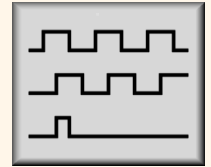


Incremental Encoder with hollow shaft ITD 21 A 4 Y22

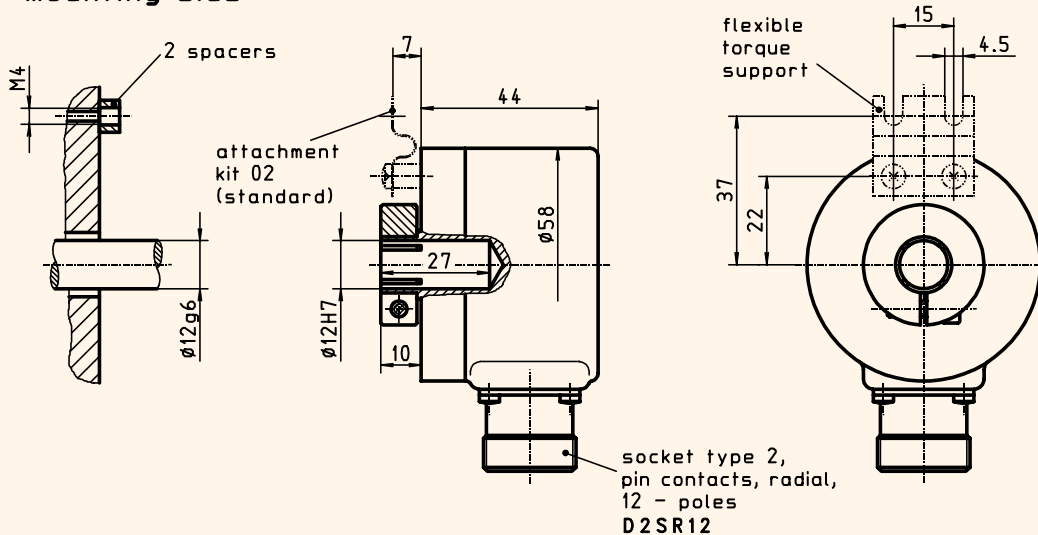


Qualities:

- High-class hollow shaft incremental encoder
- **Number of pulses**, up to **6000** pulses per revolution
- Mounting at torque support
- TTL- or HTL-output signals
- Socket radial
- Hollow shaft going through optional



mounting side



ITD 21 A 4 Y22

drawing-no.: 029 - 1 Y22

Mechanical data:

Housing		light-alloy metal, black, powder coated	
Design style	A 4	A 4	
Attachment kit	02	02 (standard)	(ref. datasheet "Attachment kit's ...")
Protective class	IP65	IP 65	according to DIN 40 050, IEC 529
Construction principle		LED with glas slotdisc	
max. revolution (mechanical)	n_{max}	≤ 8000 rpm	(observe frequency limit)
Admissible 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 68 part 2-6
Shock	11 ms	≤ 300 m/s ²	according to DIN IEC 68 part 2-27
Hollow shaft diameter	d	12 mm	
Weight		approx. 300 g	

Incremental Encoder with hollow shaft

ITD 21 A 4 Y22



Electrical data:

• Number of pulses	Z	XXXX	1000 to 6000 pulses per revolution
• Execution of electronic	TTL	T	TTL-output signals supply voltage: $U_B = 5 \text{ VDC} \pm 5\%$ (poling error safe)
	HTL	H	HTL-output signals supply voltage: $U_B = 8 - 30 \text{ VDC}$ (poling error safe)
• Output signals	A, B, N + Inv.	NI	2 square-wave pulse trains phase shifted by $90^\circ (\pm 10^\circ)$ electr. + zero pulse, 90° electr. length + inverting (refer to output signals-diagram)
Pulse ratio			pulse : pause = 1 : 1 $\pm 10\%$ at 30 kHz
Flank steepness			$\geq 15 \text{ V}/\mu\text{s}$
Frequency limit	f_G	TTL	300 kHz
Output load current	I_{Load}	TTL	$\leq 70 \text{ mA}$
Input current	I_{max}		$\leq 100 \text{ mA}$ (without load)
Permissible cable length			$\leq 100 \text{ m}$ (Thalheim-cable)
• Type of connection		D2SR12	socket type 2, pin contacts, radial; 12-poles
• Operating temperature range		S	0°C to $+70^\circ \text{C}$

Options:

• Execution of electronic	R	TTL-output signals supply voltage: $U_B = 8 - 30 \text{ VDC}$ (poling error safe)
• Operating temperature range	E	0°C to $+100^\circ \text{C}$

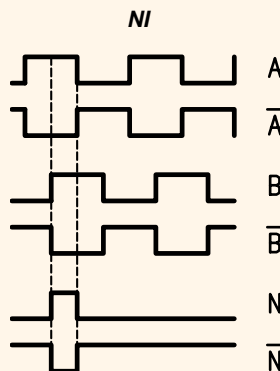
Accessories:

Connector, for version D2S..12 **S2BG12** connector type 2, bush contacts, straight, 12-poles

Connection table:

PIN-no.		signals
PIN 5	=	A
PIN 6	=	A inverted
PIN 8	=	B
PIN 1	=	B inverted
PIN 3	=	N
PIN 4	=	N inverted
PIN 12	=	+ U_B
PIN 10	=	0 V
PIN 2	=	+ U_{sensor}
PIN 11	=	0 V _{sensor}
PIN 7	=	NC
PIN 9	=	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	Y22	2500	H	NI	D2SR12	S	12	IP65	02
Incremental encoder ITD 21	Design style A 4	Mechanical variante Y22 = look at the drawing	Number of pulses 2500 pulses / revolution	Execution of electronic $U_B = 8-30 \text{ VDC HTL-output}$	Output signals A-, B-, N-track + inverting	Type of connection socket type 2, pin contacts, radial, 12-poles	Operating temperature 0°C to $+70^\circ \text{C}$	Hollow shaft diameter 12 mm	Protective class IP 65	Attachment kit variante 02