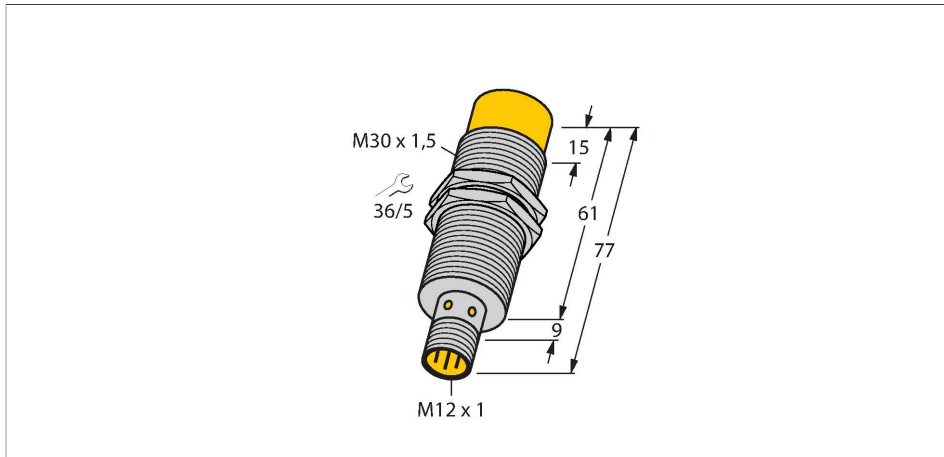


# NI12-M30-IOLU69X2-H1141

## Inductive Sensor – With Analog Output and IO-Link Communication



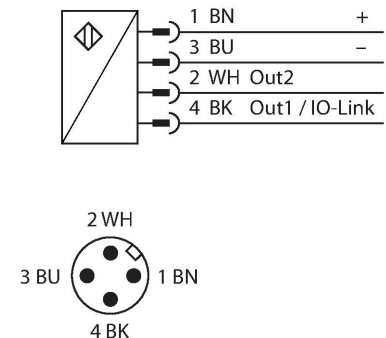
### Features

- Threaded barrel, M30 x 1.5
- Long version
- Chrome-plated brass
- Configuration and communication via IO-Link v1.1 or standard I/O
- Adjustable distance value in 12-bit IO-Link process data
- Switchpoint configurable via two teach points
- Switching output freely configurable
- Identification via 32-byte memory
- Temperature monitoring with adjustable limits
- 4-wire, 15...30 VDC
- Analog output, 0...10 V (2...10 V parameterizable)
- M12 × 1 connector

### Technical data

Type	NI12-M30-IOLU69X2-H1141
ID	100001080
<b>General data</b>	
Measuring range	2...12 mm
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	$\leq 1\%$ of measuring range  A - B
	0.25 % of full scale, after 0.5 h warm-up
Linearity deviation	$\leq 1\%$
Temperature drift	$\leq \pm 3\%$
Temperature drift	$\leq \pm 0.06\% / K$
	$\leq \pm 5\%$ , $\leq 0\text{ }^\circ\text{C}$ , $\geq +50\text{ }^\circ\text{C}$
<b>Electrical data</b>	
Operating voltage	15...30 VDC
Residual ripple	$\leq 10\%$ $U_{ss}$
No-load current	20 mA
Isolation test voltage	$\leq 0.5\text{ kV}$
Short-circuit protection	yes
Wire breakage/Reverse polarity protection	no / Complete (analog output restricted)
Communication protocol	IO-Link
Output function	4-wire, PNP/NPN, analog output

### Wiring diagram



### Functional principle

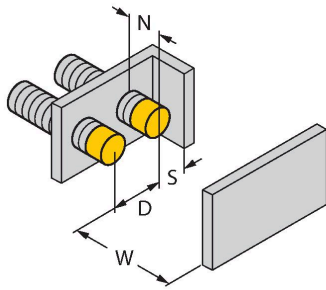
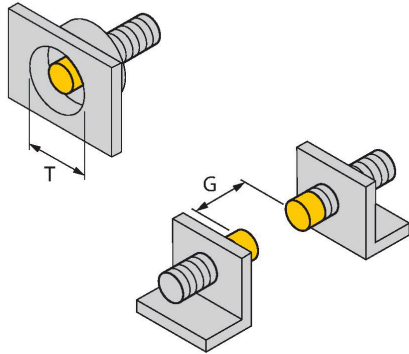
Inductive sensors with analog output from TURCK accomplish simple control tasks. They provide a distance-proportional current, voltage or frequency signal. With TURCK analog sensors, this output signal is linear to the distance of the target over the entire sensing range. Using an IO-Link Master also enables various functions to be configured and certain parameters of analog IO-Link sensors to be adjusted within predefined limits to suit customer needs. Please refer to the operating instructions for the analog IO-Link sensor for more detailed information.

## Technical data

Voltage output	0...10 V
Load resistance voltage output	≥ 4.7 kΩ
Response time	0.0015 s
	At the output
<b>IO-Link</b>	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 2 (38.4 kBaud)
Process data width	16 bit
Switchpoint information	1 bit
Status bit information	2 bit
Frame type	2.2
Minimum cycle time	2.3 ms
Function Pin 4	IO-Link
Function Pin 2	Analog
Maximum cable length	20 m
Included in the SIDI GSDML	Yes
<b>Mechanical data</b>	
Design	Threaded barrel, M30 × 1.5
Dimensions	77 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	75 Nm
Electrical connection	Connector, M12 × 1
<b>Environmental conditions</b>	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	751 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Yellow

## Mounting instructions

### Mounting instructions/Description

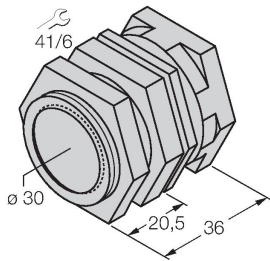


Distance D	3 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	2 x Sn
Diameter active area B	Ø 30 mm

## Accessories

QM-30

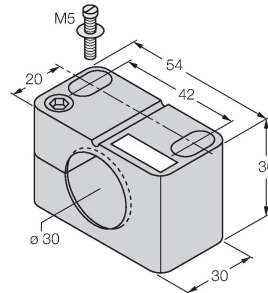
6945103



Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M36 x 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

BST-30B

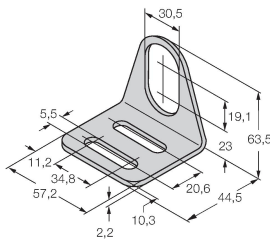
6947216



Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

MW-30

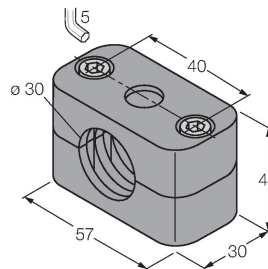
6945005



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-30

6901319



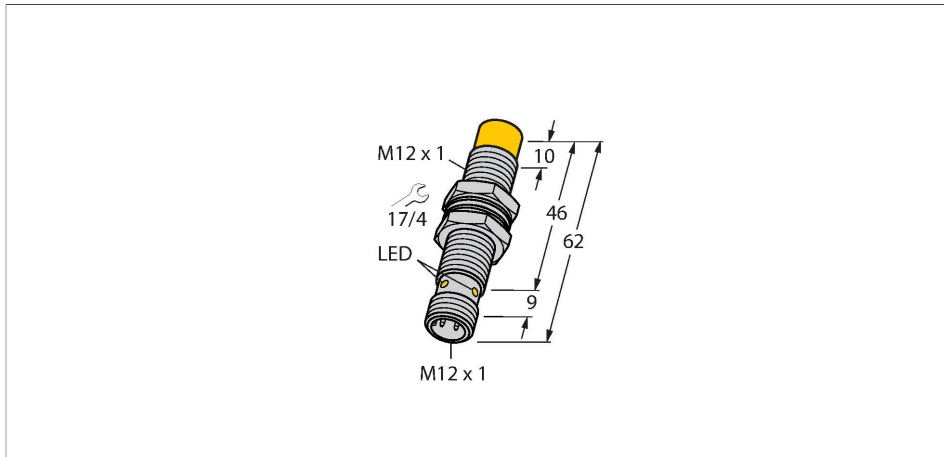
Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

Wiring accessories

Dimension drawing	Type	ID	
	RKC4.4T-2/TXL1001	6628825	<p>Connection cable, M12 connector, female, straight, 4-pin, cable length: 2 m, protective sheathing material: Aramid fibers, yellow; Temperature peak: 200 °C; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a></p>

# NI4-M12-IOLU69X2-H1141

## Inductive Sensor – With Analog Output and IO-Link Communication



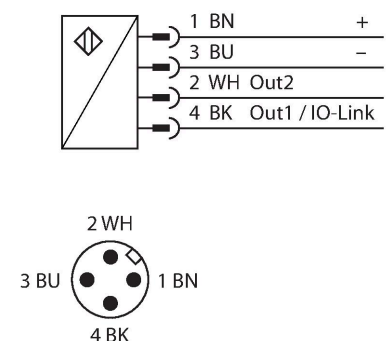
### Technical data

Type	NI4-M12-IOLU69X2-H1141
ID	100001076
<b>General data</b>	
Measuring range	0.4...4 mm
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	$\leq 1\%$ of measuring range  A - B
	0.25 % of full scale, after 0.5 h warm-up
Linearity deviation	$\leq 1\%$
Temperature drift	$\leq \pm 3\%$
Temperature drift	$\leq \pm 0.06\% / K$
	$\leq \pm 5\%$ , $\leq 0\text{ }^\circ\text{C}$ , $\geq +50\text{ }^\circ\text{C}$
<b>Electrical data</b>	
Operating voltage	15...30 VDC
Residual ripple	$\leq 10\% U_{ss}$
No-load current	20 mA
Isolation test voltage	$\leq 0.5\text{ kV}$
Short-circuit protection	yes
Wire breakage/Reverse polarity protection	no / Complete (analog output restricted)
Communication protocol	IO-Link
Output function	4-wire, PNP/NPN, analog output

### Features

- M12 × 1 threaded barrel
- Chrome-plated brass
- Configuration and communication via IO-Link v1.1 or standard I/O
- Adjustable distance value in 12-bit IO-Link process data
- Switchpoint configurable via two teach points
- Switching output freely configurable
- Identification via 32-byte memory
- Temperature monitoring with adjustable limits
- 4-wire, 15...30 VDC
- Analog output, 0...10 V (2...10 V parameterizable)
- M12 × 1 connector

### Wiring diagram



### Functional principle

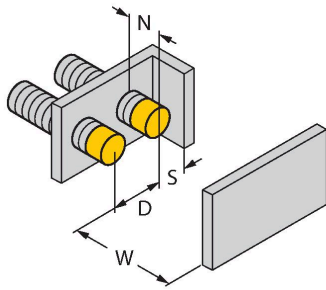
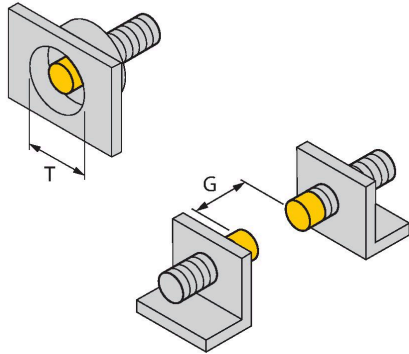
## Technical data

Voltage output	0...10 V
Load resistance voltage output	≥ 4.7 kΩ
Response time	0.0015 s
	At the output
<b>IO-Link</b>	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 2 (38.4 kBaud)
Process data width	16 bit
Switchpoint information	1 bit
Status bit information	2 bit
Frame type	2.2
Minimum cycle time	2.3 ms
Function Pin 4	IO-Link
Function Pin 2	Analog
Maximum cable length	20 m
Included in the SIDI GSDML	Yes
<b>Mechanical data</b>	
Design	Threaded barrel, M12 × 1
Dimensions	62 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	10 Nm
Electrical connection	Connector, M12 × 1
<b>Environmental conditions</b>	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	751 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED

Inductive sensors with analog output from TURCK accomplish simple control tasks. They provide a distance-proportional current, voltage or frequency signal. With TURCK analog sensors, this output signal is linear to the distance of the target over the entire sensing range. Using an IO-Link Master also enables various functions to be configured and certain parameters of analog IO-Link sensors to be adjusted within predefined limits to suit customer needs. Please refer to the operating instructions for the analog IO-Link sensor for more detailed information.

## Mounting instructions

### Mounting instructions/Description

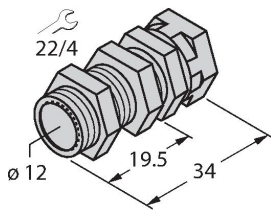


Distance D	3 x B
Distance W	3 x Sn
Distance T	3 x B
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	2 x Sn
Diameter active area B	Ø 12 mm

## Accessories

QM-12

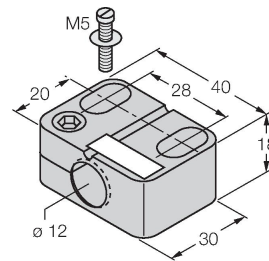
6945101



Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M16 x 1. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

BST-12B

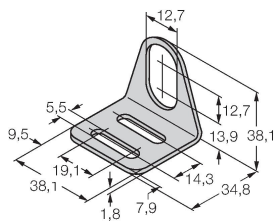
6947212



Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

MW-12

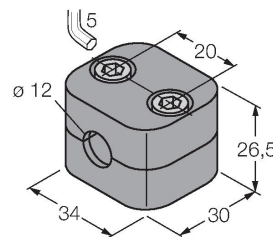
6945003



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

BSS-12

6901321



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

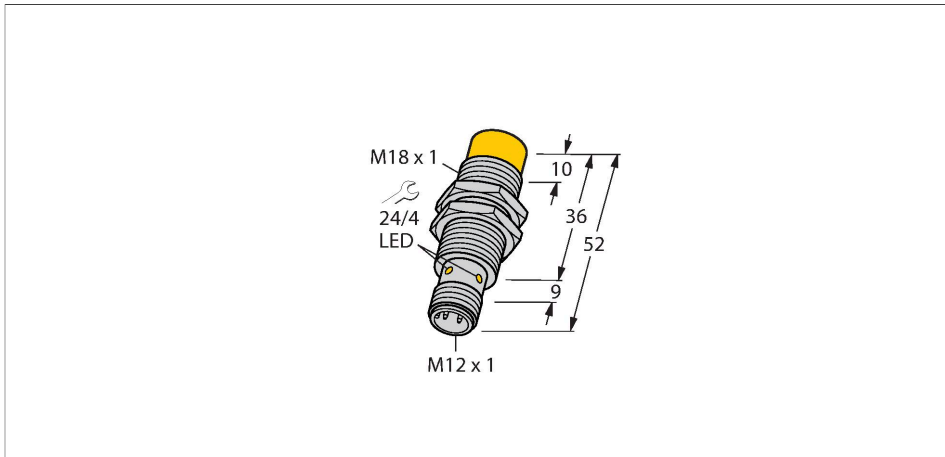
## Wiring accessories

Dimension drawing	Type	ID	
	RKC4.4T-2/TXL1001	6628825	Connection cable, M12 connector, female, straight, 4-pin, cable length: 2 m, protective sheathing material: Aramid fibers, yellow; Temperature peak: 200 °C; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a>



# NI7-M18-IOLU69X2-H1141

## Inductive Sensor – With Analog Output and IO-Link Communication



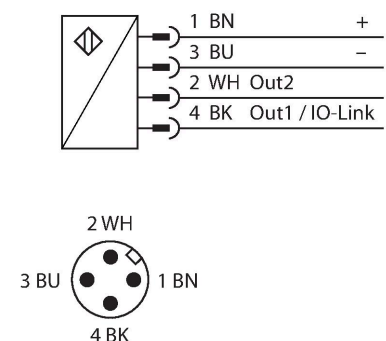
### Technical data

Type	NI7-M18-IOLU69X2-H1141
ID	100001078
<b>General data</b>	
Measuring range	1...7 mm
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	$\leq 1\%$ of measuring range  A - B
	0.25 % of full scale, after 0.5 h warm-up
Linearity deviation	$\leq 1\%$
Temperature drift	$\leq \pm 3\%$
Temperature drift	$\leq \pm 0.06\% / K$
	$\leq \pm 5\%, \leq 0\text{ }^\circ\text{C}, \geq +50\text{ }^\circ\text{C}$
<b>Electrical data</b>	
Operating voltage	15...30 VDC
Residual ripple	$\leq 10\% U_{ss}$
No-load current	20 mA
Isolation test voltage	$\leq 0.5\text{ kV}$
Short-circuit protection	yes
Wire breakage/Reverse polarity protection	no / Complete (analog output restricted)
Communication protocol	IO-Link
Output function	4-wire, PNP/NPN, analog output

### Features

- Threaded barrel, M18 x 1
- Chrome-plated brass
- Configuration and communication via IO-Link v1.1 or standard I/O
- Adjustable distance value in 12-bit IO-Link process data
- Switchpoint configurable via two teach points
- Switching output freely configurable
- Identification via 32-byte memory
- Temperature monitoring with adjustable limits
- 4-wire, 15...30 VDC
- Analog output, 0...10 V (2...10 V parameterizable)
- M12 x 1 connector

### Wiring diagram



### Functional principle

NI7-M18-IOLU69X2-H1141 | 10/22/2021 21-46 | technical changes reserved

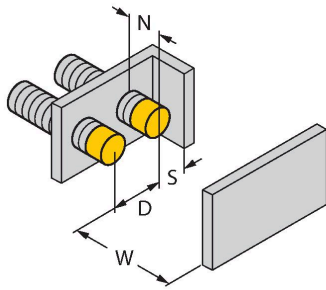
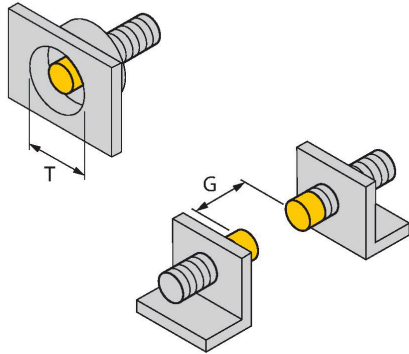
## Technical data

Voltage output	0...10 V
Load resistance voltage output	≥ 4.7 kΩ
Response time	0.0015 s
	At the output
<b>IO-Link</b>	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 2 (38.4 kBaud)
Process data width	16 bit
Switchpoint information	1 bit
Status bit information	2 bit
Frame type	2.2
Minimum cycle time	2.3 ms
Function Pin 4	IO-Link
Function Pin 2	Analog
Maximum cable length	20 m
Included in the SIDI GSDML	Yes
<b>Mechanical data</b>	
Design	Threaded barrel, M18 × 1
Dimensions	52 mm
Housing material	Metal, CuZn, Chrome-plated
Active area material	Plastic, PA12-GF30
Max. tightening torque of housing nut	25 Nm
Electrical connection	Connector, M12 × 1
<b>Environmental conditions</b>	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	751 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED, Yellow

Inductive sensors with analog output from TURCK accomplish simple control tasks. They provide a distance-proportional current, voltage or frequency signal. With TURCK analog sensors, this output signal is linear to the distance of the target over the entire sensing range. Using an IO-Link Master also enables various functions to be configured and certain parameters of analog IO-Link sensors to be adjusted within predefined limits to suit customer needs. Please refer to the operating instructions for the analog IO-Link sensor for more detailed information.

## Mounting instructions

### Mounting instructions/Description



Distance D 3 x B

Distance W 3 x Sn

Distance T 3 x B

Distance S 1.5 x B

Distance G 6 x Sn

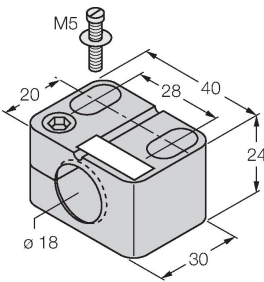
Distance N 2 x Sn

Diameter active area B  $\varnothing$  18 mm

## Accessories

### BST-18B

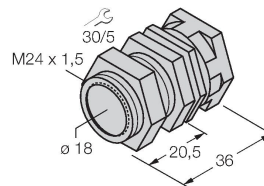
6947214



Mounting clamp for threaded barrel sensors, with dead-stop; material: PA6

### QM-18

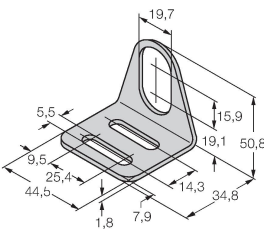
6945102



Quick-mount bracket with dead-stop; material: Chrome-plated brass. Male thread M24 x 1.5. Note: The switching distance of the proximity switches may change when using quick-mount brackets.

### MW-18

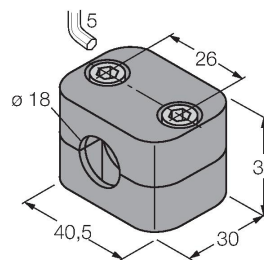
6945004



Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

### BSS-18

6901320



Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

## Wiring accessories

Dimension drawing	Type	ID	
	RKC4.4T-2/TXL1001	6628825	Connection cable, M12 connector, female, straight, 4-pin, cable length: 2 m, protective sheathing material: Aramid fibers, yellow; Temperature peak: 200 °C; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a>