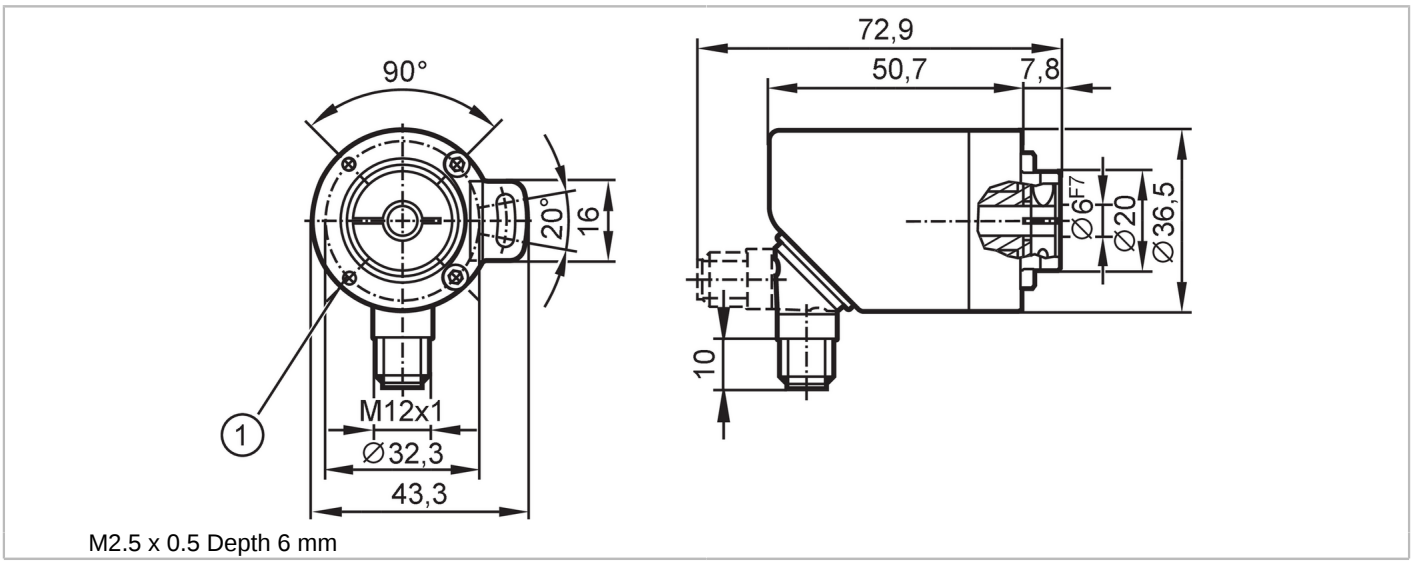
RA3100

Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE



M2.5 x 0.5 Depth 6 mm

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
Accuracy / deviations		
Accuracy	[°]	0.1
Software / programming		
Parameter setting options		Resolution; direction of rotation; HTL; TTL

RA3100

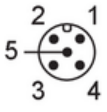
Incremental encoder with hollow shaft

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Interfaces			
Communication interface		IO-Link	
Transmission type		COM2 (38,4 kBaud)	
IO-Link revision		1.1	
Profiles		Smart Sensor - SSP 0	Generic Profiled Sensor
		Function	Device identification
		Function	Process data variable
		Function	Device diagnosis
SIO mode		yes	
Min. process cycle time	[ms]	2.3	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	499
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]	267	
Housing		cylindrical	
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]	0.01	
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	
Remarks			
Pack quantity		1 pcs.	

Electrical connection

Connector: 1 x M12, radial, can also be used axially; coding: A; Contacts: 5; Moulded body: stainless steel (316 / 1.4401)



RA3100

Incremental encoder with hollow shaft

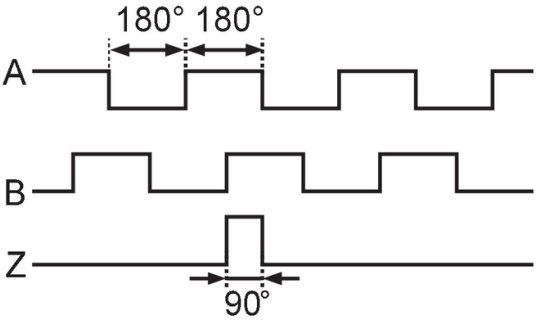
INCREMENTAL ENCODER BASIC LINE

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)