GEMAC
Sensorik. Messtechnik. ASIC-Design.

Inclination Sensors with Current and Voltage Interface
1-dimensional 360° - 2-dimensional ±90°

Characteristics:

- Inclination sensors with measurement range: 360° / ±90°
- Linearized output, high accuracy
- Compensated cross sensitivity
- Programmable vibration suppression
- Freely programmable current or voltage interface
- Robust, UV resistant, impact strength plastic housing
- Suitable for industrial use

Figure similar

The compact and robust design makes the sensor a suitable angle measurement device in rough surroundings for different applications in industry and vehicle technology.
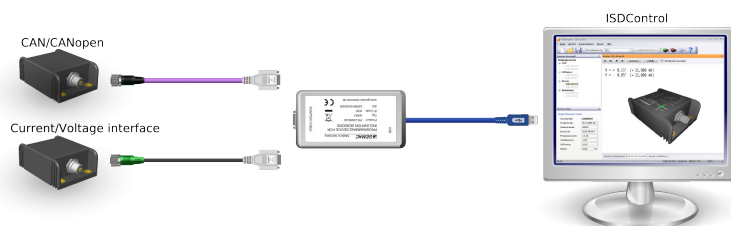
Fields of Application:

- Solar thermal and photo-voltaic systems
- Agricultural and forestry machinery
- Construction machinery
- Crane and hoisting technology

Connection Diagrams:
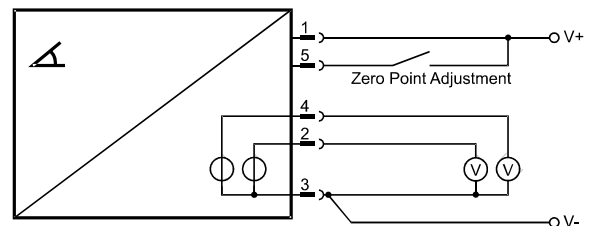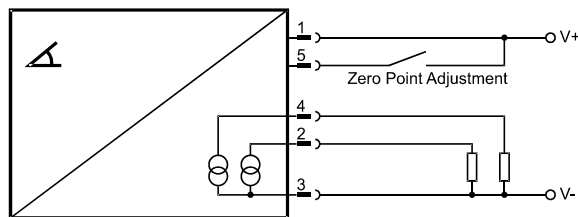
Inclination Sensor Programming Adapter:

Technical Data*:

General Parameters*				
Measurement range		360°, ±90°		
Accuracy	IS1D 00 P24	Range	typical	maximum
	IS1D 00 P25	0 ... 360°	±0.04°	±0.12°
Accuracy	IS2D 90 P24	Range	typical	maximum
	IS2D 90 P25	up to ±60°	±0.02°	±0.06°
		up to ±70°	±0.04°	±0.12°
		up to ±80°	±0.08°	±0.24°
		up to ±85°	±0.16°	±0.48°
Cross sensitivity (compensated)		typ. ±0.10 %, max. ±0.50 %		
Temperature coefficient (zero point)		Current interface: typ. +0.0088 °/K, -0.0102 °/K		
		Voltage interface: typ. ±0.0083 °/K		
Cut-off frequency		typ. 20 Hz, 2nd order (without digital filter) / 0.1 Hz … 25 Hz, 8th order (with digital filter)		
Operating temperature		-40 °C ... +80 °C		

Characteristics	
Current interface	Freely adjustable output in the range 0 mA … 20.48 mA (factory default: 4 mA … 20 mA)
Voltage interface	Freely adjustable output in the range -10.48 mA … 10.48 V (factory default: 0 V … 10 V)
	Freely adjustable angle in the range 0° … 360° / ±90°
Functions	Teach input for zero point adjustment when installed
	Limit value, axis direction and assignment of the outputs are adjustable
	Digital filter (Butterworth lowpass, 8th order)

Electrical Parameters		
Supply voltage	Current interface:	17 VDC … 35 VDC
	Voltage interface:	10 VDC … 35 VDC
Current consumption	Current interface:	45 mA @ 24 V + I_{loop}
	Voltage interface:	45 mA @ 24 V

Mechanical Parameters	
Connection	Sensor connector 5-pole M12
Degree of protection	IP65/67
Dimensions / weight	66 mm x 90 mm x 36 mm / approx. 200 g

* The manual contains a complete description of the technical data (www.gemac-chemnitz.de).

Ordering Information:

Article Number	Product Type	Description / Distinction
PR-23450-00	IS1D 00 P24	1-dimensional, 360°, current interface
PR-23454-00	IS2D 90 P24	2-dimensional, ±90°, current interface
PR-23550-00	IS1D 00 P25	1-dimensional, 360°, voltage interface
PR-23554-00	IS2D 90 P25	2-dimensional, ±90°, voltage interface
PR-23999-01	ISPA1	Inclination sensor programming adapter
		(Starter kit including programming adapter, cables and PC software)