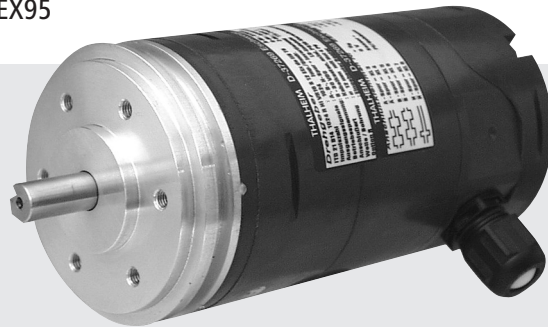
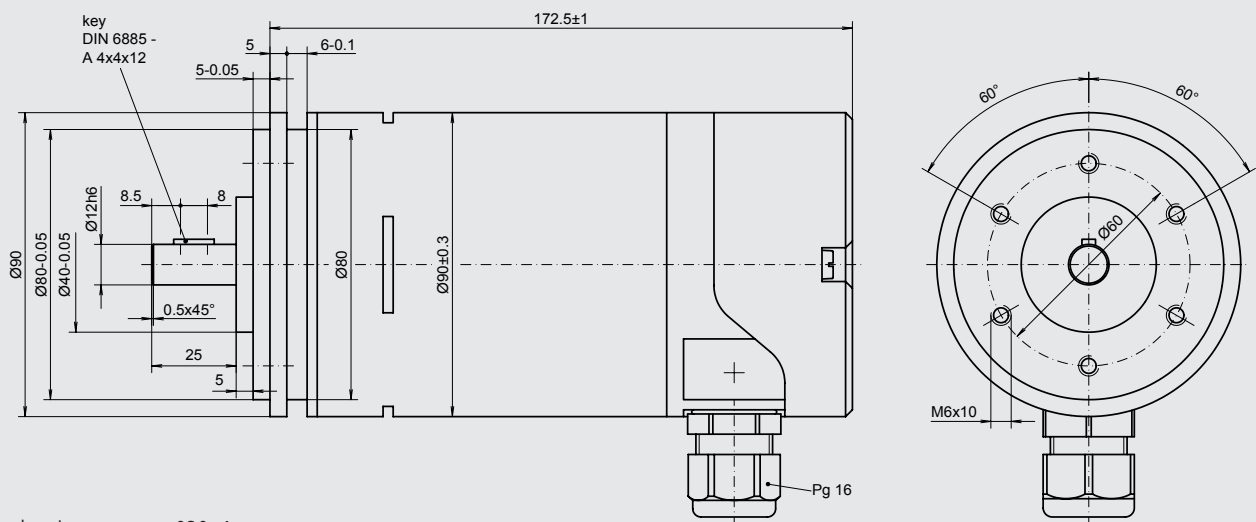


EEx Incremental encoder  
according to ATEX95  
with shaft



### Features

- Incremental encoder with explosion protection according to II 2 G EEx de IIB T6
- Number of pulses up to 6000 pulses/rev.
- Centering seat Ø80 mm, mounting punch circle Ø60 mm
- TTL- or HTL- output signals
- Cable box, axial, with 10 terminals



drawing-no.: 030- 1

### Mechanical data

Design	B14	B14
Housing	polyester resin, glass-fiber reinforced, dark grey	
Protection	IP 65	according to DIN EN 60 529
Explosion protection	II 2 G EEx de IIB T6	
EU-Prototype inspection document	PTB 02 ATEX 1108 8218/111-2-...	
Construction principle	LED with glass slotdisc	
max. revolution (mechanical)	$n_{max} \leq 6000 \text{ min}^{-1}$	(observe limit frequency)
Permissible shaft load	axial $\leq 40 \text{ N}$ radial $\leq 60 \text{ N}$	(at shaft end)
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 12 mm	12
Weight	approx. 2100 g	

## Electrical data

Number of pulses	Z	50 to 6000 pulses/rev.	XXXX
Electronic version (output signals)	TTL	Line driver-output stage, supply voltage: $U_B = 5 \text{ VDC} \pm 5\%$ (polarity protected), output amplitude: $U_{LOW} \leq 0.5 \text{ V}$ , $U_{HIGH} \geq 2.5 \text{ V}$	T
	HTL	Push pull-output stage (short-circuit proof), supply voltage: $U_B = 8\text{-}30 \text{ VDC}$ (polarity protected), output amplitude: $U_{LOW} \leq 1.5 \text{ V}$ , $U_{HIGH} \geq U_B - 3 \text{ V}$	H
Output signals	A, B, N + Inv.	2 square wave pulse trains, electr. phase shifted $90^\circ$ + zero pulse, electr. length $90^\circ$ + signal inverting	NI
Limit frequency	$f_G$	TTL 300 kHz HTL 160 kHz	
Output load current	$I_{Load}$	TTL $\leq 70 \text{ mA}$ HTL $\leq 70 \text{ mA}$	
Current consumption (no-load)	$I_{max}$	$\leq 100 \text{ mA}$	
Permissible cable length		$\leq 100 \text{ m}$ (Baumer Thalheim cable)	
Type of connection		cable box, axial, 10-poles, Pg16-outlet	VR16
Operating temperature range		$0^\circ \text{C}$ to $+70^\circ \text{C}$	S
Permissible relative humidity		$\leq 90\%$ (condensation not permitted)	

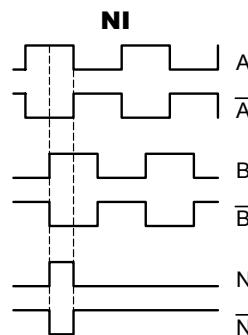
## Options

Electronic version	TTL-output signals, Line driver-output stage, supply voltage: $U_B = 8\text{-}30 \text{ VDC}$ (polarity protected)	R
--------------------	---	---

## 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



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

## Ordering example:

<b>ITD 21</b> Incremental encoder ITD 21	<b>B14</b> Design B14	<b>II 2 G EEx de IIB T6</b> Explosion protection II 2 G EEx de IIB T6	<b>2048</b> Number of pulses 2048 pulses/rev.	<b>H</b> Electronic version $U_B = 8\text{-}30 \text{ VDC}$ HTL	<b>NI</b> Output signals A-, B-, N- track + inv.	<b>VR16</b> Type of connection cable box, axial, 10-poles, Pg 16-outlet	<b>S</b> Operating temperature range $0^\circ \text{C}$ to $+70^\circ \text{C}$	<b>12</b> Shaft diameter 12 mm	<b>IP65</b> Protection IP65
--	-----------------------------	---	---	---	--	--	---	--------------------------------------	-----------------------------------

Baumer Thalheim GmbH & Co. KG

Hessenring 17, D-37269 Eschwege, Germany

Phone: +49 (0)5651 9239-0 · Fax: +49 (0)5651 9239-80 · [www.baumerthalheim.com](http://www.baumerthalheim.com)