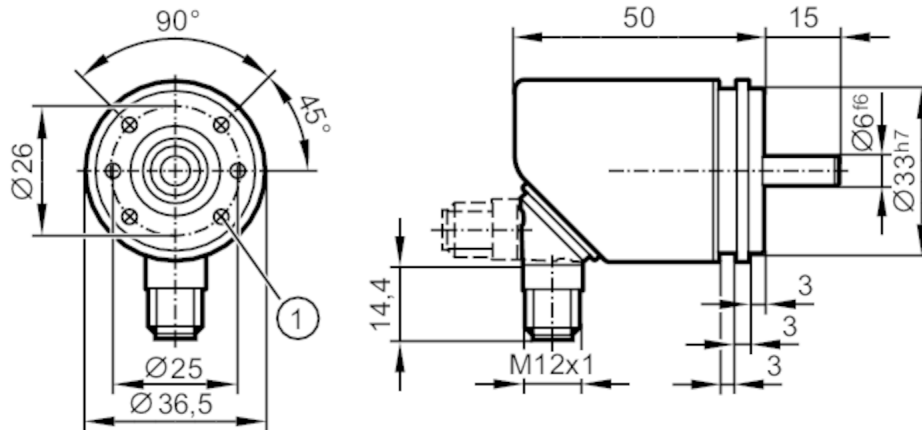


# RB3100



## Incremental encoder with solid shaft

INCREMENTAL ENCODER BASIC LINE



1 M3 x 0.5 Depth 6 mm



### Product characteristics

Resolution	1...10000; (configurable; 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 und B [°]	90

### Measuring/setting range

Resolution	1...10000; (configurable; 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

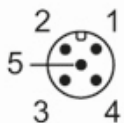
Operating conditions	
Ambient temperature [°C]	-40...85
Storage temperature [°C]	-40...85
Max. relative air humidity [%]	95; (Condensation not permissible)
Protection	IP 65; IP 66; (on the housing: IP 67; on the shaft: IP 64)

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

Mechanical data	
Weight [g]	244
Dimensions [mm]	Ø 36.5 / L = 65
Material	flange: aluminum; 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

### Electrical connection

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



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### IO-Link

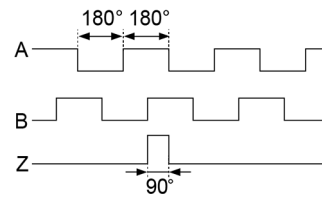
1	L+
2	not to be used
3	L-
4	IO-Link
5	not to be used
screen	plug

### 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)