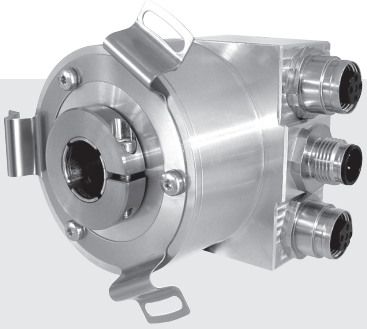
BaumerThalheim

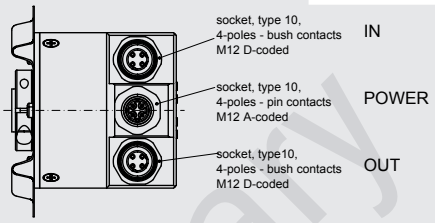
ATD 2B A 4 Y26

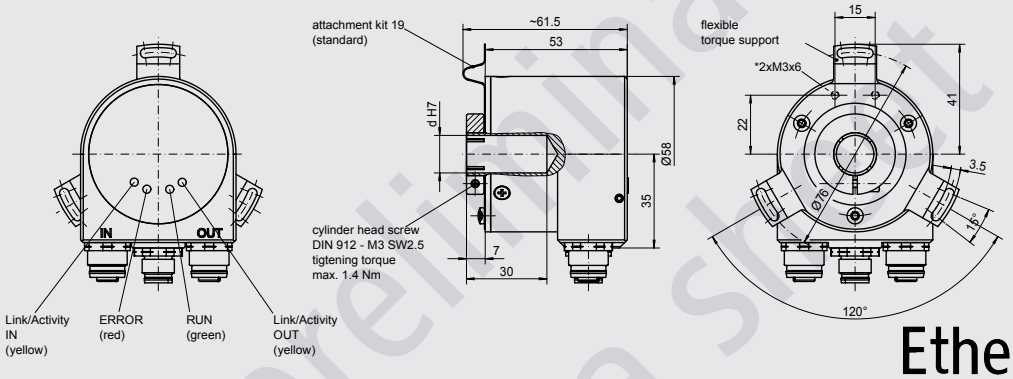
Absolute encoder
with hollow shaft EtherCAT



Features

- Hollow shaft absolute encoder in single- resp. multiturn- version
- Resolution: max. 14 Bit ST, 16 Bit MT, optional max. 19 Bit ST, 12 Bit MT
- EtherCAT
- Short cycle times
- Programmable over bus system
- Self diagnosis
- Electronical zero point setting
- Connector version





drawing-no.: 028- 5 Y26

EtherCAT®

Mechanical data

Design	A 4		A 4
Attachment kit	19	standard (ref. data sheet »Attachment kit's«)	19
Housing	aluminium, unpainted		
Protection	IP 65	according to DIN EN 60 529	IP65
Construction principle	LED with glass slotdisc electronical count with buffer (multiturn)		
max. revolution (mechanical)	n_{max}	≤ 6000 min^{-1}	
Permissible motor-shaft play	axial radial	≤ 0.25 mm ≤ 0.1 mm	
Starting torque	at 20 °C	≤ 2 Ncm	
Vibration	55... 2000 Hz	≤ 100 m/s^2	according to DIN IEC 60 068, part 2 - 6
Shock	11 ms	≤ 300 m/s^2	according to DIN IEC 60 068, part 2 - 27
Hollow shaft diameter	d	14 mm	(standard), 10 mm, 12 mm possible 14
Weight		approx. 340 g	

Electonical data

Steps per revolution		programmable from 256 to max. 16 384 (8 to 14 Bit) steps per revolution	ZZ
Number of turns	only by multiturn	programmable from 256 to max. 65 536 (8 to 16 Bit) shaft turns	YY
Electronic version	serial	Output stage: **EtherCAT**	EC
Supply voltage	U_B	10 - 30 VDC (polarity protected)	
Current consumption (no-load)	I_{max}	≤ 150 mA (at 24 VDC)	
Diagnostic LEDs	red green 2x yellow	encoder error EtherCAT-status-machine Link-status display for port A + B	
Type of connection		3 x M12-connector	M12
Operating temperature range		-20 °C to +85 °C	S
Permissible relativ humidity		≤ 90 % (condensation not permitted)	

EtherCAT-features

Bus-protocol		EtherCAT, CoE (CANopen over EtherCAT)
Operation mode		Full-Duplex Fast Ethernet physics (100 BASE-TX)
Communication	Modi Cyclic times	Freerun, Sync-Mode, Distributed Clock min. 62.5 µs to max. 32 ms in Distributed Clock
Communication profile		compatible to CANopen according to DS 301
Device profile		according to DS 406
Preset-value		The preset value changes the encoder output position value to a predefined position.
Parameter	Direction of rotating Scaling function	The direction of rotation were increasing or decrasing position values are output may be changed via SDO (Service Data Object). Absolute encoder units per revolution and total measuring range may be changed via SDO (Service Data Object).
Diagnostic messages		position error, battery, hardware error, over & under temperature

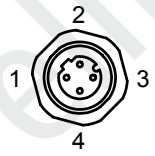
Options

Steps per revolution		programmable from 65 536 to max. 524 288 (16 to 19 Bit) steps per revolution	ZZ
Number of turns	only by multiturn	programmable from 256 to max. 4096 (8 to 12 Bit) shaft turns	YY

Connection table

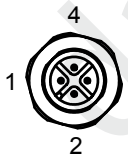
Socket, 4-poles, bush contacts, M12 D-coded (IN / OUT)

PIN-no.	signals
PIN 1	TxD+
PIN 2	RxD+
PIN 3	TxD-
PIN 4	RxD-



Socket, 4-poles, pin contacts, M12 A-coded (POWER)

PIN-no.	signals
PIN 1	VDC
PIN 2	NC
PIN 3	GND
PIN 4	NC



Ordering example:

ATD 2B	A 4	Y26	14/16	EC		M12	S	14	IP65	19
Absolute encoder *ATD 2B*	Design *A 4*	Mechanical variant *Y26 = look at the drawing*	Steps/rev. / no. of turns *16 384 (14 Bit) steps/rev. 65 536 (16 Bit) rev.*	Electronic version *EtherCAT*		Type of connection *3 x connector M12*	Operating temperature range *-20 °C to +85 °C*	Hollow shaft diameter *14 mm*	Protection *IP65*	Attachment kit variant *19*

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