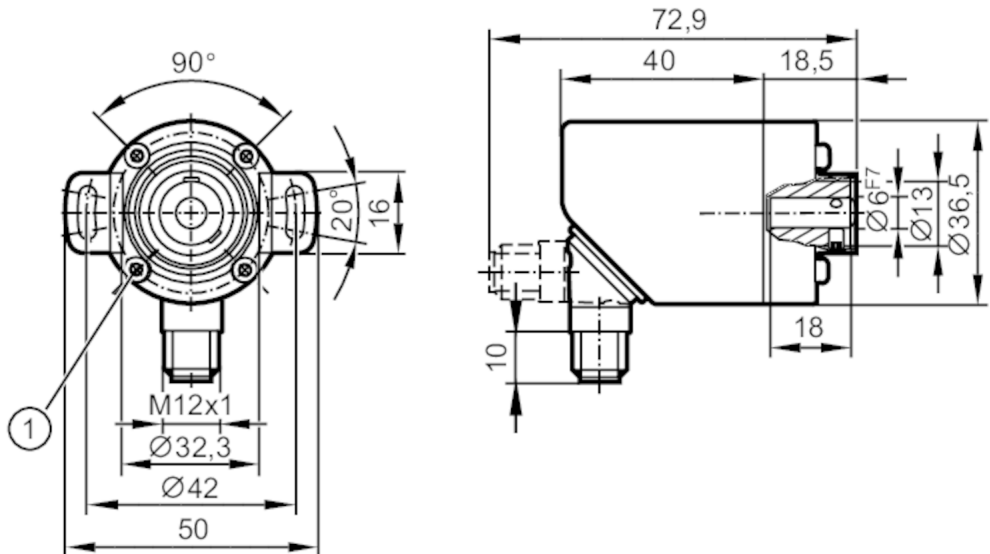


RA3104



Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE



1 M2 x 1.5 Depth 6 mm



Product characteristics

Resolution	1...10000; (configurable; Factory setting: 1024) resolution
Communication interface	IO-Link
Shaft design	hollow shaft open to one side
Shaft diameter [mm]	6

Application

Function principle	incremental
Detection system	magnetic

Electrical data

Operating voltage [V]	4.75...30 DC
Current consumption [mA]	< 150
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	0.5
Max. revolution electrical [U/min]	12000

Outputs

Electrical design	HTL/TTL
Switching frequency [kHz]	1000
Factory setting	Output function: HTL (50 mA)
Short-circuit protection	yes
Phase difference A und B [°]	90

Measuring/setting range

Resolution	1...10000; (configurable; Factory setting: 1024) resolution
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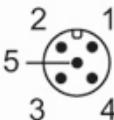
Accuracy / deviations

Accuracy [°]	0.1
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Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE

Software / programming		
Parameter setting options		Resolution; Direction of rotation; HTL; TTL
Interfaces		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1
SIO mode		yes
Min. process cycle time	[ms]	2.3
Operating conditions		
Ambient temperature	[°C]	-40...85
Storage temperature	[°C]	-40...85
Max. relative air humidity	[%]	95; (Condensation not permissible)
Protection		IP 65; IP 66; (on the housing: IP 67; on the shaft: IP 64)
Tests / approvals		
Shock resistance		100 g
Vibration resistance		20 g
MTTF	[years]	292
Mechanical data		
Weight	[g]	266.9
Dimensions	[mm]	Ø 36.5 / L = 58.5
Material		flange: aluminum; housing: stainless steel (1.4521 / 444)
Tightening torque	[Nm]	< 0.7; (Mounting screw)
Max. revolution, mechanical [U/min]		12000
Max. starting torque	[Nm]	1
Reference temperature torque	[°C]	20
Shaft design		hollow shaft open to one side
Shaft diameter	[mm]	6
Shaft material		stainless steel
Installation depth/shaft	[mm]	18
Max. axial shaft misalignment	[mm]	0,5
Fixing flange		Ø 36.5 mm
Electrical connection		
Connector: 1 x M12, radial, can also be used axially; coding: A; Moulded body: stainless steel (1.4401 / 316)		
		



Incremental encoder with hollow shaft

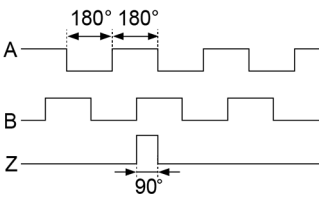
INCREMENTAL ENCODER BASIC LINE

IO-Link	
1	L+
2	not to be used
3	L-
4	IO-Link
5	not to be used
screen	plug

encoder	
1	UB
2	A
3	GND
4	Z/0-Pulse (90 deg)
5	B
screen	plug

Diagrams and graphs

Pulse diagram



Direction of rotation clockwise (looking at the shaft)