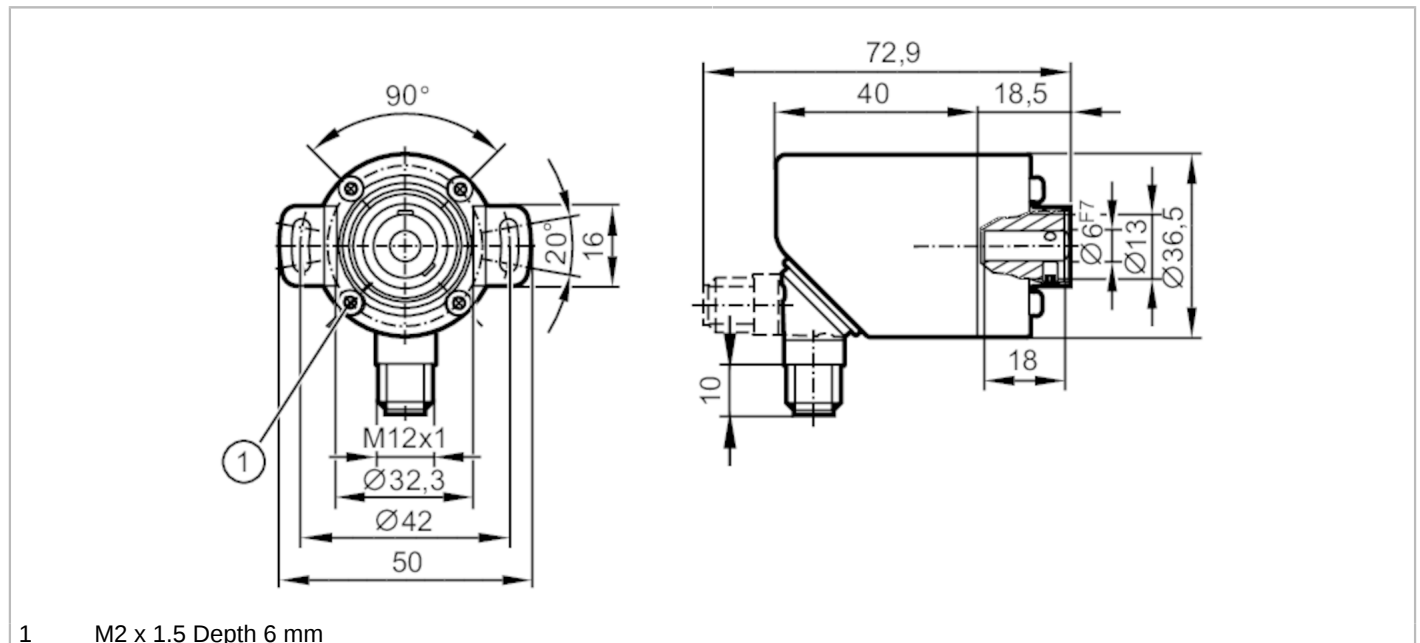


RA3104



Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE



Product characteristics

Resolution	1...10000; (parameterisable; 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 and B [°]	90

Measuring/setting range

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

Accuracy [°]	0.1
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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
Materials		flange: aluminium; housing: stainless steel (444/1.4521)
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 of 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 (316 / 1.4401)		



Incremental encoder with hollow shaft

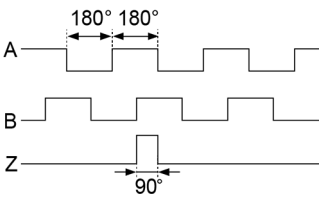
INCREMENTAL ENCODER BASIC LINE

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)