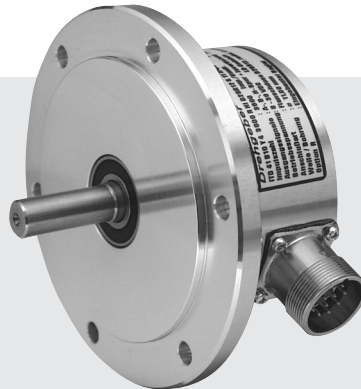
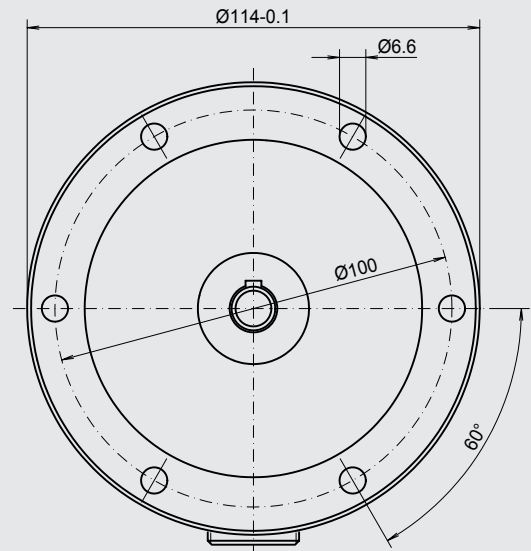
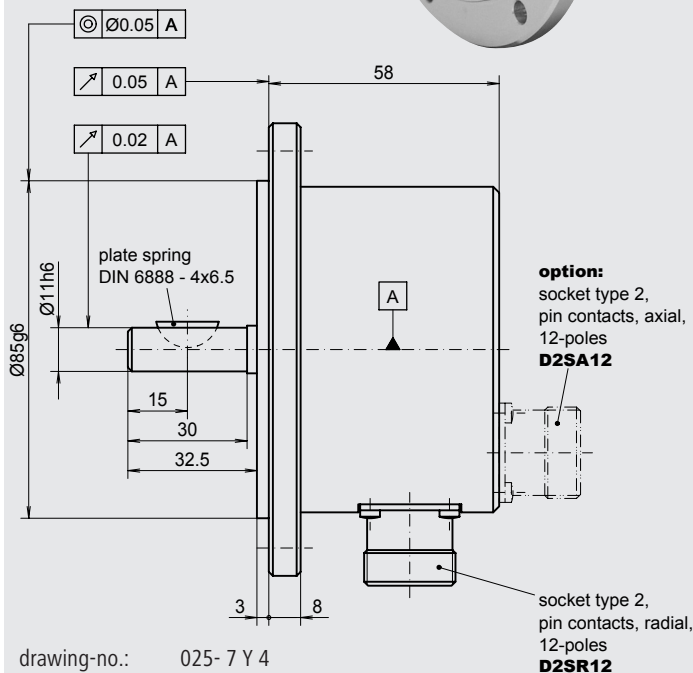


Incremental encoder with shaft



Features

- Robust incremental encoder for industrial use with double bearing
- Number of pulses up to 6000 pulses/rev.
- Euro-flange-fastening
- Centering seat Ø85 mm, mounting punch circle Ø100 mm
- TTL- or HTL- output signals
- Socket radial or axial



Mechanical data

Design	B10	B10
Housing	aluminium, unpainted	
Protection	IP 65	according to DIN EN 60 529 IP65
Construction principle	LED with glass slotdisc	
max. revolution (mechanical)	$n_{max} \leq 8000 \text{ min}^{-1}$	(observe limit frequency)
Permissible shaft load	axial $\leq 60 \text{ N}$ radial $\leq 100 \text{ N}$	(at shaft end)
Starting torque	at 20 °C $\leq 1.5 \text{ Ncm}$	
Vibration	55... 2000 Hz $\leq 100 \text{ m/s}^2$	according to DIN IEC 60 068, part 2 - 6
Shock	11 ms $\leq 300 \text{ m/s}^2$	according to DIN IEC 60 068, part 2 - 27
Shaft diameter	d 11 mm	11
Weight	approx. 950 g	

Electrical data

Number of pulses	Z	1000 to 6000 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: $U_{LOW} \leq 0.5 \text{ V}$, $U_{HIGH} \geq 2.5 \text{ V}$	T
	HTL	Push pull-output stage (short-circuit proof), supply voltage: $U_B = 8 - 30 \text{ VDC}$ (polarity protected), output amplitude: $U_{LOW} \leq 1.5 \text{ V}$, $U_{HIGH} \geq U_B - 3 \text{ V}$	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 $\leq 70 \text{ mA}$ HTL $\leq 70 \text{ mA}$	
Current consumption (no-load)	I_{max}	$\leq 100 \text{ mA}$	
Permissible cable length		$\leq 100 \text{ m}$ (Baumer Thalheim cable)	
Type of connection	connector	socket type 2, pin contacts, radial, 12-poles	D2SR12
Operating temperature range		0°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: $U_B = 8 - 30 \text{ VDC}$ (polarity protected)	R
Type of connection	connector	socket type 2, pin contacts, axial, 12-poles	D2SA12
Operating temperature range		0°C to $+100^\circ \text{C}$	E

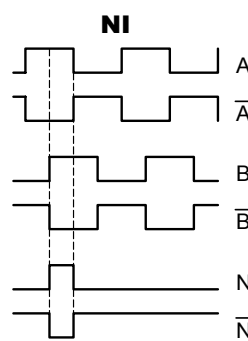
Accessories

Connector, for version D2SR12	connector type 2, bush contacts, straight, 12-poles	S2BG12
-------------------------------	---	--------

Connection table

PIN-no.	signals
PIN 5	A
PIN 6	A inv.
PIN 8	B
PIN 1	B inv.
PIN 3	N
PIN 4	N inv.
PIN 12	+ U_B
PIN 10	0 V
PIN 2	+ U_{Sensor}
PIN 11	0 V_{Sensor}
PIN 7	NC
PIN 9	NC

Output signal diagram



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

Ordering example:

ITD 41	B10	Y 4	2500	H	NI	D2SR12	S	11	IP65	
Incremental encoder ITD 41	Design B10	Mechanical variant Y 4 = look at the drawing	Number of pulses 2500 pulses/revolution	Electronic version $U_B = 8 - 30 \text{ VDC HTL}$	Output signals A-, B-, N- track + inv.	Type of connection socket type 2, pin contacts, radial, 12-poles	Operating temperature range 0°C to $+70^\circ \text{C}$	Shaft diameter 11 mm	Protection IP65	Attachment kit variant

Baumer Thalheim GmbH & Co. KG

Hessenring 17, D-37269 Eschwege, Germany

Phone: +49 (0)5651 9239-0 · Fax: +49 (0)5651 9239-80 · www.baumerthalheim.com