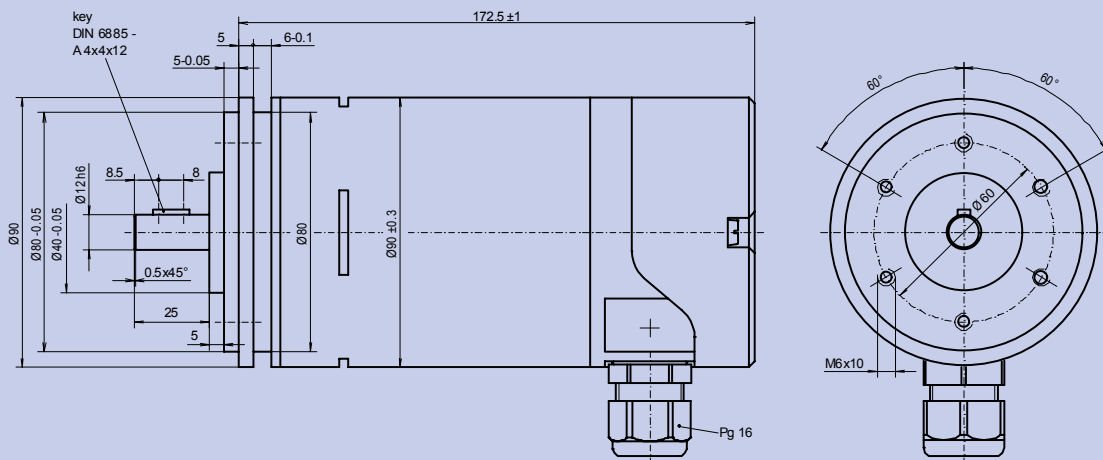


EEx Incremental encoder according to ATEX95 *with shaft*

ITD 21 B14 II 2 G EEx de IIB T6

Features

- Incremental encoder with explosion protection according to **II 2 G EEx de IIB T6**
- **Number of pulses** up to **6.000** pulses/rev.
- Centering seat $\varnothing 80$, mounting punch circle $\varnothing 60$
- TTL- or HTL- output signals
- cable box, axial, with 10 terminals (removeable)



Mechanical data

Design style	B14	B14
Housing	Polyester resin, fiber-reinforced, dark grey	
Protective class	IP 65	according to DIN EN 60 529
Explosion protection	II 2 G EEx de IIB T6	
Conformity declaration	PTB Nr. Ex-90.C.1006 Typ 8218/111-2-...	
Construction principle	LED with glas slotdisc	
max. revolution (mechanical)	$n_{max} \leq 6.000$ rpm	(observe frequency limit)
Permissible shaft load	axial ≤ 40 N radial ≤ 60 N	(at shaft end)
Vibration	55... 2.000 Hz ≤ 100 m/s ²	according to DIN IEC 60 068, part 2-6
Shock	11 ms ≤ 300 m/s ²	according to DIN IEC 60 068, part 2-27
Shaft diameter	d 12 mm	12
Weight	ca. 2100 g	

Electrical data

Number of pulses	Z	50 to 6.000 pulses/revolution	XXXX
Execution of electronic (output signals)	TTL	Line driver-output stage, supply voltage: $U_B = 5 \text{ VDC} \pm 5\%$ (poling error safe) output amplitude: $U_{\text{LOW}} \leq 0.5 \text{ V}$, $U_{\text{HIGH}} \geq 2.5 \text{ V}$	T
	HTL	Push pull-output stage (shortening proof), supply voltage: $U_B = 8\text{-}30 \text{ VDC}$ (poling error safe) 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	
Flank steepness		$\geq 15 \text{ V}/\mu\text{s}$	
Frequency limit	f_G	TTL 300 kHz HTL 160 kHz	
Output load current	I_{Load}	TTL $\leq 70 \text{ mA}$ HTL $\leq 70 \text{ mA}$	
Input current (without load)	I_{max}	$\leq 100 \text{ mA}$	
Permissible cable length		$\leq 100 \text{ m}$ (Thalheim-cable)	
Type of connection		cable box, axial, 10-poles, Pg16-outlet	VR16
Operating temperature range		0°C to $+70^\circ \text{C}$	S
Permissible cable length		$\leq 90\%$ (condensation not permitted)	

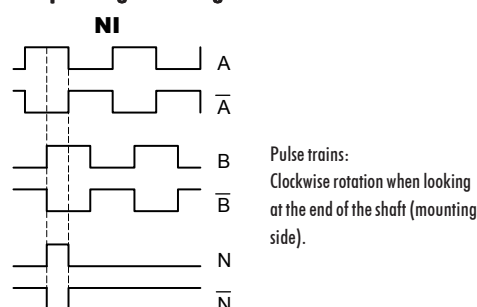
Options

Execution of electronic	TTL-output signals, Line driver-output stage supply voltage: $U_B = 8\text{-}30 \text{ VDC}$ (poling error safe)	R
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Connection table

terminal-no.	signals
3	A
4	A inv.
5	B
6	B inv.
7	N
8	N inv.
2	+ U_B
1	0 V
9	+ U_{Sensor}
PE	shielding/housing

Output signal diagram



Ordering example:

ITD 21 Incremental encoder ITD 21	B14 Design style B14	II 2 G EEx de IIB T 6 Explosion protection II 2 G EEx de IIB T 6	2048 Number of pulses 2048 pulses/rev.	H Execution of electronic $U_B = 8\text{-}30 \text{ VDC HTL}$	NI Output signals A-, B-, N- track + inv.	VR16 Type of connection cable box, axial, 10-poles Pg16-outlet	S Operating temperature 0°C to $+70^\circ \text{C}$	12 Shaft diameter 12 mm	IP65 Protective class IP65
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* ref. output signal diagram