

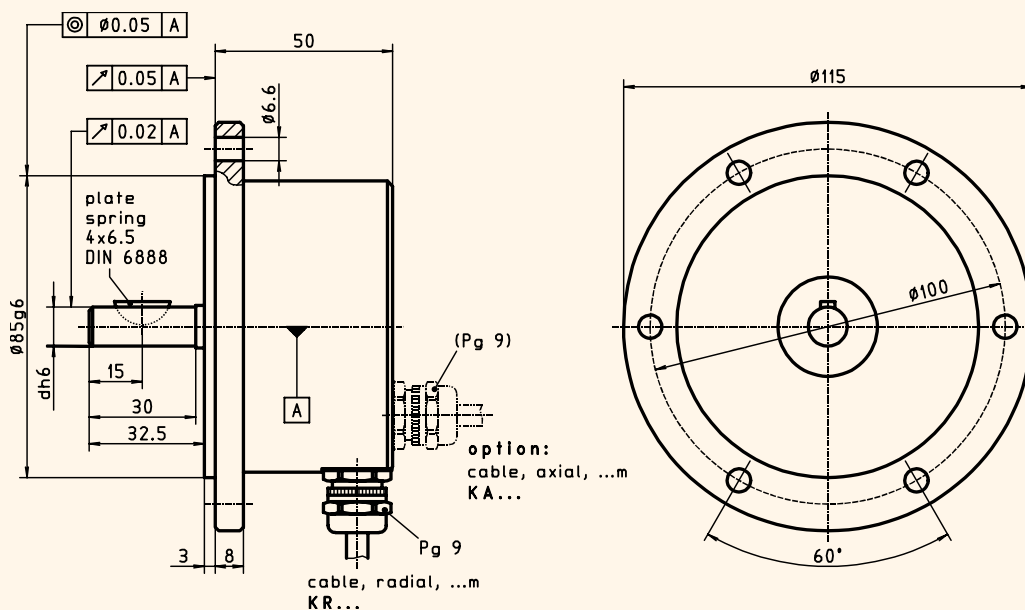
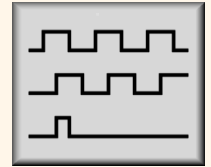
# Incremental Encoder with shaft

## ITD 40 B10



### Qualities:

- Robust incremental encoder for industrial use
- **Number of pulses**, up to **1024** pulses per revolution
- *Euro-flange* mounting
- Centering seat  $\varnothing 85$ , mounting punch circle  $\varnothing 100$
- TTL- or HTL-output signals
- Cable outlet radial or axial
- Connector versions optional
- Cable-box versions optional



ITD 40 B10

drawing-no.: 025 - 7

### Mechanical data:

Housing		light-alloy metal, unpainted	
Design style	<b>B10</b>	B10	
Protective class	<b>IP65</b>	IP 65	according to DIN 40 050, IEC 529
Construction principle		OPSiC with slotdisc	
max. revolution ( mechanical )	$n_{max}$	$\leq 12000$ rpm	( observe frequency limit )
Admissible shaft load	axial	$\leq 40$ N	
	radial	$\leq 60$ N	( at shaft end )
Starting torque	at 20 ° C	$\leq 1.2$ Ncm	
Vibration	55... 2000 Hz	$\leq 100$ m/s <sup>2</sup>	according to DIN IEC 68, part 2-6
Shock	11 ms	$\leq 1000$ m/s <sup>2</sup>	according to DIN IEC 68, part 2-27
Moment of inertia ( rotor )		approx. 60 gcm <sup>2</sup>	
Shaft diameter	d	11 mm	
Weight		approx. 850 g	

# Incremental Encoder with shaft

## ITD 40 B10



### Electrical data:

• Number of pulses	Z	XXXX	100, 180, 200, 360, 400, 500, 512, 720, 1000, 1024 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			$\pm 10\%$ at 30 kHz
Flank steepness			
Frequency limit	$f_G$		120 kHz
Output load current	$I_{\text{Load}}$		$\leq 70 \text{ mA}$
Input current	$I_{\text{max}}$		$\leq 100 \text{ mA}$ (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, $90^\circ$ 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 <b>Type of performed cables</b> )
• Operating temperature range		E	-20 °C to +100 °C

### Accessories :

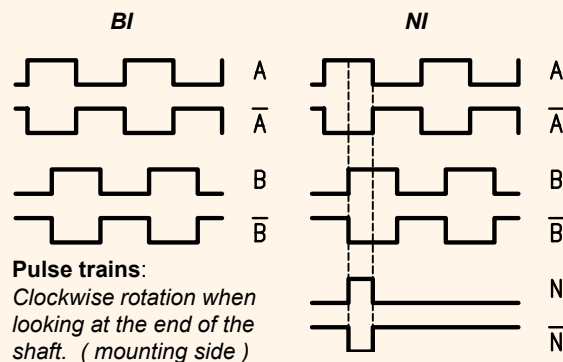
Connector, for version **D2S..12**

**S2BG12** connector type 2, bush contacts, straight, 12-poles

### 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 <sup>2</sup>	PIN 12	= + $U_B$
white 0.5 mm <sup>2</sup>	PIN 10	= 0 V
blue	PIN 2	= + $U_{\text{sensor}}$
white	PIN 11	= 0 V <sub>sensor</sub>
	PIN 7	= NC
transparent	PIN 9	= shielding/housing

### Output signal diagram:



### Ordering example:

<b>ITD 40</b>	<b>B10</b>		<b>500</b>	<b>H</b>	<b>BI</b>	<b>KR1</b>	<b>S</b>	<b>11</b>	<b>IP65</b>	
Incremental encoder ITD 40	Design style B10	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 11 mm	Protective class IP 65	Attachment kit variante