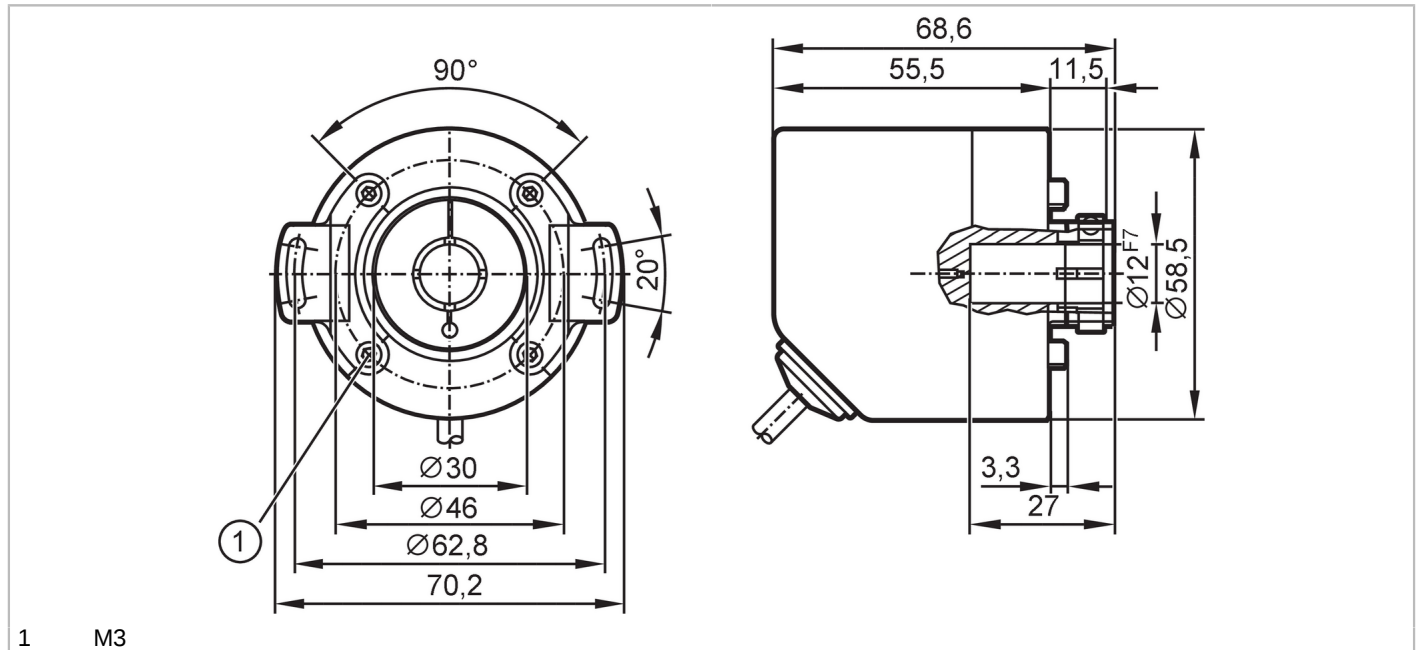


RO3501



Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE



1 M3



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
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



Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE

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...80	
Note on ambient temperature	for flexibly laid cable: -25 °C	
Storage temperature [°C]	-40...80	
Max. relative air humidity [%]	95; (condensation not permissible)	
Protection	IP 65; IP 66; (on the housing: IP 67; on the shaft: IP 65)	
Tests / approvals		
Shock resistance	100 g	
Vibration resistance	20 g	
MTTF [years]	292	
Mechanical data		
Weight [g]	476	
Housing	cylindrical	
Dimensions [mm]	Ø 58.5 / L = 68.6	
Materials	flange: aluminium; housing: stainless steel (444/1.4521); cable plug: PA	
Tightening torque [Nm]	< 0.7; (Mounting screw)	
Max. revolution, mechanical [U/min]	12000	
Max. starting torque [Nm]	0.02	
Reference temperature torque [°C]	20	
Shaft design	hollow shaft open to one side	
Shaft diameter [mm]	12	
Shaft material	stainless steel	
Installation depth of shaft [mm]	27	
Max. axial shaft misalignment [mm]	0,5	
Fixing flange	Ø 58.5 mm	
Remarks		
Pack quantity	1 pcs.	



Incremental encoder with hollow shaft

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Electrical connection

Cable: 2 m, Ø 4.9 mm; radial, can also be used axially; 5 x 0.14 mm²

IO-Link

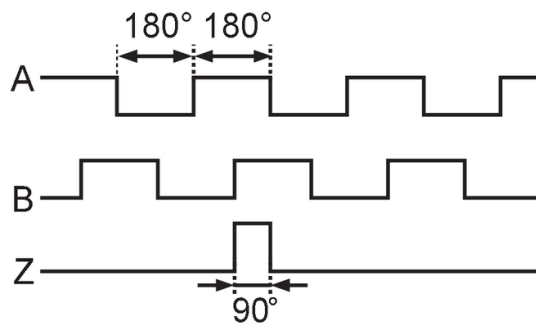
brown	L+
white	not to be used
blue	L-
grey	not to be used
black	IO-Link
Screen	housing

encoder

brown	UB
white	A
blue	GND
grey	B
black	Z/0-Pulse (90 deg)
Screen	housing

Diagrams and graphs

Pulse diagram



direction of rotation clockwise (looking at the shaft)