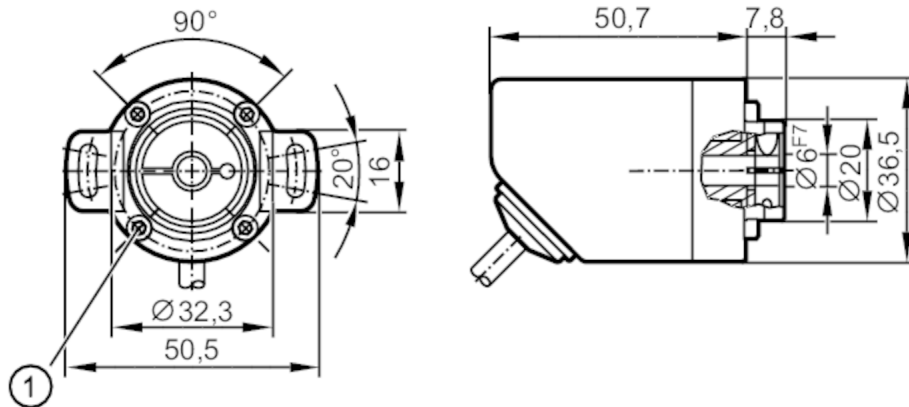


RA3501



Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE



1 M2.5 x 0.5 Depth 6 mm



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]	6

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
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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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Interfaces		
Communication interface		IO-Link
Transmission type		COM 2
IO-Link revision		1.1
SIO mode		yes
Min. process cycle time	[ms]	2.3

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; (IP 67: on the housing; IP 64: on the shaft)

Tests / approvals		
Shock resistance		100 g
Vibration resistance		20 g
MTTF	[years]	292

Mechanical data		
Weight	[g]	318.5
Dimensions	[mm]	Ø 36.5 / L = 58.5
Materials		flange: aluminium; housing: stainless steel (1.4521 / 444); cable plug: PA
Tightening torque	[Nm]	< 0.7; (Mounting screw)
Max. revolution, mechanical	[U/min]	12000
Max. starting torque	[Nm]	1
Reference temperature torque	[°C]	20
Shaft design		hollow shaft open to one side
Shaft diameter	[mm]	6
Shaft material		stainless steel
Installation depth of shaft	[mm]	18
Max. axial shaft misalignment	[mm]	0,5

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

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

RA3501



Incremental encoder with hollow shaft

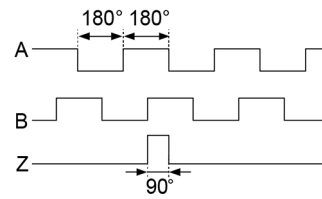
INCREMENTAL ENCODER BASIC LINE

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)