

Absolute encoders - singleturn

Standard optical	KAH52 (tapered shaft)	Z-track + incremental
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The optical KAH52 singleturn encoders with Z-track and 2048 ppr SinCos incremental track, is specially designed for mounting on direct drives in the elevator technology.

Temperature range	Shock / vibration resistant	Magnetic field proof	Short-circuit proof	Reverse polarity protection	SinCos	Optical sensor

Order code	8.KAH52	.HKFL	.AZ11
Tapered shaft	Type	a b c d	e f

<p>a Flange H = with expanding coupling, \varnothing 65 mm [2.56"]</p> <p>b Tapered shaft K = \varnothing 10 mm [0.39"]</p> <p>c Interface / supply voltage F = analog, 1 x SinCos per 360° + 2048 ppr. 1 Vss (SinCos) / 5 V DC</p>	<p>d Type of connection L = with PCB connector (without cable, including sealing cap for tangential cable outlet)</p> <p>e Interface A = analog</p> <p>f Singleturn resolution Z = one sinusoidal and one cosinusoidal signal per revolution</p>
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Cables and connectors		Order no.
Preassembled cables (suitable for type of connection L)	PCB connector (female contacts), 14-pin single-ended 7 m [22.97'] PVC cable	8.0000.62A1.0007

Further Kübler cables and connectors can be found at: kuebler.com/connection-technology

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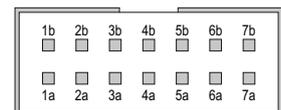
Technical data

Mechanical characteristics	
Dimensionen	diameter \varnothing 65 mm
	height 55 mm
Tapered shaft	\varnothing 9.25 (1:10)
Connection Method	expansion ring, fastening screw
Maximum rotational speed	2000 min ⁻¹
Starting torque at 20 °C [68 °F]	< 0.01 Nm
Load capacity of shaft	radial 80 N
	axial 40 N
Allowable axial deviation	$\leq \pm 0.2$ mm
Allowable radial deviation	$\leq \pm 0.3$ mm
Protection acc. to EN 60529	IP40
Working temperature range	-40 °C ... +105 °C [-40 °F ... +221 °F]
Storage temperature range	-40 °C ... +105 °C [-40 °F ... +221 °F]
Humidity	95%RH (no condensation)
Weight	ca. 0.3 kg (excluding cable)
Shock resistance acc. EN 60068-2-27	acceleration 980 m/s ²
	testing time 11 ms
	number of tests 3 times (each direction)
Vibration resistance acc. EN 60068-2-6	direction x, y, z
	testing time 2 h (each direction)
	frequency 10 ... 55 Hz (maintain amplitude of 1.5 mm)
	55 ... 2000 Hz (acceleration 98 m/s ²)

Electrical characteristics	
Resolution CD signal	one Sin/Cos signal per turn
Pulse rate AB signal	2048 ppr
Output	Sin/Cos 1 V _{pp}
Supply voltage	5 V DC (+5 %)
Power consumption	100 mA
Max. frequency -3 dB	≤ 100 kHz
Max. cable length	≤ 30 m
Signal level	1 V _{pp} ($\pm 10\%$)
Offset	V _{off} = 2.5 V ± 20 mV
Output Signal	A+/A- B+/B- C+/C- D+/D- R+/R-
R signal amplitude	2 V, ± 0.4 V
Single-end output impedance	10 Ω
Termination resistor ABR signal	100 Ω
Termination resistor CD signal	1 k Ω

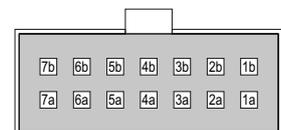
Terminal assignment

PCB connector (male contact), 14-pin														
Function:	C-	+5 V	A-	D+	n.c.	B+	R-	R+	B-	0 V	D-	A+	n.c.	C+
Pin:	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b



Terminal assignment, preassembled cables 8.0000.62A1.0007

PCB connector (female contact), 14-pin														
Function:	C-	+5 V	A-	D+	n.c.	B+	R-	R+	B-	0 V	D-	A+	n.c.	C+
Pin:	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b
Core color:	WH	RD	BK	BU	-	GY	VT	OR	GR	YE	BN	LT-BU	-	PK

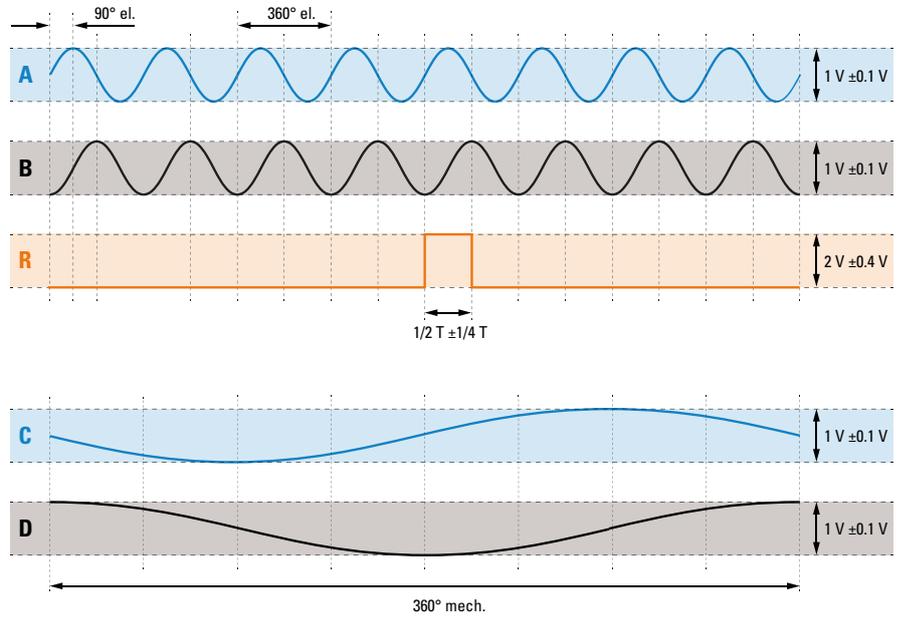


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Waveform

CW direction:
clockwise of shaft of the encoder



Dimensions

Dimensions in mm

