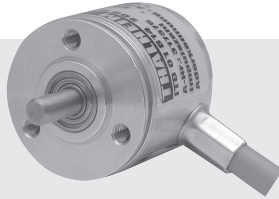
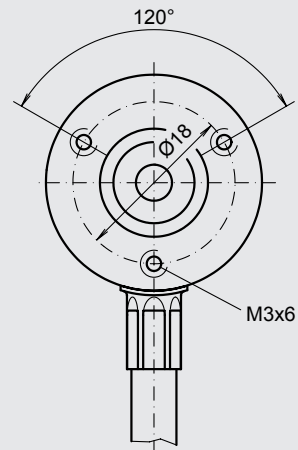
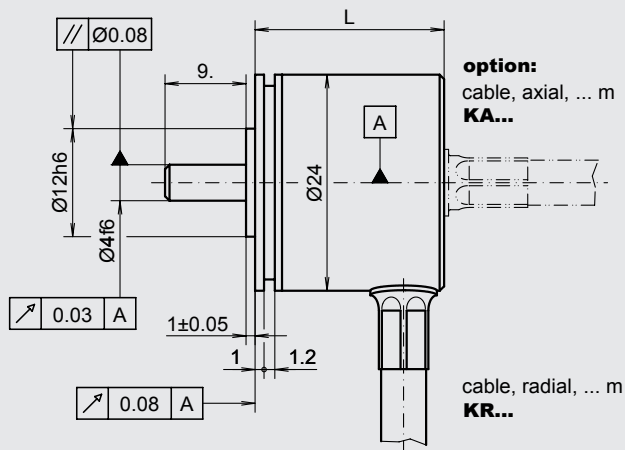


Incremental encoder with shaft



Features

- Mini-incremental encoder
- Number of pulses up to 1024 pulses/rev.
- Housing diameter Ø24 mm
- TTL- or HTL- output signals
- Cable outlet radial or axial
- Connector version optional



	L
without complementary signals (BX, NX)	21
with complementary signals (BI, NI)	24

drawing-no.: 030- 8

Mechanical data

Design	B14	B14
Housing	aluminium, unpainted	
Protection	IP 54	according to DIN EN 60 529 IP54
Construction principle	LED with slotdisc	
max. revolution (mechanical)	$n_{max} \leq 18\,000 \text{ min}^{-1}$	(observe limit frequency)
Permissible shaft load	axial $\leq 5 \text{ N}$ radial $\leq 8 \text{ N}$	(at shaft end)
Starting torque of the shaft	at 20 °C $\leq 0.6 \text{ Ncm}$	
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 4 mm	4
Weight	approx. 50 g	

Electrical data

Number of pulses	Z	30, 60, 100, 300, 360, 500, 600, 1000, 1024 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	2 square wave pulse trains, electr. phase shifted 90°	BX
Limit frequency	f_G	100 kHz	
Output load current	I_{Load}	$\leq 30 \text{ mA}$	
Current consumption (no-load)	I_{max}	$\leq 25 \text{ mA}$	
Permissible cable length		$\leq 100 \text{ m}$ (Baumer Thalheim cable)	
Type of connection		cable, radial, 1.0 m (standard length)	KR1
Operating temperature range		-20°C to $+85^\circ \text{C}$	S
Permissible relative humidity		$\leq 90\%$ (condensation not permitted)	

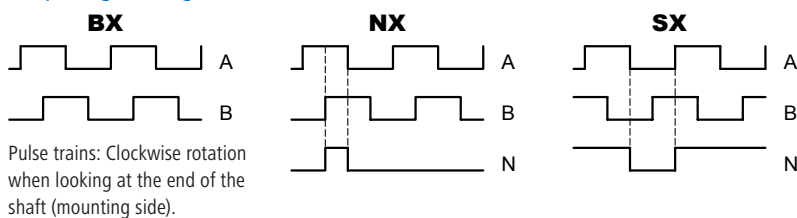
Options

Output signals	A, B, N	2 square wave pulse trains + zero pulse, electr. length 90°	NX
	A, B, N	2 square wave pulse trains + zero pulse, electr. length 180°	SX
	A, B + Inv.	2 square wave pulse trains + signal inverting	BI
	A, B, N + Inv.	2 square wave pulse trains + zero pulse, electr. length 90° + signal inverting	NI
Type of connection	cable	cable, axial, ... m	KA...
	connector	performed at cable, (ref. data sheet »Type of performed cables«)	...

Connection table BX/NX/SX

wire color	signals
green	A
yellow	B
grey	N
brown	+ U_B
white	0 V
transparent	shielding/housing

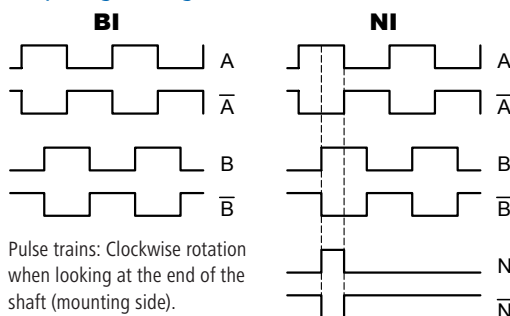
Output signal diagram



Connection table BI/NI

wire color	signals
green	A
yellow	A inv.
grey	B
pink	B inv.
brown	N
white	N inv.
red	+ U_B
blue	0 V
transparent	shielding/housing

Output signal diagram



Ordering example:

ITD 01 Incremental encoder ITD 01	B14 Design B14	360 Number of pulses 360 pulses/revolution	H Electronic version $U_B = 8\text{-}30 \text{ VDC HTL}$	BX Output signals A; B-track	KR1 Type of connection cable, radial 1 m	S Operating temperature range -20°C to $+85^\circ \text{C}$	4 Shaft diameter 4 mm	IP54 Protection IP54	Attachment kit variant
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