

# Reflex Sensor

## TO22NB

Part Number



- Adjustable detection range
- Compact housing

### Technical Data

#### Optical Data

Range	200 mm
Switching Hysteresis	< 15 %
Light Source	Infrared Light
Service Life (T = +25 °C)	100000 h
Risk Group (EN 62471)	1
Max. Ambient Light	10000 Lux
Opening Angle	12 °

#### Electrical Data

Supply Voltage	10...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 40 mA
Switching Frequency	800 Hz
Response Time	650 µs
Temperature Drift	< 10 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
NPN Switching Output/Switching Current	100 mA
Residual Current Switching Output	< 50 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III

#### Mechanical Data

Setting Method	Potentiometer
Housing Material	CuZn, nickel-plated
Full Encapsulation	yes
Degree of Protection	IP67
Connection	Cable, 3-wire, 2 m

NPN NO



Connection Diagram No.

402

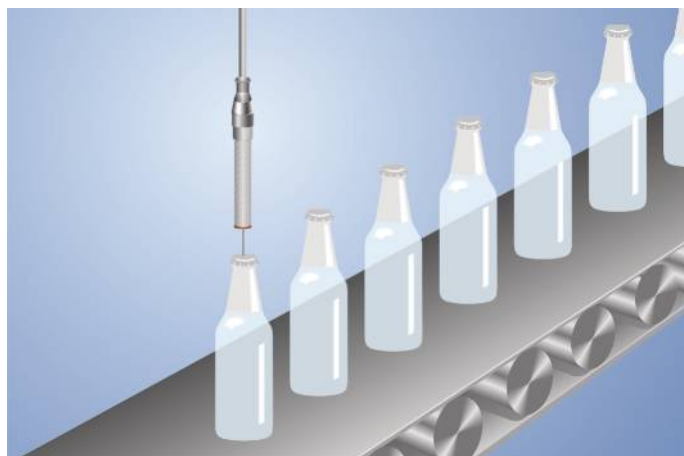
Control Panel No.

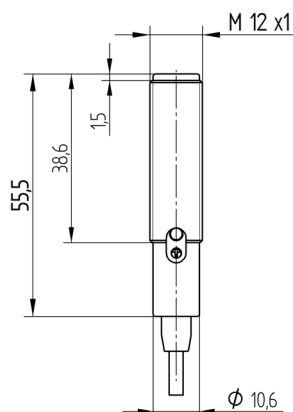
O2

Suitable Mounting Technology No.

170

The transmitter and receiver in these sensors are located in a single housing. The sensor evaluates transmitted light reflected back from the object. The output is switched as soon as an object passes the selected range. Bright objects reflect more light than dark objects, and can thus be recognized from greater distances.





All dimensions in mm (1 mm = 0.03937 Inch)

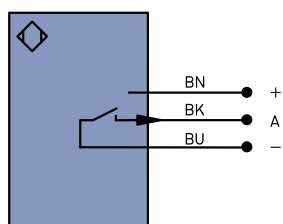


## Ctrl. Panel



05 = Switching Distance Adjuster  
30 = Switching Status/Contamination Warning

402



### Legend

+	Supply Voltage +	PT	Platinum measuring resistor
-	Supply Voltage 0 V	nc	not connected
~	Supply Voltage (AC Voltage)	U	Test Input
A	Switching Output (NO)	U	Test Input inverted
Ā	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
Ṽ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	AWV	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	E+	Receiver-Line
RDY	Ready	S+	Emitter-Line
GND	Ground	≡	Grounding
CL	Clock	SnR	Switching Distance Reduction
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path
IO-Link		Tx+/-	Ethernet Send Path
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)/B(-)
IN	Safety Input	La	Emitted Light disengageable
OSSD	Safety Output	Mag	Magnet activation
Signal	Signal Output	RES	Input confirmation
BI-D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactors Monitoring
EN0 RS422	Encoder 0-pulse 0-0 (TTL)	ENAR5422	Encoder A/Ā (TTL)
		ENBR5422	Encoder B/B̄ (TTL)

ENa	Encoder A
ENb	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOK	Digital output OK
SY In	Synchronization In
SY OUT	Synchronization OUT
LI	Brightness output
M	Maintenance

### Wire Colors according to DIN IEC 757

BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

