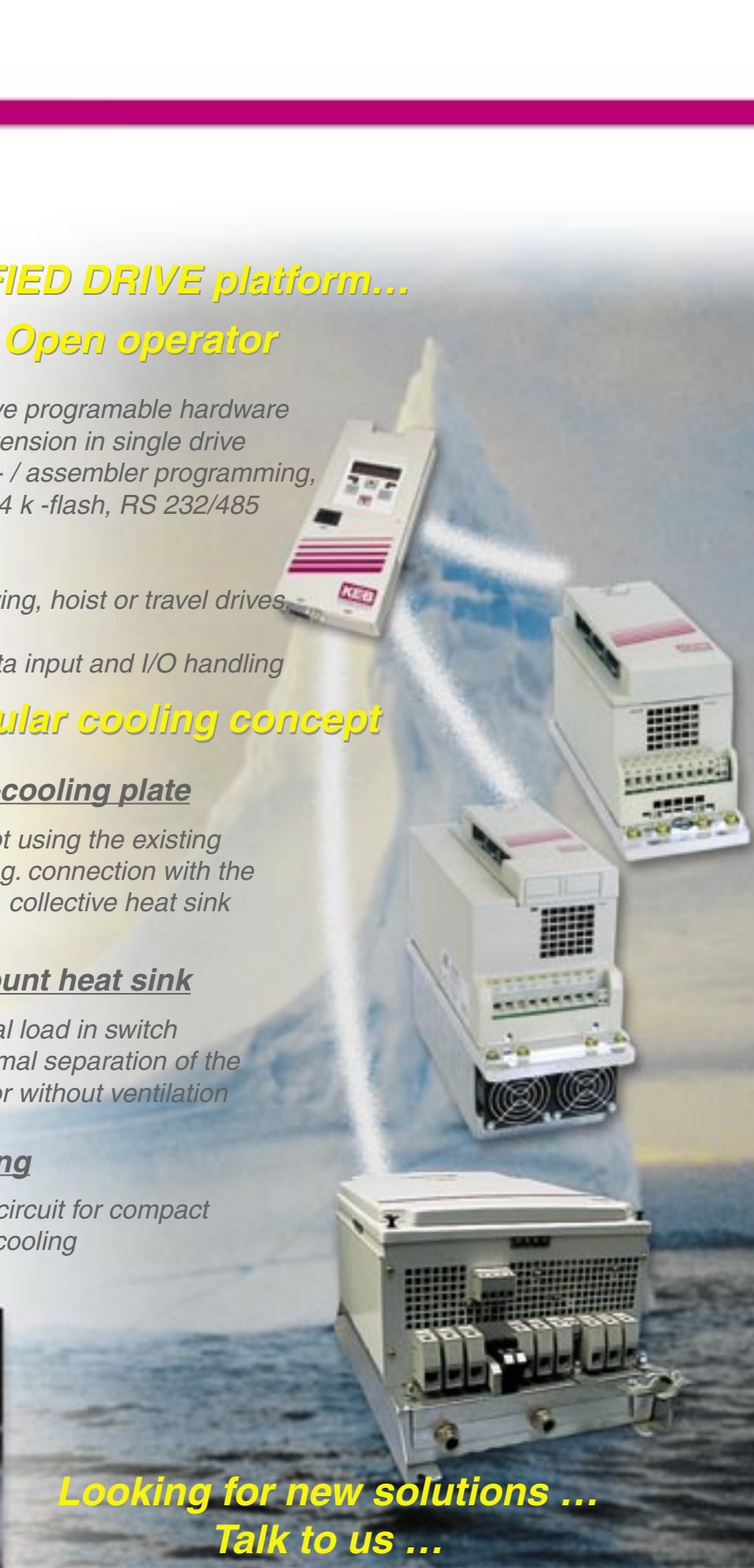
Cooling concept using the existing environment; e.g. connection with the machine frame, collective heat sink

Through-mount heat sink

reduced thermal load in switch cabinet by thermal separation of the heat sink with or without ventilation

Liquid cooling

closed cooling circuit for compact switch cabinet cooling



**Looking for new solutions ...
Talk to us ...**

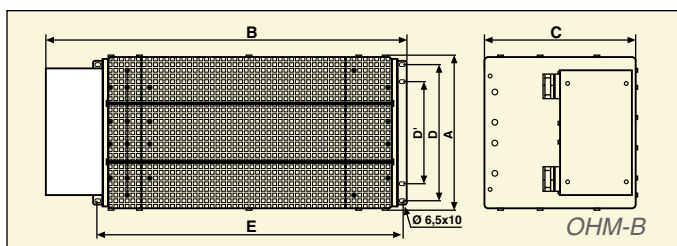
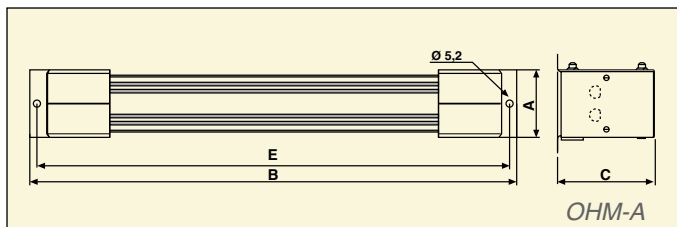
we supply the ideas!



Braking resistors



usually with thermal monitoring for the absorption of generated energy. Noiseless braking with the compact submounted modules to absorb pulse energy, or universal side-mounted units.



High regenerated energy is optimally used by the use of **KEB COMBIVERT R4** feedback units available for block or sinusoidal line currents.

230 V-class

part number	R [Ω]	P _D [W]
07.BR.100-1180	180	44
09.BR.100-1100	100	82
10.BR.100-1683	68	120
12.BR.100-1333	33	250
13.BR.100-1273	27	300
14.BR.100-1203	20	410
15.BR.110-1133	13	630
16.BR.110-1103	10	780
17.BR.110-1073	7	1200

400 V-class

07.BR.100-6620	620	56
09.BR.100-6390	390	90
10.BR.100-6270	270	130
12.BR.100-6150	150	230
13.BR.100-6110	110	350
14.BR.100-6853	85	410
15.BR.110-6563	56	620
16.BR.110-6423	42	820
17.BR.110-6303	30	1200
18.BR.226-6203	20	1700
19.BR.226-6153	15	2300
20.BR.226-6123	12	2900
21.BR.226-6103	10	3400
22.BR.226-6866	8.6	4000
23.BR.226-6676	6.7	5200
24.BR.226-6506	5	6900
25.BR.226-6436	4.3	8100
26.BR.226-6386	3.8	9200
27.BR.226-6336	3.3	10000
28.BR.226-6226	2.2	15000
29.BR.226-6176	1.7	20000
30.BR.226-6136	1.3	26000



External Braking Resistor							
P_6 [W]	P_{25} [W]	P_{40} [W]	A	B	C [mm]	D/D'	E
800	300	180	40	160	26	-	145
1500	500	300	40	240	26	-	225
2200	800	500	40	300	26	-	285
4200	1300	750	80	300	28	-	285
5100	1500	900	80	400	28	-	385
6900	1800	1100	80	400	28	-	385
10000	3200	1800	63	370	96	-	355
14000	3600	2200	63	470	96	-	455
22000	5400	3100	90	470	96	50	455
900	300	180	40	160	26	-	145
1500	500	300	40	240	26	-	225
2100	800	500	40	300	26	-	285
3850	1300	750	80	300	28	-	285
5000	1500	900	80	400	28	-	385
6900	1800	1100	80	400	28	-	385
10000	3200	1800	63	370	96	-	355
14000	3600	2200	63	470	96	-	455
19000	5400	3100	90	470	96	50	455
29000	7500	4500	270	625	116	240/176	526
38000	10000	6000	270	625	116	240/176	526
48000	12500	7500	270	625	223	240/176	526
53000	15000	9000	270	625	223	240/176	526
68000	17500	10000	270	625	273	240/176	526
86000	22000	12500	270	625	273	240/176	526
115000	30000	18000	270	625	223	240/176	526
135000	35000	20000	270	625	273	240/176	526
154000	40000	22500	270	625	273	240/176	526
173000	45000	25000	270	625	273	240/176	526
260000	67000	37000	270	625	273	240/176	526
340000	90000	50000	270	625	273	240/176	526
440000	112000	62000	270	625	273	240/176	526

OHM-A



OHM-B



P_D Continuous rating
 P_6 Pulse rating with 6 sec. ON-time and period of 120 sec.
 P_{25} Pulse rating with 25 sec. ON-time and period of 120 sec.
 P_{40} Pulse rating with 40 sec. ON-time and period of 120 sec.

Number of modules

■ = 2-fold ■ = 3-fold ■ = 4-fold ■ = 5-fold



COMBILINE



Filtres + résistances adaptées

An EMC-compliant structure with efficient switch cabinet interference suppression is the basis for a fault-free operation of machines and systems. The current and voltage limiting COMBILINE modules are optimally designed for the requirements of the KEB COMBIVERT F5 series and support the application with

- *line-side EMC-filters - reduce the power-related emission to the required limit values of EN 55011- A/B. Variants for very small discharge currents, IT mains or special network configurations are also available.*
- *output choke and filters reduce the voltage and current loading on the motor winding.*
- *sinusoidal filter protect the motor winding from voltage peaks and saves on shielded motor lines*
- *line reactors reduce power consumption and line feedback*
- *combination filter for input/output - space-saving „all-around supply“ logically adapted and optimized to drive actuator.*
- *Harmonic filters create reduced system perturbations of low-frequency interferences of B6-fed consumers. They are the latest innovative solution designed by our team of highly skilled engineers to combat such problems. It can be designed in the planning stage and simply replace the traditional line reactor. Thus making possible the compliance with many international standards.*

EMC - Service

- *means mobile assistance on site*
- *advice in the planning phase*
- *analysis of existing systems*

is one way in which we can help design real system solutions.



P_N [kW]	design	RFI filter	mains choke	OS-Filter THD ≤ 8 %	motor choke	sinusoidal filter
0.37 0.75	A	- -	05.DR.F08-4951* 07.DR.F08-2951*	<i>upon request</i>	05.DR.A08-4251 07.DR.A08-2851	<i>upon request</i>
1.5 2.2	B	10.U5.B0B-1000*	09.DR.F08-1851* 10.DR.F08-1551*		09.DR.A08-2151 10.DR.A08-1551	
4	D	12.U5.B0D-2000	12.DR.A08-8541		12.DR.A08-8541	
5.5 7.5	E	13.U5.B0E-2000 14.U5.B0E-2000	13.DR.A08-5641 14.DR.A08-4241		13.DR.A08-5641 14.DR.A08-4241	
11	G	15.U5.B0G-2000	15.DR.A08-2841		15.DR.A08-2841	
15	H	16.U5.B0H-2000	16.DR.A08-2241		16.DR.A08-2241	
0.37 0.75 1.5 2.2 4	B	10.U5.B0B-3000 10.U5.B0B-3000 10.U5.B0B-3000 10.U5.B0B-3000 12.U5.B0B-3000	03.DR.B08-1461 07.DR.B08-4951 07.DR.B08-4951 10.DR.B08-3751 12.DR.B08-2851		12.Z1.C01-1000	
5.5 7.5	D	13.U5.B0D-3000 14.U5.B0D-3000	13.DR.B08-1851 14.DR.B08-1451	13.Z1.C01-1000 14.Z1.C01-1000	13.DR.B08-1851 14.DR.B08-1451	13.Z1.G04-1000 14.Z1.G04-1000
11 15	E	15.U5.B0E-3000 16.U5.B0E-3000	15.DR.B08-9841 16.DR.B08-7341	15.Z1.C01-1000 16.Z1.C01-1000	15.DR.B08-9841 16.DR.B08-7341	15.Z1.G04-1000 16.Z1.G04-1000
18.5 22	G	17.U5.B0G-3000 18.U5.B0G-3000	17.DR.B08-5941 18.DR.B18-4941	17.Z1.C01-1000 18.Z1.C01-1000	17.DR.B08-5941 18.DR.B18-4941	17.Z1.G04-1000 18.Z1.G04-1000
30 37	H	19.U5.B0H-3000 20.U5.B0H-3000	19.DR.B18-3941 20.DR.B18-3341	19.Z1.C01-1000 20.Z1.C01-1000	19.DR.B18-3941 20.DR.B18-3341	19.Z1.G04-1000 20.Z1.G04-1000
45 55 75★	R	23.U5.B0R-3000 23.U5.B0R-3000 23.U5.B0R-3000	21.DR.B18-2841 22.DR.B18-2241 23.DR.B18-1741	21.Z1.C01-1000 22.Z1.C01-1000 23.Z1.C01-1000	21.DR.B18-2841 22.DR.B18-2241 23.DR.B18-1741	21.Z1.G04-1000 22.Z1.G04-1000 23.Z1.G04-1000
90★ 110★ 132★ 160★	U	25.U5.B0U-3000 25.U5.B0U-3000 27.U5.B0U-3000 27.U5.B0U-3000	24.DR.B18-1541 25.DR.B18-1341 26.DR.B28-1141 27.DR.B28-1041	24.Z1.C01-1000 25.Z1.C01-1000 26.Z1.C01-1000 27.Z1.C01-1000	24.DR.B18-1541 25.DR.B18-1341 26.DR.B28-1141 27.DR.B28-1041	24.Z1.G04-1000 25.Z1.G04-1000 26.Z1.G04-1000 27.Z1.G04-1000
200★ 250★	P	28.U5.A0W-3000 30.U5.A0W-3000	28.DR.B28-8031 29.DR.B28-5331	28.Z1.C01-1000 29.Z1.C01-1000	28.DR.B28-8031 29.DR.B28-5331	28.Z1.G04-1000 29.Z1.G04-1000
315★ 355★ 400★	W	30.U5.A0W-3000 31.U5.A0W-3000 32.U5.A0W-3000	2 x 27.DR.B28-1041 2 x 28.DR.B28-1041 2 x 28.DR.B28-8031	2 x 27.Z1.C01-1000 2 x 27.Z1.C01-1000 2 x 28.Z1.C01-1000	30.DR.B22-4430	30.Z1.G04-1000
450★ 500★	2xP	2 x 28.U5.A0W-3000 2 x 30.U5.A0W-3000	2 x 28.DR.B28-8031 2 x 29.DR.B28-5331	2 x 28.Z1.C01-1000 2 x 29.Z1.C01-1000	<i>upon request</i>	
560★ 630★	3xP	3 x 28.U5.A0W-3000 3 x 30.U5.A0W-3000	3 x 28.DR.B28-8031 3 x 28.DR.B28-8031	3 x 28.Z1.C01-1000 3 x 28.Z1.C01-1000	<i>upon request</i>	

* single-phase 230 V AC; three-phase filters and chokes on request

★ operation generally with line reactor



field bus interfacing

Interface Operator, **00.F5.060-2000 / -2100**
universal disclosed KEB protocol for
PC and PLC-connection
RS 232 / 485-connection submin-D-9



KEB-HSP 5 /
DIN66019-II

Accessory
Driver software for WIN 95/98/NT
KEBCOM FD.SW.020-0100
supports the PC-connection for the
protocols KEB DIN 66019-II,
KEB-HSP5, InterBus and TCP/ IP



Profibus Operator, **00.F5.060-3000 / -3100**
Slave connection up to 12.5 MBaud,
IN-/OUT-connection submin-D-9,
service interface for HSP5-adapter



Accessory
Driver software for S7
02.B0.0SW-S710

InterBus Operator, **00.F5.060-4000**
InterBus remote IN-/OUT-connection submin-D-9,
service interface for HSP5-adapter



CAN Operator, **00.F5.060-5010 / -5110**
CANopen profile DS 301 (DS402)
IN-/OUT-connection submin-D-9,
service interface for HSP5-adapter



CANopen



Accessory for HSP5-service interface
HSP5 adapter 00.F5.0C0-0002

Operator **00.F5.060-6000**
SERCOS IN-/OUT-
FSMA connector,
service interface for HSP5-



*Digital-Operator,
00.F5.060-1000
display and keyboard operation*

*In combination with the prefabricated
HSP5 operator 00.F5.060-9000
+ cable 00.F5.0C0-2030 (3 m) / -2100 (10 m)
all operator versions are prepared for the
external use as Remote-Operator*



MODBUS



*Operator 00.F5.060-A000
MODBUS SUBD9 (female) connection,
service interface for HSP5-adapter*

SERCOS
interface

DeviceNet



ETHERNET

*Operator 00.F5.060-8000
ETHERNET RJ45 connection
IEEE 802.3
10Base-T (10 Mbaud),
service interface for
HSP5-adapter*

*Operator 00.F5.060-7000
Device Net IN-/OUT-connection Open Entry,
service interface for HSP5-adapter*

adapter



Mechanical dimensions

KEB COMBIVERT F5 units are designed in a flexible modular system and are available in the following designs:

- ▲ Internal unit class IP 20 - universal fitting in switch cabinet
- ▲ Internal unit with factory-fitted radio interference suppression filter for internal radio interference suppression
- ▲ Internal unit with factory-fitted braking resistor to absorb energy with no extra space required - also available in combination with interference suppression filter
- ▲ Customer version FLAT- REAR - (FR) direct thermal connection to coolers
- ▲ Customer version LIQUID COOLED - (LC) - liquid cooling
- ▲ Customer version EXTERNAL HEAT - (EH) push - through cooler for thermal decoupling

For customer standard applications KEB also supplies complete control cabinet solutions in protection class IP 54.

Fastening points aligned on a matrix allows the use of prepared assembly boards.



compact redefined...



A B D E G H

... 1.5 kW

... 4.0 kW

... 7.5 kW

... 15 kW

... 22 kW

... 37 kW

design	version IP20 B x H x T(mm)			available customer versions		
	unit	with HF-filter	with resistor	FR	LC	EH
A	76x191x144	75x191x144		-	-	-
B	90x220x160	90x249x200	90x220x190	●	-	●
D	90x250x181	90x285x221	90x250x211	●	-	●
E	130x290x208	132x352x258	130x290x238	●	●	●
G	170x340x255	181x415x311	170x340x280	●	●	●
H	297x340x255	300x445x321		●	●	●
R	340x520x355	342x520x360* 110x478x115		●	●	●
U	340x800x355	110x598x240		-	●	-
P	340x960x454	upon request		-	●	-
W	670x940x368	260x386x115 260x386x135		-	●	-

* up to size 23.F5.

external unit

● customer version on request



R

U

P

W

... 90 kW

... 200 kW

... 250 kW
(630 kW)

... 400 kW



Motor technique

Optimally tuned

synchronous motors with nominal torque up to 70 Nm

and

asynchronous motors with nominal power up to 160 kW

convert current and voltage KEB COMBIVERT F5 drive actuator into rotatory motion.

Depending on the physical requirements of the application, the mechanical construction, motor/machine inertia conditions and/or the overload characteristic.

KEB provides a powerful range of motors for inverter operation.

Preset complete systems with inverter/servo actuator and motor, ready for installation, are available on request.

Detailed information on features, performance and technical data are given in the KEB COMBIVERT-Motor catalogue.



Gearbox technique

Industrial gear motors ensure the adjustment of speed and torque. With the **KEB COMBIGEAR** range, a fully modular system is available in conventional designs:

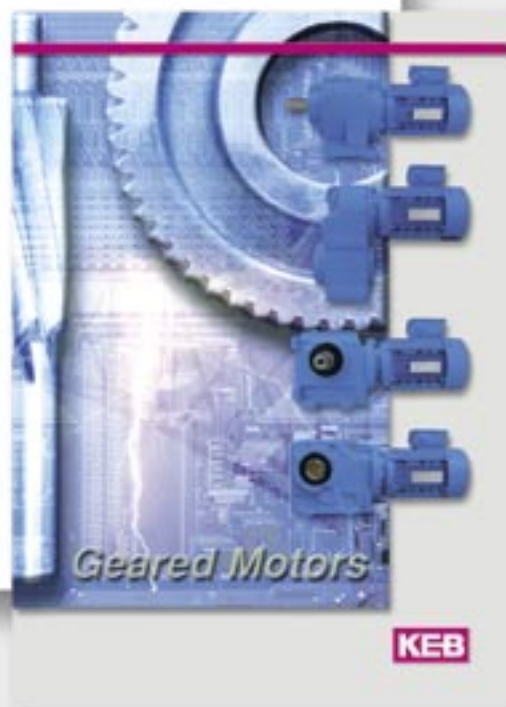
- **helical inline**
- **helical shaft mounted**
- **helical bevel**
- **helical worm**

Key features of the range are the finely graduated ratios, compact construction and robust grey cast iron housings.

Tuned to the KEB COMBIVERT F5 inverter, these forms the basis for complete systems in the complete power range **up to 55 kW**.

High dynamic demands combined with minimal backlash transmission are the main focus in servo applications. KEB synchronous motors in combination with the solutions from the KEB COMBIGEAR range or powerful **planet gears** fulfil these requirements in an economic manner.

With KEB DRIVE an efficient product configurator is available for the selection of the optimal variant for your applications.



people in motion



KEB Antriebstechnik Austria GmbH • Ritzstraße 8 • **A** - 4614 Marchtrenk
Tel.: +43 (0)7243 53586-0 • FAX: +43 (0) 7243 53586 - 21
Internet: www.keb.at • E-mail: info@keb.at



KEB Antriebstechnik Austria GmbH • Kostelni 32/1226 • **CZ** - 370 04 Ceské Budejovice
Tel.: +420 (0) 38 769 91 11 • FAX: +420 (0) 38 769 91 19
Internet: www.keb.at • E-mail: info@keb.at



KEB Antriebstechnik • Herenveld 2 • **B** - 9500 Geraadsbergen
Tel.: +32 (0) 5443 7860 • FAX: +32 (0) 5443 7898
E-mail: vb.belgien@keb.de



KEB Power Transmission Technology (Shanghai) Co. Ltd
No. 28 Dongbao Road Song Jiang, Industry Development District • **CHN** - 201613 Shanghai
Tel.: +86 (0) 21 51099995 • FAX: +86 (0) 21 67742701 • Internet: www.keb.cn • E-mail: info@keb.cn



Société Française KEB • Z.I. de la Croix St. Nicolas • 14, rue Gustave Eiffel • **F** - 94510 LA QUEUE EN BRIE
Tél.: +33 (0)1 49620101 • FAX: +33 (0)1 45767495
Internet: www.keb.fr • E-mail: info@keb.fr



KEB (UK) Ltd. • 6 Chieftain Buisness Park, Morris Close • Park Farm, Wellingborough, **GB** - Northants, NN8 6 XF
Tel.: +44 (0)1933 402220 • FAX: +44 (0)1933 400724
Internet: www.keb-uk.co.uk • E-mail: info@keb-uk.co.uk



KEB - YAMAKYU Ltd. • 15 - 16, 2-Chome • **J** - Takanawa Minato-ku • **J** - Tokyo 108 - 0074
Tel.: +81 (0) 33 445 / 8515 • FAX: +81 (0) 33 445 8215
E-mail: ky-sales@f4.dion.ne.jp



KEB Italia S.r.l. • Via Newton, 2 • **I** - 20019 Settimo Milanese (Milano)
Tel.: +39 02 3350 0782 • FAX +39 02 3350 0790
Internet: www.keb.it • E-mail: vb.spanien@keb.de



KEB KOREA • Representative Office, Room 1709, 415 Missy 2000, 725 Su Seo Dong, Gang Nam Gu
ROK - 135-757 Seoul / South Korea
Tel.: +82 (0) 2 6253 6771 • FAX: + 82 (0) 2 6253 6770 • E-mail: vb.korea@keb.com



KEB Sverige • Box 265 (Bergavägen 19) • **S** - 43093 Hälsö
Tel.: +46 (0) 31 961520 • FAX: +46 (0) 31 961124
E-mail: vb.schweden@keb.de



KEB España • C / Mitjer, Nave 8 Poligono Industrial "La masia" • **E** - 08799 Sant Cugat Sesgarrigues (Barcelona)
Tel.: +34 (0) 61 83 24 766 • FAX: +34 (0) 93 8992035
E-mail: vb.spanien@keb.de



KEB Taiwan Ltd. • No. 8, Lane 89, Sec. 3, Taichung Kang Rd. • **R.O.C.** - Taichung City Taiwan
Tel.: +886 (0) 4 23506488 • FAX: +886 (0) 4 23501403
E-mail: info@keb.keb.com.tw



KEB America, Inc. • 5100 Valley Industrial Blvd. South • **USA** - Shakopee, MN 55379
Tel.: +1 (0) 952 224 14 00 • FAX: +1 (0) 952 224 14 99
Internet: www.kebamerica.com • E-mail: info@kebamerica.com



KEB Antriebstechnik GmbH • Wildbacher Str. 5 • **D** - 08289 Schneeberg
Telefon +49 (0) 37 72 67 - 0 • Telefax +49 (0) 37 72 67 - 2 81
Internet: www.keb.de • E-mail: info@keb-combidrive.de



Karl E. Brinkmann GmbH
Försterweg 36 - 38 • **D** - 32683 Barntrop
Telefon 0 52 63 / 4 01 - 0 • Telefax 4 01 - 116
Internet: www.keb.de • E-mail: info@keb.de