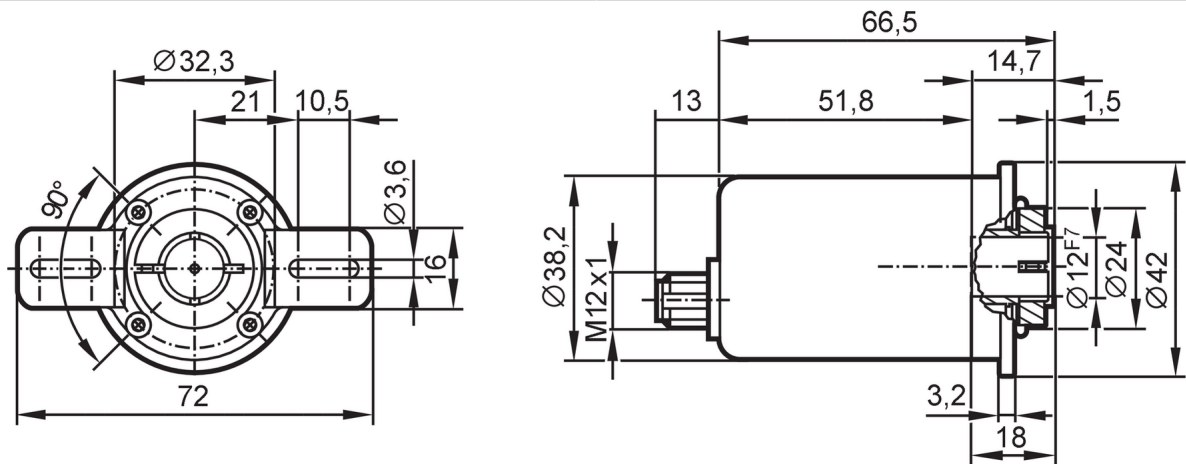


RA3110



Incremental encoder with hollow shaft

INCREMENTAL ENCODER



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]	12

Application

Function principle	incremental
Revolution type	incremental /singleturn
Detection system	magnetic

Electrical data

Operating voltage [V]	4.75...30 DC
Current consumption [mA]	< 150
Protection class	III
Reverse polarity protection	yes
Max. power-on delay time [ms]	500
Max. revolution electrical [U/min]	6000

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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Software / programming

Parameter setting options	Resolution; Direction of rotation; HTL; TTL
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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 68; IP 69K	
Tests / approvals		
Vibration resistance	DIN EN 60068-2-6	20 g
Shock resistance	DIN EN 60068-2-27	200 g 11 ms
Continuous shock resistance	DIN EN 60068-2-29	20 g / 10...1000 Hz
Vibration resistance		30 g / 10...1000 Hz
MTTF [years]	292	
Mechanical data		
Weight [g]	372.9	
Housing	tubular	
Dimensions [mm]	Ø 42 / L = 79.5	
Material	flange: stainless steel (1.4404 / 316L); housing: stainless steel (1.4404 / 316L)	
Tightening torque [Nm]	< 0.7; (Mounting screw)	
Max. revolution, mechanical [U/min]	6000	
Max. starting torque [Nm]	0.05	
Reference temperature torque [°C]	20	
Shaft design	hollow shaft open to one side	
Shaft diameter [mm]	12	
Shaft material	stainless steel (1.4112 / 440B)	
Installation depth/shaft [mm]	22	
Max. axial shaft misalignment [mm]	0,5	
Fixing flange	Ø 42 mm	
Remarks		
Pack quantity	1 pcs.	

RA3110

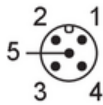


Incremental encoder with hollow shaft

INCREMENTAL ENCODER

Electrical connection

Connector: 1 x M12, axial; coding: A; Contacts: 5; Moulded body: stainless steel (1.4401 / 316)



IO-Link

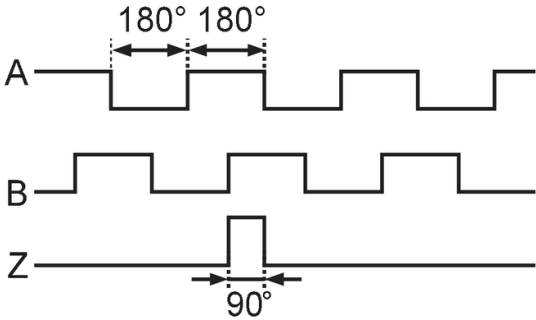
1	L+
2	not to be used
3	L-
4	IO-Link
5	not to be used
screen	plug

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)