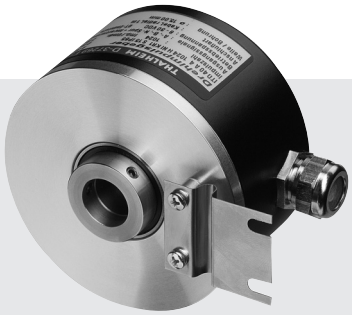
Baumer Thalheim

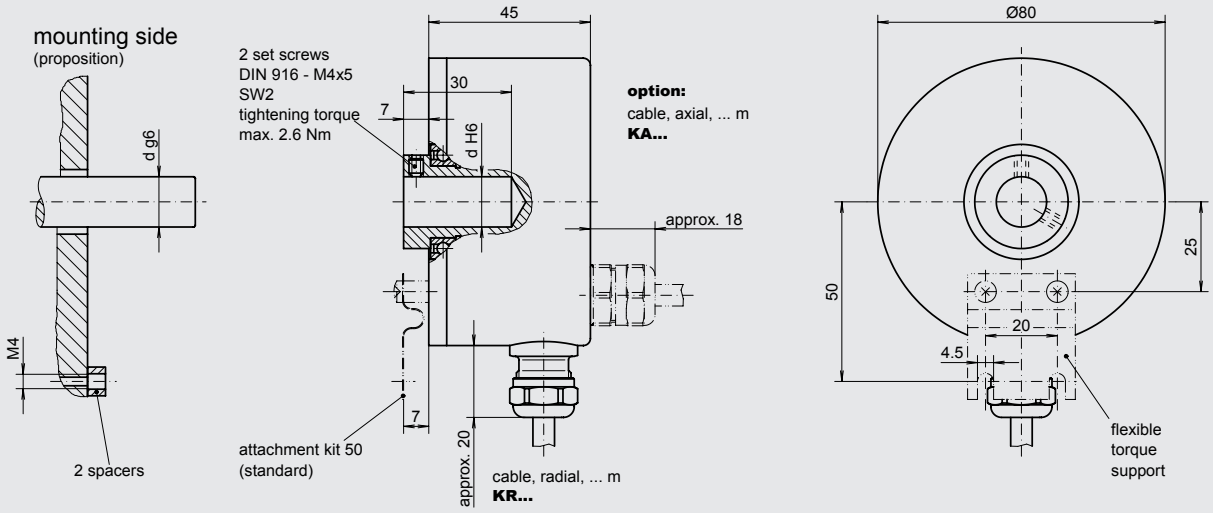
ITD 42 A 4

Sine wave incremental encoder
with hollow shaft



Features

- SINE WAVE-Hollow shaft incremental encoder
- Number of pulses up to 2048 pulses/rev.
- Mounting at torque support
- Sine wave output signals 1 V_{PP}
- Cable outlet radial or axial
- Connector version optional



drawing-no.: 026- 5

Mechanical data

Design	A 4		A 4
Attachment kit	50	standard, (ref. data sheet »Attachment kit's ...«)	50
Housing	aluminium, black, powder coated		
Protection	IP 65	according to DIN EN 60 529	IP65
Construction principle	LED with glass slotdisc		
max. revolution (mechanical)	n_{max} ≤ 8000 min^{-1}	(observe limit frequency)	
Permissible motor-shaft play	axial ≤ 0.25 mm radial ≤ 0.1 mm		
Starting torque	at 20 °C ≤ 1 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 15 mm	(standard), 10 mm to 16 mm possible	15
Weight	approx. 550 g		

Electrical data

Number of pulses	Z	1024, 2048 pulses/revolution (other on request)	XXXX
Electronic version (output signals)	sine	with amplifier stage, supply voltage: U_B = 5 VDC ± 10 % (polarity protected) output amplitude **A+B**: 1 V_{PP} at Z_0 = 120 Ω output amplitude **N**: approx. 0.4 V (useable part) at Z_0 = 120 Ω	M
Output signals	A, B, N	2 sine wave signal trains phase shifted by 90° electr. + zero pulse	NI
Limit frequency	f_G	180 kHz (-3 dB)	
Current consumption (no-load)	I_{max}	≤ 90 mA	
Permissible cable length		≤ 150 m (Baumer Thalheim cable)	
Type of connection		cable, radial, 1.0 m (standard length)	KR1
Operating temperature range		-20 °C to +85 °C	S
Permissible relative humidity		≤ 90 % (condensation not permitted)	

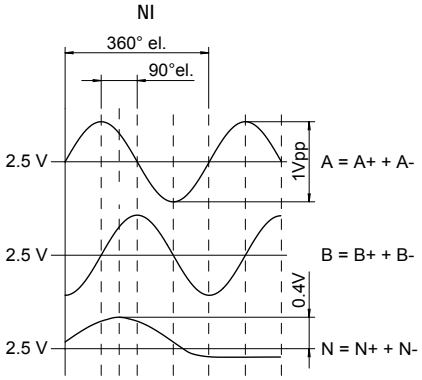
Options

Electronic version (output signals)	sine	with amplifier stage, supply voltage: U_B = 8 - 26 VDC ± 10 % (polarity protected) output amplitude **A+B**: 1 V_{PP} at Z_0 = 120 Ω output amplitude **N**: approx. 0.4 V (useable part) at Z_0 = 120 Ω	S
Type of connection	cable connector	cable, axial, ... m performed at cable (ref. data sheet »Type of performed cables«)	KA... ...
Operating temperature range		-20 °C to +100 °C (IP 54: n_{max} ≤ 8000 min^{-1} or IP 65: n_{max} ≤ 5000 min^{-1})	E

Connection table

wire color	signals
green	A +
brown	A -
grey	B +
black	B -
pink	N +
white	N -
red	+ U_B
blue	0 V
yellow	+ U_{sensor}
violet	0 V_{sensor}
transparent	shielding/housing

Output signal diagram



Pulse trains: Clockwise rotation when looking at the end of the shaft (mounting side).

Ordering example:

ITD 42	A 4		1024	M	NI	KR1	S	15	IP65	50
Incremental encoder *ITD 42*	Design *A 4*	Mechanical variant *Y... = look at the drawing*	Number of pulses *1024 pulses/revolution*	Electronic version *signal amplitude = 1 V_{PP}*	Output signals *A-, B-, N- track*	Type of connection *cable, radial, 1 m*	Operating temperature range *-20 °C to +85 °C*	Hollow shaft diameter *15 mm*	Protection *IP65*	Attachment kit variant *50*

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