

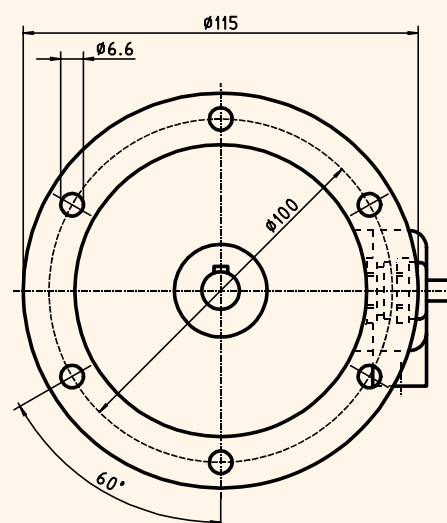
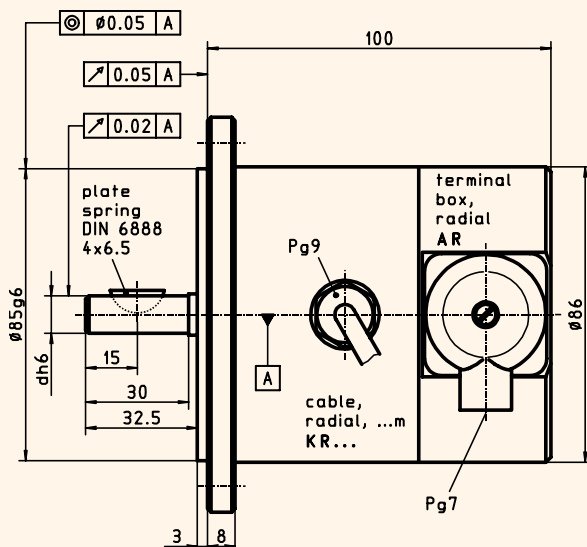
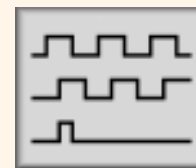
# Incremental encoder + Centrifugal switch

## ITD 41 + FS B10 Y 2



### Qualities:

- Robust incremental encoder-centrifugal switch-combination
- Number of pulses, up to 6000 pulses per revolution
- Euro-flange-mounting
- Centering seat  $\varnothing 85$ , mounting punch circle  $\varnothing 100$
- TTL- or HTL-output signals
- Connector versions optional
- Mechanical centrifugal switch



ITD 41 + FS B10 Y 2

drawing-no.: 026 - 9 Y 2

### Mechanical data:

Housing		light-alloy metal, unpainted	
Design style	<b>B10</b>	B10	
Protective class	<b>IP54</b>	IP 54	
Construction principle ( incremental encoder )		LED with glas slotdisc	
max. revolution ( mechanical )	$n_{max}$	$\leq 6000$ rpm	( observe frequency limit )
Admissible shaft load	axial	$\leq 40$ N	
	radial	$\leq 60$ N	( at shaft end )
Starting torque	at 20 ° C	$\leq 2.5$ Ncm	
Vibration	55... 2000 Hz	$\leq 100$ m/s <sup>2</sup>	according to DIN IEC 68 part 2-6
Stoß	11 ms	$\leq 300$ m/s <sup>2</sup>	according to DIN IEC 68 part 2-27
Shaft diameter	d	11 mm	
Weight		approx. 1650 g	

### Electrical data ITD:

• Number of pulses	<b>Z</b>	<b>XXX</b>	512 up to 6000 pulses per revolution
• Execution of electronic	<b>TTL</b>	<b>T</b>	TTL-output signals
			supply voltage: $U_B = 5$ VDC $\pm 5\%$ (poling error safe)
			output amplitude: $U_{LOW} \leq 0.5$ V $U_{HIGH} \geq 2.5$ V
	<b>HTL</b>	<b>H</b>	HTL-output signals
			supply voltage: $U_B = 8 - 30$ VDC (poling error safe)
			output amplitude: $U_{LOW} \leq 1.5$ V $U_{HIGH} \geq U_B - 3$ V
• Output signals	<b>A, B, N + Inv.</b>	<b>NI</b>	2 square wave pulse trains phase shifted by 90° electr. + zero pulse, 90° electr. length + inverting ( refere to output signals-diagram )

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Pulse ratio		pulse : pause = 1 : 1	± 10 % at 30 kHz
Flank steepness		≥ 15 V/ s	
Frequency limit	$f_G$	<b>TTL</b> 300 kHz	<b>HTL</b> 160 kHz
Output load current	$I_{Last}$	<b>TTL</b> ≤ 70 mA	<b>HTL</b> ≤ 70 mA
Input current	$I_{max}$	≤ 150 mA	( without load )
Permissible cable lenght		≤ 100 m	( Thalheim-cable )
• Type of connection	<b>KR1</b>	cable, radial, 1.0 m	( standard length )
• Operating temperature range	<b>S</b>	0 °C to + 70 °C	

### Electrical data FS:

Type of connection	<b>AR</b>	terminal box, radial
Connection table		brown - shutter white - opener
Contacts		1 opener ( type A ) or 1 switcher ( type B ) switching in run up sequence
Shift speed range		800 - 3000 min <sup>-1</sup>
Accuracy		± 5 % of shift speed, ( special versions ± 1 % )
Shut down performance		15 A at 230 VAC
Continues switch performance		5 A at 230 VAC
Living life		500000 switching operations
max. switching sequence		10 per min at 5 Amps

### Options:

• Execution of electronic	<b>R</b>	TTL-output signals	<i>line driver-output stage</i>
		supply voltage:	$U_B = 8 - 30$ VDC (poling error safe)
• Type of connection ITD connector	<b>D2SR12</b>	flange socket type 2, pin contacts, radial, 12-poles	
• Enhanced accuracy FS		± 1 % of shift speed	
• Operating temperature range	<b>E</b>	0 °C to + 100 °C	
• Enhanced protective class			

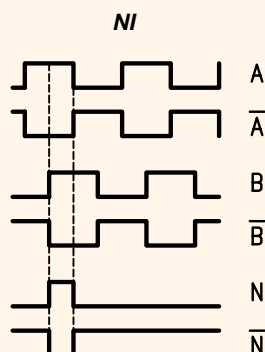
### Accessories:

Connector, for version	<b>D2S..12</b>	<b>S2BG12</b>	Connector type 2, bush contacts, straight, 12-poles
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### 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	= + $U_{Sensor}$
white	PIN 11	= ± 0 V
	PIN 7	= NC
transparent	PIN 9	= shilding/housing

### Output signal diagram:



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