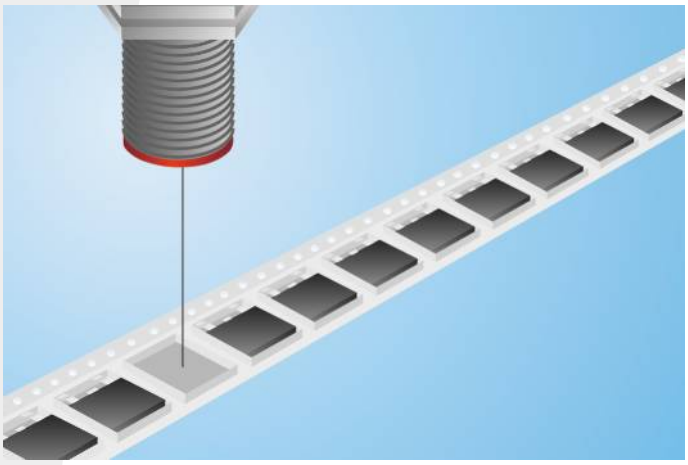
Reflex Sensor
with Background Suppression

YD24NA3 LASER
Part Number

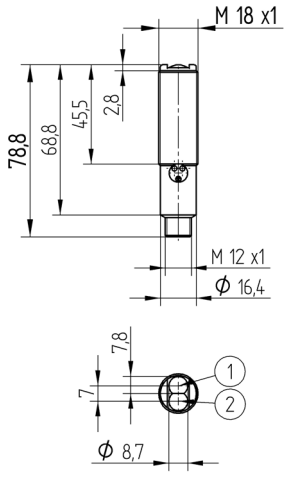
- **Spot Diameter: 0,5 mm**
- **Stainless Steel Housing**
- **Switching Frequency: 1,3 kHz**

These sensors are particularly well suited for recognizing objects in front of any type of background. The color, shape and surface characteristics of the object have practically no influence on sensor switching performance.

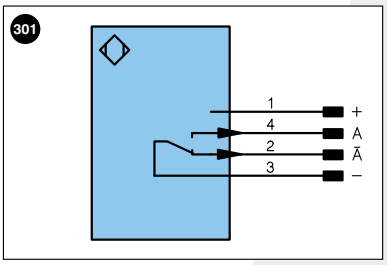


Technical Data

Optical Data	
Range	150 mm
Adjustable Range	35...150 mm
Switching Hysteresis	< 5 %
Light Source	Laser (red)
Wave Length	655 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Light Spot Diameter	see Table 1
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 25 mA
Switching Frequency	1300 Hz
Response Time	385 µs
Temperature Drift	< 5 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
NPN Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
Mechanical Data	
Housing Material	Stainless Steel
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4-pin
NPN NO/NC antivalent	●
Connection Diagram No.	301
Control Panel No.	D 6
Suiting Connection Technology No.	2
Suiting Mounting Technology No.	150 160



1 = Transmitter Diode
2 = Receiver Diode
All dimensions in mm (1 mm = 0.03937 Inch)



Legend

+	Supply Voltage +	U	Test Input	PoE	Power over Ethernet
–	Supply Voltage 0 V	Ū	Test Input inverted		
~	Supply Voltage (AC Voltage)	W	Trigger Input		
A	Switching Output (NO)	O	Analog Output		Wire Colors according to DIN IEC 757
Ā	Switching Output (NC)	O–	Ground for the Analog Output		
V	Contamination/Error Output (NO)	BZ	Block Discharge		
V̄	Contamination/Error Output (NC)	AMV	Valve Output	BK	Black
E	Input (analog or digital)	a	Valve Control Output +	BN	Brown
T	Teach Input	b	Valve Control Output 0 V	RD	Red
Z	Time Delay (activation)	SY	Synchronization	OG	Orange
S	Shielding	E+	Receiver-Line	YE	Yellow
RxD	Interface Receive Path	S+	Emitter-Line	GN	Green
TxD	Interface Send Path	⏚	Grounding	BU	Blue
RDY	Ready	SnR	Switching Distance Reduction	VT	Violet
GND	Ground	Rx+/–	Ethernet Receive Path	GY	Grey
CL	Clock	Tx+/–	Ethernet Send Path	WH	White
E/A	Output/Input programmable	Bus	Interfaces-Bus A(+)/B(–)	PK	Pink
	IO-Link	La	Emitted Light disengageable	GNYE	Green Yellow

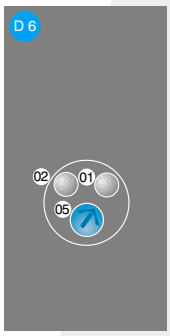
Table 1

Detection Range	50 mm	100 mm	150 mm
Light Spot Diameter	1,2 mm	< 0,5 mm	1,5 mm

Complementary Products

Dust extraction tube STAUBTUBUS-01

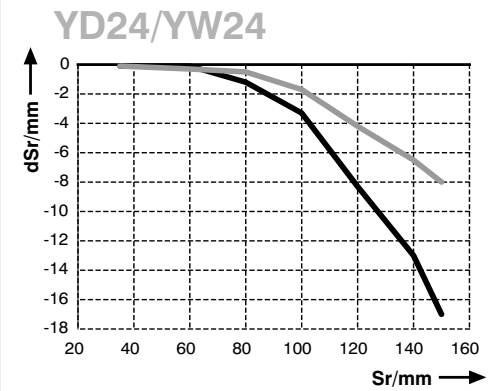
Ctrl.Panel



01 = Switching Status Indicator
02 = Contamination Warning
05 = Switching Distance Adjuster

Switching Distance Deviation

Typical characteristic curve based on Kodak white, 90 %



Sr = Switching Distance — black 6 %
dSr = Switching Distance Change — grey 18 %

Specifications are subject to change without notice