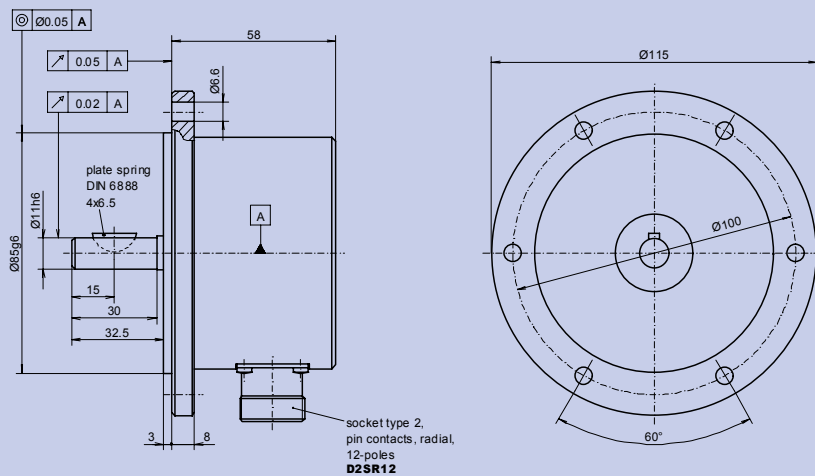
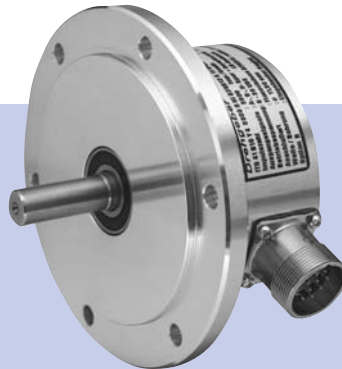


## Incremental encoder *with shaft*

# ITD 41 B10 Y 4

### Features

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



drawing-no.: 025- 7 Y 4

### 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)	$n_{max} \leq 8000 \text{ rpm}$	(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/revolution	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, N + Inv.	2 square wave pulse trains, electr. phase shifted $90^\circ \pm 10^\circ$ + zero pulse, electr. length $90^\circ \pm 9^\circ$ + signal inverting*	NI
Pulse ratio		pulse : pause = 1 : 1, $\pm 10\%$ at 30 kHz	
Edge steepness		$\geq 15 \text{ V}/\mu\text{s}$	
Limit frequency	$f_G$	TTL 300 kHz HTL 160 kHz	
Output load current	$I_{\text{Load}}$	TTL $\leq 70 \text{ mA}$ HTL $\leq 70 \text{ mA}$	
Current consumption (no-load)	$I_{\text{max}}$	$\leq 100 \text{ mA}$	
Permissible cable length		$\leq 100 \text{ m}$ (Thalheim-cable)	
Type of connection		socket type 2, pin contacts, radial, 12-poles	D2SR12
Operating temperature range		$0^\circ \text{C}$ 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
Operating temperature range	$0^\circ \text{C}$ to $+100^\circ \text{C}$	E

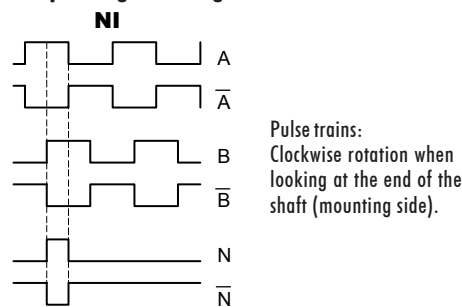
## Accessories

Connector, for version D2SR12	connector type 2, bush contacts, straight 12-poles	S2BG12
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## 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	+ $U_{\text{Sensor}}$
PIN 11	0 V <sub>Sensor</sub>
PIN 7	NC
PIN 9	NC

## Output signal diagram



## Ordering example:

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