



Photoelectric sensors  
WTR, Photoelectric proximity sensor, Background  
suppression

WTR2-P021S24



**Model Name** > **WTR2-P021S24**  
**Part No.** > **1041629**



*Illustration may differ*

#### At a glance

- Product variants of sensor + logic + valve in one housing are available
- Housing design suited for mounting between the rollers of roller conveyor
- Precise background suppression with adjustable sensing range from 300 mm to 900 mm
- Modular structure - with or without solenoid valve or motor actuation, with or without logic

#### Your benefits

- Easy installation due to all-in-one solution: sensor + logic + valve in one housing
- Unique design allows mounting under the conveyor protecting the sensor from damage, increasing product life
- Adjustable background suppression ignores background and reliably detects products without a reflector
- Stand-alone solution that consolidates cabling, and allows for modular expansion
- Easy and reliable control of product flow reduces damage and jams, therefore reducing cost



#### Features

|                                  |                                                        |
|----------------------------------|--------------------------------------------------------|
| Sensor/detection principle:      | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D):          | 18 mm x 99.5 mm x 46 mm                                |
| Housing design (light emission): | Fitting roller spacings                                |
| Sensing range:                   | 300 mm ... 900 mm                                      |
| Type of light:                   | Infrared light                                         |
| Light source:                    | LED <sup>1)</sup>                                      |
| Adjustment:                      | Adjustable via sensing range adjustment                |
| Light spot size (distance):      | 40 mm (900 mm)                                         |

<sup>1)</sup> Average service life of 100,000 h at  $T_A = +25\text{ °C}$

#### Mechanics/electronics

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Supply voltage:                     | 10 V DC ... 30 V DC <sup>1)</sup> |
| Ripple:                             | < 5 Vpp <sup>2)</sup>             |
| Power consumption:                  | < 25 mA <sup>3)</sup>             |
| Output type:                        | NPN, PNP                          |
| Switching mode:                     | Dark-switching                    |
| Output current I <sub>max</sub> ..: | ≤ 200 mA                          |
| Response time::                     | < 1 ms, < 25 ms <sup>4) 5)</sup>  |

|                                |                                             |
|--------------------------------|---------------------------------------------|
| Switching frequency:           | 40 Hz                                       |
| Connection type:               | Cable, 4-wire, 3 m <sup>6)</sup>            |
| Circuit protection:::          | A, D <sup>7) 8) 9)</sup>                    |
| Protection class:              | II <sup>10)</sup>                           |
| Weight:                        | 100 g                                       |
| Interference emission:         | IEC 801                                     |
| Housing material:              | ABS, Plastic                                |
| Enclosure rating:              | IP 54                                       |
| Special features:              | PIN2: Q (NPN), PIN4: Q (PNP)                |
| Ambient operating temperature: | -40 °C ... 60 °C                            |
| Ambient storage temperature:   | -40 °C ... 75 °C                            |
| UL File-No.:                   | UL No. NRKH.E181493 & cUL No. NRKH7.E181493 |
| Shock/vibration:               | According to IEC 68                         |

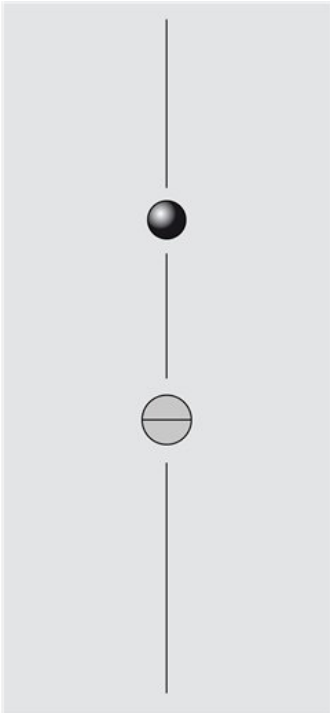
<sup>1)</sup> Limit values    <sup>2)</sup> May not exceed or fall short of V<sub>S</sub> tolerances    <sup>3)</sup> Without load, without valve    <sup>4)</sup> Beam block    <sup>5)</sup> Beam unblock    <sup>6)</sup> Do not bend below 0 °C    <sup>7) 9)</sup> A = V  
<sup>8)</sup> D = outputs overcurrent and short-circuit protected    <sup>10)</sup> Reference voltage 50 V DC  
S connections reverse-polarity protected

## Dimensional drawing

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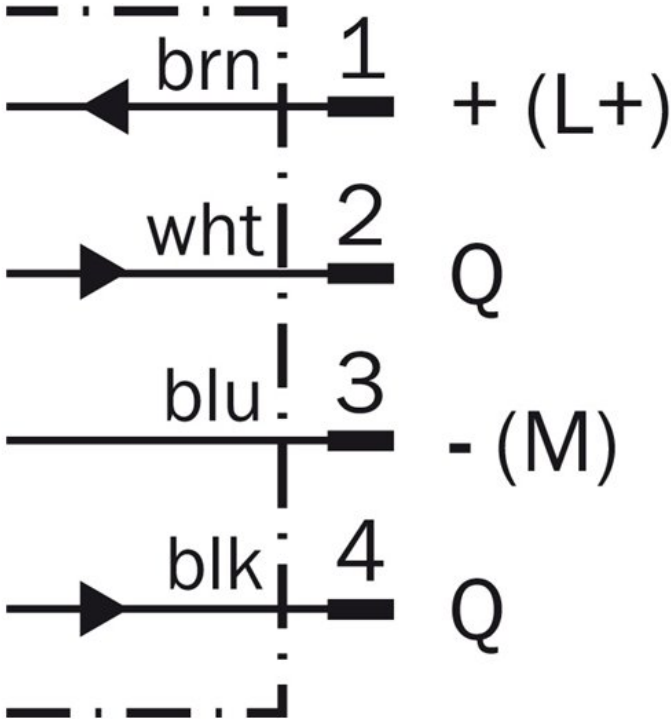
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Adjustments possible

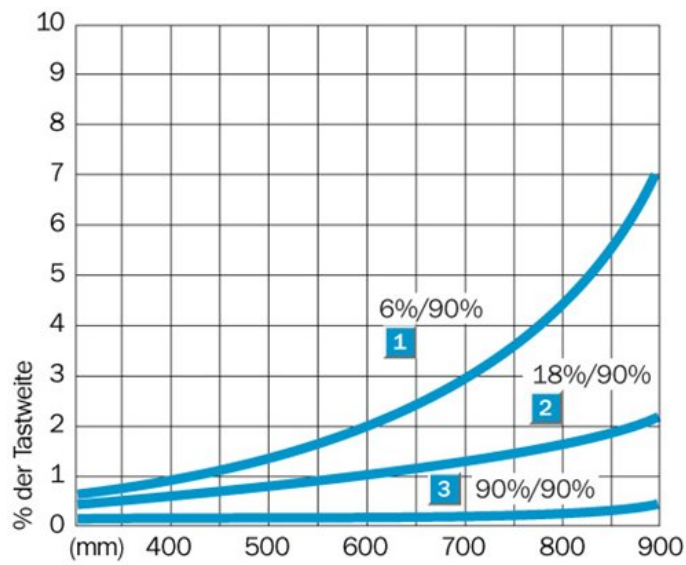


- |5| LED signal strength indicator
- |6| Sensing range adjustment

Connection diagram



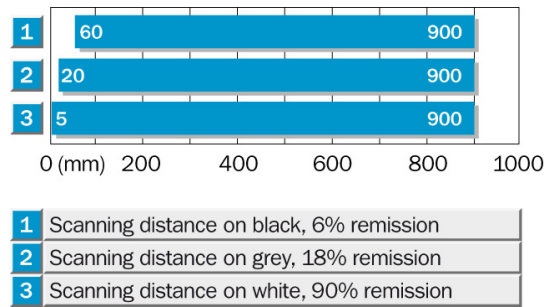
Characteristic curve



Connection type

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Sensing range diagram



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