

Поворотные энкодеры АЕФ 1323

Технические характеристики

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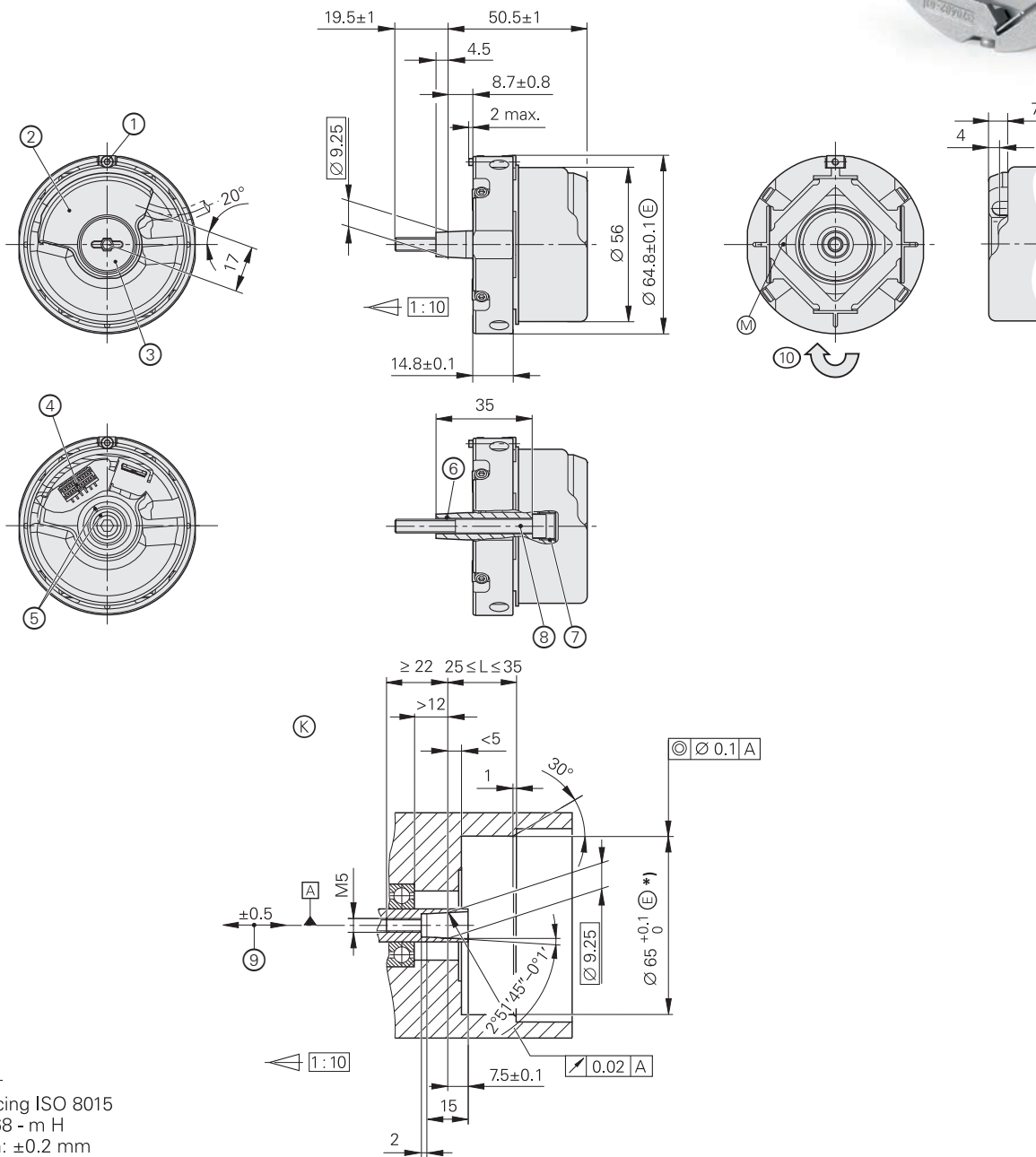
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AEF 1323

Rotary encoder with integral bearing for elevator technology

- 06 stator coupling for axial mounting and compensation of mounting tolerances
- Rigid shaft coupling with 65B tapered shaft
- Standardized dimensions for various interfaces



- ▣ = Bearing of mating shaft
- ⊗ = Required mating dimensions
- ⊙ = Measuring point for operating temperature
- 1 = Clamping screw for coupling ring width A/F 2; tightening torque: 1.25 – 0.2 Nm
- 2 = Die-cast cover
- 3 = Screw plug, width A/F 3 and A/F 4; tightening torque 5 + 0.5 Nm
- 4 = PCB connector
- 5 = Location of reference marks of shaft and housing
- 6 = M6 back-off thread
- 7 = M10 back-off thread
- 8 = Self-tightening screw as per ISO 6912 – M5 x 50 – 08.8, width A/F 4; tightening torque: 5 + 0.5 Nm
- 9 = Compensation for mounting tolerances and thermal expansion; no dynamic motion permitted
- 10 = Direction of shaft rotation for output signals as per the interface description

	Absolute	
	AEF 1323	
Interface¹⁾	EnDat 2.2	SSI
Ordering designation	EnDat22	SSI03r1
Position values per rev.	8 388 608 (23 bits)	
Elec. permissible speed	≤ 15000 rpm (for continuous position value)	
Calculation time t_{cal} Clock frequency	≤ 7 µs ≤ 4 MHz	≤ 5 µs
Line count	2048	
System accuracy	±20''	
Electrical connection	16-pin PCB connector with connection for temperature sensor ²⁾	12-pin PCB connector
Supply voltage	DC 4.5 V to 14 V	
Power consumption (max.)	4.5 V: ≤ 0.6 W 14 V: ≤ 0.7 W	
Current consumption (typical)	4.5 V: 85 mA (typical, without load)	
Stator coupling	Expanding ring coupling	
Natural frequency of the stator coupling	≥ 1800 Hz	
Shaft	Taper shaft Ø 9.25 mm; taper 1:10	
Mech. permiss. speed n	≤ 15000 rpm	
Starting torque	≤ 0.01 Nm (at 20 °C)	
Moment of inertia of rotor	$2.6 \cdot 10^{-6} \text{ kgm}^2$	
Permiss. axial motion of measured shaft	±0.5 mm	
Vibration 55 Hz to 2000 Hz Shock 6 ms	≤ 300 m/s ² (EN 60068-2-6) ≤ 2000 m/s ² (EN 60068-2-27)	
Max. operating temp.	100 °C	
Min. operating temperature	-40 °C	
Protection EN 60529	IP40 when mounted	
Mass	≈ 0.25 kg	
Valid for ID	1179213-02	1179215-01

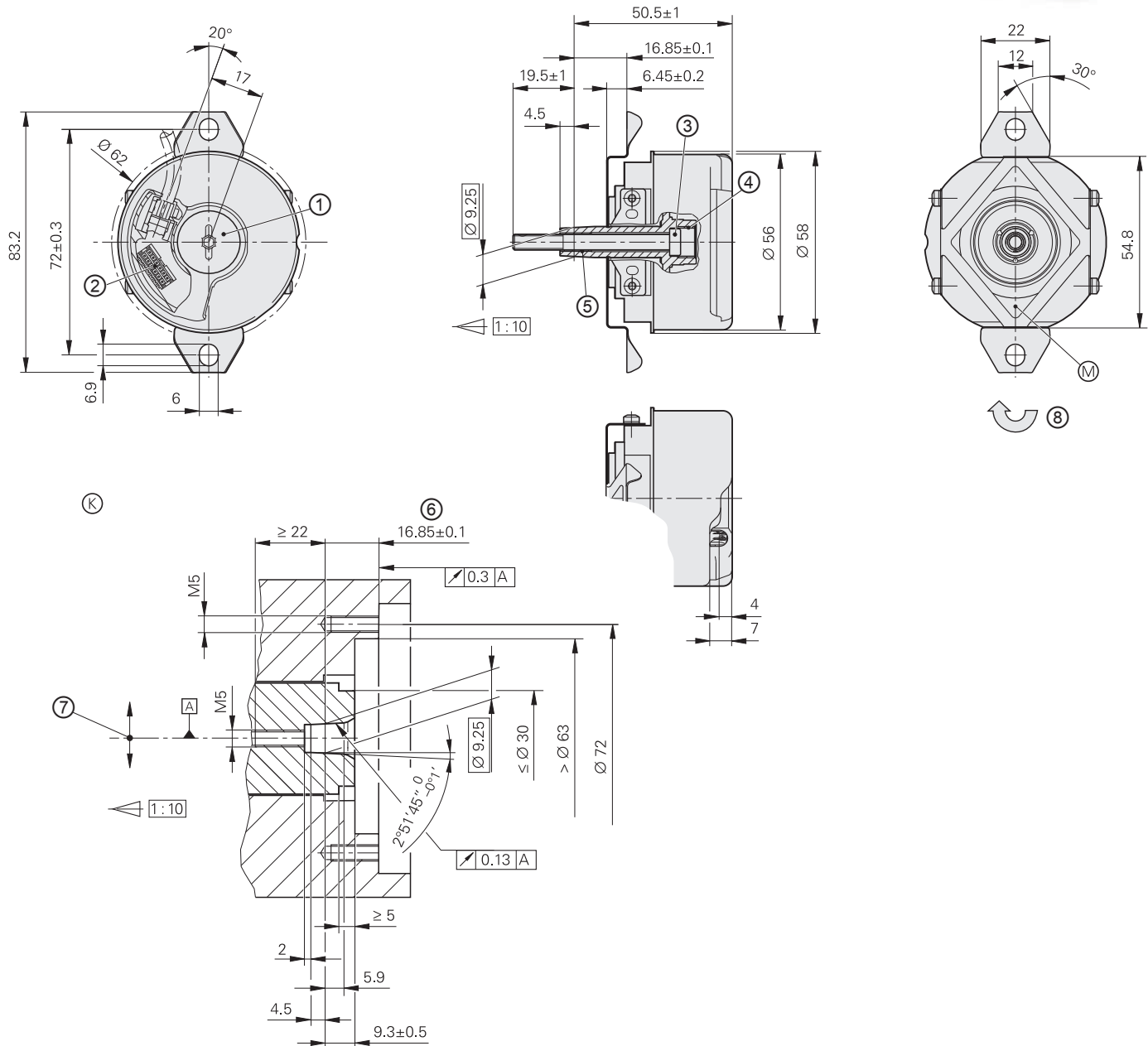
¹⁾ With reverse polarity protection diode and short-circuit protected outputs (against U_p up to +12 V)

²⁾ Evaluation optimized for KTY 84-130

AEF 1323

Rotary encoder with integral bearing for elevator technology

- Simple installation
- Rigid shaft coupling with 65B tapered shaft
- 66A plane-surface coupling for large mounting tolerances
- Standardized dimensions for various interfaces



mm



Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: ±0.2 mm

▢ = Bearing of mating shaft

▢ = Bearing of encoder

Ⓚ = Required mating dimensions

Ⓜ = Measuring point for operating temperature

1 = Screw plug width A/F 3 and 4; tightening torque 5 Nm +0.5 Nm

2 = PCB connector

3 = Self-locking screw as per ISO 6912 – M5 x 50 – 08.8, width A/F 4; tightening torque: 5 Nm +0.5 Nm

4 = M10 back-off thread

5 = M6 back-off thread

6 = Max. permissible tolerance during motor shaft rotation: ±1.5 mm

7 = Max. permissible static radial offset of motor shaft in indicated direction: ±0.13 mm

8 = Direction of shaft rotation for output signals according to interface description

	Absolute	
	AEF 1323	
Interface¹⁾	EnDat 2.2	SSI
Ordering designation	EnDat22	SSI03r1
Position values/revolution	8 388 608 (23 bits)	
Elec. permissible speed	≤ 15 000 rpm (for continuous position value)	
Calculation time t_{cal} Clock frequency	≤ 7 µs ≤ 4 MHz	≤ 5 µs
Line count	2048	
System accuracy	±20''	
Electrical connection	16-pin PCB connector with connection for temperature sensor ²⁾	12-pin PCB connector
Supply voltage	DC 4.5 V to 14 V	
Power consumption (max.)	4.5 V: ≤ 0.6 W 14 V: ≤ 0.7 W	
Current consumption (typical)	4.5 V: 85 mA (typical, without load)	
Stator coupling	Plane-surface coupling	
Natural frequency of the stator coupling	≥ 400 Hz	
Shaft	Taper shaft Ø 9.25 mm; taper 1:10	
Mech. permiss. speed n	≤ 2 000 rpm	
Starting torque	≤ 0.01 Nm (at 20 °C)	
Moment of inertia of rotor	$2.6 \cdot 10^{-6} \text{ kgm}^2$	
Permiss. Axial motion of measured shaft ³⁾	±1.5 mm	
Permiss. axial motion of measured shaft	0.13 mm (static radial offset additionally ±0.13 mm)	
Vibration 55 Hz to 2000 Hz Shock 6 ms	≤ 300 m/s ² (EN 60068-2-6) ≤ 2000 m/s ² (EN 60068-2-27)	
Max. operating temp.	100 °C	
Min. operating temperature	−40 °C	
Protection EN 60529	IP40 when mounted	
Mass	≈ 0.25 kg	
Valid for ID	1179213-01	1179215-xx

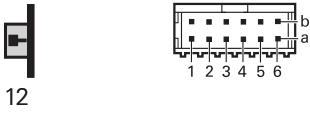
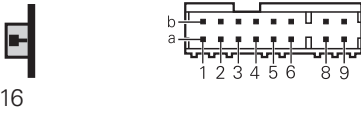
¹⁾ With reverse polarity protection diode and short-circuit protected outputs (against U_P up to + 12 V)

²⁾ Evaluation optimized for KTY 84-130

³⁾ Compensation for mounting tolerances and thermal expansion, but not for dynamic motion

Electrical connection

Pin layout of AEF 1323

12-pin PCB connector			16-pin PCB connector					
								
	Power supply		Serial data transfer				Other signals ¹⁾	
 12	1b	4b	6b	1a	2b	5a		
 16	1b	4b	6b	1a	2b	5a	8a	8b
	Brown/Green	White/Green	Gray	Pink	Violet	Yellow	Brown	Green
	U _P	0V	DATA	$\overline{\text{DATA}}$	CLOCK	$\overline{\text{CLOCK}}$	T ⁺ ¹⁾	T ⁻ ¹⁾

Cable shield connected to housing;

U_P = Power supply; T = Temperature

Sensor: The sensor line is connected to the respective power supply in the encoder.

Vacant pins or wires must not be used!

¹⁾ Only for AEF 1323 with temperature sensor connection

Output and adapter cables

PUR output cable ¹⁾ Ø 4.5 mm [3 x (2 x 0.19 mm ²)]		
With 16-pin PCB connector (cable cut off) Wires for TPE temperature sensor 2 x 0.16 mm ²		1180955-xx
With 12-pin PCB connector (cable cut off)		1180959-xx

¹⁾ Up to cable length of 15 m

Adapter cable for connection to PWM 21 and PWT 100 EPG Ø 4.5 mm [16 x 0.057 mm ²]; cable length 2 m		
With PCB connector With strain relief, 12-pin connector and 15-pin male D-sub connector (including three 12-pin adapter connectors and three 15-pin adapter connectors)		621742-01

HEIDENHAIN measuring equipment

PWT 100

The PWT 100 is a testing device for checking the function and adjustment of incremental and absolute HEIDENHAIN encoders. Thanks to its compact dimensions and robust design, the PWT 100 is ideal for portable use.



	PWT 100
Encoder input Only for HEIDENHAIN encoders	• EnDat • Fanuc Serial Interface • Mitsubishi high speed interface • Panasonic Serial Interface • Yaskawa Serial Interface • 1 V_{PP} • 11 μA_{PP} • TTL
Display	4.3" color flat-panel display (touch screen)
Supply voltage	DC 24 V Power consumption: max. 15 W
Operating temperature	0 °C to 40 °C
Protection EN 60529	IP20
Dimensions	≈ 145 mm x 85 mm x 35 mm

PWM 21

The combination of the ATS adjusting and testing software, included in delivery, and the PWM 21 phase angle measuring unit serves as an adjusting and testing package for diagnosis and adjustment of HEIDENHAIN encoders.



For more information, please refer to the Product Information document *PWM 21 ATS Software*.

	PWM 21
Encoder input	• EnDat 2.1 or EnDat 2.2 (absolute value with or without incremental signals) • DRIVE-CLiQ • Fanuc Serial Interface • Mitsubishi high speed interface • Yaskawa Serial Interface • Panasonic serial interface • SSI • 1 V_{PP}/TTL/11 μA_{PP} • HTL (via signal adapter)
Interface	USB 2.0
Supply voltage	AC 100 V to 240 V or DC 24 V
Dimensions	258 mm x 154 mm x 55 mm

	ATS
Languages	Choice between English and German
Functions	• Position display • Connection dialog • Diagnostics • Mounting wizard for EBI/ECI/EQI, LIP 200, LIC 4000 and others • Additional functions (if supported by the encoder) • Memory contents
System requirements and recommendations	PC (dual-core processor > 2 GHz) RAM > 2 GB Operating systems: Windows Vista (32-bit), 7, 8, and 10 (32-bit / 64-bit) 500 MB free space on hard disk

DRIVE-CLiQ is a registered trademark of SIEMENS AG.

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