High-accuracy clinometer sensor

±10°- measuring range for X- axis
Output4 20mor0 10V

Type: **PNS-10/E1-I20**
PNS-10/E1-U10
PNS-10/E1-I20/3Hz

Technical description

The sensor has a silicon element to detect inclinations for one axis (-10° +10°)

The sensor is very insensitive to vibrations. The design enables a high accuracy together with a high long-term stability and reliability. The robust aluminium housing and the fully moulded circuit technology inside enables rough operation under extreme environmental conditions.

Important is the mounting on a stable and flat surface.

The sensor is also available as a variant with a stronger filtering of the output signal (PSN-10/E1-I20/3Hz).

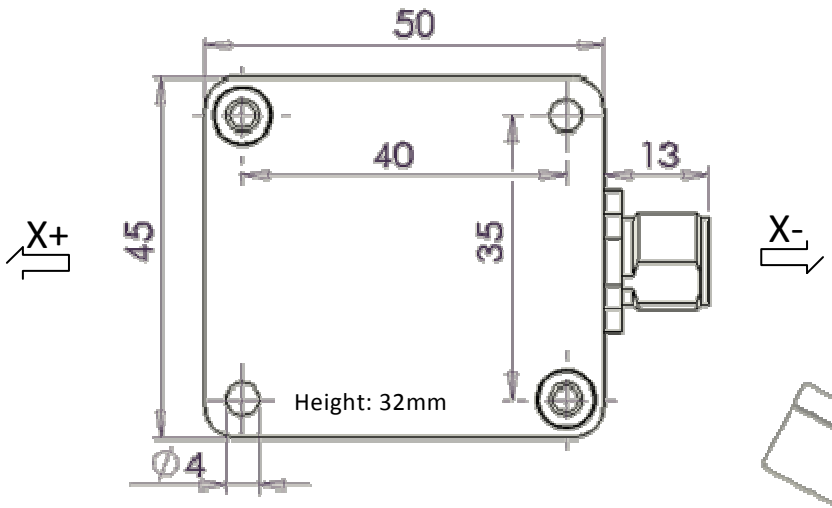
Special features

- Small temperature coefficient
- Insensitive to vibrations
- High resolution
- Type of protection: IP 67
- Versatile range of application
- Linear characteristic curve
- High long time constancy

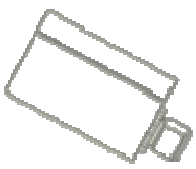
Electrical Data		
	PNS-10/E1-I20	**PNS-10/E1-U10**
Output	4m 12m 20m (at -10° 0° +10°)	0V 5V 10V (at -10° 0° +10°)
Scale	800µA/°	500mV/°
Linear measuring range	±10°	
Supply voltage	+18VDC +30 VDC	
Current demand	<25mA	
Frequency	18Hz (standard) 3Hz (PSN-10/E1-I20/3Hz)	
Resolution sensor	0,01° @ ±3° 0,03° @ ±10°	
Non-linearity (sine)	<1%	
Cross sensitivity	max. 5%	
Temperature drift zero point	<0,08°/K	
Operation temperature	-40°C +85°C	
Housing	Die-cast aluminium	
Connector	connector M12/ EN 50044 IEC 947-5-2 (5-pin)	
Weight	95g	

Pin assignment

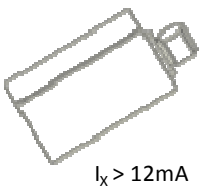
1:	+24 VDC supply
2:	GND - Signal
3:	GND - supply
4:	I204 20m U100 10V
5:	n.c.



Mounting:
Lying on a horizontal surface



$I_X < 12mA$
$U_X < 5V$



$I_X > 12mA$
$U_X > 5V$

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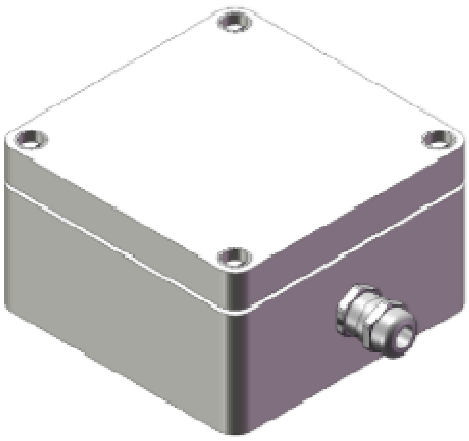


High-accuracy clinometer sensor

For X- and Y-axis
±10°- measuring range / 0,5…8,5V

Type: PNS-10/E2

Technical description

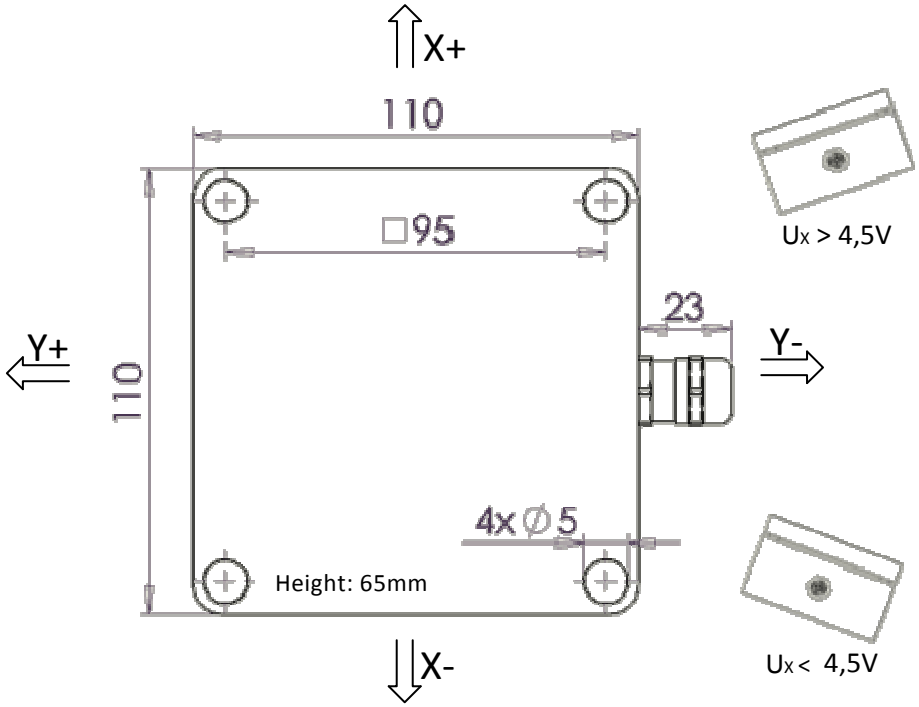
The sensor has two clinometers for X- and Y- axis.

It is using a conductive cell as sensor element. To determine the volume, the conductivity of the liquid is measured by stray field method. The inclination is determined by means of the difference measuring method. The alternating voltage measuring method is used to determine the conductivity. The influence of temperature is minimized by using a combination of microstructure and a special wiring.

Special features

- Small temperature coefficient
- Insensitive to vibrations
- High resolution
- Type of protection: IP 66
- Versatile range of application
- Linear characteristic curve
- High long time constancy

Electrical data	
Linear measuring range	±10°
Current output	0,5V…4,5V…8,5V (at -10°…0°…+10°)
Supply voltage	+24 VDC (18V…32V)
Scale	400mV / °
Resolution of sensor	0,03° @ ±3° 0,08° @ ±10°
Time constant	0,3 s
Frequency	0,5 Hz
Temperature drift zero point	0,1° at 0°C…50°C
Operation temperature	-30°C…+70°C
Housing	Robust plastic box (IP 66)
Connector	PG9 gland, internal 6 pin WAGO type 233



U_X > 4,5V

U_X < 4,5V

U_Y > 4,5V

U_Y < 4,5V

Pin assignment:

1:	$+U_V$ (24V)
2:	GND
3:	I_Y
4:	I_X
5:	n.c.
6:	n.c.

Mounting:
Lying on a horizontal surface

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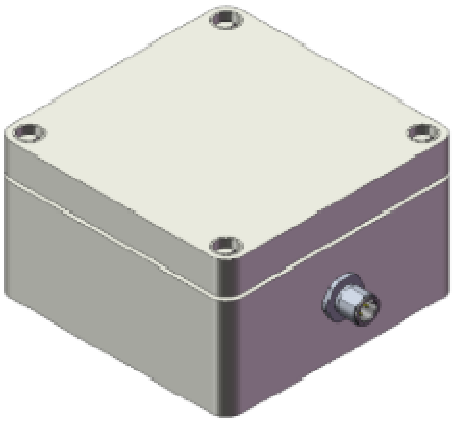
Kinetronic

PNS
High accuracy clinometer sensors



High-accuracy clinometer sensor

For X- and Y-axis
±10°- measuringrange/4…20m

Type: PNS-10/E2-I20

Technical description

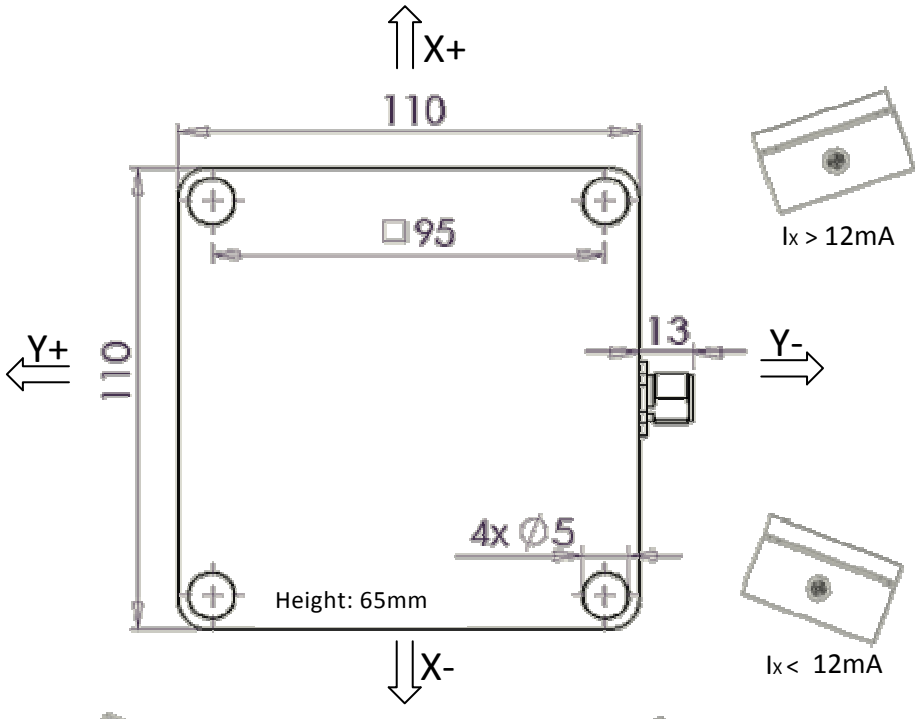
The sensor has two clinometers for X- and Y- axis.

It is using a conductive cell as sensor element. To determine the volume, the conductivity of the liquid is measured by stray field method. The inclination is determined by means of the difference measuring method. The alternating voltage measuring method is used to determine the conductivity. The influence of temperature is minimized by using a combination of microstructure and a special wiring.

Special features

- Small temperature coefficient
- Insensitive to vibrations
- High resolution
- Type of protection: IP 66
- Versatile range of application
- Linear characteristic curve
- High long time constancy

Electrical data	
Linear measuring range	±10°
Current output	4m…12m…20m (at -10°…0°…+10°)
Supply voltage	+24 VDC
Scale	800µA / °
Resolution of sensor	0,03° @ ±3° 0,08° @ ±10°
Time constant	0,3 s
Frequency	0,5 Hz
Temperature drift zero point	0,1° at 0°C…50°C
Operation temperature	-30°C…+70°C
Housing	Robust plastic box (IP 66)
Connector	connector M12/ EN 50044 IEC 947-5-2 (4-pin)



I_X > 12mA

Pin assignment:

1:	$+U_V$ (24V)
2:	GND
3:	I_Y
4:	I_X

I_X < 12mA

I_Y > 12mA

I_Y < 12mA

Mounting:
Lying on a horizontal surface

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