

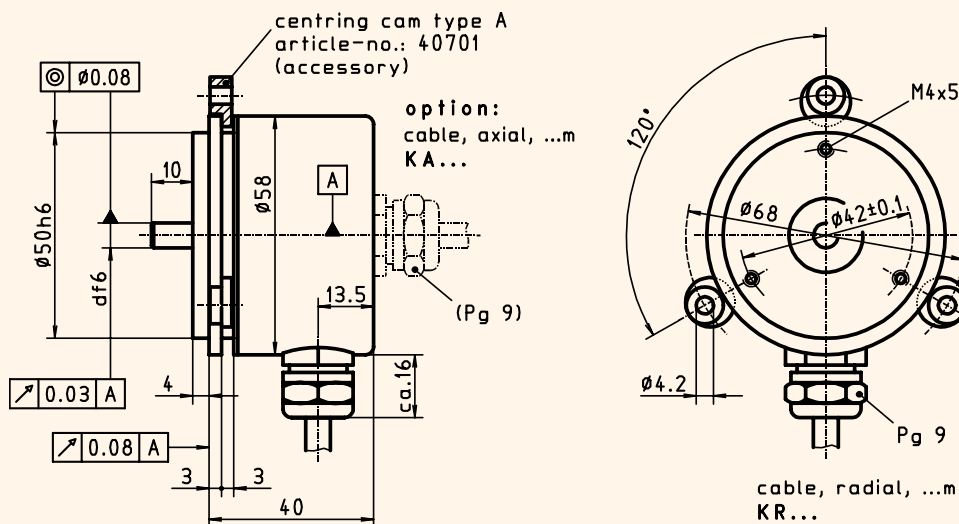
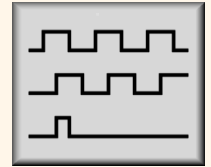
Incremental Encoder with shaft

ITD 20 B14



Qualities :

- Robust incremental encoder for industrial use
- **Number of pulses**, up to **512** pulses per revolution
- Centering seat $\varnothing 50$, mounting punch circle $\varnothing 68$
- TTL- or HTL-output signals
- Cable outlet radial or axial
- Connector versions optional



ITD 20 B14

drawing-no.: 027 - 4

Mechanical data:

Housing		light-alloy metal, unpainted	
Design style	B14	B14	
Protective class	IP65	IP 65	according to DIN 40 050, IEC 529
Construction principle		OPSIC with slotdisc	
max. revolution (mechanical)	n_{max}	≤ 12000 rpm	(observe frequency limit)
Admissible shaft load	axial	≤ 10 N	
	radial	≤ 20 N	(at shaft end)
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	≤ 1000 m/s ²	according to DIN IEC 68, part 2-27
Moment of inertia (rotor)		approx. 15 gcm ²	
Shaft diameter	d	6 mm	
Weight		approx. 400 g	

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Electrical data:

• Number of pulses	Z	XXXX	50, 60, 90, 100, 200, 250, 256, 360, 400, 500, 512 pulses/rev.
• 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 + Inv.	BI	2 square-wave pulse trains phase shifted by $90^\circ (\pm 10^\circ)$ electr. + inverting pulse : pause = 1 : 1 $\geq 15 \text{ V}/\square\text{s}$
Pulse ratio			
Flank steepness			
Frequency limit	f_G		120 kHz
Output load current	I_{Load}		$\leq 70 \text{ mA}$
Input current	I_{max}		$\leq 100 \text{ mA}$ (without load)
Permissible cable length			$\leq 100 \text{ m}$ (Thalheim-cable)
• Type of connection		KR1	cable, radial, 1.0 m (standard length)
• Operating temperature range		S	- 20 °C to + 70 °C

Options:

• Execution of electronic		R	TTL-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 + zero pulse, 90° electr. + inverting
• Type of connection	cable	KA...	cable, axial, ... m
	connector	D2SA12	socket type 2, pin contacts, axial, 12-poles
	connector	D2SR12	socket type 2, pin contacts, radial, 12-poles
	connector	...	performed at cable (ref. data sheet Type of performed cables)
• Operating temperature range		E	- 20 °C to + 100 °C

Accessories:

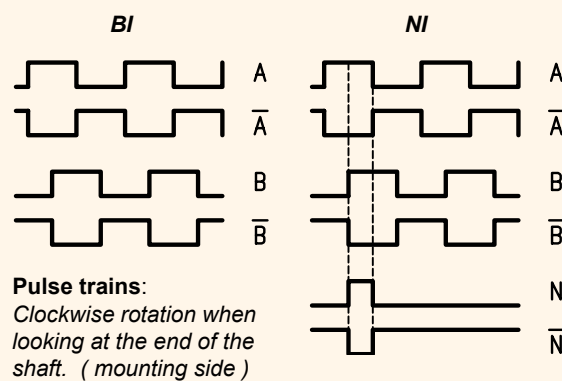
Connector, for version **D2S..12**
Centring cam-set type A (3 pcs.)

S2BG12 connector type 2, bush contacts, straight, 12-poles
article-no.: 40701-3

Connection table:

wire color	PIN-no.	signals
brown	PIN 5	= A
green	PIN 6	= A inverted
grey	PIN 8	= B
pink	PIN 1	= B inverted
red	PIN 3	= N
black	PIN 4	= N inverted
brown 0.5 mm ²	PIN 12	= + U_B
white 0.5 mm ²	PIN 10	= 0 V
blue	PIN 2	= + U_{sensor}
white	PIN 11	= 0 V_{sensor}
	PIN 7	= NC
transparent	PIN 9	= shilding/housing

Output signal diagram:



Ordering example:

ITD 20	B14		500	H	BI	KR1	S	6	IP65	
Incremental encoder ITD 20	Design style B14	Mechanical variante Y... = look at the drawing	Number of pulses 500 pulses / revolution	Execution of electronic $U_B = 8-30 \text{ VDC HTL-output}$	Output signals A-, B-track + inverting	Type of connection cable, radial, 1 m	Operating temperature 20 °C to +70 °C	Shaft diameter 6 mm	Protective class IP 65	Attachment kit variante