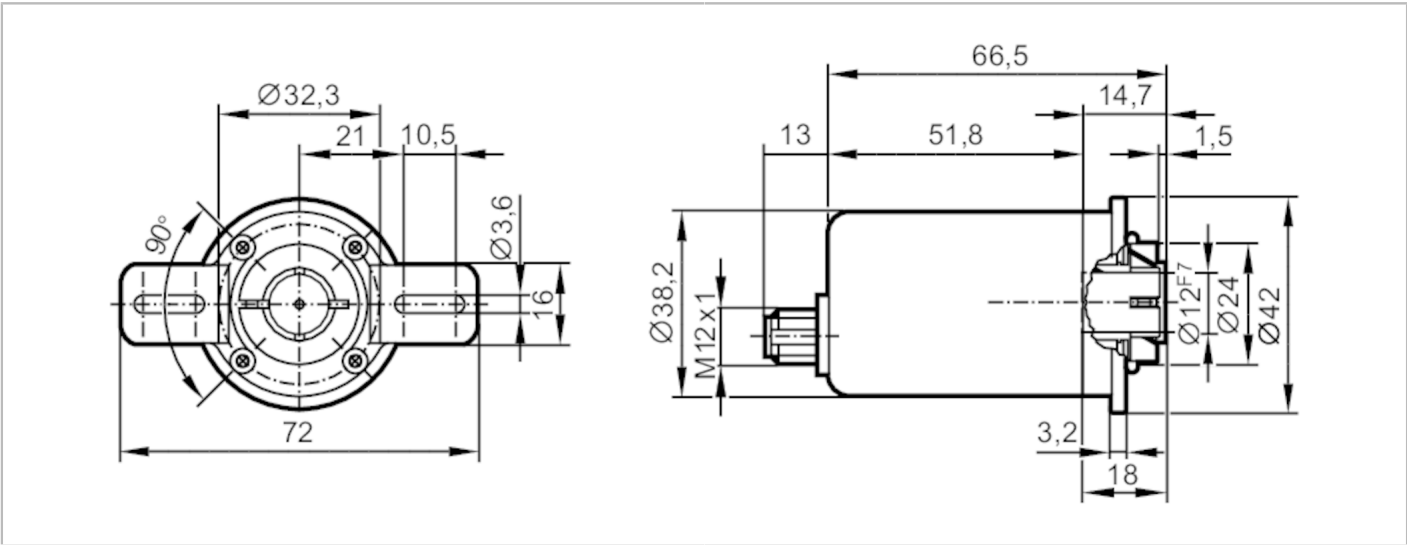


RA3110



Incremental encoder with hollow shaft

INCREMENTAL ENCODER



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]	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 and B	[°]	90
Measuring/setting range		
Resolution		1...10000; (parameterisable; Factory setting: 1024) resolution
Accuracy / deviations		
Accuracy	[°]	0.1



Incremental encoder with hollow shaft

INCREMENTAL ENCODER

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	
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		cylindrical	
Dimensions [mm]		Ø 42 / L = 79.5	
Materials		flange: stainless steel (316L/1.4404); housing: stainless steel (316L/1.4404)	
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 (440B/1.4112)	
Installation depth of 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; Moulded body: stainless steel (316 / 1.4401)



IO-Link

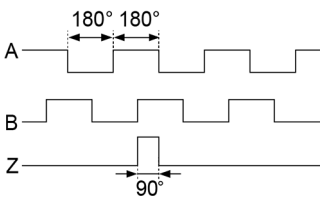
1	L+
2	not to be used
3	L-
4	IO-Link
5	not to be used
Screen	plug

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)