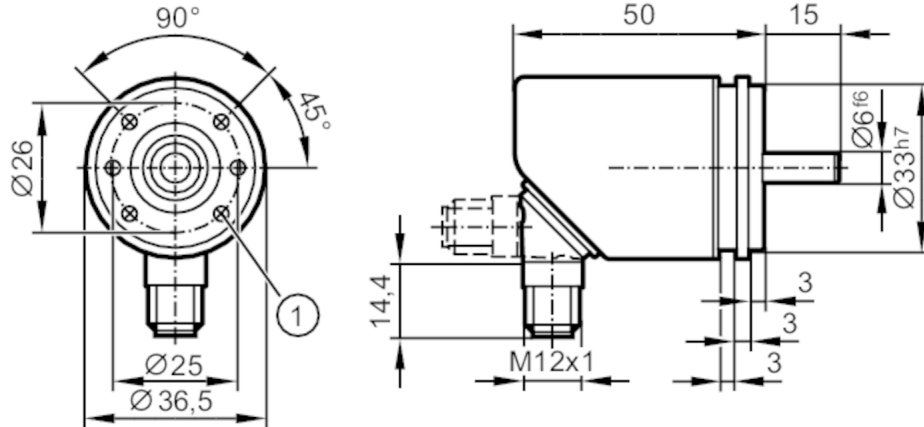


RB3100



Incremental encoder with solid shaft

INCREMENTAL ENCODER BASIC LINE



1 M3 x 0.5 Depth 6 mm



Product characteristics

Resolution	1...10000; (parameterisable; Factory setting: 1024) resolution
Communication interface	IO-Link
Shaft design	solid shaft
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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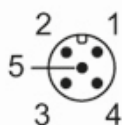
Interfaces	
Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)
IO-Link revision	1.1
SIO mode	yes
Min. process cycle time [ms]	2.3

Operating conditions	
Ambient temperature [°C]	-40...85
Storage temperature [°C]	-40...85
Max. relative air humidity [%]	95; (condensation not permissible)
Protection	IP 65; IP 66; (on the housing: IP 67; on the shaft: IP 64)

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

Mechanical data	
Weight [g]	245
Dimensions [mm]	Ø 36.5 / L = 65
Materials	flange: aluminium; housing: stainless steel (1.4521 / 444)
Max. revolution, mechanical [U/min]	12000
Max. starting torque [Nm]	1
Reference temperature torque [°C]	20
Shaft design	solid shaft
Shaft diameter [mm]	6
Shaft material	stainless steel
Max. shaft load axial (at the shaft end) [N]	10
Max. shaft load radial (at the shaft end) [N]	20
Fixing flange	Ø 36.5 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 solid shaft

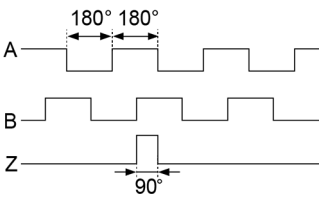
INCREMENTAL ENCODER BASIC LINE

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)