

## **P41: new 'Teach-In' Series of Ultrasonic Distance Sensors**

PIL introduced a new series of ultrasonic distance sensors with outstanding characteristics into the market:

**Analogue output 0 ... 10 V or 4 ... 20 mA oder  
2 switching outputs NO / NC characteristics,  
Simple exact setting of  
Output slope,  
Large detection range,  
Compact housing  
Sealing IP67  
Cost effective**



**Analogue** sensors or sensors with **2 switching outputs** PNP or NPN are available. Characteristics of the switching sensors can be set to NO, NC or window characteristics. Depending on the used ultrasonic frequency max. range is up to 3500 mm. Rectangular PBTB plastic housings are extremely well protected against all environmental influences with an **IP67 (IP65)** sealing. Sensors are CE approved. Connector and cable versions are available.

### **Analogue Sensors:**

- Detection ranges 6 – 50 cm; 10 – 80 cm; 20 – 200 cm; 30 – 350 cm
- Analogue output 0 - 10 V or 4 - 20 mA
- Resolution 1 mm
- Simple exact setting of output slope
- Good Linearity

### **Sensors with switching output:**

- Switching outputs can be set independently
- NO or NC switching characteristics
- Switching outputs can be combined to define a window or hysteresis.
- High repeatability

### **Applications:**

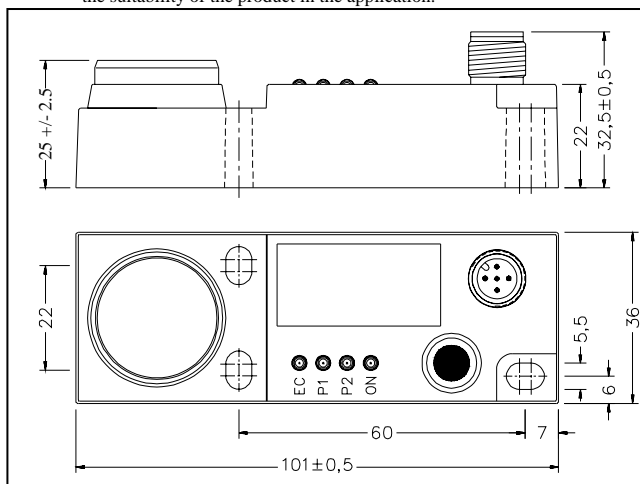
Distance measurement, level measurement, control of winding and unwinding, loop control, positioning, width measurement, presence detection, collision protection, counting ...

## Technical Data

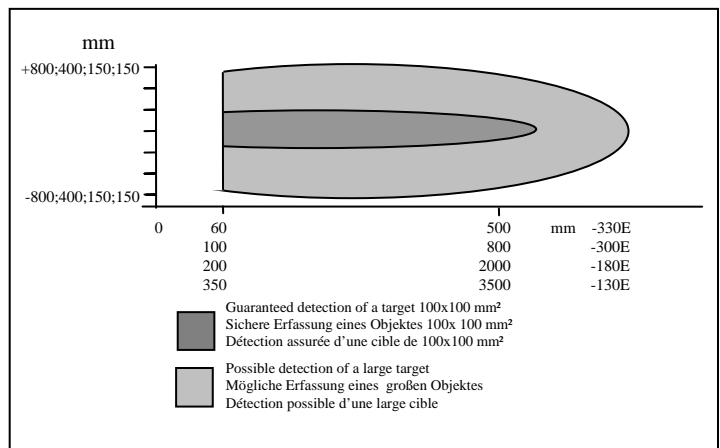
P41-	D4V-2D-1C/D0-130E	D4V-2D-1C/D0-180E	D4V-2D-1C/D0-300E	D4V-2D-1C/D0-330E
Characteristics	analogue U/I 0 – 10 V or 4–20 mA			
Outputs				
Detection range mm	350 - 3500	200 - 2000	100 - 800	60 - 500
Resolution mm	1		0,25	
Error in linearity %	<0.5 %			
Response time 90% of final value ms	400 ms	200 ms	100 ms	100 ms
Output adjustment	Teach In			
Display begin and end of slope	2 LED			
P41-	D4V-2D-001/2-130E	D4V-2D-001/2-180E	D4V-2D-001/2-300E	D4V-2D-001/2-330E
Characteristics	Schaltend 2 x PNP oder PNP			
Switching frequency Hz	1	2	5	5
Switching hysteresis % of SP	1%			
Max. switching current mA	500			
Adjustment switching outputs	Teach In			
All Sensors				
Alignment aid	LED			
Temperature range °C	-15 -70			
Beam angle °	8			
Temperature compensation	Yes			
Repeatability %	±0.2 % ±2 mm			
Power supply VDC	15 – 30			
Current consumption without load mA	< 45			
Sealing IP	67			65

Valid for room temperature

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However we assume no responsibility for its use. While we provide application assistance personally, through our literature and the PIL web site, it is up to the customer to determine the suitability of the product in the application.



Dimensions in mm



Detection range

LED	
ON	LED Power ON
P1	LED SP1 0 V
P2	LED SP2 10 V
Echo	LED Echo

Connection	
Pin	Funktion
1	24 Vdc
3	0 V GND
2	NC/SP2
4	0-10V 4-20mA/SP1
5	Hold/Sync

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