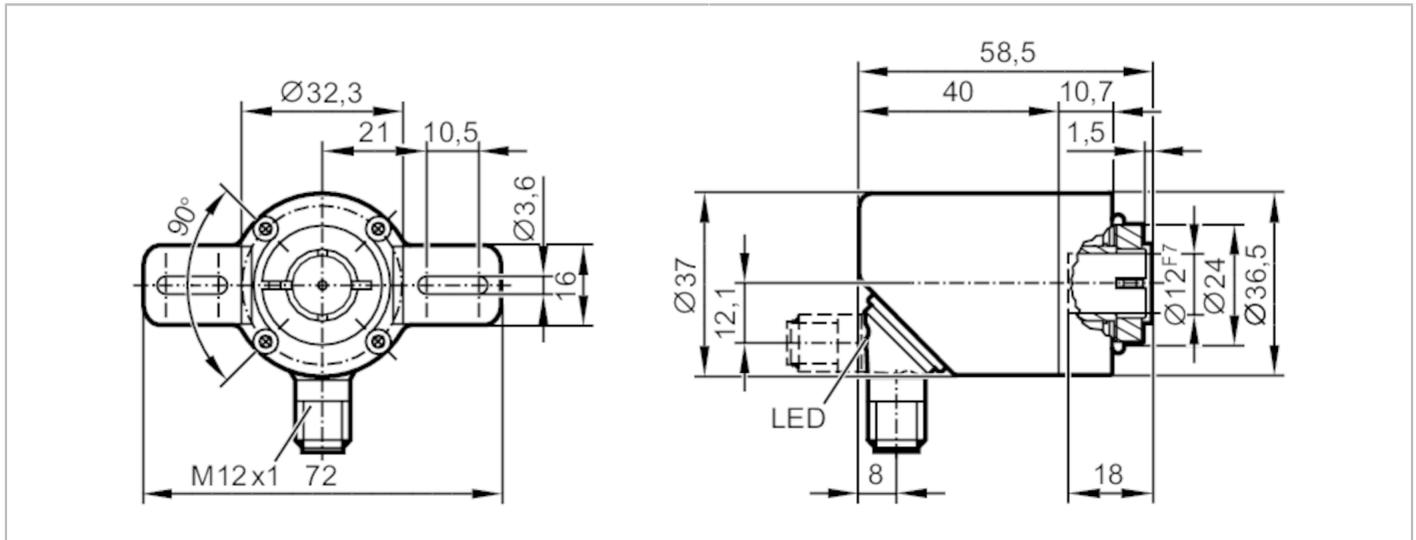


# RA3102



## Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE



Product characteristics	
Resolution	1...10000; (configurable; Factory setting: 1024) resolution
Communication interface	IO-Link
Shaft design	hollow shaft open to one side
Shaft diameter [mm]	12
Application	
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
Accuracy / deviations	
Accuracy [°]	0.1
Software / programming	
Parameter setting options	Resolution; Direction of rotation; HTL; TTL

# RA3102



## Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE

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	<table border="1"> <thead> <tr> <th>Type of operation</th> <th>DeviceID</th> </tr> </thead> <tbody> <tr> <td>default</td> <td>499</td> </tr> </tbody> </table>	Type of operation	DeviceID	default	499
Type of operation	DeviceID				
default	499				
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; IP 67; (on the housing: IP 67; on the shaft: IP 65)				
Tests / approvals					
Shock resistance	200 g				
Vibration resistance	30 g				
MTTF [years]	292				
Mechanical data					
Weight [g]	256.5				
Housing	tubular				
Dimensions [mm]	Ø 36.5 / L = 58.5				
Material	flange: aluminum; housing: stainless steel (1.4521 / 444)				
Tightening torque [Nm]	< 0.7; (Mounting screw)				
Max. revolution, mechanical [U/min]	12000				
Max. starting torque [Nm]	0.01				
Reference temperature torque [°C]	20				
Shaft design	hollow shaft open to one side				
Shaft diameter [mm]	12				
Shaft material	stainless steel				
Installation depth/shaft [mm]	18				
Max. axial shaft misalignment [mm]	0,5				
Fixing flange	Ø 36.5 mm				
Remarks					
Pack quantity	1 pcs.				

# RA3102

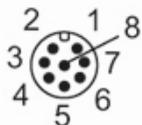


## Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE

### Electrical connection

Connector: 1 x M12, radial, can also be used axially; coding: A; Moulded body: stainless steel (1.4401 / 316)



### IO-Link

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

### encoder

1	UB
2	A
3	GND
4	Z/0-Pulse (90 deg)
5	B
6	A-
7	B-
8	Z-
screen	plug

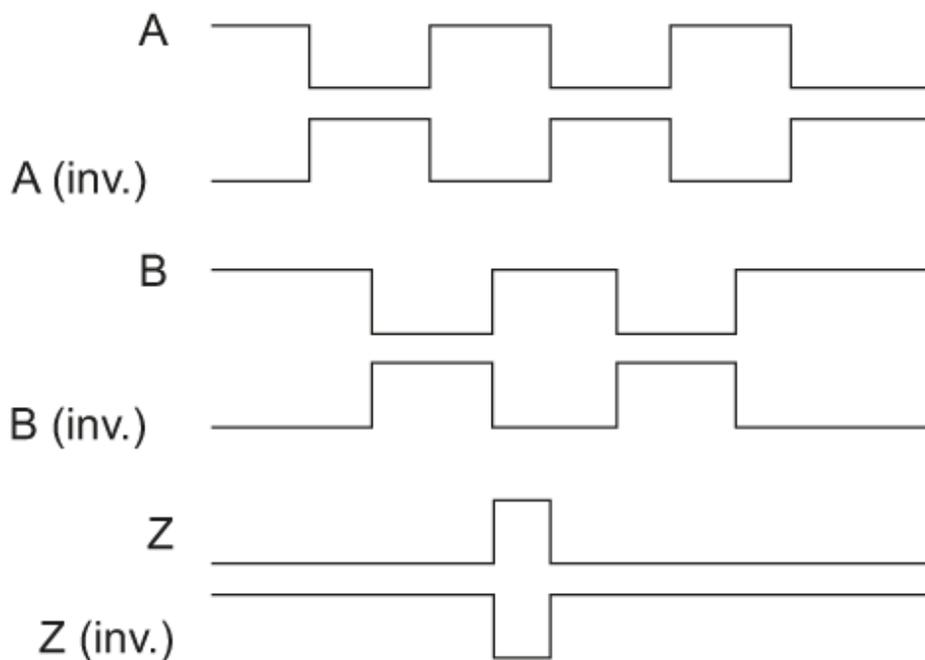


## Incremental encoder with hollow shaft

INCREMENTAL ENCODER BASIC LINE

### Diagrams and graphs

Pulse diagram



Direction of rotation clockwise (looking at the shaft)