

# High-Performance Distance Sensor

## Y1TA100QXT3

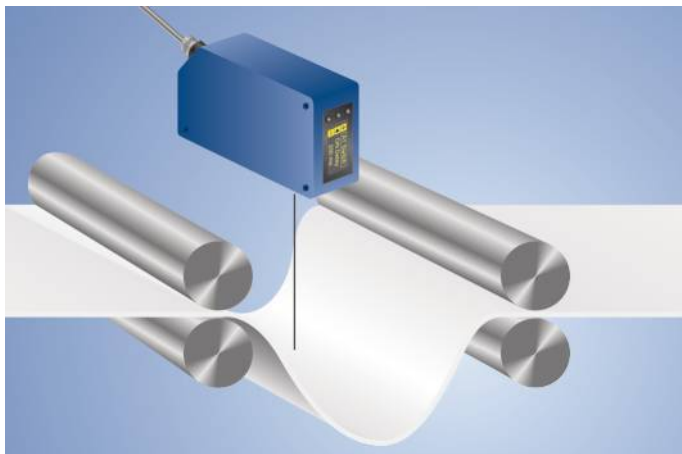
### LASER

Part Number



- 2 mutually independent switching outputs
- Graphical display for easy operation
- Switching output A1 as analog output switchable (0...10 V/4...20 mA)
- Temperature drift eliminable

These sensors have scratch-resistant optics and the emitted light can be switched off. They use the transit time measurement principle to measure the distance between the sensor and the object. For this reason, the object's color, shape and surface characteristics have practically no influence on measurement results. Even dark objects can be reliably recognized.



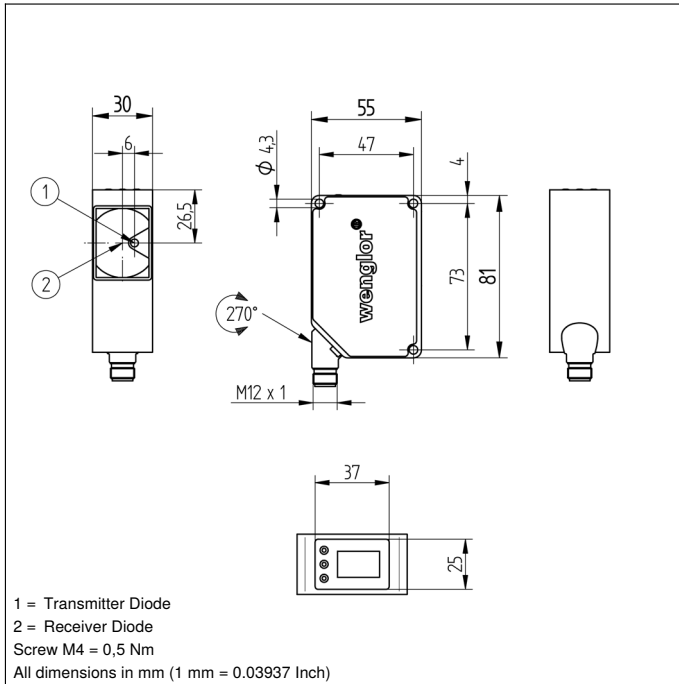
### Technical Data

Optical Data	
Working Range	0,1...10,1 m
Measuring Range	10 m
Resolution	1...12 mm
Linearity	0,5 %
Switching Hysteresis	3...20 mm
Light Source	Laser (red)
Wavelength	660 nm
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	2
Max. Ambient Light	10000 Lux
Beam Divergence	< 2 mrad
Light Spot Diameter	see Table 1
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 100 mA
Switching Frequency	50 Hz
Measuring Rate	1...100 /s
Response Time	10...200 ms
On-/Off-Delay	0...10000 ms
Temperature Drift (-10 °C < T <sub>u</sub> < 50 °C)	< 0,2 mm/K
Temperature Drift (T <sub>u</sub> < -10 °C, T <sub>u</sub> > 50 °C)	< 0,4 mm/K
Temperature Range	-25...60 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	200 mA
Analog Output	0...10 V/4...20 mA
Short Circuit Protection	yes
Reverse Polarity and Overload Protection	yes
Protection Class	III
FDA Accession Number	0710891-002
Mechanical Data	
Setting Method	Menu (OLED)
Housing Material	Plastic
Degree of Protection	IP68
Connection	M12 × 1; 4-pin
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	346,68 a
Configurable as PNP/NPN/Push-Pull	●
Analog Output	●
Connection Diagram No.	755
Control Panel No.	TA1
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	340

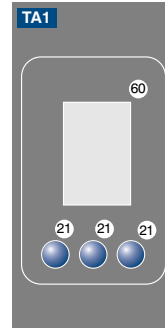
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

### Complementary Products

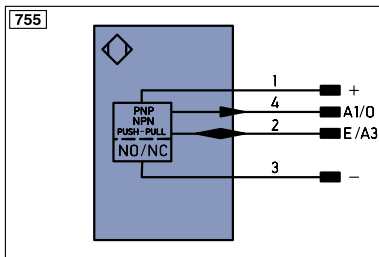
- Analog Evaluation Unit AW02
- Set Protective Housing ZST-NN-02



### Ctrl. Panel



21 = Mode Button  
 60 = Display



### Legend

+	Supply Voltage +	PT	Platinum measuring resistor	EN <sup>A/B5422</sup>	Encoder A/Ā (TTL)
-	Supply Voltage 0 V	nc	not connected	EN <sup>B5422</sup>	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	EN <sup>A</sup>	Encoder A
A	Switching Output (NO)	Ū	Test Input inverted	EN <sup>B</sup>	Encoder B
Ā	Switching Output (NC)	W	Trigger Input	A <sup>MIN</sup>	Digital output MIN
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input	A <sup>MAX</sup>	Digital output MAX
Ṽ	Contamination/Error Output (NC)	O	Analog Output	A <sup>OK</sup>	Digital output OK
E	Input (analog or digital)	O-	Ground for the Analog Output	SY <sup>in</sup>	Synchronization In
T	Teach Input	BZ	Block Discharge	SY <sup>OUT</sup>	Synchronization OUT
Z	Time Delay (activation)	A <sup>MV</sup>	Valve Output	OL <sup>T</sup>	Brightness output
S	Shielding	a	Valve Control Output +	M	Maintenance
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved
TxD	Interface Send Path	SY	Synchronization	Wire Colors according to DIN IEC 757	
RDY	Ready	SY-	Ground for the Synchronization	BK	Black
GND	Ground	E+	Receiver-Line	BN	Brown
CL	Clock	S+	Emitter-Line	RD	Red
E/A	Output/Input programmable	±	Grounding	OG	Orange
	IO-Link	S <sup>nR</sup>	Switching Distance Reduction	YE	Yellow
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path	GN	Green
IN	Safety Input	Tx+/-	Ethernet Send Path	BU	Blue
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
Signal	Signal Output	L <sup>a</sup>	Emitted Light disengageable	GY	Grey
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White
EN <sup>0/5422</sup>	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contactur Monitoring	GNYE	Green/Yellow

Table 1

Working Distance	0 m	10 m
Light Spot Diameter	5 mm	< 20 mm

