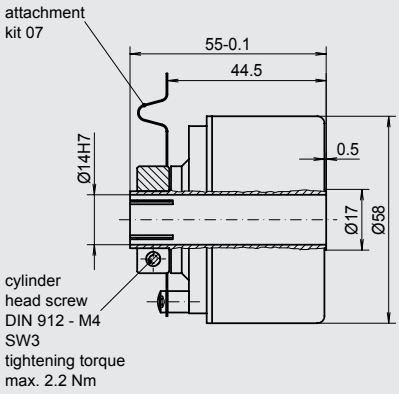
Baumer Thalheim

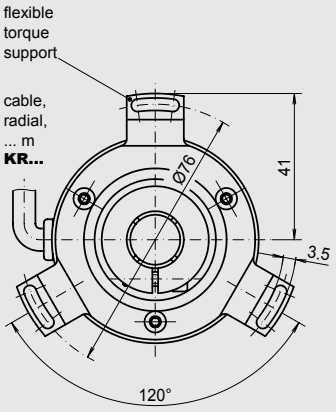
ITD 21 A 4 Y 2

Incremental encoder
with hollow shaft

Features

- High-class incremental encoder with hollw shaft going through
- Compact design
- Number of pulses up to 6000 pulses/rev.
- Mounting at torque support, mounting punch circle Ø76 mm
- Clamp fastening of the hollow shaft
- TTL- or HTL- output signals





cable definition:
≥ 1 m cable with wire-end sleeve
< 1 m cable with stripping wire
0.2 m cable with crimp contacts

drawing-no.: 025- 4 Y 2

Mechanical data

Design	A 4		A 4
Attachment kit	07	standard, (ref. data sheet »Attachment kit's ...«)	07
Housing	aluminium, unpainted		
Protection	IP 54	according to DIN EN 60 529	IP54
Construction principle	LED with glass slot disc		
max. revolution (mechanical)	n_{max}	≤ 8000 min^{-1}	(observe limit frequency)
Permissible motor-shaft play	axial radial	≤ 0.25 mm ≤ 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 - 29
Hollow shaft diameter	d	14 mm	14
Weight		approx. 230 g	

Electrical data

Number of pulses	Z	100 to 6000 pulses/rev.	XXXX
Electronic version (output signals)	TTL	Line driver-output stage, supply voltage: U_B = 5 VDC ± 5 % (polarity protected), output amplitude: $U_{LOW} \leq 0.5$ V, $U_{HIGH} \geq 2.5$ V	T
	HTL	Push pull-output stage (short-circuit proof), supply voltage: U_B = 8 - 30 VDC (polarity protected), output amplitude: $U_{LOW} \leq 1.5$ V, $U_{HIGH} \geq U_B$ - 3 V	H
Output signals	A, B, N + Inv.	2 square wave pulse trains, electr. phase shifted 90° + zero pulse, electr. length 90° + signal inverting	NI
Limit frequency	f_G	TTL 300 kHz HTL 160 kHz	
Output load current	I_{Load}	TTL ≤ 70 mA HTL ≤ 70 mA	
Current consumption (no-load)	I_{max}	≤ 100 mA	
Permissible cable length		≤ 100 m (Baumer Thalheim cable)	
Type of connection		cable, radial, 1.0 m (standard length)	KR1
Operating temperature range		-20 °C to +70 °C	S
Permissible relative humidity		≤ 90 % (condensation not permitted)	

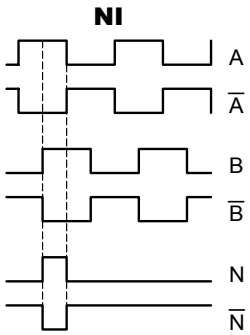
Options

Electronic version		TTL-output signals, line driver-output stage supply voltage: U_B = 8 - 30 VDC (polarity protected)	R
Type of connection	connector	performed at cable (ref. data sheet »Type of performed cables«)	
Operating temperature range		-20 °C to +100 °C	E

Connection table

wire color	signals
green	A
brown	A inv.
grey	B
black	B inv.
pink	N
white	N inv.
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 21	A 4	Y 2	2048	T	NI	KR1	E	14	IP54	07
Incremental encoder *ITD 21*	Design *A 4*	Mechanical variant *Y 2 = look at the drawing*	Number of pulses *2048 pulses/revolution*	Electronic version *U_B = 5 VDC ± 5 % TTL*	Output signals *A-, B-, N- track + inv.*	Type of connection *cable, radial, 1 m*	Operating temperature range *-20 °C to +100 °C*	Hollow shaft diameter *14 mm*	Protection *IP54*	Attachment kit variant *07*

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