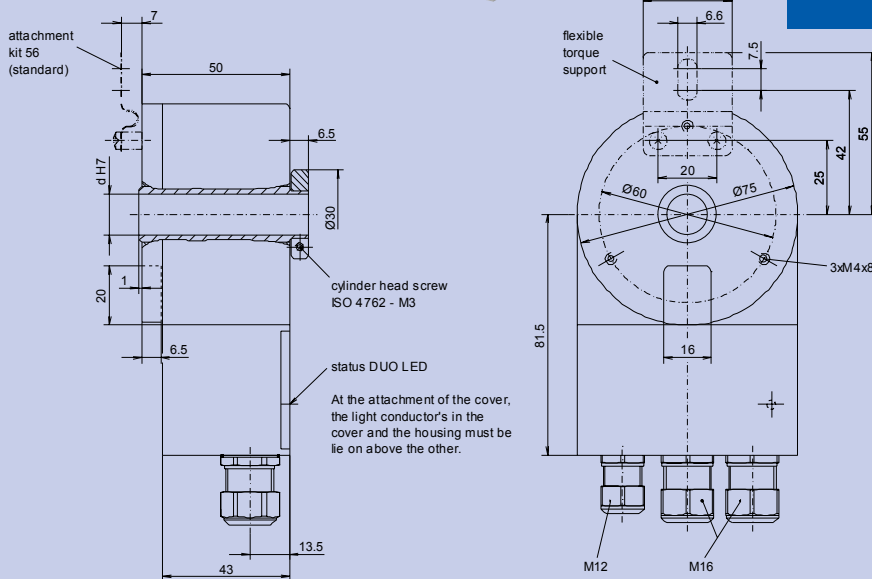
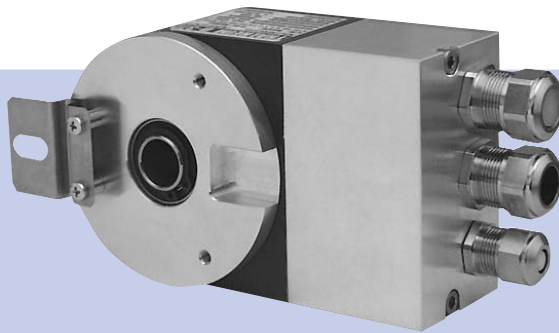


Features

- Hollow shaft absolute encoder in single-resp. multiturn version
- **Programmable resolution:**
max. 8.192 steps/revolution
max. 65.536 shaft turns
(only multiturn)
- Mounting at torque support
- Programmable operating modes
- Programmable preset value
- Bus cover detachable



Drawing-no.: 034- 8 Y 4



Mechanical data

Design style	A 4		A 4
Housing	Housing	light-alloy metal, unpainted	
	flange	light-alloy metal, unpainted	
Protective class	IP 54	according to DIN EN 60 529	IP54
Construction principle	LED with glas slotdisc electrical count with buffer (multiturn)		
max. revolution	mechanical	$n_{max} \leq 6.000 \text{ rpm}$	
	electrical	$n_{max} \leq 6.000 \text{ rpm}$	
Permissible motor-shaft play	axial	$\leq 0.25 \text{ mm}$	(at shaft end)
	radial	$\leq 0.1 \text{ mm}$	
Starting torque	at 20° C	$\leq 4 \text{ Ncm}$	
Vibration	16... 2.000 Hz	$\leq 200 \text{ m/s}^2$	according to DIN IEC 60 068, part 2-6
Shock	6 ms	$\leq 2.000 \text{ m/s}^2$	according to DIN IEC 60 068, part 2-27
Moment of inertia (rotor)	$2 \times 10^{-6} \text{ kgm}^2$		
Shaft diameter	d	14 mm	(standard), 12 mm possible
Weight	approx. 700 g		

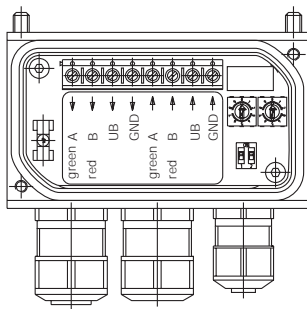
Electrical data

Steps per revolution	Single-/Multiturn	programmable to max. 8.192 (13 Bit) steps per revolution	XX
Number of turns	Multiturn	programmable to max. 65.536 (16 Bit) shaft turns	YY
Output code		Binär-code	BI
Accuracy		±0.025 Grad at 400 kHz ± 0.05 Grad at 800 kHz	
Supply voltage	U_B	10-30 VDC (poling error safe)	
Input current (without load)	I_{max}	≤ 100 mA (at 24 VDC)	
Baud rate		9.6 kBaud to 12 Mbaud	
Type of connection		detachable terminal box with 2 x M16, 1 x M12	M16/12
Operating temperature range		-20 °C to +85 °C	S
Permissible relative humidity		≤ 90 % (condensation not permitted)	
Address		settable with rotary switch (factory setting 00)	
Rotating direction		clockwise (cw) when the flange is viewed from the front (programmable)	
Electrical connection		The electrical connection and the bus cover may not be attached or removed under voltage.	

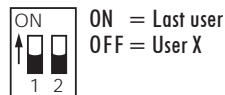
Profibus-DP features

Bus-protocol	Profibus-DP	PB
Profibus features	PNO Class 1 and 2	PN
Preset value	With the „Preset“ parameter the encoder can be set to a desired actual value that corresponds to the defined axis position of the system.	
Parameter functions	Rotating direction: With the operating parameter the rotating direction for which the output code is to increase or decrease can be parameterized. Scaling: The steps per revolution and the total revolution can be parameterized.	
Diagnosis	The encoder supports the following error messages: Position error, Lithium cell voltage at lower limit (multiturn)	

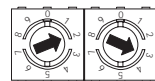
View inside bus cover



Settings of terminating resistors



Settings of user address



Address can be set with rotary switch.
Example: User address 23

Connection table

- A Negative serial data line, pair 1 and pair 2
- B Positive serial data line, pair 1 and pair 2

U_B Supply voltage 10 - 30 VDC
GND Ground contact for U_B
(Terminals with the same designation are internally interconnected)

Ordering example

ATD 4B	A 4	Y 4	13/16	PB	PN	M16/12	S	14	IP54	56
Absolute encoder ATD 4B	Design style A 4	Mechanical variante Y 4 = look at the drawing	Steps / rev. / no. of turns 8.192 (13 Bit) steps/rev. 65.536 (16 Bit) rev.	Datatransmission PROFIBUS-DP	Parameter setting according to PNO class 2	Type of connection bus cover with 2xM16, 1xM12	Operating temperature -20 °C to +85 °C	Shaft diameter 14 mm	Protective class IP54	Attachment kit variante 56