Inclination switch

2D-inclination switch with 2 potential-free switching outputs (small plastic housing)

ISW2SP360

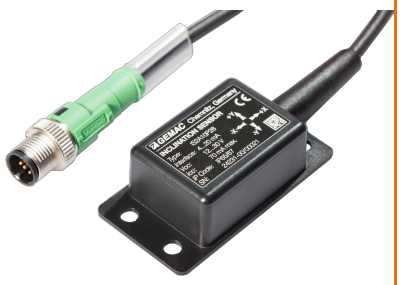

Figure similar

Characteristics:

- **2- dimensional inclination switch with programmable switching thresholds between: ±180° or 0..360°**
- **2 switching outputs, potential-free, 30 V, 500 mA, normally closed (NC) or normally open (NO)**
- **Supply voltage: 8 V ... 28 V**
- **Small, robust, simply mountable ABS-housing**
- **Suitable for industrial use:**
  - **Temperature range: -40 °C ... +75 °C**
  - **Degree of protection: IP65/67**

The inclination switch ISW2SP360 is used for one- or two-dimensional monitoring of inclination angles in ranges between ±180° or 0 ... 360°. By using the optional available programming adapter the configuration of the switching thresholds can be realized directly. Additional functions like operating principle, vibration filter, hysteresis and dead time can be set individually by the user using the PC software. Furthermore the switching thresholds are configurable arbitrarily on one but also on different axes.

Applications:

- Agricultural and forestry machinery
- Construction machinery
- Crane and hoisting technology
- Industrial applications
- Solarthermics and photovoltaics

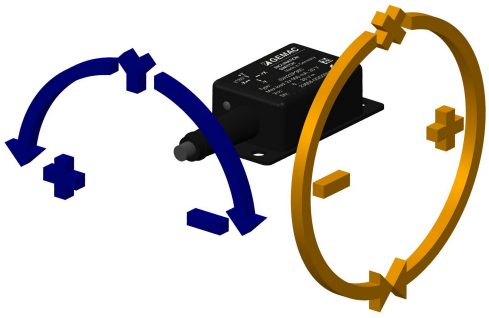

Figure 1: Measurement directions

(Figure similar)

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Inclination switch

Technical Data:

General Parameters: Ta = 25 °C		
Measurement axes	up to 2 axes	
Measurement range X-Axis	±180°	
Measurement range Y-Axis	±90°	
Resolution	0.01°	
Accuracy	±0.3°	
Temperature coefficient (zero point)	±0.01 °/K	
Adjustable Cut-off frequency	0.25 Hz; 0.5 Hz; 1 Hz; 2 Hz (different values on request)	
Internal sampling rate	20 Hz	
Dead time	multiples of the internal sampling interval (50 ms), max. 30 s	
Operating temperature range	-40 °C ... +75 °C	
Characteristics		
Interface	potential free, normally closed (NC) or normally open (NO) configurable	
Electrical Parameters		
Supply voltage	8 V DC ... 28 V DC	
Current consumption	3 mA ... 15 mA	
Electrical Parameters Switching Outputs	**typical**	**maximum**
Output voltage	-	30 V
Output current	-	500 mA
ON-Resistance	0.55 Ω	2.00 Ω
Voltage drop	460 mV	530 mV
Mechanical Parameters		
Connection	0.2 m PUR-cable 8x 0.25 mm² with 8-pole M12-connector (male, A-coding)	
Degree of protection	IP65/67[1]	
Shock survival	max. 5 000 g	
Dimensions	68 mm x 36.5 mm x 21 mm	
Mass	about 55 g	
Reliability according EN ISO 13849-1[2]		
MTTF	385 years	
MTTFd	730 years	

1 In mated condition

2 This product is a standard product and no safety part for the purpose of machinery directive. The calculation relates to an average ambient temperature of 40 °C and an usage of 8760 h/a.

Inclination switch

Dimensioned drawing:

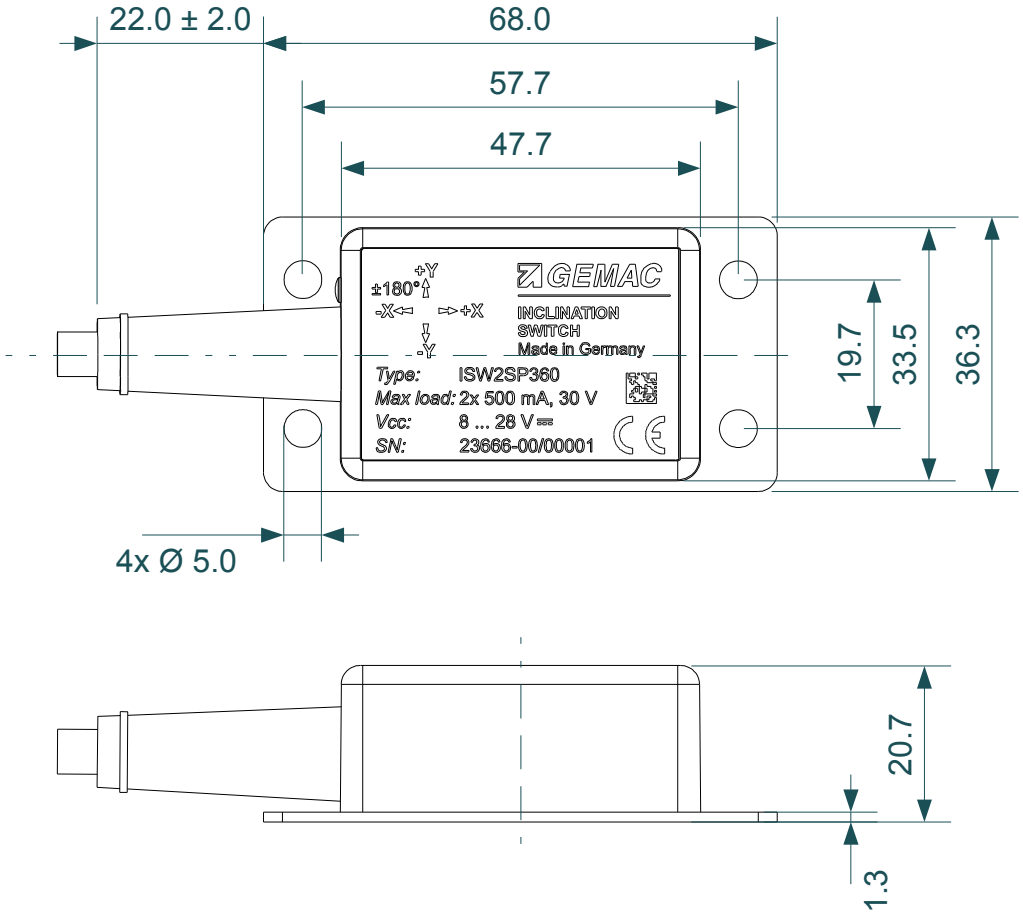


Figure 2: Dimensioned drawing ISW2SP360 (dimensions in mm)

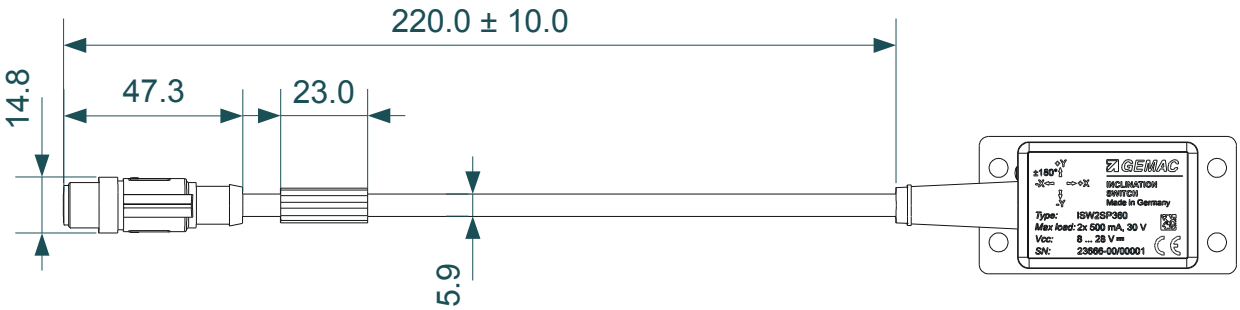
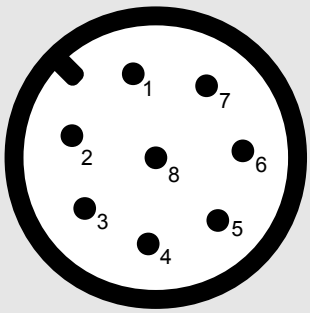


Figure 3: Dimensioned drawing connecting cable ISW2SP360 (dimensions in mm)

Inclination switch

M12 Plug connector allocation

Pin	Wire color	Designation	Allocation	Note	Figure (view from the outside)
1	white	A+	Positive switching output A		
2	brown	A-	Negative switching output A		
3	green	B+	Positive switching output B		
4	yellow	B-	Negative switching output B		
5	grey	T1	Signal programmer	connect to Ground	
6	pink	T2	Signal programmer	connect to Ground	
7	blue	GND	Ground		
8	red	V+	Supply voltage		

Block diagram

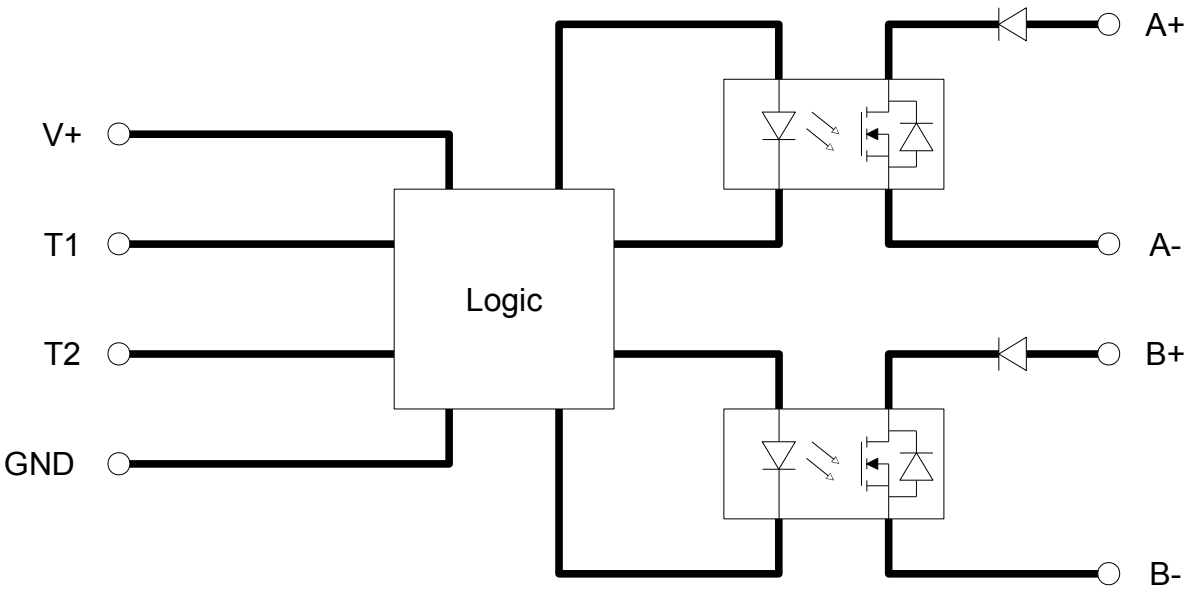


Figure 4: Block diagram ISW2SP360

Ordering information:

Article number	Product type	Description / distinction
PR-23666-00	ISW2SP360	Inclination switch
PR-23997-00	ISWPA1	Inclination switch programming adapter