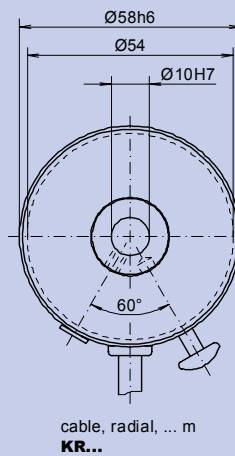
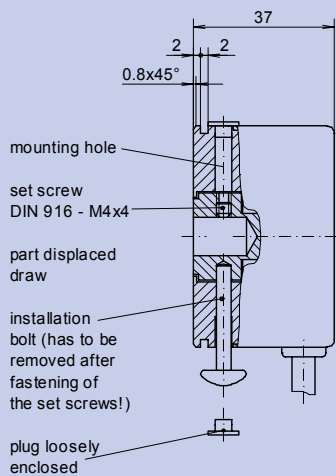
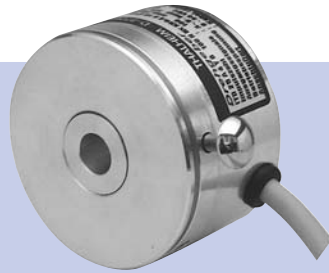


Incremental encoder *without bearings*

ITD 25 A 4 Y 6

Features

- Low cost hollow shaft incremental encoder, without bearings
- **Number of pulses** up to **360** pulses/rev.
- TTL- or HTL- output signals
- Cable outlet radial



drawing-no.: 027- 6 Y 6

Mechanical data

Design	A 4	without bearings	A 4
Housing	aluminium, unpainted		
Protection	IP 40	according to DIN EN 60 529	IP40
Construction principle	OPSIC with slotdisc		
max. revolution (mechanical)	$n_{max} \leq 12000$ rpm	(observe limit frequency)	
Permissible motor-shaft play	axial ≤ 0.2 mm radial ≤ 0.05 mm		
Vibration	55... 2000 Hz ≤ 100 m/s ²	according to DIN IEC 60 068, part 2-6	
Shock	11 ms ≤ 1000 m/s ²	according to DIN IEC 60 068, part 2-27	
Hollow shaft diameter	d 10 mm	10	
Weight	approx. 300 g		

Electrical data

Number of pulses	Z	100, 200, 256, 360 pulses/rev.	XXXX
Electronic version (output signals)	TTL	Line driver-output stage, supply voltage: $U_B = 5 \text{ VDC} \pm 5\%$ (polarity protected) output amplitude: $U_{\text{LOW}} \leq 0.5 \text{ V}$, $U_{\text{HIGH}} \geq 2.5 \text{ V}$	T
	HTL	Push pull-output stage (short-circuit proof), supply voltage: $U_B = 8\text{-}30 \text{ VDC}$ (polarity protected) output amplitude: $U_{\text{LOW}} \leq 1.5 \text{ V}$, $U_{\text{HIGH}} \geq U_B - 3 \text{ V}$	H
Output signals	A, B	2 square wave pulse trains, electr. phase shifted $90^\circ \pm 10^\circ$ *	BX
Pulse ratio		pulse : pause = 1 : 1, $\pm 10\%$ at 30 kHz	
Edge steepness		$\geq 15 \text{ V}/\mu\text{s}$	
Limit frequency	f_G	120 kHz	
Output load current	I_{Load}	$\leq 70 \text{ mA}$	
Current consumption (no-load)	I_{max}	$\leq 100 \text{ mA}$	
Permissible cable length		$\leq 100 \text{ m}$ (Thalheim-cable)	
Type of connection		cable, radial, 1.0 m (standard length)	KR1
Operating temperature range		-20°C to $+70^\circ \text{C}$	S
Permissible relative humidity		$\leq 90\%$ (condensation not permitted)	

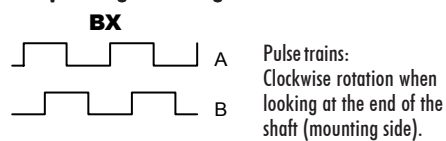
Options

Electronic version		TTL-output signals, Line driver-output stage supply voltage: $U_B = 8\text{-}30 \text{ VDC}$ (polarity protected)	R
Type of connection	connector	performed at cable, (ref. datasheet »Type of performed cables«)	...
Operating temperature range		-20°C to $+100^\circ \text{C}$	E

Connection table

wire color	signals
green	A
grey	B
brown	+ U_B
white	0 V
transparent	shielding/housing

Output signal diagram



Ordering example

Incremental encoder ITD 25	Design A 4	Mechanical variant Y 6 = look at the drawing	Number of pulses 100 pulses/revolution	Electronic version $U_B = 8\text{-}30 \text{ VDC HTL}$	Output signals A-, B-track	Type of connection cable, radial, 1 m	Operating temperature -20°C to $+70^\circ \text{C}$	Hollow shaft diameter 10 mm	Protection IP40	Attachment kit variant
-------------------------------	---------------	---	---	---	-------------------------------	--	---	--------------------------------	--------------------	------------------------

* ref. output signal diagram