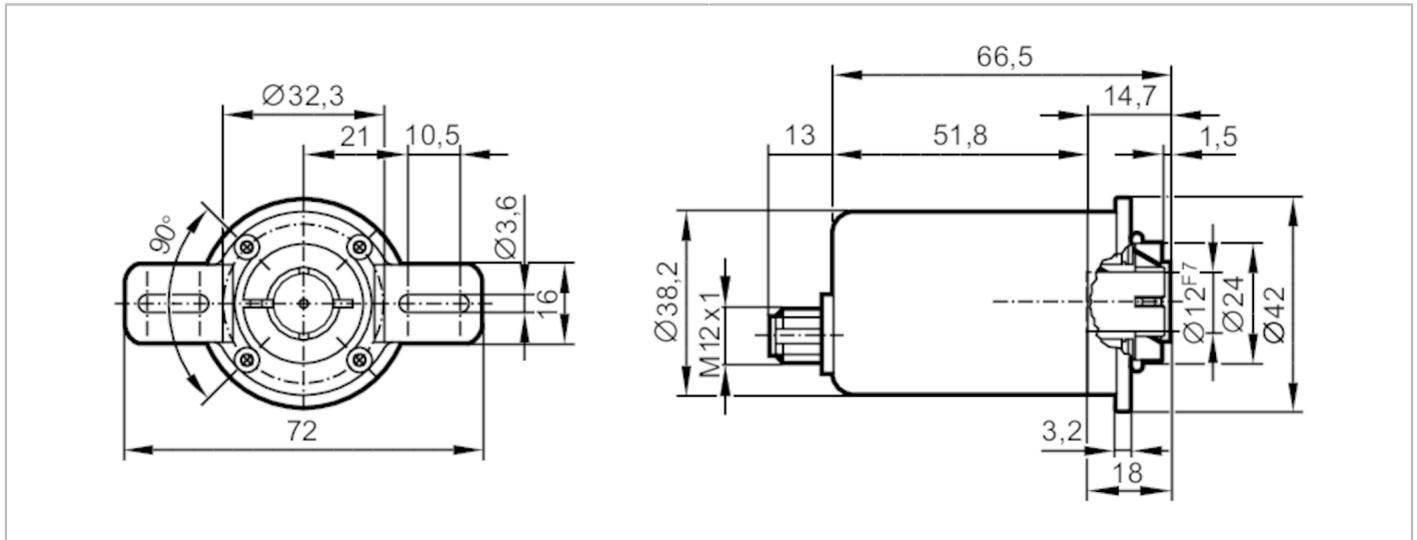


RA3110



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



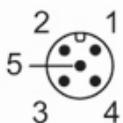
Incremental encoder with hollow shaft

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	
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 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	
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]	5	
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	

Electrical connection

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



RA3110



Incremental encoder with hollow shaft

INCREMENTAL ENCODER

IO-Link

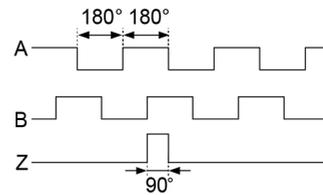
1	L+
2	not to be used
3	L-
4	IO-Link
5	not to be used
Screen	plug

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)