

-ANG 120 series

Angle sensor – Transistor and Analog Output

Ref: 4227

Rev: A



DESCRIPTION

ANG 120 series, offering both analog output and open collector output, show the angle of rotation of objects standing perpendicular to the earth, with angle measurement between 0°-360°. The user can set directly measurement ranges and limits.

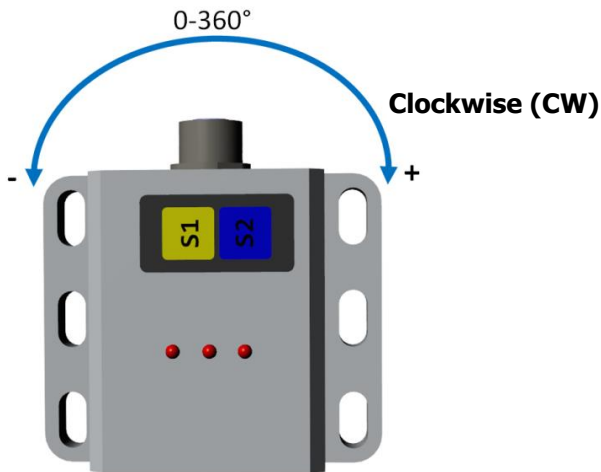
Their high precision (measurement accuracy $\pm 0.15^\circ$), compact design and durable construction (with high IP protection class) make these sensors the perfect instruments for industrial application, even in outdoor environments, such as: crane and lifting systems, construction machinery and special purpose vehicles, solar energy and photovoltaic systems, wind farms, automated guided systems...

TECHNICAL DATA

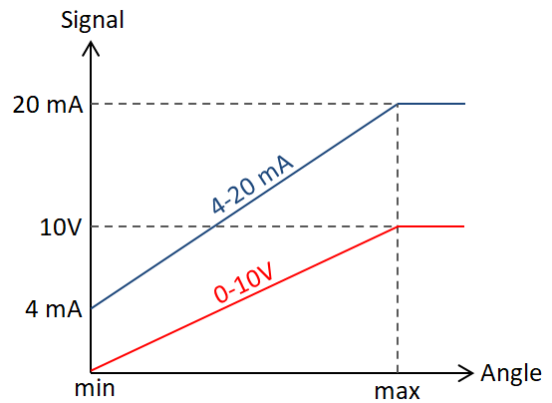
MODEL	
INPUT	
Measuring Range *	0 ... 360°
Measurement Axis	X
Supply voltage	4-20 mA & Transistor : 12...24 VDC 0-10 VDC & 0-5 VDC : 15...24 VDC
OUTPUT	
Output type *	2 x PNP Open Collector and Analog signal
Open Collector spec. - Output Voltage	$\sim(V-1)$ Volt
Open Collector spec. - Current consumption	< 200mA
Analog Output	0-5 VDC, 0-10 VDC or 4-20 mA
Response Time	10 Hz
Resolution	0.05°
Accuracy	$\pm 0,15^\circ$
Electrical Connection*	8 x 0,14 mm ² shielded cable or M12 male socket
ENVIRONMENTAL	
Operating Temperatures	-30 °C to 70 °C
Relative Humidity	10%...90%
Weight	~ 200 gr
Protection Class	IP64
Body Material	Aluminum

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 & SIGNAL AXIS



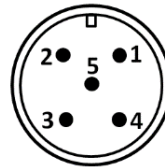
Analog Signal Output



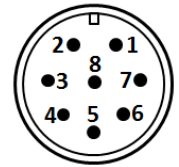
ELECTRICAL CONNECTION

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

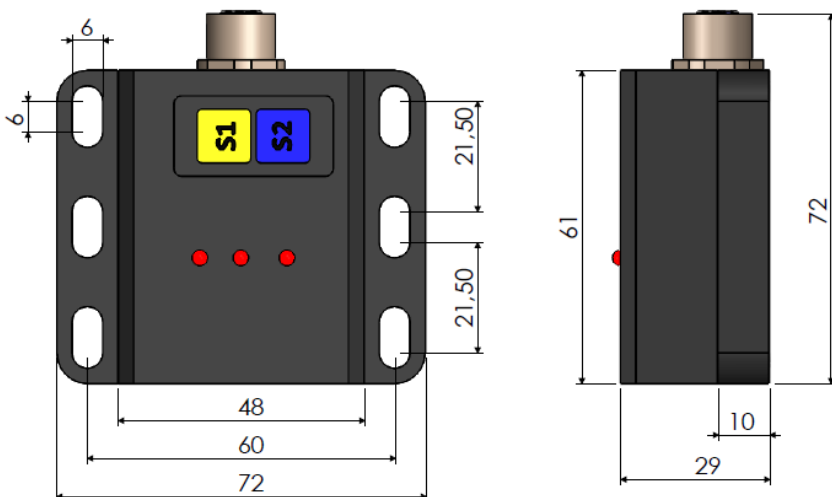
M12-5 Pin Socket



M12-8 Pin Socket

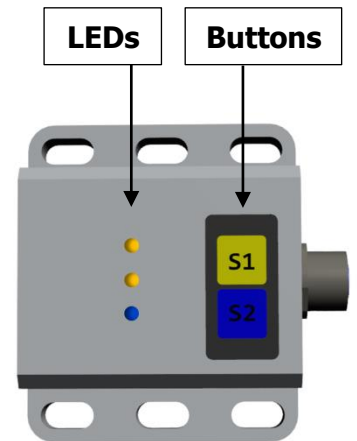


MECHANICAL DIMENSIONS



LED & BUTTON FUNCTIONS

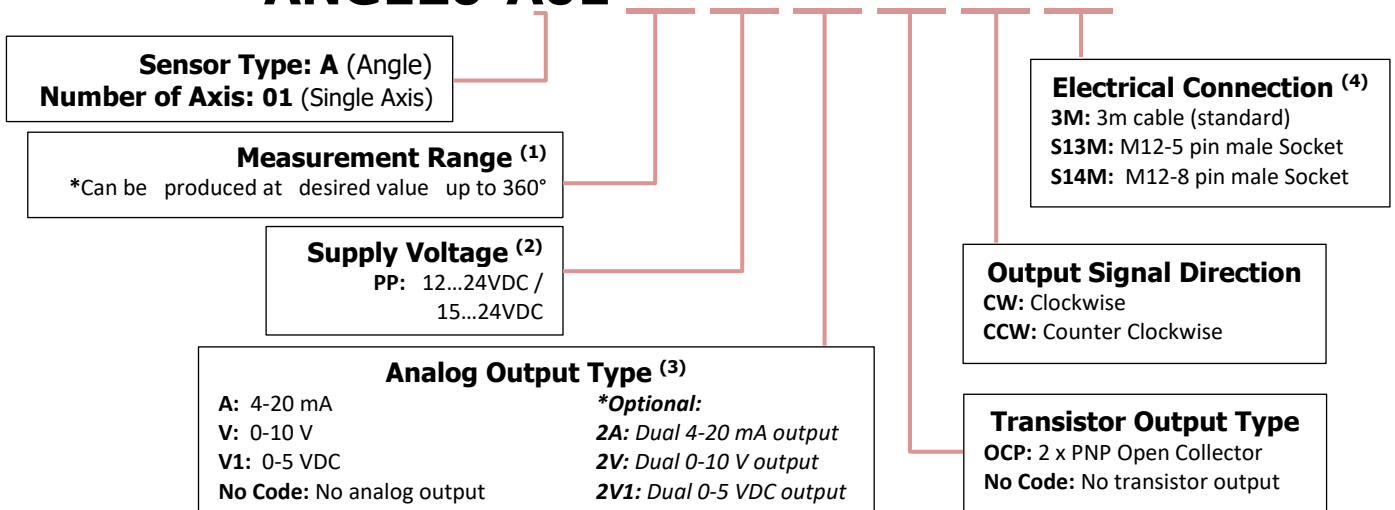
Working Status	Blue LED Status	Yellow LED Out 1	Yellow LED Out 2
During setting of switching output for OUT 1	light goes out	starts blinking	light goes out
During setting of switching output for OUT 2	light goes out	light goes out	starts blinking
While switching to analogue setting mode	light goes out	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	Blue	Used to change the set range for switching Out2 and analog outputs. Please refer to the user manual for detailed information.

ORDERING INFORMATION

-ANG120-A01



⁽¹⁾ The angle measurement range can be selected differently for transistor output and analog output. Required measurement range must be specified at the order stage.

⁽²⁾ The supply voltage is 12...24VDC for 4-20 mA & transistor output models, and 15...24VDC for 0-10VDC and 0-5VDC output models.

⁽³⁾ Optionally **Dual Analog Output** can be requested. In this case, it is necessary to add "2" at the beginning of the desired signal output at order coding.

⁽⁴⁾ If dual analog output is desired, the electrical connection must be selected as 3M (cable) or S14M (M12-8 pin male socket).



Example Code 1: -ANG120 A 01 030 PP A OCP CW S13M

-ANG120 series, angle, single axis, 0...30°, PP supply, 4-20 mA analog output, 2xPNP open collector output, output signal direction clockwise, M12-5 pin male socket

Example Code 2: -ANG120 A 01 -30...+30 PP 2A OCP CW S14M

-ANG120 series, angle, single axis, -30°...+30°, PP supply, 2 pieces 4-20 mA analog output, 2xPNP open collector output, output signal direction clockwise, M12-8 pin male socket

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

REVISIONS HISTORY

REVISION	DATE	DESCRIPTION
A	07/07/2025	Creation of the document

CONTACT

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