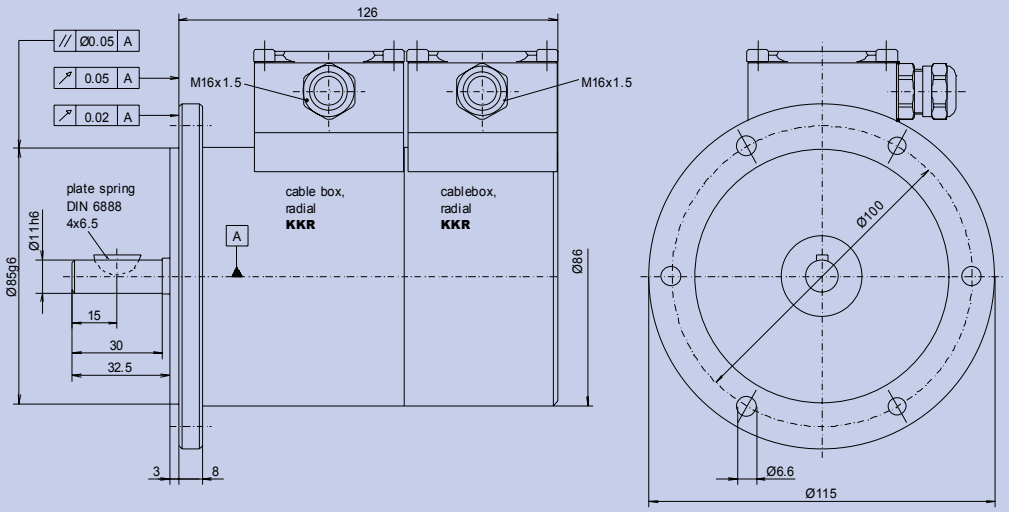
Incremental encoder + Centrifugal switch

ITD 40 + FS B10 Y 4

Features

- Robust incremental encoder-centrifugal switch-combination
- **Number of pulses** up to **1.024** pulses/rev.
- Euro-flange-fastening
- Centering seat Ø 85 mm, mounting punch circle Ø 100 mm
- TTL- or HTL- output signals
- Mechanical centrifugal switch



Zeichnungs-Nr.: 026- 9 Y 4

Mechanical data

Design style		B10		**B10**
Housing		light alloy metal, unpainted		
Protective class		IP 65	according to DIN EN 60 529	**IP65**
Construction principle		OPSIC with slotdisc		
max. revolution (mechanical)	n_{max}	≤ 5.000 rpm	(observe frequency limit)	
Permissible shaft load	axial radial	≤ 50 N ≤ 100 N	 (at shaft end)	
Starting torque	at 20° C	≤ 2.5 Ncm		
Vibration	55... 2.000 Hz	≤ 100 m/s²	according to DIN IEC 60 068, part 2-6	
Shock	11 ms	≤ 1.000 m/s²	according to DIN IEC 60 068, part 2-27	
Shaft diameter	d	11 mm		**11**
Weight		ca. 2050 g		

Electrical data *ITD*

Number of pulses	Z	100, 180, 200, 360, 500, 512, 720, 1.000, 1.024 pulses/rev.	**XXXX**
Execution of electronic (output signals)	TTL	Line driver-output stage, supply voltage: U_B = 5 VDC ± 5 % (poling error safe) output amplitude: $U_{LOW} \leq 0.5$ V, $U_{HIGH} \geq 2.5$ V	**T**
	HTL	Push pull-output stage (shortening proof), 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	**H**

Output signals	A, B + Inv.	2 square wave pulse trains, electr. phase shifted 90° ± 10° + signal inverting*	**BI**
Pulse ratio		pulse : pause = 1 : 1, ± 10 % at 30 kHz	
Flank steepness		≥ 15 V/µs	
Frequency limit	f_G	120 kHz	
Output load current	I_{Last}	≤ 70 mA	
Input current (without load)	I_{max}	≤ 100 mA	
Permissible cable length		≤ 100 m (Thalheim-cable)	
Type of connection		cable box, radial, 12-poles, M16-outlet, radial	**KKR**
Operating temperature range		-20 °C to +70 °C	**S**
Permissible relativ humidity		≤ 90 % (condensation not permitted)	

Electrical data *FS*

Type of connection	cable box, radial, 12-poles, M16-Verschraubung, radial	**KKR**
contacts	1 opener (type A) or 1 switcher (type B), switching in run up sequence	
Shift speed range	800 - 3000 rpm	
Accuracy	± 5 % of shift speed	
Shut down performance	15 A at 230 VAC	
Continues switch performance	5 A at 230 VAC	
Living life	500.000 switching operations	
max. switching sequence	10 per min at 5 Amps	

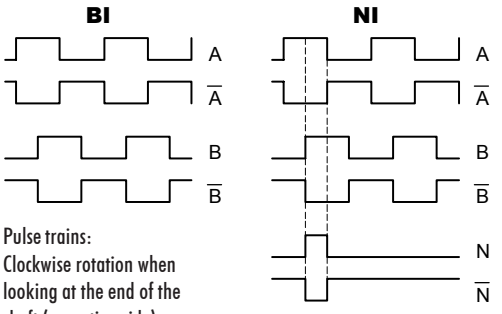
Options

Execution of electronic		TTL-otuput signals, Line driver-output stage supply voltage: U_B = 8 - 30 VDC (poling error safe)	**R**
Output signals	A, B, N + Inv.	2 square wave pulse trains + zero pulse, electr. length 90° ± 9° + signal inverting *	**NI**
Operating temperature range		-20 °C up +100 °C	**E**
Enhanced accuracy FS		± 1 % of shift speed	

Connection table *ITD*

terminal	signals
PIN 3	A
PIN 4	A inv.
PIN 5	B
PIN 6	B inv.
PIN 7	N
PIN 8	N inv.
PIN 2	+ U_B
PIN 1	0 V
PIN 10	+ U_{Sensor}
PIN 9	0 V_{Sensor}
PIN 11	NC
PIN 12	housing

Output signal diagram



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

Connection table *FS*

terminal	signals
PIN 1	opener
PIN 2	opener
PIN 3	switcher
PIN 4	switcher
PIN 5	NC
PIN 6	NC
PIN 7	NC
PIN 8	NC
PIN 9	NC
PIN10	NC
PIN 11	NC
PIN 12	NC

Ordering example

ITD 40	+ FS	B10	Y 4	500	H	BI	2xKKR	S	11	IP65
Incremental encoder *ITD 40*	Centrifugal switch *FS*	Design style *B10*	Mechanical variante *Y 4= look at the drawing*	Number of pulses *500 pulses/revolution*	Execution of electronic *U_B = 8-30 VDC HTL*	Output signals *A-, B- track + inv.*	Type of connection *Cabke box, radial, 12-poles, M16 outlet, radial*	Operating temperature *-20 °C to +70 °C*	Shaft diameter *11 mm*	Protective class *IP65*

* ref. output signal diagram