

# Reflex Sensor with Analog Output

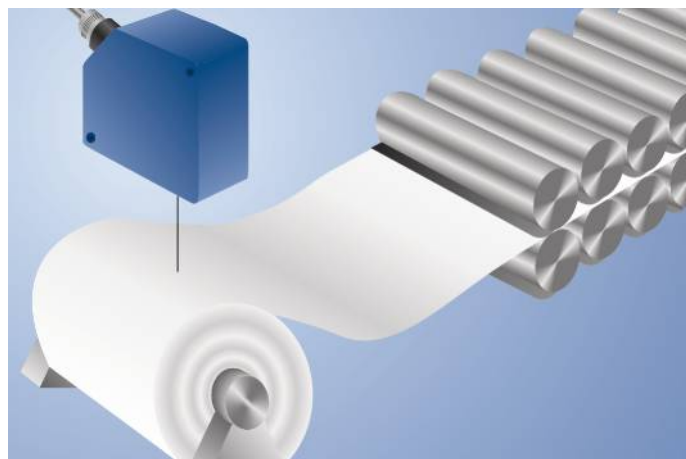
## HT60MGV80

Part Number



- Digital, analog and error output
- Go/no-go testing possible
- Red light
- Triple beam correction principle

These sensors are equipped with an analog output, as well as a digital output. The upper and lower switching points of the digital output can be adjusted with two potentiometers. The digital output is activated when an object is located within the window defined in this way.

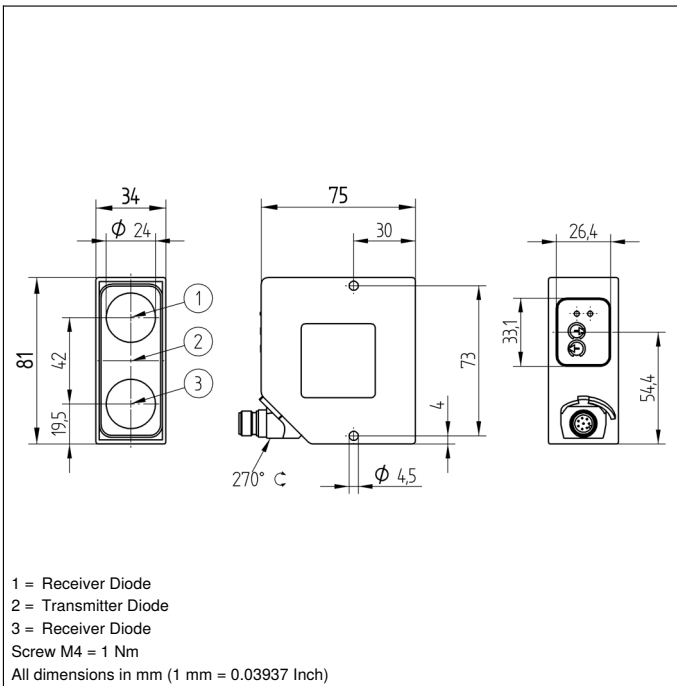


### Technical Data

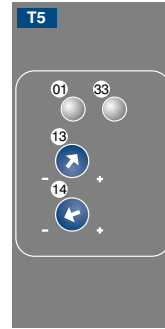
Optical Data	
Working Range	300...600 mm
Measuring Distance	450 mm
Measuring Range	300 mm
Resolution	see Table 1
Linearity	1 %
Switching Hysteresis	20 mm
Light Source	Red Light
Wave Length	660 nm
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Spot Diameter	see Table 1
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 50 mA
Cut-Off Frequency	50 Hz
Response Time	10 ms
Temperature Drift	100 µm/K
Temperature Range	-10...60 °C
Switching Output Voltage Drop	< 2,5 V
PNP Switching Output/Switching Current	200 mA
Error Output Voltage Drop	< 2,5 V
PNP Error Output/Switching Current	200 mA
Analog Output	0...10 V
Output Current Analog Output	500 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
Mechanical Data	
Housing Material	Plastic
Degree of Protection	IP67
Connection	M12 × 1; 8-pin
Error Output	●
PNP NO	●
Analog Output	●
Connection Diagram No.	506
Control Panel No.	T5
Suitable Connection Technology No.	80
Suitable Mounting Technology No.	330

### Complementary Products

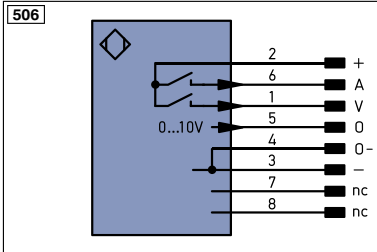
Analog Evaluation Unit AW02



## Ctrl. Panel



01 = Switching Status Indicator  
13 = Upper Potentiometer  
14 = Lower Potentiometer  
33 = Analog Voltage Output-/Error Warning



### 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	Contacteur Monitoring
EN0 RS422	Encoder 0-pulse 0-0 (TTL)	ENAR5422	Encoder A/A (TTL)
		ENBR5422	Encoder B/B (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
OLt	Brightness output
M	Maintenance

### Wire Colors according to DIN IEC 757

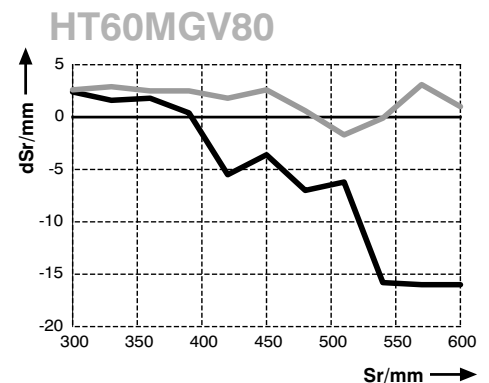
BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

**Table 1**

Working Distance	300 mm	450 mm	600 mm
Spot Diameter	10 mm	15 mm	20 mm
Resolution	0,3 mm	2 mm	5 mm

## Error of Measurement

Typical characteristic curve based on Kodak white (90 % remission)



Sr = Switching Distance

dSr = Switching Distance Change

black 6 % remission

grey 18 % remission

