

# Ring sensors

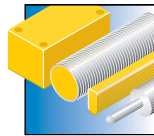


TURCK ring sensors are compact and universally mountable. They are used in many different systems such as in assembly lines or component feeding systems where they detect small and fast moving metal parts reliably and quickly. The *uprox*®+ Factor 1 sensors of the TS12 series are used in feeding systems composed by hoses with different diameters. The TS12 can therefore be used as an innovative replacement for ring sensors.

## Features

- Ring diameter 6...100 mm
- Static, dynamic and analog versions
- Integrated amplifier or separate probe-amplifier combination
- High sensitivity, adjustable, up to Ø 0.1 mm wire diameter
- Compact design
- The innovative TS12 *uprox*®+ factor 1 series

## Properties



### Designs

From the compact rectangular Q14 to the proven S32



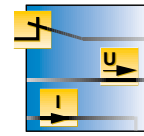
### Measuring ranges

Ring diameters of Ø 6...100 mm detect steel balls from Ø 0.6 mm as well as wires Ø 0.4 mm and bigger



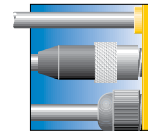
### Materials

Plastic housing in PBT, PA, ABS and POM



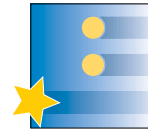
### Electrical versions

3-wire NO or antivalent PNP/NPN; static, dynamic or analog output



### Electrical connections

Connection cable, 2 m; male M8 x 1, M12 x 1



### Special features

Versions with separate ring and amplifier; S32XL ring diameter Ø 100 mm



### Internet link

Scan the QR code to access our products on the internet

## TS12



### General data

<b>Connection</b>	male, M8 x 1	<b>Operating voltage</b>	10...30 VDC
<b>Output</b>	—, PNP	<b>Housing material</b>	PBT
<b>Dimensions</b>	17 x 12 x 80 mm		

Can be used as a universal replacement for ring sensors  
For small parts detection

### Types and data – selection table

Type	w	d
NI20U-TS12-AP6X2-V1131	w013	d304

Many different types available, also as NPN version, see type code

## Q14– Switching output



### General data

<b>Connection</b>	male, M12 x 1	<b>Operating voltage</b>	10...30 VDC
<b>Output</b>	—, PNP	<b>Housing material</b>	PBT
<b>Dimensions</b>	30 x 14 x 62.5 mm		

Tailback detection

### Types and data – selection table

Type	Inside ring diameter D	w	d
BI20R-Q14-AP6X2-H1141	20.1 mm	w013	d305
BI15R-Q14-AP6X2-H1141	15.1 mm	w013	d306
BI10R-Q14-AP6X2-H1141	10.1 mm	w013	d307
BI6R-Q14-AP6X2-H1141	6.1 mm	w013	d308

Many different types available, also as NPN version, see type code

## Q14 - Voltage output



**General data**

<b>Inside ring diameter D</b>	20.1 mm	<b>Connection</b>	male, M12 x 1
<b>Operating voltage</b>	15...30 VDC	<b>Output</b>	Analog output, 0...10 V
<b>Housing material</b>	PBT	<b>Dimensions</b>	30 x 14 x 62.5 mm

Tailback detection

### Types and data – selection table

Type	w	d
BI20R-Q14-LU-H1141	w038	d309

## Q20



**General data**

<b>Inside ring diameter D</b>	30.1 mm	<b>Connection</b>	male, M12 x 1
<b>Operating voltage</b>	10...30 VDC	<b>Output</b>	—, PNP
<b>Housing material</b>	PBT	<b>Dimensions</b>	40 x 20 x 68 mm

Tailback detection

### Types and data – selection table

Type	w	d
BI30R-Q20-AP6X2-H1141	w013	d310

Many different types available, also as NPN version, see type code

## W30



### General data

<b>Connection</b>	male, M12 x 1	<b>Operating voltage</b>	10...30 VDC
<b>Output</b>	—, PNP	<b>Housing material</b>	PA
<b>Dimensions</b>	35 x 30 x 60 mm		

Dynamic output behaviour  
For the detection of small and fast moving parts

### Types and data – selection table

Type	Inside ring diameter D	w	d
BI30R-W30-DAP6X-H1141	30.1 mm	w013	d311
BI20R-W30-DAP6X-H1141	20.1 mm	w013	d312
BI15R-W30-DAP6X-H1141	15.1 mm	w013	d313
BI10R-W30-DAP6X-H1141	10.1 mm	w013	d314
BI6R-W30-DAP6X-H1141	6.1 mm	w013	d315

Many different types available, also as NPN version, see type code

## Q80



### General data

<b>Connection</b>	male, M12 x 1	<b>Operating voltage</b>	10...30 VDC
<b>Output</b>	—, PNP	<b>Housing material</b>	PBT
<b>Dimensions</b>	80 x 40 x 92 mm		

Tailback detection


### Types and data – selection table

Type	Inside ring diameter D	w	d
BI65R-Q80-AP6X2-H1141	65 mm	w013	d316
BI50R-Q80-AP6X2-H1141	50 mm	w013	d317

### S32SR





**General data**

<b>Connection</b>	Terminal chamber	<b>Operating voltage</b>	10...55 VDC
<b>Output</b>	 , PNP	<b>Housing material</b>	ABS
<b>Dimensions</b>	100 x 32 x 175 mm		

Tailback detection


**Types and data – selection table**

Type	Inside ring diameter D	Steel wire diameter (St37)		
NI65R-S32SR-VP44X	65 mm	2 mm	w023	d318
NI40R-S32SR-VP44X	40 mm	1 mm	w023	d319
NI20R-S32SR-VP44X	20 mm	0.4 mm	w023	d320

### S32XL



**General data**

<b>Inside ring diameter D</b>	100 mm	<b>Connection</b>	male, M12 x 1
<b>Operating voltage</b>	10...55 VDC	<b>Output</b>	 , PNP
<b>Housing material</b>	POM	<b>Dimensions</b>	137.5 x 32 x 180 mm
<b>Steel wire diameter (St37)</b>	4 mm		

Tailback detection

**Types and data – selection table**

Type		
NI100R-S32XL-VP44X-H1141	w035	d321

