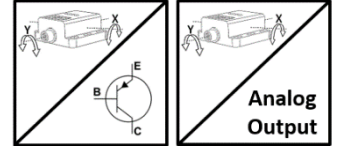


GENERAL FEATURES



- Single-axis 360° angle measurement
- Programmable measurement ranges
- Compensated axis sensitivity
- 0-5VDC, 0-10VDC or 4-20mA analog output options (Dual analog output option)
- 2 x PNP Open Collector output
- High Sensitivity: $\pm 0.15^\circ$
- Easy installation
- IP64 protection class
- Small and robust housing
- Compact structure



INS 120 series angle sensors are the sensors that show the angle of rotation of objects standing perpendicular to the earth. Angle measurement information between 0°-360° can be taken from these sensors. The measurement limits can be set according to the user request. These sensors which can offer both analog output and open collector output, can take measurement with $\pm 0.15^\circ$ accuracy.

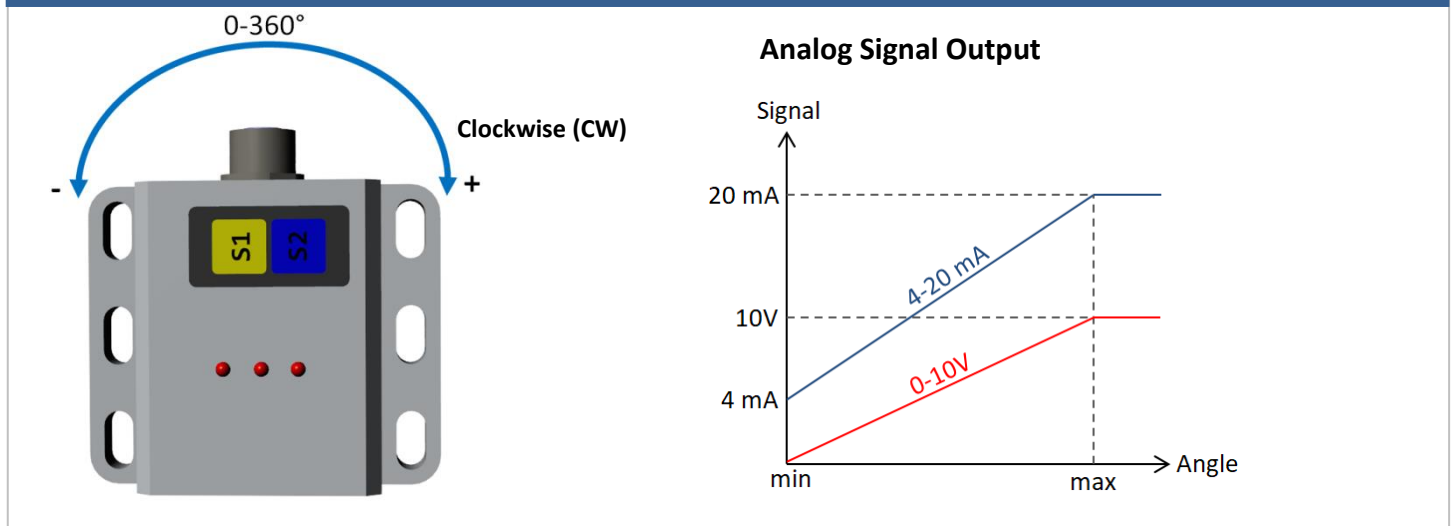
INS 120 angle sensors with high precision, compact design and durable construction; crane and lifting systems, construction machinery and special purpose vehicles, solar energy and photovoltaic systems, wind farms and so on. offers suitable solutions for angle measurement in industrial areas. Thanks to their high IP protection class, they can work easily in outdoor environments.

TECHNICAL SPECIFICATIONS

Supply Voltage (V)	4-20 mA & Transistor: 12...24 VDC 0-10 VDC & 0-5 VDC: 15...24 VDC		Resolution	0,05°
*Measurement Range	0...360°		Accuracy	$\pm 0,15^\circ$
Measurement Axis	X		Protection Class	IP64
*Output Type	2 x PNP Open Collector and Analog Signal		Operating Temp.	- 30°C...+70 °C
Open Collector Specifications	Output Voltage	~(V-1) Volt	Relative Humidity	%10...%90
	Switching Function	NO	Weight	~200 gr
	Current Consumption	<200 mA	Body Material	Aluminum
Analog Outputs	0-5 VDC, 0-10 VDC or 4-20 mA		*Electrical Connection	8x0,14 mm ² shielded cable or M12 male socket
Response Time	10 Hz			

Note: The specifications specified by (*) vary depending on the model selected. The detailed code table for product selection is shown on page 3.

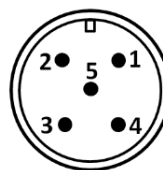
MEASUREMENT AXIS AND SIGNAL OUTPUT DIAGRAM



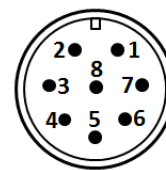
ELECTRICAL CONNECTION

Signal	M12-8 Pin Socket	M12- 5 Pin Socket	Cable
V+	Pin 1	Pin 1	Red
Transistor Output 1	Pin 2	Pin 2	Yellow
GND (0V)	Pin 3	Pin 3	Black
Transistor Output 2	Pin 4	Pin 4	Green
-	Pin 5	-	Blue
Analog Output 1	Pin 6	Pin 5	Pink
Analog Output 2	Pin 7	-	White
-	Pin 8	-	Grey

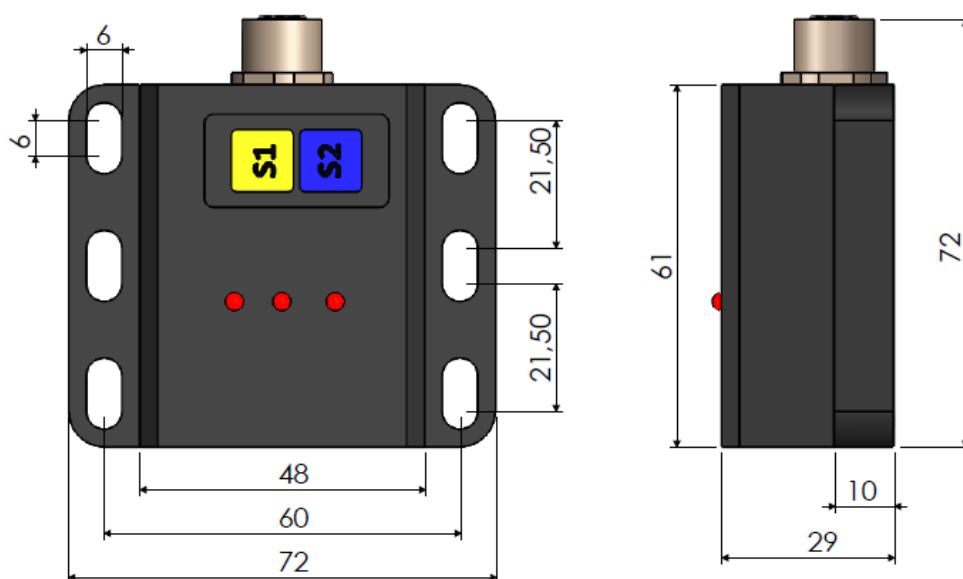
M12 - 5 PIN SOCKET



M12 - 8 PIN SOCKET



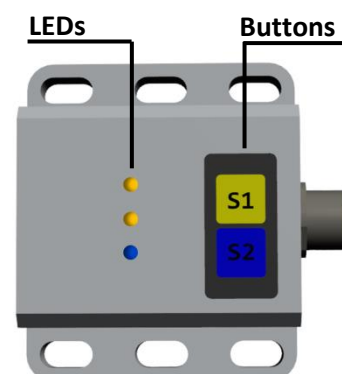
MECHANICAL DIMENSIONS



LED AND BUTTON FUNCTIONS

Working Status	Blue LED Status	Yellow LED Out 1	Yellow LED Out 2
During setting of switching output for OUT 1	light goes out	starts blinking	light goes out
During setting of switching output for OUT 2	light goes out	light goes out	starts blinking
While switching to analogue setting mode	light goes out	starts blinking	starts blinking
During setting of analogue output for OUT 1	light goes out	starts blinking	light goes out
During setting of analogue output for OUT 2	light goes out	light goes out	starts blinking
During normal operation	intermittent blinking	switching mod status	switching mod status
Reset to factory settings Between 5 seconds--10 seconds	light goes out	starts blinking	starts blinking
>10 seconds the end of the process of returning to factory settings its continue is normal operation mode	starts blinking	light goes out	light goes out

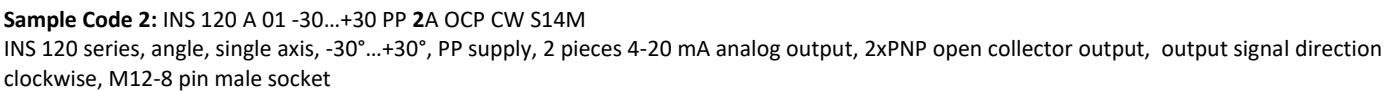
Button	Color	Function
S1	Yellow	Used to change the set range for switching Out1 and analog outputs. Please refer to the user manual for detailed information.
S2	Mavi	Used to change the set range for switching Out2 and analog outputs. Please refer to the user manual for detailed information.





SAMPLE APPLICATION AREAS

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PRODUCT CODE



OPTIONAL PRODUCTS

Product	Code	Description
	CB5 5M / S13F	5 meters 5x0,14 mm ² extension cable + M12/5 pin female connector
	CB8 5M / S14F	5 meters 8x0,14 mm ² extension cable + M12/8 pin female connector

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