



Photoelectric sensors
WTR, Photoelectric proximity sensor, Background
suppression

WTR2-P511S20



Model Name > **WTR2-P511S20**
Part No. > **1028700**



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 ¹⁾
Adjustment:	Adjustable via sensing range adjustment
Light spot size (distance):	40 mm (900 mm)

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

Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	< 25 mA ³⁾
Output type:	NPN, PNP
Switching mode:	Light switching
Output current I _{max} ..:	≤ 200 mA
Response time:::	< 1 ms, < 25 ms ^{4) 5)}

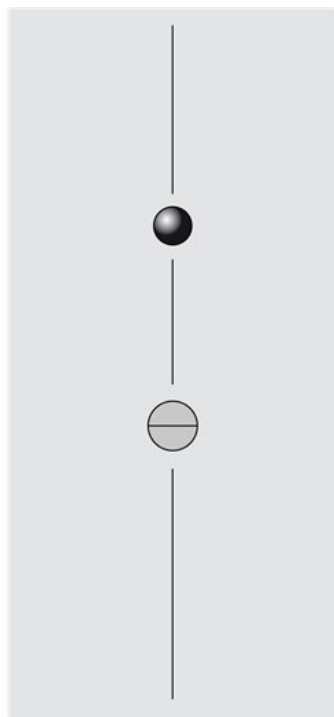
Switching frequency:	40 Hz
Connection type:	Cable, 4-wire, 2 m ⁶⁾
Circuit protection::	A, D ⁷⁾ ⁸⁾
Protection class:	II ⁹⁾
Weight:	40 g
Interference emission:	IEC 801
Housing material:	ABS, Plastic
Enclosure rating:	IP 54
Special features:	PIN2: Q (NPN), PIN4: Q (PNP)
Ambient operating temperature:	-40 °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

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

Dimensional drawing

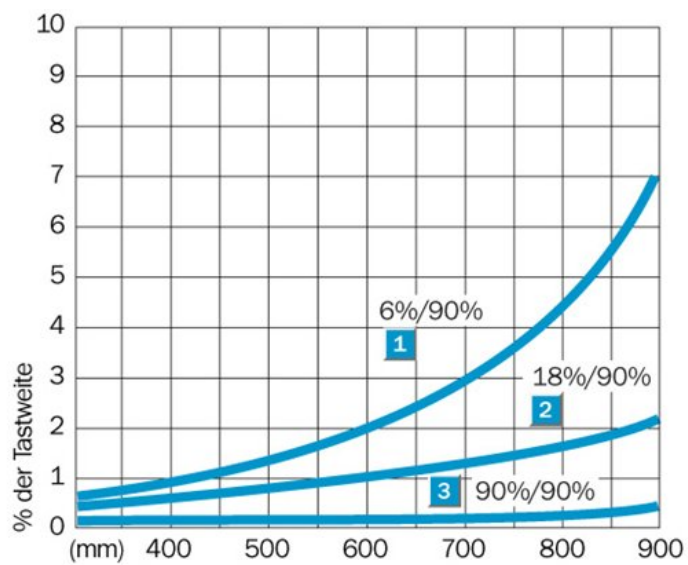
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Adjustments possible



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

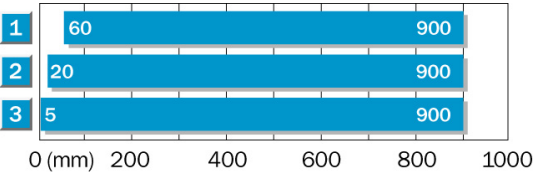
Characteristic curve



Connection type

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Sensing range diagram



1	Scanning distance on black, 6% remission
2	Scanning distance on grey, 18% remission
3	Scanning distance on white, 90% remission

Connection diagram

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