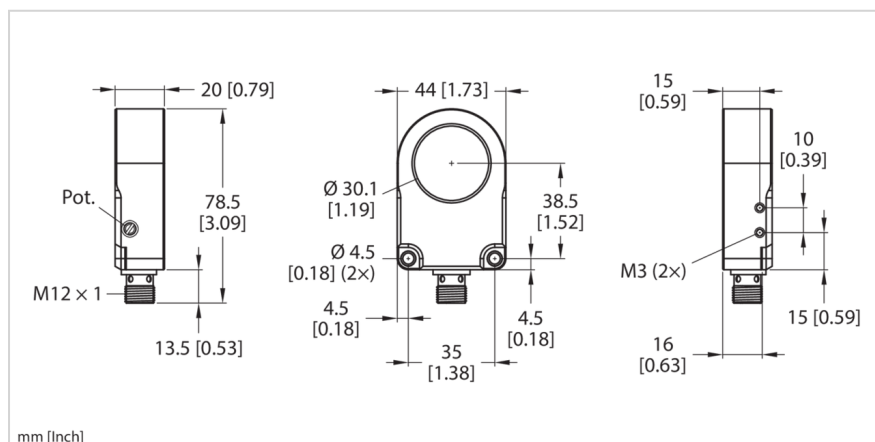


BI30R-W20-IOL6X-H1141

Inductive Sensor

Ring sensor



Typ	BI30R-W20-IOL6X-H1141
Ident-No.	100053323

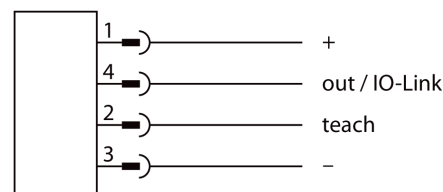
Technical data

General data	
Fly-by speed	0.1...35 m/s
Pulse duration	20 ms $\pm$ 20 %
Special features	Potentiometer, Static output, Dynamic output
Steel ball diameter (DIN 5401)	$\geq 1,8$ mm
Power supply	
Operating voltage U_B	10...30 VDC
Voltage drop at I_e	$\leq 2,0$ V
Electrical data	
No-load current	30 mA
Output function	4-pin, NO/NC programmable, IO-Link PNP/NPN
Short-circuit protection	yes
Wire break/reverse polarity protection	yes/yes
DC rated operational current	≤ 100 mA
Isolation test voltage	$\leq 0,5$ kV
Residual current	$\leq 0,1$ mA
Residual ripple	≤ 10 % U_{SS}

Features

- Rectangular, height 20 mm
- Plastic, PA and POM
- Pulse duration can be adjusted
- Sensitivity adjusted using potentiometer and IO-Link
- Two operating frequencies can be selected
- DC 4-wire, 10...30 VDC
- Dynamic or static output behavior can be adjusted
- Adjustable NO contact or NC contact,
- PNP/NPN output, adjustable
- Connector, M12 $\times$ 1

Wiring Diagram



Functional principle

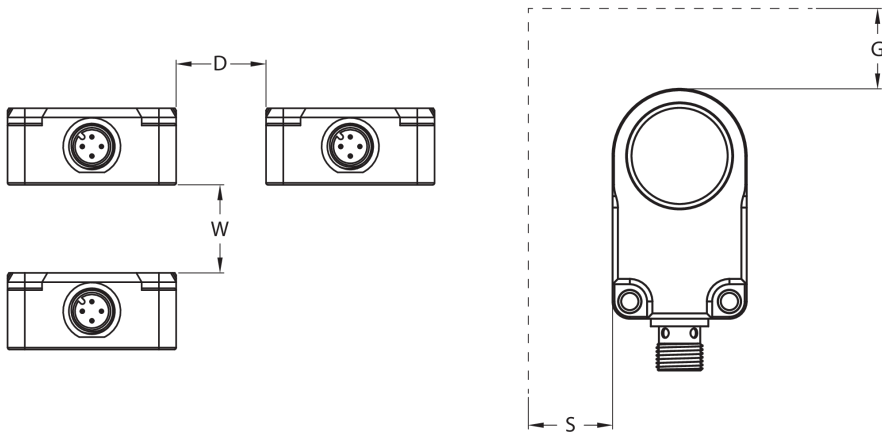
Inductive sensors are used for the contactless and wear-free detection of metallic objects. For this, they use a high-

Technical data

Interfaces	
Communication protocol	IO-Link
IO-Link	
IO-Link specification	V 1.1.4
Communication mode	COM 2 (38.4 kBaud)
Process data width	32 bit
Function pin 4	IO-Link/SIO
Mechanical data	
Design	Ring sensor
Construction type designation	W20
Dimensions	65 mm x 44 mm x 20 mm
Housing material	Plastic, PA POM
Electrical connection	Connector, M12 x 1
Coil body	plastic, POM
Number of pins	4
Inside ring diameter D	30,1 mm
Pressure resistant	no
Ambient conditions	
Ambient temperature	-25...+70 °C
Pollution degree	3
Shock resistance	30 g (11 ms)
Vibration resistance	55 Hz (1 mm)
Protection class	IP67
Tests/approvals	
MTTF	658 Years acc. to SN 29500 (Ed. 99) 40 °C
Displays/controls	
Switching state	LED, Yellow
Other properties	
RoHs compatibility	yes
Comments	
Remark to product	Torque for mounting screws: (M3 max. 0.5 Nm, M4 max. 1.4 Nm)

frequency electromagnetic AC field that interacts with the target. In inductive ring sensors, this field is generated by an RLC circuit. The target acts as the coil core.

Assembly instructions



Installation information:

- Distance D = 0

All sensors can be positioned without a gap, directly next to each other

- Distance W:

For certain configurations, different oscillation frequencies must be set; see Table "W"

- Distance to metal

-- Dynamic operation:

There is no need to keep a distance

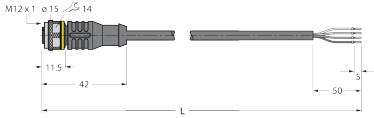
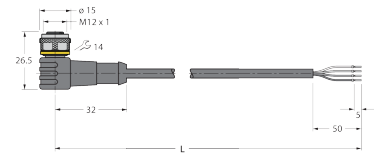
-- Static operation:

See "Static operation" table

W	[mm]			
	static		dynamic	
Frequ.	AA	AB	AA	AB
BI6R	0	0	0	0
BI10R	0	0	0	0
BI15R	3	0	0	0
BI20R	5	3	3	0
BI25R	10	4	7	3
BI30R	13	8	12	5
BI35R	18	10	14	8
BI50R	50	40	40	15

Static operation	[mm]	
Distance	S	G
BI6R	0	0
BI10R	0	0
BI15R	2	0
BI20R	4	2
BI25R	5	2
BI30R	6	4
BI35R	7	9
BI50R	22	17

Connection accessories

RKC4.4T-2/TXL	6625503
	Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PUR, black; cULus approval
WKC4.4T-2/TEL	6625025
	Connection cable, M12 female connector, angled, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval

Functional accessories

VB2-SP1	A3501-29
Teach adapter	
