



BASIC

COMPACT

MULTI

COMBIVERT

F5

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 ultra-modern electronic modules, the digital power transmission is placed on a new level.



KEB COMBIVERT

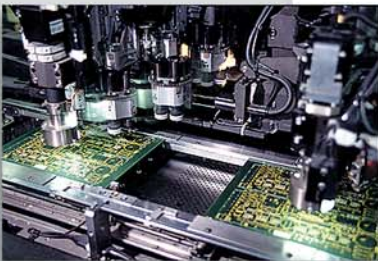


Frequency inverter solutions in three technical designs are combined in one product series with the aim of:

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

- 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 ... 315 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

MODBUS

KEB-HSP 5/
DIN 66019-II

PROFI
BUS



DeviceNet



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 0.75	A*	2.3 4	5 8.6	4/8 8	B ● B ●	05.F5.B3A-090A 07.F5.B3A-0A0A
1.5 2.2	B	7 10	15.1 21.6	16 8/16	B ◆ B ◆	09.F5.B1B-2B0A 10.F5.B1B-2A0A
4	D**	16.5	35.6	8/16	B ◆	12.F5.B1D-1A0A
5.5 7.5	E**	24 33	43 59	8/16 4/16	B ◆ B ◆	13.F5.B1E-160A 14.F5.B1E-150A
0.37 0.75 1.5	A	1.3 2.6 4.1	2.8 5.6 8.9	4 4 4	B ● B ● B ●	05.F5.B3A-390A 07.F5.B3A-390A 09.F5.B3A-390A
2.2 4	B	5.8 9.5	12.5 21	8/16 4	B ◆ B ◆	10.F5.B1B-3A0A 12.F5.B1B-350A
5.5 7.5	D	12 16.5	25.9 35.6	4/16 2	B ◆ B ◆	13.F5.B1D-390A 14.F5.B1D-380A
11 15	E	24 33	43 59	4/16 2	B ◆ B ◆	15.F5.B1E-350A 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 61800-3,
Emitted interference EN 50081-2/ 50082-2
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 230V

General:

24.F5:

CANopen

ETHERNET

MODBUS

KEB-HSP 5/
DIN 66019-II

PROFI
BUS



DeviceNet



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

◆ footprint option

▲ book-style option

✕ Operation generally with line reactor

Product standard EN 61800-3,
Emitted interference EN 50081-2
EN 50082-2

Enclosure IP20/VBG 4
Storage temperature -25... 70 °C
Operation temperature -10... 45 °C
Short-circuit and earth fault monitoring
Acceptance UL/ cUL

Operation temperature -10... 40 °C





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

MODBUS

KEB-HSP 5/
DIN 66019-II

PROFI
BUS

INTERBUS

DeviceNet

SEACOS
Interface

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

P_N [kW]	design	I_N [A]
0.75	D*	4
1.5		7
2.2		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

* 0.75... 2.2 kW =

● internal option

✕ Operation general

General:

Units from 90 kW:



I_{max} [A]	f_{nom}/f_{max} [kHz]	EN 55011	part number
8.6	16	B ◆	07.F5.M1D-2B_A
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

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-39_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_A
37		75	112	2/4	B ●	20.F5.M1H-34_A
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✕	U	210	263	4/8	A/B ▲	25.F5.M1U-91_A
132✕		250	313	4/8	A/B ▲	26.F5.M1U-91_A
160✕		300	375	2/8	A/B ▲	27.F5.M1U-90_A
200✕	W	370	463	2/4	A ▲	28.F5.M1W-90_A
250✕		460	575	2	A ▲	29.F5.M1W-90_A
315✕		570	713	2	A ▲	30.F5.M1W-A0_A

1/3 phase 230 V

◆ footprint option

▲ book-style option

Product standard EN 61800-3

Emitted interference EN 50081-2
EN 50082-2

Enclosure IP 20/ VBG 4

Storage temperature -25 ... 70 °C

Operation temperature -10 ... 45 °C

Short-circuit and earth fault monitoring

Acceptance UL/ cUL

Operation temperature -10 ... 40 °C



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

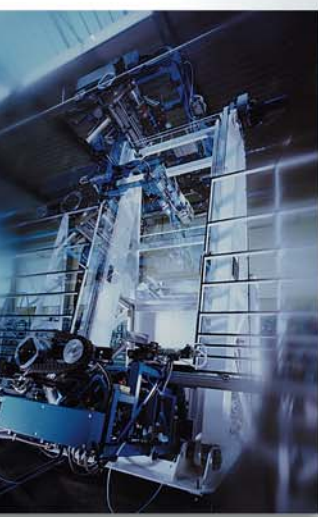
Cooling concept using the existing environment; e.g. connection with the machine frame, collective heat sink

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 ...**

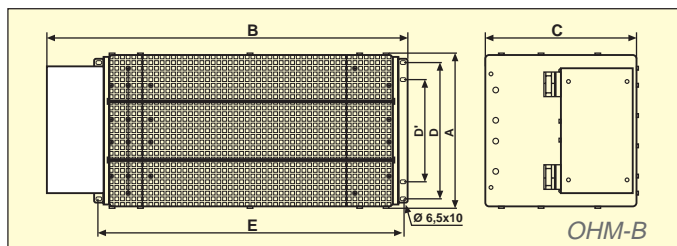
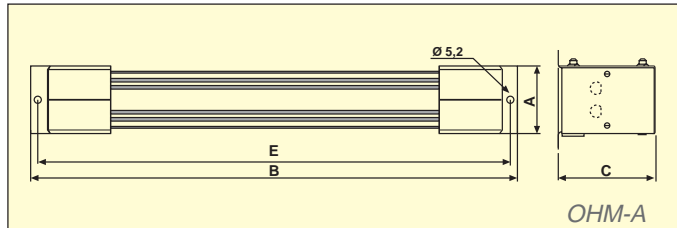
we supply the ideas !



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	611	116	240/176	526
38000	10000	6000	270	611	116	240/176	526
48000	12500	7500	270	625	223.5	240/176	526
53000	15000	9000	270	625	223.5	240/176	526
68000	17500	10000	270	625	273.5	240/176	526
86000	22000	12500	270	625	273.5	240/176	526
115000	30000	18000	270	625	223.5	240/176	526
135000	35000	20000	270	625	273.5	240/176	526
154000	40000	22500	270	625	273.5	240/176	526
173000	45000	25000	270	625	273.5	240/176	526
260000	67000	37000	270	625	273.5	240/176	526
340000	90000	50000	270	625	273.5	240/176	526
440000	112000	62000	270	625	273.5	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 ■ = 6-fold



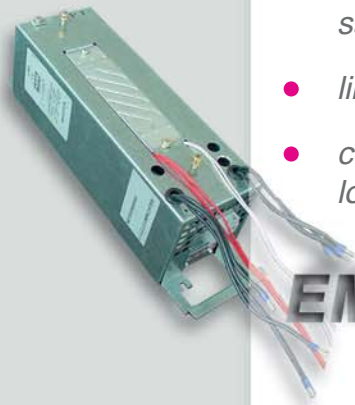
COMBILINE



Filter technique + chokes

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.



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	motor choke	sinusoidal filter
0.37 0.75	A	- -	05.DR.F08-4951* 07.DR.F08-2951*	05.DR.A08-4251 07.DR.A08-2851	
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.F08-1151	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	03.DR.B08-1461 07.DR.B08-4951 07.DR.B08-4951 10.DR.B08-3751 13.DR.B08-1851	07.AF.300-3520 07.AF.300-3520 09.AF.300-3520 10.AF.300-3520 12.AF.300-3520
5.5 7.5	D	13.U5.B0D-3000 14.U5.B0D-3000	13.DR.B08-1851 14.DR.B08-1451	13.DR.B08-1851 14.DR.B08-1451	13.AF.300-3520 14.AF.300-3520
11 15	E	15.U5.B0E-3000 16.U5.B0E-3000	15.DR.B08-9841 16.DR.B08-7341	15.DR.B08-9841 16.DR.B08-7341	15.AF.300-3520 16.AF.300-3520
18.5 22	G	17.U5.B0G-3000 18.U5.B0G-3000	17.DR.B08-5941 18.DR.B18-4941	17.DR.B08-5941 18.DR.B18-4941	17.AF.300-3520 18.AF.300-3520
30 37	H	19.U5.B0H-3000 20.U5.B0H-3000	19.DR.B18-3941 20.DR.B18-3341	19.DR.B18-3941 20.DR.B18-3341	19.AF.300-3520 20.AF.300-3520
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.DR.B18-2841 22.DR.B18-2241 23.DR.B18-1741	21.AF.300-3520 22.AF.300-3520 23.AF.300-3520
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.DR.B18-1541 25.DR.B18-1341 26.DR.B28-1141 27.DR.B28-1041	24.AF.300-3520 25.AF.300-3520 26.AF.300-3520 27.AF.300-3520
200✘ 250✘ 315✘	W	28.U5.A0W-3000 30.U5.A0W-3000 30.U5.A0W-3000	28.DR.B28-8031 29.DR.B28-5331 2x27.DR.B28-1041	28.DR.B28-8031 29.DR.B28-5331 30.DR.B22-4430	28.AF.300-3520 - -

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

✘ operation generally with line reactor



COMBIVIS 5 PC - Software

The universal effective tool for the use of KEB COMBIVERT F5 drive actuator

- ▲ complete management of equipment settings
- ▲ display and setting of all parameters in up to 8 sets
- ▲ display of physical parameters and monitoring of operating data
- ▲ configuration of customized presets in CP - level
- ▲ analysis of drive and control communication

Display

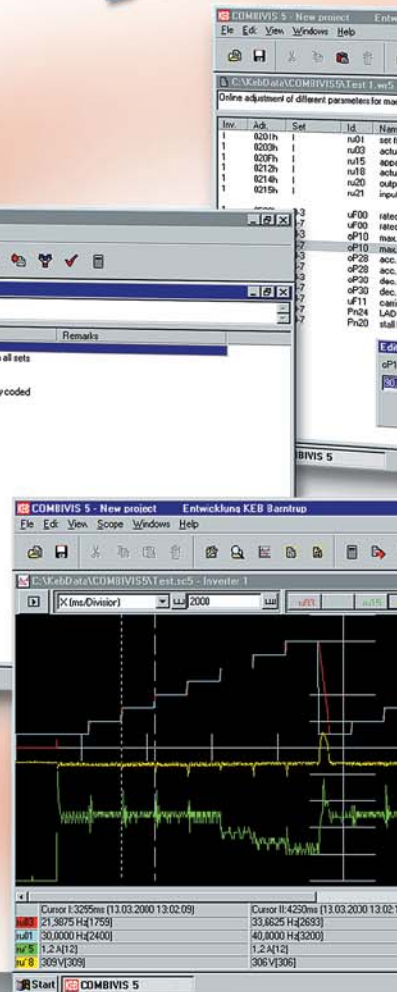
[7]	R/W	Set	Addr	D	Parameter	Value	Remarks
1	RW	0	000h	F00	copy parameter set		def. cust para all sets
2	RW	0	000h	F09	bus parameter set	0	
4	RW	0-7	002h	F02	parameter set source		
5	RW	0-7	007h	F07	select inputs l. parasct	11 +12+13	terminal binary coded
6	RW	0-3	000h	F00	rated frequency	50,0000 Hz	
7	RW	0-3	000h	F00	rated frequency	67,0000 Hz	
8	RW	4-7	000h	F10	max. freq. ref. forward	50,0000 Hz	
9	RW	0-3	000h	F10	max. freq. ref. forward	50,0000 Hz	
11	RW	0-3	030h	F28	acc. time forward	0,50 s	
12	RW	4-7	030h	F28	acc. time forward	0,50 s	
13	RW	0-3	031h	F30	dec. time forward	1,00 s	
14	RW	4-7	031h	F30	dec. time forward	1,00 s	
15	RW	0-7	000h	F11	carrier frequency	16 kHz	
17	RW	0-7	041h	F24	LAD load level	175 %	
18	RW	0-7	041h	F20	stall level	off	

Parameterization

Accessory:

KEB - Interface cable RS 232
 Part number 00.58.025-001D
 (together with Interface Operator 00.F5.060-2000)

KEB - Service cable HSP5
 Part number 00.F5.0C0-0001 (1.8 m)



Analysis

Available as COMBIVIS 5-/DOKU-CD
 part number: **CD.SW.010-0100**

or as current file in the **INTERNET**
 under

<http://www.keb.de>



Project explorer



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-adapter



*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*



DeviceNet



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

ETHERNET



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

apter



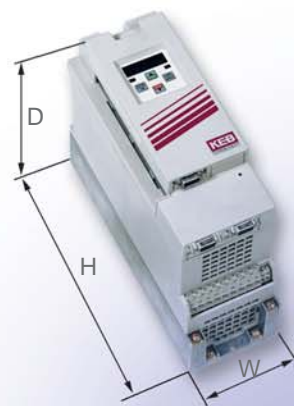
Mechanical dimensions

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

... 1.5 kW
... 4.0 kW
... 7.5 kW
... 15 kW
... 22 kW

design	version IP20 W x H x D(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		-	●	-
W	670x940x368	260x386x115 260x386x135		-	●	-

* up to size 23.F5.

□ external unit

● customer version on request



H

R

U

W

... 37 kW

... 90 kW

... 160 kW

... 315 kW



Motor technique

Optimally tuned

synchronous motors with nominal torque **up to 70 Nm**

and

asynchronous motors with nominal power **up to 160 kW**

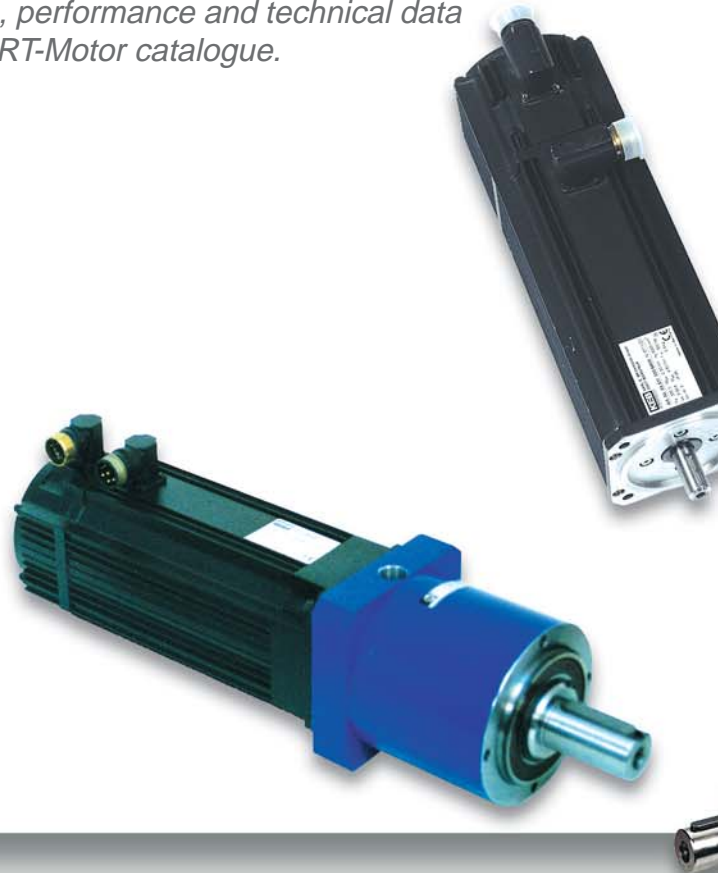
convert current and voltage KEB COMBIVERT F5 drive actuator into rotatory motion.

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 bevel
- helical shaft mounted
- helical worm

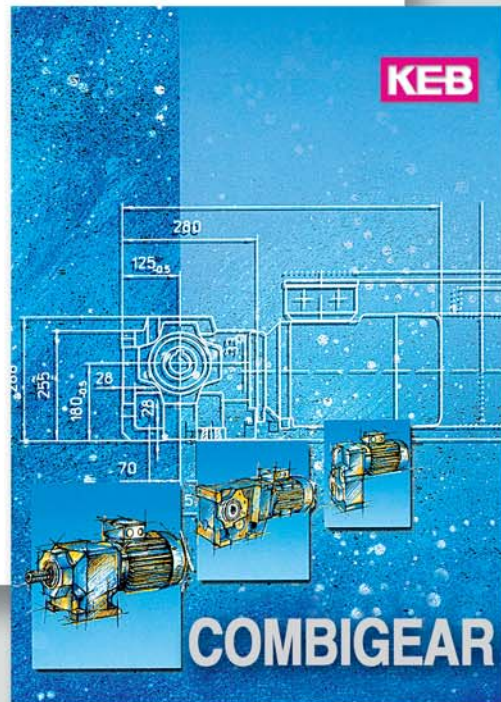
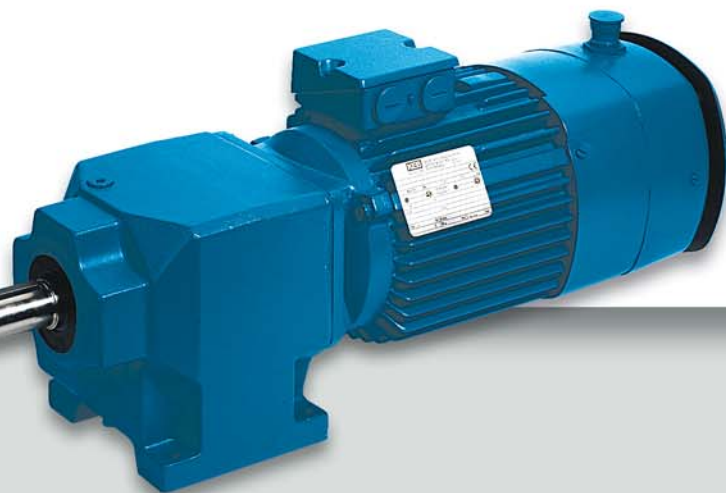
Key features of the range are the finely graduated ratios, compact construction and robust grey cast iron housings.

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

Aluminium **helical worm gear motors**, proven in many standard applications, complete the asynchronous range.

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.



people in motion

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