



BASIC

COMPACT

APPLICATION

SCL

ASCL

COMBIVERT

0.5 ... 900+ Hp

F5





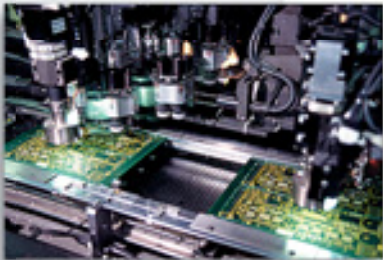
Yesterday... Today ... Tomorrow

For over 30 years KEB has been developing, manufacturing and delivering innovative solutions for your motion control requirements. We offer a comprehensive range of power transmission products employing the latest technology, not only in the design of the product, but also the application of the product as well.



The KEB product range is produced at our four modern manufacturing facilities in Barntrup-Germany, Schneeberg-Germany, Minneapolis, Minnesota and Shinjo-Japan. A certified quality system according to ISO 9001 together with constant investments in the latest production machinery, surface mount lines and CNC machine tools, ensure fast production, product reliability and competitive costs.

Many drive manufacturers talk about integrated drive control. KEB achieves this with a range of fully compatible products. They have structured levels of control that allow the selection of the appropriate technology to best suit your application.



Our philosophy is to work with you, the customer, as a partner, right from the project inception through the development to final serial production. Our objective is to help you produce a machine with state-of-the-art technology and performance!

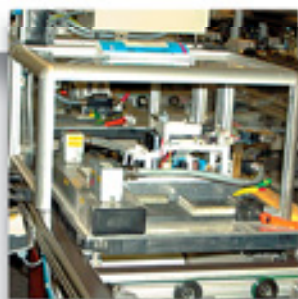


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Hardware Specifications

Control Version	B / Bi	C	A		E		H
	Basic (Indexing)	Compact	Application		SCL		ASCL
Housing Size	ABDE	BDEGHR	A	DEGHRUWP	A	DEGHRUWP	DEGHRUWP
Operation	open loop control	■	■	■	□	□	■
	closed loop control	□	■	■	■	■	■
	sensorless closed loop control	□	□	□	■	■	■
	AC servo mode	□	■	■	■	■	□
	flux vector mode	□	■	■	□	□	■
	sensorless vector mode (KEB SMM - sensorless motor management)	■	■	■	□	□	■
	standard VFD mode	■	■	■	□	□	■
Control Card	power supply	internal	internal	external	internal	external	internal
	internal supply rating	24VDC (100mA max)	24VDC (100mA max)	n/a	24VDC (100mA max)	n/a	24VDC (100mA max)
	external 24VDC support	no	yes	required	yes	required	yes
	I/O scan time	2ms	2ms	1ms	1ms	1ms	1ms
	number of terminals	17	29	17	29	17	29
	pluggable w/grounding bar	yes	yes	yes	yes	yes	yes
Digital Inputs	qty	5	8	5	8	5	8
	specifications	PNP (NPN option) (13..30VDC)	PNP/NPN software selectable (10..30VDC)	PNP (13..30VDC)	PNP/NPN software selectable (10..30VDC)	PNP (13..30VDC)	PNP/NPN software selectable (13..30VDC)
Analog Inputs	qty	1	2	1	2	1	2
	specifications	0..10V +/-10V (single ended)	0..10V +/-10V 0..20mA 4..20mA (push-pull)	0..10V +/-10V (push-pull)	0..10V +/-10V 0..20mA 4..20mA (push-pull)	0..10V +/-10V (push-pull)	0..10V +/-10V 0..20mA 4..20mA (push-pull)
	resolution	11bit	12bit	11bit	12bit	11bit	12bit
	fast scan mode	no	250us	250us	250us	250us	250us
	sample and hold mode	yes	yes	yes	yes	yes	yes
Digital Outputs	qty	0	2	2	2	2	2
	specifications	n/a	open-collector sourcing-type (50mA total)	open-collector sourcing-type (50mA total)	open-collector sourcing-type (50mA total)	open-collector sourcing-type (50mA total)	open-collector sourcing-type (50mA total)
Relay Outputs	qty	2	2	1	2	1	2
	specifications	dry contact form-c (30VDC / 1A)	dry contact form-c (30VDC / 1A)	dry contact form-c (30VDC / 1A)	dry contact form-c (30VDC / 1A)	dry contact form-c (30VDC / 1A)	dry contact form-c (30VDC / 1A)
Analog Outputs	qty	1	2	1	2	1	2
	specifications	0..10V +/- 10V (5mA)	0..10V +/- 10V (5mA each)	0..10V +/- 10V (5mA)	0..10V +/- 10V (5mA each)	0..10V +/- 10V (5mA each)	0..10V +/- 10V (5mA each)
	resolution	11bit	11bit	11bit	11bit	11bit	11bit
Encoder Feedback		n/a	n/a	standard	option card	standard	option card
	dual encoder ports	n/a	n/a	■	■	■	■
	support for gear/belt-driven encoders	n/a	n/a	■	■	■	■
	emulated TTL output	n/a	n/a	■	■	■	■
	analog encoders	n/a	n/a	resolver	resolver Sin/Cos UVW tachometer	resolver	resolver Sin/Cos UVW tachometer
	digital encoders	n/a	n/a	TTL	TTL HTL pulse/dir	TTL	TTL HTL pulse/dir
	serial encoders (single- and multi-turn)	n/a	n/a	n/a	Biss EnDat Hiperface SSI SSI-Sin/Cos	n/a	Biss EnDat Hiperface SSI SSI-Sin/Cos"

■ included □ no function

Software Functions



Control Version	B / Bi	C	A		E		H
	Basic (Indexing)	Compact	Application		SCL		ASCL
Housing Size	ABDE	BDEGHR	A	DEGHRUWP	A	DEGHRUWP	DEGHRUWP
Speed Mode	Hz	Hz	Hz, rpm	Hz, rpm	Hz, rpm	Hz, rpm	Hz, rpm
separate forward/reverse s-curve	■	■	■	■	■	■	■
separate lower/upper s-curve	□	□	■	■	■	■	■
separate forward/reverse acceleration	■	■	■	■	■	■	■
separate forward/reverse deceleration	■	■	■	■	■	■	■
Ogive function (smooth abort)	□	□	■	■	■	■	■
speed search (flying start)	■	■	■	■	■	■	■
analog input speed	■	■	■	■	■	■	■
dual analog input speed (w/math functions)	n/a	■	n/a	■	n/a	■	■
preset speeds (standard)	4	4	4	4	4	4	4
preset speeds (with set programming)	16	32	16	32	16	32	32
Positioning Mode							
open loop posi (repeatable stop)	■	■	□	□	□	□	□
closed loop w/motor encoder	n/a	n/a	■	■	■	■	□
closed loop w/secondary encoder	n/a	n/a	■	■	■	■	□
closed loop without encoder (sensorless)	n/a	n/a	□	□	■	■	□
closed loop positioning resolution	n/a	n/a	32bit	32bit	32bit	32bit	n/a
preset positions	n/a	n/a	32	32	32	32	n/a
analog input → target position	n/a	n/a	■	■	■	■	n/a
homing routine	n/a	n/a	■	■	■	■	n/a
end travel protection	n/a	n/a	■	■	■	■	n/a
relative or absolute move	n/a	n/a	■	■	■	■	n/a
on-the-fly distance stop	n/a	n/a	■	■	■	■	n/a
round table fixed path	n/a	n/a	■	■	■	■	n/a
round table shortest path	n/a	n/a	■	■	■	■	n/a
contour via fieldbus	n/a	n/a	■	■	□	□	n/a
Synchronization Mode	n/a	n/a	■	■	■	■	□
angular shaft lock	n/a	n/a	■	■	■	■	n/a
velocity shaft lock	n/a	n/a	■	■	■	■	n/a
preset gear ratios	n/a	n/a	8	8	8	8	n/a
analog input → gear ratio	n/a	n/a	■	■	■	■	n/a
phase advance/retard	n/a	n/a	■	■	■	■	n/a
on-the-fly ramp start	n/a	n/a	■	■	■	■	n/a
Torque Mode	n/a	n/a	■	■	■	■	■
adjustable overall torque limit	n/a	n/a	■	■	■	■	■
separate forward/reverse torque limit	n/a	n/a	■	■	■	■	■
separate motor/generator torque limit	n/a	n/a	■	■	■	■	■
analog torque control	n/a	n/a	■	■	■	■	■
fast scan analog torque control mode	n/a	n/a	250us	250us	250us	250us	250us
torque ramp limit	n/a	n/a	■	■	■	■	■
Functions							
PID process control	■	■	■	■	■	■	■
servo motor pole identification	n/a	n/a	■	■	■	■	n/a
SPI (stationary pole identification)	n/a	n/a	■	■	■	■	n/a
inertia pre-control (feed forward torque)	n/a	n/a	■	■	■	■	■
mechanical brake signaling	■	■	■	■	■	■	■
power off mode (stop under power loss)	■	■	■	■	■	■	■
backup/generator mode	□	□	■	■	■	■	■
programmable timer/counters (sec/hr/inc)	2	2	2	2	2	2	2
counter mode frequency limit	250Hz	250Hz	500Hz	500Hz	500Hz	500Hz	500Hz

■ included □ no function



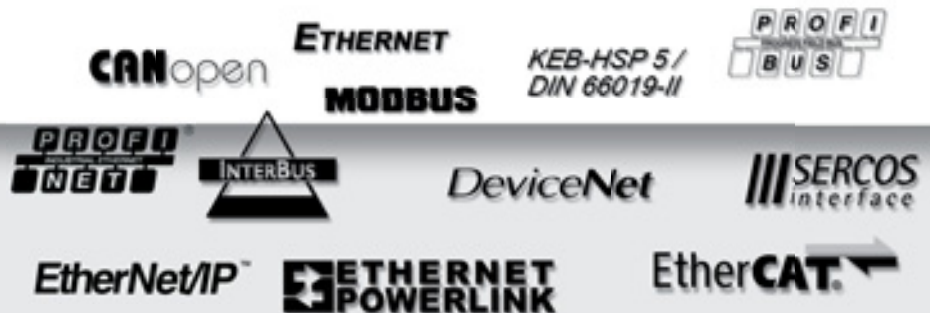
BASIC

OPEN LOOP • SENSORLESS VECTOR • PID CONTROL

KEB F5 BASIC is the choice for open loop applications needing basic I/O. Set programming and expansive functions allow the designer to solve applications while reducing PLC demand. The F5-B is the perfect solution for advanced functionality without the closed loop price.



- ▲ available in A, B, D and E housing
- ▲ open loop operation
- ▲ KEB SMM, sensorless motor management for operation near zero speed
- ▲ internal 24VDC supply for sensors, push-buttons, etc. (100mA max)
- ▲ 2ms scan time for quick, repeatable responses to I/O
- ▲ pluggable 17 pin control terminal w/grounding bar
- ▲ 5 programmable digital inputs
- ▲ PNP logic standard, option NPN versions are available - contact KEB-
- ▲ 1 programmable analog input 0..10V, +/-10V, single ended, 11bit resolution
- ▲ 1 programmable analog output, 0..10V, +/-10V, 11bit resolution
- ▲ 2 programmable dry contact, form-c relays
- ▲ separate forward/reverse s-curve ramps
- ▲ speed search (flying start)
- ▲ analog speed command or up to 16 preset speeds
- ▲ open loop posi mode for repeatable stops from stop sensor - even if the line speed changes
- ▲ PID process control for pressure, heat, level control
- ▲ mechanical brake handling/timing functions
- ▲ power off mode allows controlled stop of spinning tools during power loss
- ▲ 2 programmable timers or counters - values are retained even under power loss

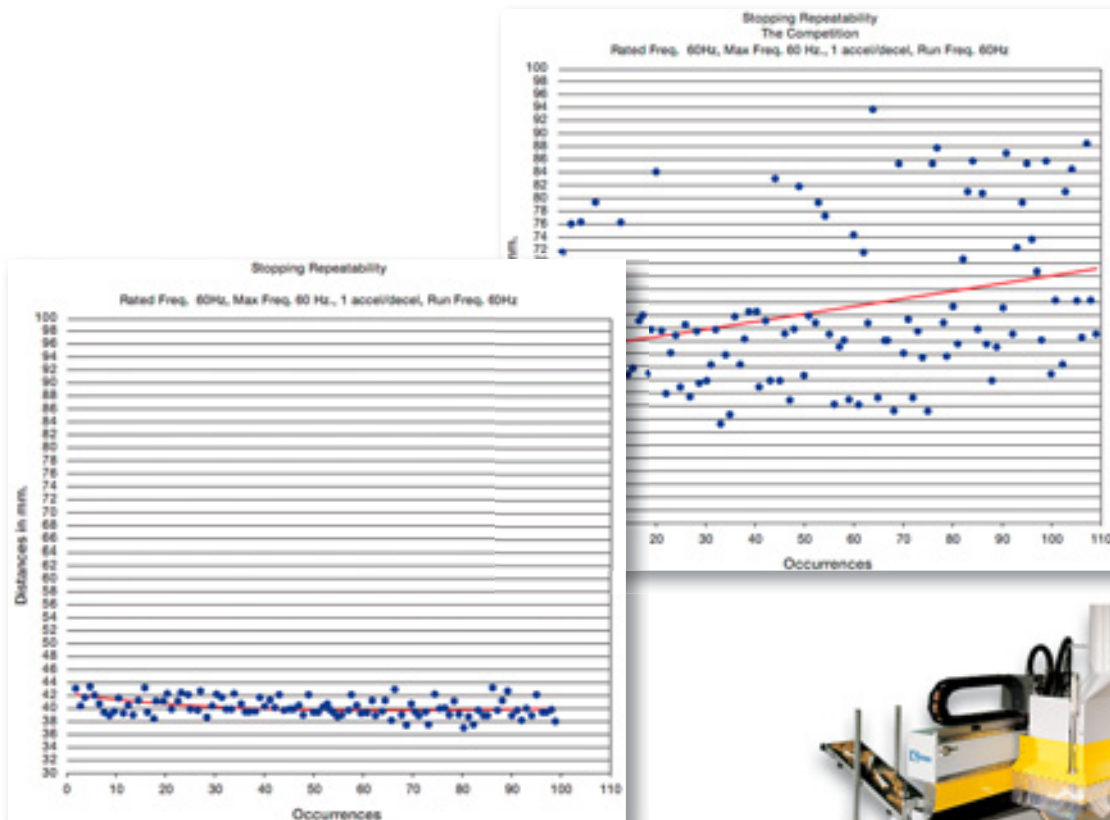


BASIC INDEXING

OPEN LOOP • SENSORLESS VECTOR • PID CONTROL • POSI

KEB F5 BASIC INDEXING is the choice for applications traditionally solved with clutch/brake modules but don't quite demand servo-level performance. Built off of the F5-B, the F5-Bi gives the designer a simple, pre-programmed solution for: indexing conveyors, cut-to-lengths, transfers, or anywhere modest repeatability is needed.

- ▲ all listed functions of the BASIC control, plus
- ▲ stop distance compensation based on line speed
- ▲ same stopping point over a 5:1 speed range (typical)
- ▲ +/- 20 degree motor shaft stop signal window (2ms scan time x 1800 rpm)
- ▲ up to 30/40/50 cpm solved with KEB's standard low inertia AC motors
- ▲ proven solution since first introduced in 1993 - known as F0 Posi





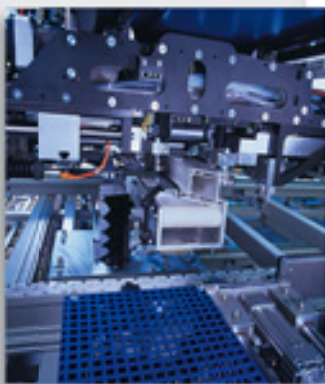
COMPACT

OPEN LOOP • SENSORLESS VECTOR • POSI • PID CONTROL • EXPANDED I/O

KEB F5 COMPACT is the choice for open loop applications need expanded I/O. Expanding on the F5-B, the F5-C doubles the number of inputs and outputs allowing the designer advanced sensor, buttons/limits, and command signal handling. The F5-C is the inverter for advanced open loop applications.



- ▲ available in B, D, E, G, H and R housing
- ▲ open loop operation
- ▲ KEB SMM, sensorless motor management for operation near zero speed
- ▲ internal 24VDC supply for sensors, push-buttons, etc. (100mA max)
- ▲ external 24VDC terminals to keep control card alive while high voltage is off
- ▲ 2ms scan time for quick, repeatable responses to I/O
- ▲ pluggable 29 pin control terminal w/grounding bar
- ▲ 8 programmable digital inputs
- ▲ PNP/NPN logic selectable by parameter
- ▲ 2 programmable analog inputs 0..10V, +/-10V, 0..20mA, 4..20mA, push-pull, 12bit resolution
- ▲ 2 programmable analog outputs, 0..10V, +/-10V, 11bit resolution
- ▲ 2 programmable transistor (open-collector/sourcing) digital outputs
- ▲ 2 programmable dry contact, form-c relays



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MODBUS **BUS**
PROFI **INTERBUS** **DeviceNet** **SERCOS**
NET **interface**
EtherNet/IP™ **ETHERNET POWERLINK** **EtherCAT®**

- ▲ *separate forward/reverse, lower/upper s-curve ramps*
- ▲ *speed search (flying start)*
- ▲ *analog speed command or up to 32 preset speeds*
- ▲ *open loop posi mode for repeatable stops from stop sensor - even if the line speed changes*
- ▲ *PID process control for pressure, heat, level control*
- ▲ *mechanical brake handling/timing functions*
- ▲ *power off mode allows controlled stop of spinning tools during power loss*
- ▲ *2 programmable timers or counters - values are retained even under power loss*



APPLICATION

OPEN LOOP • SENSORLESS VECTOR • CLOSED LOOP • FLUX VECTOR •

KEB F5 APPLICATION is the choice for open and closed loop applications needing performance and flexibility. Designed to run either induction or servo motors, the designer can standardize on one drive platform independent of motor type. Closed loop functionality includes full torque and speed control, positioning mode and electronic gearing. Offered in the complete power range, the F5-A is the unified drive platform.

- ▲ available in A, D, E, G, H, R, U, W and P housing
- ▲ open loop operation
- ▲ closed loop operation
- ▲ AC servo
- ▲ flux vector
- ▲ KEB SMM, sensorless motor management for operation near zero speed
- ▲ internal 24VDC supply for sensors, push-buttons, etc. (100mA max) (not on A housing)
- ▲ external 24VDC terminals to keep control card alive while high voltage is off
- ▲ 1ms scan time for quick, repeatable responses to I/O
- ▲ pluggable 29 pin control terminal w/grounding bar (17 by A housing)
- ▲ 8 programmable digital inputs (5 by A housing)
- ▲ PNP/NPN logic selectable by parameter (PNP only by A housing)
- ▲ 2 programmable analog inputs 0..10V, +/-10V, 0..20mA, 4..20mA, push-pull, 12bit resolution (1 @ 11bit by A housing)
- ▲ 2 programmable analog outputs, 0..10V, +/-10V, 11bit resolution (1 by A housing)
- ▲ 2 programmable transistor (open-collector/sourcing) digital outputs
- ▲ 2 programmable dry contact, form-c relays (1 by A housing)
- ▲ encoder feedback card option - TTL, HTL, resolver, Sin/Cos, SSI, Biss, EnDat, Hiperface, pulse/dir, and UVW (TTL, resolver by A housing)

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AC SERVO • TORQUE CONTROL • POSITIONING • ELECTRONIC GEARING

- ▲ *separate forward/reverse, lower/upper s-curve ramps*
- ▲ *ogive function for smooth abort of speed profile*
- ▲ *speed search (flying start)*
- ▲ *analog speed command or up to 32 preset speeds (16 by A housing)*
- ▲ *closed loop positioning using the motor encoder or a secondary position encoder*
- ▲ *32bit position values by digital presets (up to 32 individual positions) or by analog input*
- ▲ *built in homing routines and end limit sensor handling*
- ▲ *relative or absolute moves and on-the-fly distance stop modes*
- ▲ *round table positioning with or without shortest path selection*
- ▲ *contour positioning for fieldbus positioning systems*
- ▲ *angular- or velocity-lock electronic shaft modes*
- ▲ *up to 8 preset gear ratios or gear ratio via analog input command*
- ▲ *phase advance/retard support*
- ▲ *on-the-fly synch ramp start*
- ▲ *programmable torque limit with separate forward/reverse and motor/generator values*
- ▲ *analog torque control - standard or 250us fast-scan*
- ▲ *programmable torque ramp limit*
- ▲ *automatic servo motor pole identification*
- ▲ *NEW! SPI - stationary pole identification*
- ▲ *feed forward inertia control (speed controller)*
- ▲ *PID process control for pressure, heat, level control*
- ▲ *mechanical brake handling/timing functions*
- ▲ *power off mode allows controlled stop of spinning tools during power loss*
- ▲ *UPS mode for reduced current demand during emergency power operation*
- ▲ *2 programmable timers or counters - values are retained even under power loss*



Selection and dimensioning of servo motors should be made according to rated current, current at standstill and peak current.

SCL

SENSORLESS CLOSED LOOP • AC SERVO • PID CONTROL • TORQUE CONTROL



KEB F5 SCL is the latest in servo motor control. Sensorless Closed Loop means closed loop operation, without encoder. Using advanced motor modeling and current sensing, KEB's SCL replaces a traditional encoder with a simulated encoder. The solution provides full torque and speed control, positioning mode and electronic gearing. Let KEB discuss your application to see if SCL works for you!



- ▲ available in A, D, E, G, H, R, U, W and P housing
- ▲ closed loop operation
- ▲ sensorless closed loop operation - performance of closed loop without an encoder
- ▲ AC servo
- ▲ internal 24VDC supply for sensors, push-buttons, etc. (100mA max)(not by A housing)
- ▲ external 24VDC terminals to keep control card alive while high voltage is off
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- ▲ pluggable 29 pin control terminal w/grounding bar (17 by A housing)
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- ▲ PNP/NPN logic selectable by parameter (PNP only by A housing)
- ▲ 2 programmable analog inputs 0..10V, +/-10V, 0..20mA, 4..20mA, push-pull, 12bit resolution (1 @ 11bit by A housing)
- ▲ 2 programmable analog outputs, 0..10V, +/-10V, 11bit resolution (1 by A housing)
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- ▲ 2 programmable dry contact, form-c relays (1 by A housing)
- ▲ encoder feedback card option - TTL, HTL, resolver, Sin/Cos, SSI, Biss, EnDat, Hiperface, pulse/dir, and UVW (TTL, resolver by A housing)



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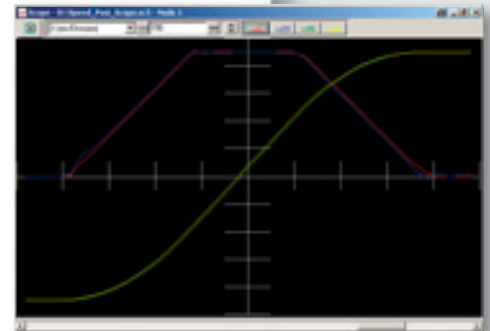
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CONTROL • POSITIONING • ELECTRONIC GEARING

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ASCL

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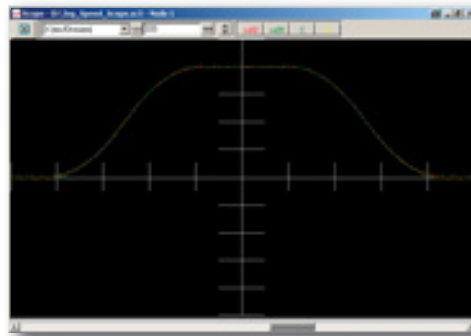
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DR • PID CONTROL • TORQUE CONTROL

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Dimensions

KEB COMBIVERT F5 units are designed with modularity in mind. Several design constructions are possible:

- ▲ Standard “bookshelf” IP20 allow side-by-side mounting.
- ▲ Optional back-mount (through 100 Hp) EMI filter requires no additional panel footprint. Can be ordered “factory installed.”
- ▲ Optional back-mount (through 30 Hp) dynamic braking resistor requires no additional panel footprint. Can be ordered “factory installed.”
- ▲ Optional FLAT- REAR (**FR**) heatsink for direct connection to cooling plates.
- ▲ Optional LIQUID-COOLED (**LC**) - heatsink for efficient heat management and reduced cabinet cooling requirements. Higher switching frequencies and/or power ratings per housing are additional benefits.
- ▲ Optional EXTERNAL-HEAT (**EH**) push-through heatsink for reduced cabinet cooling requirements.



A B D E G H

**Air Cooled
Max Hp's**

... 2 Hp

... 5 Hp

... 10 Hp

... 20 Hp

... 30 Hp

... 50 Hp

Housing	Standard IP20 Unit			Available Versions		
	Inverter B x H x D [mm]	with HF-filter B x H x D [mm]	with resistor B x H x D [mm]	FR	LC	EH
A	76 x 191 x 144	75 x 191 x 144		-	-	-
B	90 x 220 x 160	90 x 249 x 200	90 x 220 x 190	●	-	●
D	90 x 250 x 181	90 x 285 x 221	90 x 250 x 211	●	-	●
E	130 x 290 x 208	132 x 352 x 258	130 x 290 x 238	●	●	●
G	170 x 340 x 255	181 x 415 x 311	170 x 340 x 280	●	●	●
H	297 x 340 x 255	300 x 445 x 321 342 x 520 x 360*		●	●	●
R	340 x 520 x 355	110 x 478 x 115		●	●	●
U	340 x 800 x 355	110 x 598 x 240		-	●	-
P	340 x 960 x 454	260 x 386 x 115		-	●	-
W	670 x 940 x 368	260 x 386 x 115 260 x 386 x 135		-	●	-



* up to size 23.F5.

□ side mount filter

● contact KEB for specs and part numbers



R

U

P

W

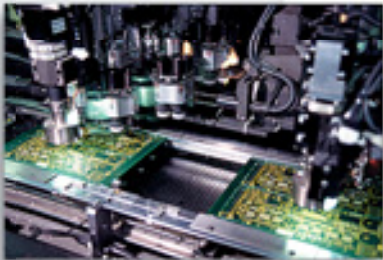
...125 Hp

... 200 Hp

...300 Hp
(900 Hp parallel)

...300 Hp

230 VAC Product Specifications



Air-cooled, IP

Power	Rated Current	Rated Current	Hardware Current Limit	E.OC Over Current Error	Housing	Rated (Max) Freq
[Hp]	UL [A]	EU [A]	[A]	[A]		[KHz]
0.5	2	2.3	4.1	5	A	4 (8)
			4.6	5.5	A	8 (8)
			4.1	5	B	16 (16)
1	4.1	4	7.2	8.6	A	8 (8)
			8	9.6	A	8 (8)
			7.2	8.6	B D	16 (16) 16 (16)
2	6.8	7	12.6	15	B D	16 (16) 16 (16)
3	9.6	10	18	22	B D	8 (16) 16 (16)
5	15.2	16.5	30	36	D	8 (16)
7.5	22	24	36	43	E	8 (16)
10	28	33	50	59	E	4 (16)
					G	16 (16)
15	42	48	72	86	G	8 (16)
			86	104	H	16 (16)
20	54	66	119	143	H	16 (16)
25	68	84	151	181	H	4 (16)
			168	202	H	4 (16)
			126	151	R	8 (16)
30	80	100	150	180	R	8 (16)
40	104	115	173	207	R	8 (16)
50	130	145	218	261	R	8 (16)
60	154	180	270	324	R	8 (16)
100	224	290	363	435	U	4 (8)

Technical specifications subject to change.

20 Units

Max Current Before E.OL2 Error (output frequency < 3Hz)				Allowable Control Cards	KEB Part Number (insert control card letter)
2KHz [A]	4KHz [A]	8KHz [A]	16KHz [A]		
2.3	2.3	2.3	-	B	05F5B0A-K90A
2.5	2.5	2.5	-	AE	05F5_1A-2E2F
2.3	2.3	2.3	2.3	BC	05F5_1B-KB0A
4	4	4	-	B	07F5B0A-KA0A
4.4	4.4	4.4	-	AE	07F5_1A-2E2F
4	4	4	4	BC	07F5_1B-KB0A
4	4	4	4	BCAEH	07F5_1D-KB0A
7	7	7	7	BC	09F5_1B-KB0A
7	7	7	7	BCAEH	09F5_1D-KB0A
10	10	10	10	BC	10F5_1B-KA0A
10	10	10	10	BCAEH	10F5_1D-KB0A
17	17	17	9.9	BCAEH	12F5_1D-KA0A
24	24	24	17	BCAEH	13F5_1E-K60A
33	33	24	17	BCAEH	14F5_1E-K50A
36	36	33	26	CAEH	14F5_1G-K70A
36	36	31	26	CAEH	15F5_1G-K60A
53	53	53	53	CAEH	15F5_1H-KB0F
73	73	73	73	CAEH	16F5_1H-KB0F
126	126	109	92	CAEH	17F5_1H-K90F
118	118	97	59	CAEH	17F5_1H-KD0F
92	92	84	50	CAEH	17F5_1R-K60A
110	110	100	70	CAEH	18F5_1R-K60A
127	127	115	69	CAEH	19F5_1R-K60A
160	160	145	102	CAEH	20F5_1R-K60A
198	198	180	99	CAEH	21F5_1R-K60A
319	319	203	-	AEH	23F5_0U-K10A

Bold = standard selection



460 VAC Product Specifications



Air-cooled, IP20 Units

Power [Hp]	Rated Current UL [A]	Rated Current EU [A]	E.OC Over Current Error [A]	Housing	Rated (Max) Freq [KHz]	Max Current Before E.OL2 Error (output frequency < 3Hz)				Allowable Control Cards	KEB Part Number (insert control card letter)
						2KHz [A]	4KHz [A]	8KHz [A]	16KHz [A]		
0.5	1	1.3	2.8	A	4 (4)	1.3	1.3	-	-	B	05F5B3A-L90A
				B	16 (16)	1.3	1.3	1.3	1.3	BC	05F5_1B-LB0A
1	1.8	2.6	5.6	A	4 (4)	2.6	2.6	-	-	B	07F5B3A-L90A
				A	8 (8)	2.9	2.9	2.9	-	AE	07F5_1A-3E2F
				B	16 (16)	2.6	2.6	2.6	2.6	BC	07F5_1B-LB0A
				D	16 (16)	2.6	2.6	2.6	2.6	BCAEH	07F5_1D-LB0A
2	3.4	4.1	8.9	A	4 (4)	4.1	4.1	-	-	B	09F5B3A-L90A
				A	4 (8)	4.5	4.5	2.9	-	AE	09F5_1A-3D2F
				B	8 (16)	4.1	4.1	4.1	4.1	BC	09F5_1B-LA0A
				D	8 (16)	4.1	4.1	4.1	2.1	BCAEH	09F5_1D-LA0A
3	4.8	5.8	12.5	B	8 (16)	5.8	5.8	5.8	5.8	BC	10F5_1B-LA0A
				D	8 (16)	5.8	5.8	5.8	2.9	BCAEH	10F5_1D-LA0A
				D	16 (16)	5.8	5.8	5.8	5.8	BCAEH	10F5_1D-LB0A
5	7.6	9.5	21	B	4 (4)	9.5	9.5	-	-	BC	12F5_1B-L50A
				D	8 (16)	9.5	9.5	9.5	5.8	BCAEH	12F5_1D-LA0A
				E	16 (16)	9.5	9.5	9.5	9.5	BCAEH	12F5_1E-LB0A
7.5	11	12	26	D	4 (16)	12	12	9.5	5.8	BCAEH	13F5_1D-L90A
				E	16 (16)	12	12	12	12	BCAEH	13F5_1E-LB0A
10	14	16.5	36	D	2 (16)	15	15	9.9	5.8	BCAEH	14F5_1D-L80A
				E	8 (16)	17	17	17	9.9	BCAEH	14F5_1E-LA0A
				G	16 (16)	23	23	23	15	CAEH	14F5_1G-L70A
15	21	24	43	E	4 (16)	24	24	16	10.1	BCAEH	15F5_1E-L50A
				G	8 (16)	26	26	22	13	CAEH	15F5_1G-L60A
				H	16 (16)	30	30	25	15	CAEH	15F5_1H-L70F
20	27	33	59	E	2 (16)	27	27	17	9.9	BCAEH	16F5_1E-L40A
				G	8 (16)	36	36	23	15	CAEH	16F5_1G-L60A
H	16 (16)	42	42	33	20	CAEH	16F5_1H-L70F				
25	34	42	76	G	4 (16)	46	46	29	21	CAEH	17F5_1G-L50A
				H	8 (16)	42	42	42	25	CAEH	17F5_1H-L60F
30	40	50	90	G	2 (16)	45	45	30	20	CAEH	18F5_1G-L40A
				H	8 (16)	60	60	50	30	CAEH	18F5_1H-L60F
				R	16 (16)	55	55	50	40	CAEH	18F5_1R-L70A

Technical specifications subject to change.

Bold = standard selection



Air-cooled, IP20 Units

Power [Hp]	Rated Current UL [A]	Rated Current EU [A]	E.OC Over Current Error [A]	Housing	Rated (Max) Freq [KHz]	Max Current Before E.OL2 Error (output frequency < 3Hz)				Allowable Control Cards	KEB Part Number (insert control card letter)
						2KHz [A]	4KHz [A]	8KHz [A]	16KHz [A]		
40	52	60	108	H	4 (16)	108	60	54	36	CAEH	19F5_1H-L50F
				R	8 (16)	108	66	66	36	CAEH	19F5_1R-L60A
50	65	75	135	H	2 (8)	68	68	53	-	CAEH	20F5_1H-L40F
			162	H	2 (16)	83	83	83	45	CAEH	20F5_1H-L80F
			135	R	8 (16)	83	83	75	34	CAEH	20F5_1R-L60A
60	77	90	162	R	4 (16)	99	99	81	45	CAEH	21F5_1R-L50A
				R	8 (16)	99	99	90	63	CAEH	21F5_1R-L60A
75	96	115	207	R	4 (16)	127	127	104	52	CAEH	22F5_1R-L50A
			207	R	8 (16)	115	115	115	63	CAEH	22F5_1R-L60A
			276	R	4 (16)	173	173	150	98	CAEH	22F5_1R-LD0A
100	136	150	270	R	2 (12)	128	128	90	-	CAEH	23F5_1R-L40A
				U	8 (8)	165	165	150	-	AEH	23F5_1U-L60A
125	172	180	324	R	2 (8)	144	144	108	-	CAEH	24F5_1R-L40A
150	198	210	315	U	4 (8)	231	231	168	-	AEH	25F5_1U-L10A
175	231	250	375	U	4 (8)	275	275	163	-	AEH	26F5_1U-L10A
			540	U	4 (12)	325	325	225	-	AEH	26F5_1U-L90A
200	264	300	450	U	2 (8)	240	240	180	-	AEH	27F5_1U-L00A
250	332	370	555	P	2 (4)	259	259	-	-	AEH	28F5_1P-L00A
				W	2 (4)	407	407	-	-	AEH	28F5_1W-L00A
300	397	460	690	P	2 (4)	322	322	-	-	AEH	29F5_1P-L00A
				W	2 (2)	460	-	-	-	AEH	29F5_1W-L00A
500	614	710	1065	2xP	2 (4)	497	497	-	-	AEH	32F5_1P-L00A
600	692	800	1200	2xP	2 (4)	560	560	-	-	AEH	33F5_1P-L00A
650	770	890	1335	2xP	2 (4)	623	623	-	-	AEH	34F5_1P-L00A
750	895	1000	1500	3xP	2 (4)	700	700	-	-	AEH	35F5_1P-L00A
800	1030	1150	1725	3xP	2 (4)	805	805	-	-	AEH	36F5_1P-L00A
900	1190	1330	1995	3xP	2 (4)	931	931	-	-	AEH	37F5_1P-L00A

Technical specifications subject to change.

Bold = standard selection





Feedback Cards

KEB feedback cards provide a modular solution for factory or field installation.

Primary Channel		Secondary Channel			Factory Installed Code	KEB Encoder Kit	
Encoder Type	Connection	Encoder Type	Mode	Connection		D,E Housing	G,H,R,U,W,P Housing
TTL	15pin DSUB	TTL	Output	9pin DSUB	D	1MF5K81-DZ19	2MF5K81-DZ19
	15pin DSUB	TTL	Input	9pin DSUB	G	1MF5K81-GZ18	2MF5K81-GZ18
	terminal strip	TTL	Output	terminal strip	no opt.	1MF5K81-BZ05	2MF5K81-BZ05
	terminal strip	TTL	Input	terminal strip	no opt.	1MF5K81-BZ04	2MF5K81-BZ04
	15pin DSUB	SSI	Input	9pin DSUB	4	1MF5K81-4Z15	2MF5K81-4Z15
	15pin DSUB	Pulse /Direction	Input	terminal strip	A	contact KEB	2MF5K81-AZ07
	15pin DSUB	Tachometer	Input	9pin DSUB	7	contact KEB	2MF5K81-7Z09
Resolver	15pin DSUB	TTL	Output	9pin DSUB	E	1MF5K81-EZ29	2MF5K81-EZ29
	15pin DSUB	TTL	Input	9pin DSUB	H	1MF5K81-HZ28	2MF5K81-HZ28
	15pin DSUB	SSI	Input	9pin DSUB	5	1MF5K81-5Z25	2MF5K81--5Z25
HTL	terminal strip	TTL	Output	terminal strip	X	1MF5K81-XZ09	2MF5K81-XZ09
	terminal strip	TTL	Input	terminal strip	W	1MF5K81-WZ08	2MF5K81-WZ08
	15pin DSUB	TTL	Output	9pin DSUB	J	1MF5K81-JZ17	2MF5K81-JZ17
	15pin DSUB	TTL	Input	9pin DSUB	K	1MF5K81-KZ16	2MF5K81-KZ16
HTL w/o inverse	terminal strip	TTL	Output	9pin DSUB	S	1MF5K81-SZ19	2MF5K81-SZ19
	terminal strip	TTL	Input	9pin DSUB	T	1MF5K81-TZ18	2MF5K81-TZ18
	terminal strip	HTL	Output	terminal strip	8	1MF5K81-8Z09	2MF5K81-8Z09
	terminal strip	3800rpm error	Relay	terminal strip	no opt.	1MF5K8G-6Z07	2MF5K8G-6Z07
	15pin DSUB	SSI	Input	9pin DSUB	L	1MF5K81-LZ17	contact KEB
SIN/COS	15pin DSUB	TTL	Output	9pin DSUB	M	1MF5K8G-MZ36	2MF5K8G-MZ26
	15pin DSUB	TTL	Input	9pin DSUB	N	1MF5K8G-NZ35	2MF5K8G-NZ25
	15pin DSUB	SSI	Input	9pin DSUB	1	1MF5K8G-1Z21	2MF5K8G-1Z21
SSI-SIN/COS	15pin DSUB	TTL	Output	9pin DSUB	V	1MF5K8G-VZ27	2MF5K8G-VZ27
	15pin DSUB	TTL	Input	9pin DSUB	U	1MF5K8G-UZ24	2MF5K8G-UZ24
ENDAT	15pin DSUB	TTL	Output	9pin DSUB	P	1MF5K8G-PZ23	2MF5K8G-PZ23
	15pin DSUB	TTL	Input	9pin DSUB	Q	1MF5K8G-QZ22	2MF5K8G-QZ22
	15pin DSUB	SSI	Input	9pin DSUB	3	1MF5K8G-3Z20	2MF5K8G-3Z20
ENDAT2.2 & BISS	terminal strip	TTL	Output	terminal strip	no opt.	n/a	2MF5K8G-9Z09
HIPERFACE	15pin DSUB	TTL	Output	9pin DSUB	F	1MF5K8G-FZ29	2MF5K8G-FZ29
	15pin DSUB	TTL	Input	9pin DSUB	I	1MF5K8G-IZ28	2MF5K8G-IZ28
UVW	15pin DSUB	TTL	Output	9pin DSUB	9	1MF5K8G-9Z07	contact KEB
	15pin DSUB	TTL	Input	9pin DSUB	Z	1MF5K8G-ZZ08	2MF5K8G-ZZ08
	terminal strip	HTL w/o inverse	Output	terminal strip	C	contact KEB	2MF5K8G-CZ09

KEB feedback cables are twisted pair, double shielded for the best in noise immunity.

A Housing Feedback Cables

Cable Type	Drive Connector	Encoder Connector	Length [m]	Length [ft]	Part Number (fill in length [m])
Resolver	RJ45 male	12 pole	2 ... 30	6.5 ... 98.5	00F50C1-00__
TTL	RJ45 male	12 pole	2 ... 10	6.5 ... 32.75	00F50C1-30__
adapter	RJ45 male	15pin DSUB female	0.05	0.25	00F50C0-0008
adapter	RJ45 male	9pin DSUB female	0.05	0.25	00F50C0-0009
master-follower	RJ45 male	RJ45 male	0.5	1.75	00F50C1-20P5

DEGHRUWP Housing Feedback Cables

Cable Type	Drive Connector	Encoder Connector	Length [m]	Length [ft]	Part Number (fill in length [m])
Resolver	15pin DSUB	12 pole	2 ... 30	6.5 ... 98.5	00F50C1-10__
TTL	15pin DSUB	12 pole	2 ... 30	6.5 ... 98.5	00F4109-00__
TTL (channel 2)	9pin DSUB	12 pole	2 ... 30	6.5 ... 98.5	00F4209-00__
Hiperface	15pin DSUB	12 pole	2 ... 30	6.5 ... 98.5	00S4809-00__
EnDat	15pin DSUB	17 pole	2 ... 30	6.5 ... 98.5	00F50C1-40__
TTL (non KEB motor)	15pin DSUB	flying lead	2 ... 30	6.5 ... 98.5	00F4P09-00__
TTL (channel 2) (non KEB motor)	9pin DSUB	flying lead	2 ... 30	6.5 ... 98.5	00F4D09-00__
master-follower	9pin DSUB male	9pin DSUB male	0.6	2	00F4509-0P60

Encoder Signal Repeater for Multi-Follower Applications

Provides two amplified encoder follower output signals from one master input signal.

Cable Type	Drive Connector	Encoder Connector	Length [m]	Length [ft]	Part Number (fill in length [m])
signal repeater					00F4072-2008
master cable	9pin DSUB male	9pin DSUB male	0.6	2	00F4509-0P60
follower cable	9pin DSUB male	9pin DSUB female	0.25	0.75	00F4409-0P25
follower cable	9pin DSUB male	9pin DSUB female	0.5	1.75	00F4409-0P50
follower cable	9pin DSUB male	9pin DSUB female	1	3.25	00F4409-0001

Braking Resistors



KEB braking resistors are UL recognized and supplied with temperature sensors as standard. Available in compact back-mount versions for pulse energy or higher duty side-mount versions.



Back-Mount Braking Resistor

Housing	KEB Part Number	R [Ω]	P_D [W]	Usage for 230VAC Inverters [Hp]								Usage for 460VAC Inverters [Hp]										
				0.5	1	2	3	5	7.5	10	15	1	2	3	5	7.5	10	15	20	25		
B	09F5B90-0300	160	35	■	■	□	□	□	□	□	□	□	□	■	■	■	□	□	□	□	□	□
	12F5B90-0300	82	35	□	□	■	■	□	□	□	□	□	□	□	□	■	□	□	□	□	□	□
D	09F5D90-4300	160	35	□	■	□	□	□	□	□	□	□	□	■	■	□	□	□	□	□	□	□
	12F5D90-4300	82	35	□	□	■	■	■	□	□	□	□	□	□	■	■	■	□	□	□	□	□
E	14F5E90-4300	60	60	□	□	□	□	□	□	□	□	□	□	□	□	■	■	■	□	□	□	□
	15F5E90-4300	30	60	□	□	□	□	□	■	■	□	□	□	□	□	□	□	□	□	□	□	□
G	15F4G50-4200	50	80	□	□	□	□	□	□	□	□	□	□	□	□	■	■	■	□	□	□	□
	16F4G50-4200	25	80	□	□	□	□	□	□	□	■	■	□	□	□	□	□	□	□	□	■	■

■ allowed

For high regenerated energy use **KEB COMBIVERT R6** feedback units, available for block or sinusoidal line currents.



Side-Mount Braking Resistor

KEB part number	R [Ω]	P _D [W]	P ₆ [W]	P ₂₅ [W]	P ₄₀ [W]	A	B	C [mm]	D/D'	E
07BR100-1180	180	44	800	300	180	40	165	26	-	145
09BR100-1100	100	82	1500	500	300	40	240	26	-	225
10BR100-1683	68	120	2200	800	500	40	300	26	-	285
12BR100-1233	33	250	4200	1300	750	80	300	28	-	285
13BR100-1273	27	300	5100	1500	900	80	400	28	-	385
14BR100-1203	20	410	6900	1800	1100	80	400	28	-	385
15BR110-1133	13	630	10000	3200	1800	63	370	96	-	355
16BR110-1103	10	780	14000	3600	2200	63	470	96	-	455
17BR110-1073	7	1200	22000	5400	3100	90	470	96	50	455
07BR100-6620	620	56	900	300	180	40	165	26	-	145
09BR100-6390	390	90	1500	500	300	40	240	26	-	225
10BR100-6270	270	130	2100	800	500	40	300	26	-	285
12BR100-6150	150	230	3850	1300	750	80	300	28	-	285
13BR100-6110	110	350	5000	1500	900	80	400	28	-	385
14BR100-6853	85	410	6900	1800	1100	80	400	28	-	385
15BR110-6563	56	620	10000	3200	1800	63	370	96	-	355
16BR110-6423	42	820	14000	3600	2200	63	470	96	-	455
17BR110-6303	30	1200	19000	5400	3100	90	470	96	50	455
18BR226-6203	20	1700	29000	7500	4500	270	625	116	240/176	526
19BR226-6153	15	2300	38000	10000	6000	270	625	116	240/176	526
20BR226-6123	12	2900	48000	12500	7500	270	625	223	240/176	526
21BR226-6103	10	3000	53000	15000	9000	270	625	223	240/176	526
22BR226-6866	8.6	4000	68000	17500	10000	270	625	273	240/176	526
23BR226-6676	6.7	5200	86000	22000	12500	270	625	273	240/176	526
24BR226-6506	5	6900	115000	30000	18000	270	625	223	240/176	526
25BR226-6436	4.3	8100	135000	35000	20000	270	625	273	240/176	526
26BR226-6386	3.8	9200	154000	40000	22500	270	625	273	240/176	526
27BR226-6336	3.3	10000	173000	45000	25000	270	625	273	240/176	526
28BR226-6226	2.2	15000	260000	67000	37000	270	625	273	240/176	526
29BR226-6176	1.7	20000	340000	90000	50000	270	625	273	240/176	526
30BR226-6136	1.3	26000	440000	112000	62000	270	625	273	240/176	526

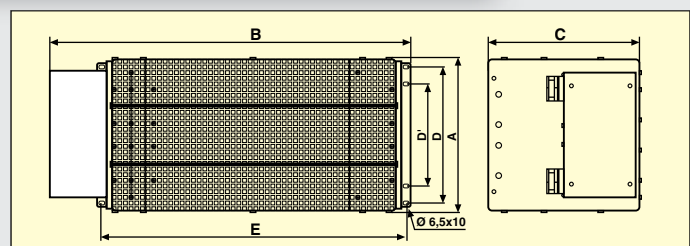
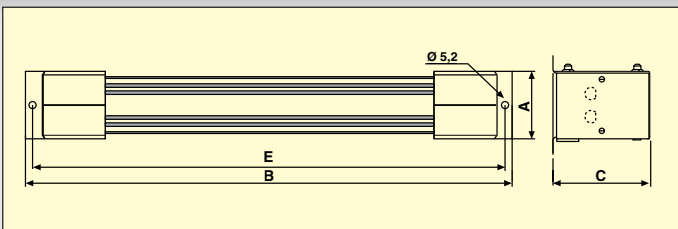
P_D Continuous rating
P₆ Pulse rating with 6 sec. ON-time and period of 120 sec.
P₂₅ Pulse rating with 25 sec. ON-time and period of 120 sec.
P₄₀ Pulse rating with 40 sec. ON-time and period of 120 sec.

230 V-class

480 V-class



5 4 3 2 2 2 required modules



Filters and Chokes

KEB COMBILINE filters and chokes provide EMC solutions for US and EU installations.



Power [Hp]	Input Choke (3%)	Output Choke	Housing	EMI Filter 1ph	EMI Filter 3ph
0.5	07Z1B03-1002	07Z1B03-1002	A	internal option	n/a
			B	07U5B0B-1010	07U5B0B-2000
1	07Z1B03-1002	07Z1B03-1002	A	internal option	n/a
			B	07U5B0B-1010	07U5B0B-2000
			D	10U5B0D-1000	10U5B0D-2000
2	09Z1B03-1002	09Z1B03-1002	B	10U5B0B-1000	10U5B0B-2000
			D	10U5B0D-1000	10U5B0D-2000
3	10Z1B03-1002	10Z1B03-1002	B	10U5B0B-1000	10U5B0B-2000
			D	10U5B0D-1000	10U5B0D-2000
5	12Z1B03-1002	12Z1B03-1002	D	n/a	12U5B0D-2000
7.5	13Z1B03-1002	13Z1B03-1002	E	n/a	13U5B0E-2000
10	14Z1B03-1002	14Z1B03-1002	E	n/a	14U5B0E-2000
			G	n/a	14U5B0G-2000
15	15Z1B03-1002	15Z1B03-1002	G	n/a	15U5B0G-2000
			H	n/a	15U5B0H-2000
20	16Z1B03-1002	16Z1B03-1002	H	n/a	16U5B0H-2000
25	18Z1B03-1002	18Z1B03-1002	H	n/a	17U5B0H-2000
			H	n/a	17U5B0H-2000
			R	n/a	18U5B0R-2000
30	18Z1B03-1002	18Z1B03-1002	R	n/a	18U5B0R-2000
40	19Z1B03-1002	19Z1B03-1002	R	n/a	19U5B0R-2000
50	20Z1B03-1002	20Z1B03-1002	R	n/a	20U5B0R-2000
60	21Z1B03-1002	21Z1B03-1002	R	n/a	21U5B0R-2000
100	23Z1B03-1002	23Z1B03-1002	U	n/a	23U5B0R-2000

230 V-class

480 V-class

Power [Hp]

0.5

1

2

3

5

7.5

10

15

20

25

30

Additional Filter and EMC solutions: KEB COMBILINE



Input Choke (3%)	Output Choke	Housing	EMI Filter 3ph
05Z1B05-1002	05Z1B05-1002	A B	internal option 10U5B0B-3000
07Z1B05-1002	07Z1B05-1002	A B D	internal option 10U5B0B-3000 10U5B0D-3000
09Z1B05-1002	09Z1B05-1002	A B D	internal option 10U5B0B-3000 10U5B0D-3000
10Z1B05-1002	10Z1B05-1002	B D	10U5B0B-3000 10U5B0D-3000
12Z1B05-1002	12Z1B05-1002	B D E	12U5B0B-3000 13U5B0D-3000 14U5B0E-3000
13Z1B05-1002	13Z1B05-1002	D E	13U5B0D-3000 14U5B0E-3000
14Z1B05-1002	14Z1B05-1002	D E G	14U5B0D-3000 14U5B0E-3000 17U5B0G-3000
15Z1B05-1002	15Z1B05-1002	E G H	15U5B0E-3000 17U5B0G-3000 18U5B0H-3000
16Z1B05-1002	16Z1B05-1002	E G H	16U5B0E-3000 17U5B0G-3000 18U5B0H-3000
17Z1B05-1002	17Z1B05-1002	G H	17U5B0G-3000 18U5B0H-3000
18Z1B05-1002	18Z1B05-1002	G H R	18U5B0G-3000 18U5B0H-3000 20U5B0R-3000

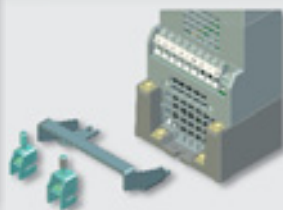
480 V-class

Power [Hp]	Input Choke (3%)	Output Choke	Housing	EMI Filter 3ph
40	19Z1B05-1002	19Z1B05-1002	H	19U5B0H-3000
			R	20U5B0R-3000
50	20Z1B05-1002	20Z1B05-1002	H	20U5B0H-3000
			R	20U5B0R-3000
60	21Z1B05-1002	21Z1B05-1002	R	23U5B0R-3000
75	22Z1B05-1002	22Z1B05-1002	R	23U5B0R-3000
100	23Z1B05-1002	23Z1B05-1002	R	23U5B0R-3000
			U	23U5B0U-3000
125	24Z1B05-1002	24Z1B05-1002	R	23U5B0U-3000
			U	25U5B0U-3000
150	25Z1B05-1002	25Z1B05-1002	U	25U5B0U-3000
175	26Z1B05-1002	26Z1B05-1002	U	27U5B0U-3000
200	27Z1B05-1002	27Z1B05-1002	U	27U5B0U-3000
250	28Z1B05-1002	28Z1B05-1002	P	28E4T60-1001
			W	28E4T60-1001
300	29Z1B05-1002	29Z1B05-1002	P	30E4T60-1001
			W	30E4T60-1001
500	2x 28Z1B05-1002	2X 29Z1A04-1001	2xP	2x 28E4T60-1001
600	2x 28Z1B05-1002	2X 29Z1A04-1001	2xP	2x 28E4T60-1001
650	2x 29Z1B05-1002	2X 31Z1A04-1000	2xP	2x 30E4T60-1001
750	3x 28Z1B05-1002	3X 29Z1A04-1001	3xP	3x 28E4T60-1001
800	3x 28Z1B05-1002	3X 29Z1A04-1001	3xP	3x 28E4T60-1001
900	3x 29Z1B05-1002	3X 29Z1A04-1001	3xP	3x 30E4T60-1001

Side Mount

Grounding Kits

Housing	Units	Part Number
B,D	all	B0F5T88-0001
E	all	E0F5T88-0001
G	all	G0F4T88-0001
H	230V: size 15 460V: size 15..18	H0F4T88-0001
	230V: size 16..17 460V: size 19..20	H0F4T88-0002



Ferrite Rings

Housing	Kits Needed	Part Number
B,D,E,G	1	00U400G-000U
H	2	00U400G-000U
R,U	1	00U400R-0001



Keypad Programming



KEB COMBIVER F5 units are designed to operate with or without an operator. For programming or status display, KEB offers both LED (easy viewing) and LCD (plain text display) keypad operators.

LCD Operator

Plain text display in six languages. 4MB internal memory for storing programs and documentation. SD card slot for easy “in-the-field” updates.

Operator 00F5060-K000



LED Operator

Basic 5 digit, 7 segment LED display and keypad. Easily viewable even in the brightest installations.

Operator 00F5060-1000



Serial Operator

5 digit, 7 segment LED display and keypad with a RS232/RS485 serial part. KEB DIN66019II protocol, up to 56kbaud

Operator 00F5060-2000



COMBIVIS 5 is a universal tool for programming and troubleshooting KEB COMBIVERT F5 installations

- ▲ complete management of equipment settings
- ▲ display and adjustment of all parameters in up to 8 sets
- ▲ configuration and verification of customized CP parameters
- ▲ analysis of drive and control communication
- ▲ display of physical parameters and monitoring of operation data
- ▲ virtual oscilloscope function for real time monitoring and storage of drive parameters

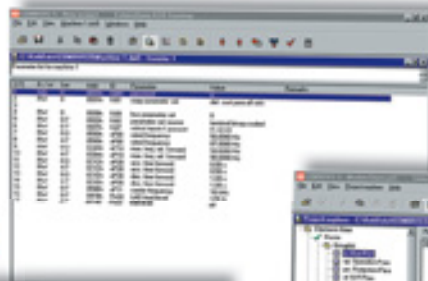


COMBIVIS STARTER KIT

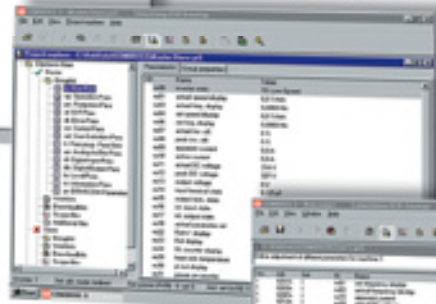
PC Software, eManuals
Serial Cable, HSP5 Cable
RS45 Adapter
Part Number: CVF50C0-HSP5

Download latest version at:
www.kebamerica.com

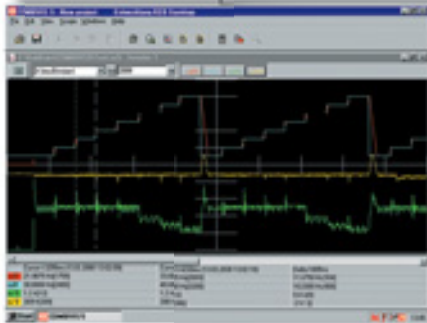
Parameterization



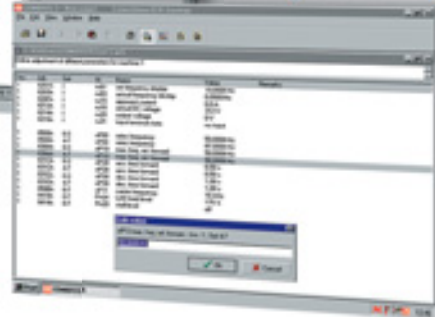
Display



Analysis



Project Explorer



Accessories:

KEB Serial Cable RS232 - PN 0058028-001D
(for use with serial operator 00F5060-2000)



KEB HSP5 Cable - PN 00F50C0-0010
(for direct connection to all F5 inverters)



KEB RJ4S Adapter - PN 00F50C0-0020
(for connecting HSP5 cable to fieldbus operator service port)





Fieldbus Communications

KEB fieldbus operators provide a modular hardware and software solution to communications. Easily support customer-preferred solutions with a swap of an operator.



Accessory
Driver software for S7
02B00SW-S710

*Profibus Operator, **00F5060-3000 / -3100**
Slave connection up to 12.5 MBaud,
IN-/OUT-connection submin-D-9,
Service interface via HSP5-adapter*



*InterBus Operator, **00F5060-4000**
InterBus remote IN-/OUT-connection submin-D-9,
Service interface via HSP5-adapter*



*CAN Operator, **00F5060-5010 / -5110**
CANopen profile DS 301 (DS402)
IN-/OUT-connection submin-D-9,
Service interface via HSP5-adapter*

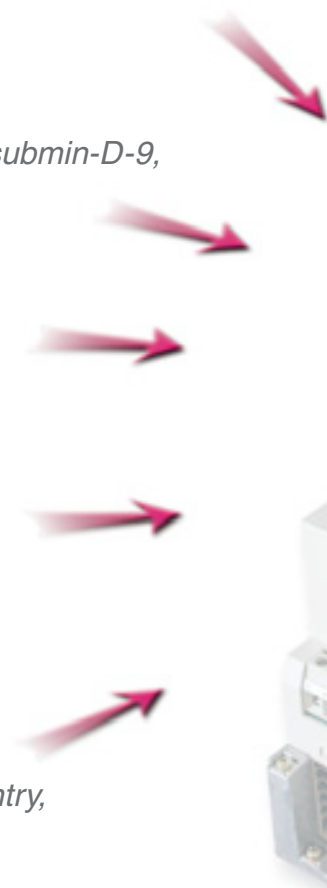


*Operator **00F5060-6000**
SERCOS IN-/OUT- FSMA connector,
Service interface via HSP5-adapter*



*Operator **00F5060-7000**
Device Net IN-/OUT-connection Open Entry,
Service interface via HSP5-adapter*

Accessory for HSP5-service interface
HSP5 adapter 00F50C0-0020
for service connection on all operator options



Interface Operator, **00F5060-2000 / -2100**
universal open KEB protocol for PC and PLC-connection
RS 232 / 485-connection submin-D-9

MODBUS

Operator **00F5060-A000**
MODBUS SUBD9
(female) connection,
Service interface
via HSP5-adapter

**KEB-HSP 5 /
DIN 66019-II**

Accessory
Driver software for
WIN 95/98/NT/2000/XP
KEBCOM FDSW020-0100
supports the PC-connection for the
protocols KEB DIN 66019-II,
KEB-HSP5, InterBus and TCP/ IP

Ethernet
TCP/IP

Operator **00F5060-8000**
ETHERNET RJ45 connection IEEE 802.3
10Base-T (10 Mbaud),
Service interface via HSP5-adapter

EtherCAT

Operator **00F5060-F000**
RJ45 connection
Service interface via HSP5-adapter

**ETHERNET
POWERLINK**

Operator **00F5060-H000**
RJ45 connection
Service interface via HSP5-adapter

**PROFI
INDUSTRIAL ETHERNET
NET**

Operator **00F5060-L100**
RJ45 connection
Service interface via HSP5-adapter

EtherNet/IP

Operator **00F5060-M100**
RJ45 connection
Service interface via HSP5-adapter



Open Operator



KEB OPEN OPERATOR provides a cost effective application specific solution. Built from a serial operator, customer specific solutions are added to the existing source code. Secure “trade-secret” solutions can be achieved with minimal investment.

- ▲ *Standard C programming*
- ▲ *build custom “routines” or functions*
- ▲ *build custom parameters and text descriptions*
- ▲ *store drive programs or machine setups*
- ▲ *no source code is stored in the microprocessor (like a PLC)-only a binary MOT file.*

Programming Specifications

- *Hitachi H8S/2612 advanced mode CPU*
- *approx. 78 KB flash-ROM available for additional code*
- *approx. 0.75 KB RAM available for variables*
- *1 KB EEPROM for non-volatile variables*
- *Renesas embedded workshop programming suite*



**Open Operator
00F5060-2004**

C5 Multi Axis Controller

KEB COMBICONTROL C5 provides a powerful control platform for drive and automation tasks. The C5 embraces the PLCOpen philosophy: standardized software, on all hardware platforms, allowing OEMs to focus on machine solutions instead of brand specific component solutions.



**C5 Compact
4 Axis Controller**



**C5 Enhanced
8 Axis Controller**

- ▲ 4 (8) Axis Coordinated motion
- ▲ IEC61131-3 programming (IL, Ladder, FBD, CFC, SFC, ST)
- ▲ PLC Open/Soft Motion/CNC libraries
- ▲ Native communication to KEB F5 units
- ▲ Optional Profibus Slave port (C5 Enhanced option)
- ▲ Connection to remote I/O HMIs via Modbus TCP
- ▲ Free programming suite “CoDeSys” by 3S

Unit	Onboard Axis	SD Card	Ethernet Ports	Part Number
C5 Compact	4	no	2	14C5B00-1000
C5 Enhanced	8	yes	1	19C5B00-1000



Motor Technology

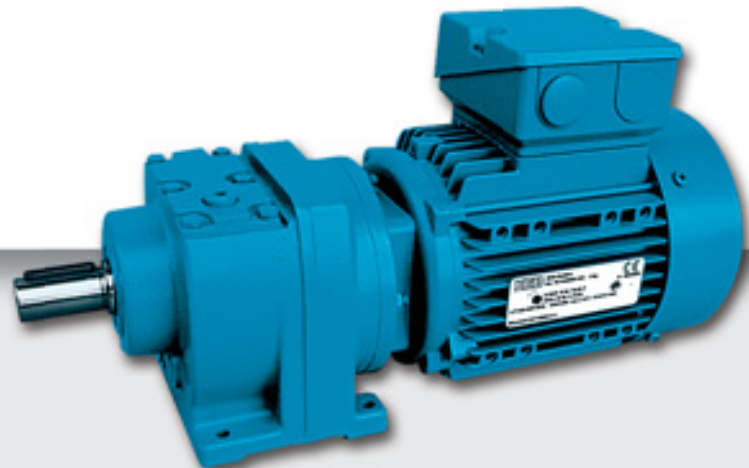
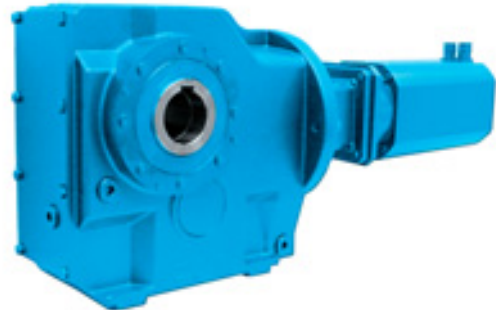
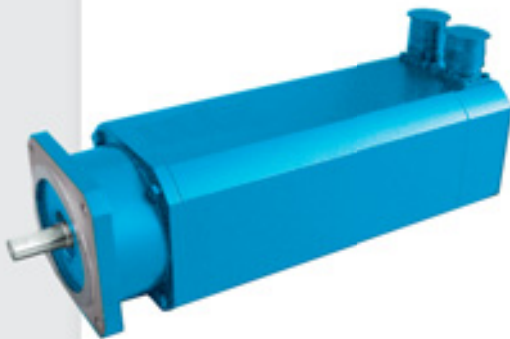
Servo motors with nominal torque up to 70 Nm

Induction motors with nominal power up to 200Hp

For complete drive solutions chose KEB induction and servo motors in combination with COMBIVERT F5 drives.

Chose from our extensive range of motors available with our own brake options, and feedback solutions matched to our drives. Drives can be pre-programmed for ease of use.

Detailed information on features, performance and technical data available in the KEB COMBIVERT-Motors catalog or visit www.kebamerica.com



Gearbox Technology

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

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

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

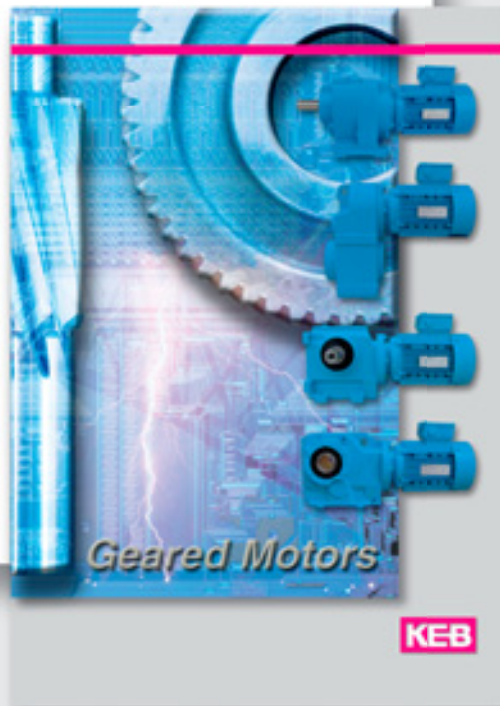
Tuned to the **KEB COMBIVERT F5** inverter, these units are ideal for complete system solutions **up to 75Hp**.

High dynamics combined with minimal backlash are the main requirement for servo applications. **KEB synchronous motors** in combination with powerful **planet gears** or the gearboxes from the **KEB COMBIGEAR** range fulfil these requirements to give a cost effective solution.

With **KEB DRIVE**, the designer can easily select and review product options and drawings.

By using **KEB Drive** the best solution can be selected from our range with full technical details, and options available.

Download now on www.kebamerica.com



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