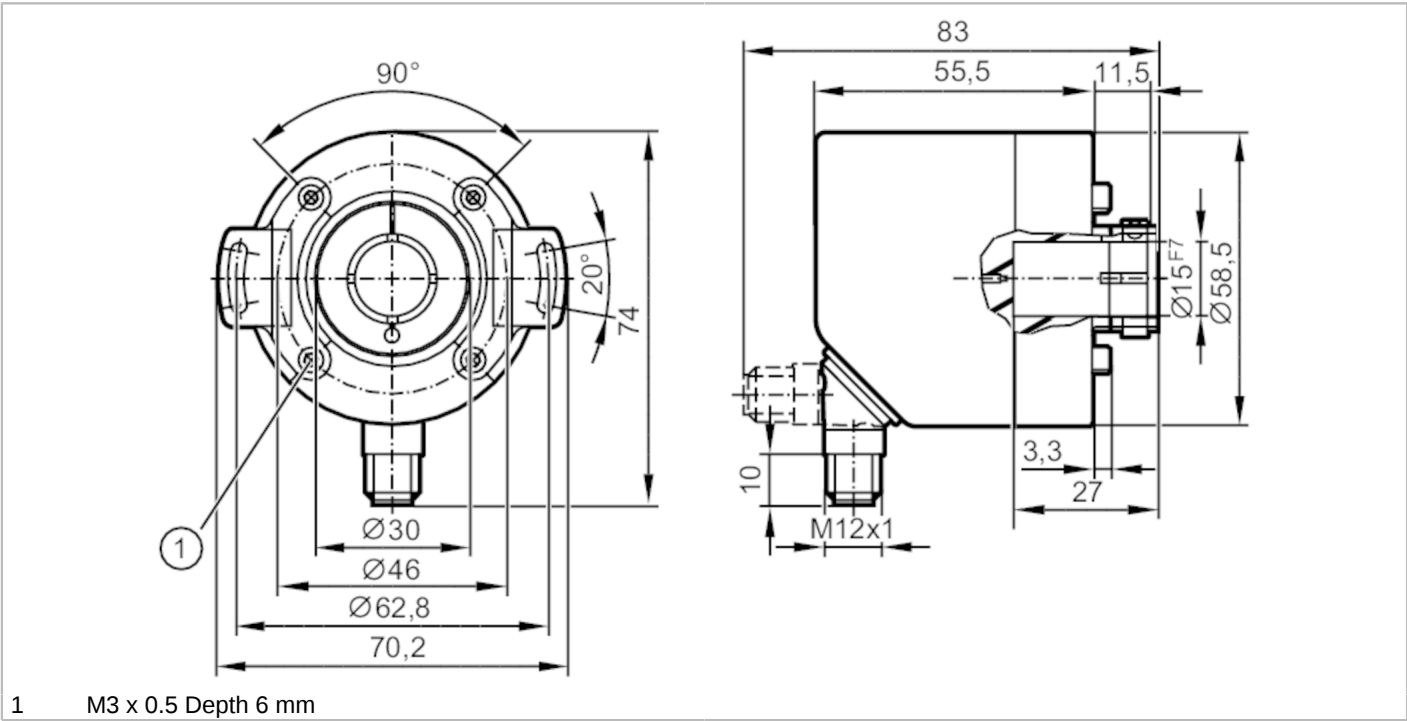


RO3110



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]	15
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



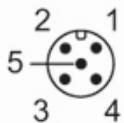
Incremental encoder with hollow shaft

INCREMENTAL ENCODER

Accuracy / deviations		
Accuracy	[°]	0.1
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 67; (on the housing: IP 67; on the shaft: IP 67)	
Tests / approvals		
Shock resistance		100 g
Vibration resistance		20 g
MTTF	[ANN]	292
Mechanical data		
Weight	[g]	665
Dimensions	[mm]	Ø 58.5
Materials	flange: stainless steel (1.4571/316Ti); housing: stainless steel (1.4521 / 444); NBR	
Tightening torque	[Nm]	< 0.7; (Mounting screw)
Max. revolution, mechanical	[U/min]	12000
Max. starting torque	[Nm]	2
Reference temperature torque	[°C]	20
Shaft design	hollow shaft open to one side	
Shaft diameter	[mm]	15
Shaft material	stainless steel (1.4571/316Ti)	
Installation depth of shaft	[mm]	27
Max. axial shaft misalignment	[mm]	0,5
Fixing flange	Ø 58.5 mm	

Electrical connection

Connector: 1 x M12, radial, can also be used axially; coding: A; Moulded body: stainless steel (316 / 1.4401); Maximum cable length: 100 m; (IO-Link: max. 20 m)





Incremental encoder with hollow shaft

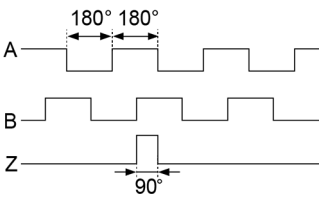
INCREMENTAL ENCODER

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)