

## PT730520

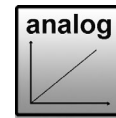
Laser sensors

Diffuse-reflection sensor with analog and switching output



- / Robust metal housing
- / Laser protection class 2
- / Analog output 4 ... 20mA / 0 ... 10V
- / 2 push-pull switching outputs
- / LED display
- / M12 plug connection 8-pin

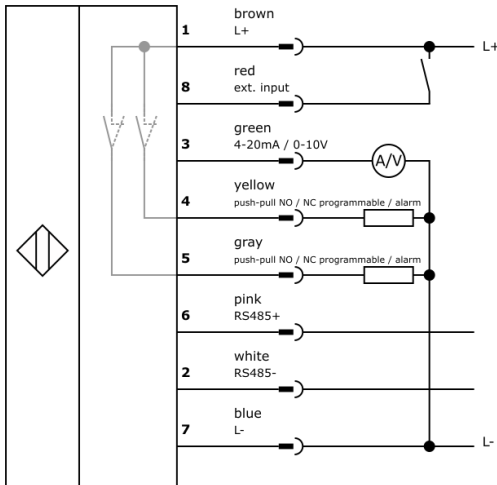
**Time-of-flight technology**  
**Versatile programmable**



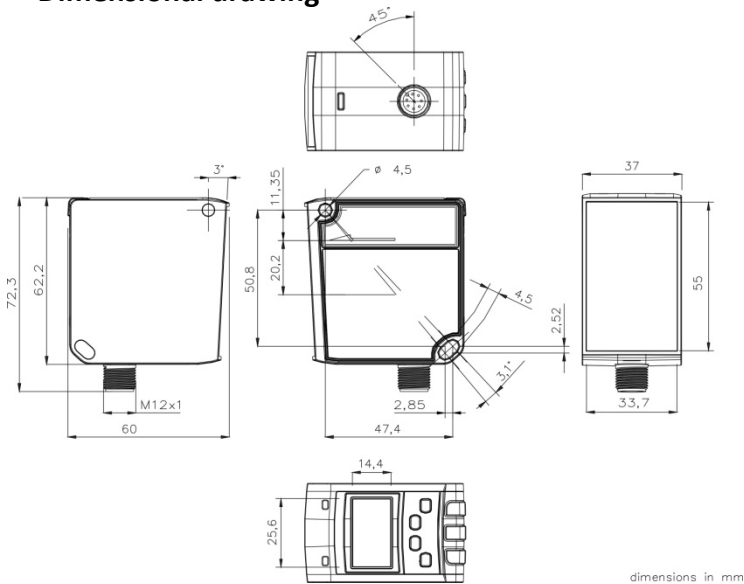
### TECHNICAL DATA

Function	Time of Flight
Measuring range (min. 18% reflectivity)	0.2 ... 20m (90% white) / 0.2 ... 8m (18% gray) / 0.2 ... 5m (6% black)
Resolution	1mm / 16bit
Linearity error	± 0.03% FS (voltage) / ± 0.02% FS (current)
Accuracy (white object)	7mm (response time "slow")
Reproducibility (white object)	1mm up to scanning range 10m / 2mm up to scanning range 20m
Operating voltage	24V DC ± 20%
Current consumption (without load)	typ. 125mA
Output signal	programmable: PNP / NPN / push pull / light / dark switching / alarm
Output current (max. load)	100mA per output
Response time	"slow": typ. 45ms / "medium": typ. 30ms / "fast": typ. 15ms
Hysteresis	20mm
Analog output	programmable: 0.2 ... 10V / 4 ... 20mA
Update rate	2ms
Warm-up time	typ. 20min.
transmitting element	Laser diode, red light
Wavelength	658nm
Laser protection class	2
Reverse polarity protection	+
Short circuit protection	+
Material (housing)	Zinc alloy ZAMA 13
Material (front screen)	PMMA
Temperature (operation)	-15 ... +50°C
Temperature (bearing)	-25 ... +70°C
Dimensions	37 x 73 x 60mm
Connection	M12-connector 8-pin, rotatable
Protection class (EN 60529)	IP 67
Connection accessories	e.g. <b>VK205A25</b>
Mounting accessories (bracket)	<b>AP000040</b>

## Connection



## Dimensional drawing



## Factory settings

Response time (Average)	45ms (slow)
Analog output	4 ... 20mA
Mode RS485 output	None
RS 485 termination	Off
Input function	Teach-in (switching output 1)
Logic of the switching outputs	light switching (light on)
Switching outputs mode	Push-Pull
Switching point 1	500mm
Switching point 2	500mm
Hysteresis	10mm
Scalable min. range	200mm
Scalable max. range	20,000mm

### LED indicators:

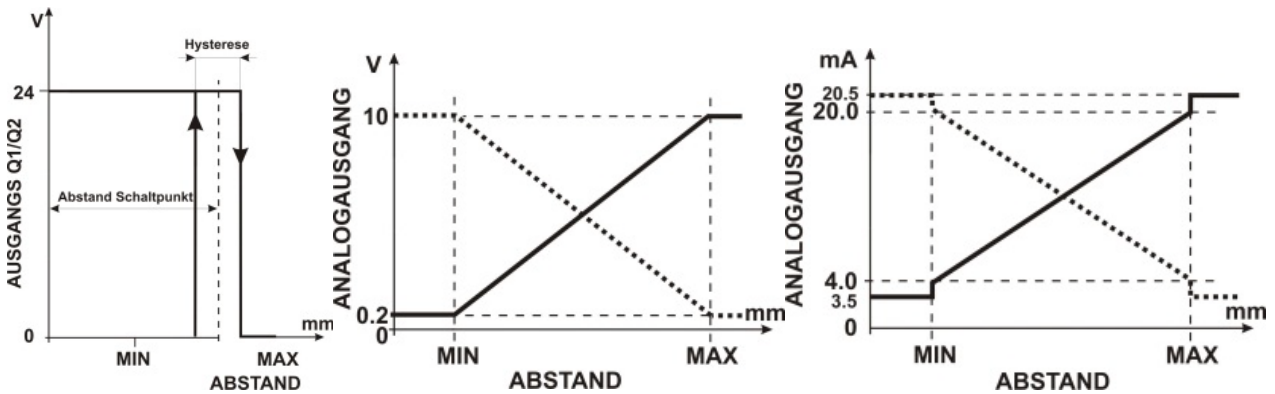
- Left: Switching output 1 (yellow)
- Center: Switching output 2 (yellow)
- Right: Operation (green) / Overrange (red)

### Keys

- ▲ ▼ Entering the main menu (simultaneously 5sec)
- ▲ previous menu item
- ▼ next menu item
- SET: Submenu / save
- ESC: back



**Detection diagrams**



**Laser protection class 2 according to IEC 60825-1**

Conforms to 21 CFR 1040.10 and 1040.11 except for deviations as specified in Laser Notice No. 50, June 24, 2007.

**Description**

In the time-of-flight measuring method, the distance of an object is determined via the transit time of a light pulse emitted by the sensor's transmitter, reflected by the object, and received by the sensor's receiver.

The measuring principle is suitable for large ranges with simultaneous high insensitivity to ambient light.

The measuring range depends on the degree of reflection of the object. White objects (90% reflectivity) can be detected at a distance of up to 20m, for black objects (6% reflectivity) the scanning range is still 5m.

The current measured value can be read on the display.

The switching outputs can be freely programmed (see "Technical data").

The analog output is switchable between 4 ... 20mA and 0 ... 10V. Please pay attention to the maximum (current) resp. minimum burden (voltage)!

The device can be easily parameterized via the membrane keyboard with 4 keys.

**SAFETY INSTRUCTIONS:**

Before start-up, please make sure that all safety instructions in the product documentation, if applicable, have been observed!

In case of direct impact on personal safety, the application of these products is prohibited.