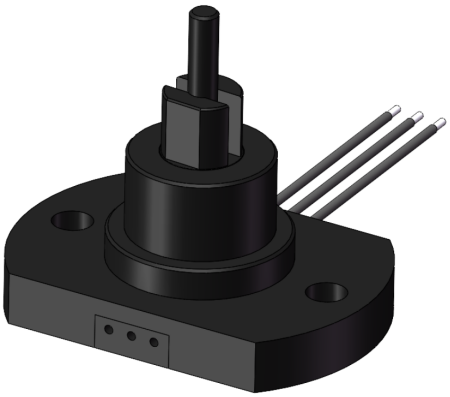
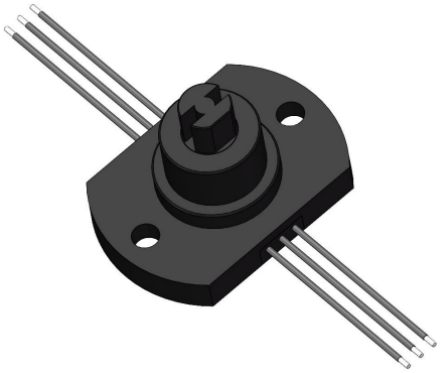
GD-868Z Series

Contactless Hall-effect angle sensor



With mounting pins



Without mounting pins

ALTERNATIVE TO **elobau 424Z series angle sensor (30°–120°)**

Interchangeability to be confirmed against the selection data. elobau® is a trademark of elobau GmbH & Co. KG; the model is cited only to indicate interchangeability. Gudao is not affiliated with elobau.

Overview

GD-868Z measures the rotation of a shaft or pivot point – for example a steering axle, boom joint, pedal or linkage on mobile machinery. A magnet on the rotating shaft is read by a Hall IC without any contact, so there is no wiper track to wear out. The measuring range is selectable from 30° to 120°, and a dual output version is available for safety-relevant functions.

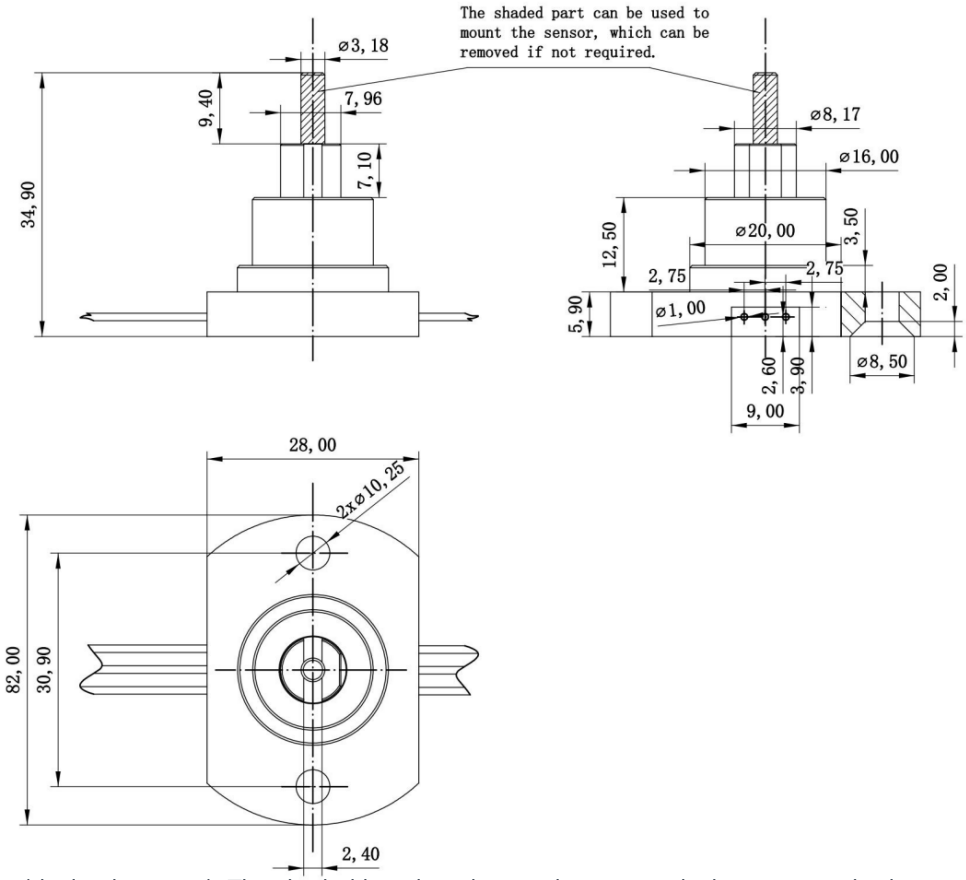
Key features

- Contactless Hall-effect measurement – no wear, long service life
- Measuring range 30°, 45°, 60°, 90° or 120°
- Ratiometric 0.5–4.5 V output, 2.5 V at centre position, 0.1° resolution
- Single output, or dual output (parallel or opposite) for redundancy
- IP67 housing in PBT, operating temperature −40 °C to +85 °C
- Compact flange with or without mounting pins

This document is for selection reference only. Final parameters, configurations and supply terms are subject to confirmation with Gudao and to the technical documents or contract agreed by both parties.

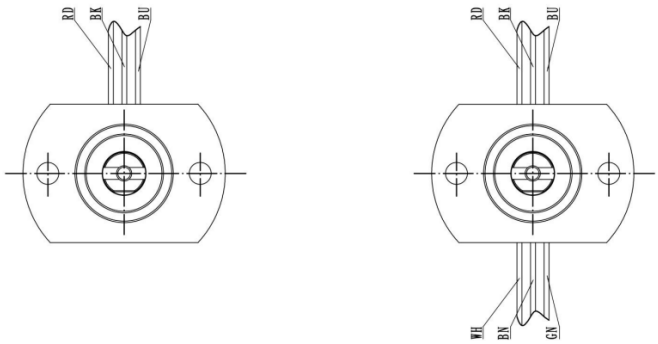
Chengdu Gudao Technology Co., Ltd.
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Dimensions



Dimensions in mm (decimal comma). The shaded locating pins can be removed when not required.

Wiring



Cable exit – single output (left), dual output (right)

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Wire colour	Single output (E)	Dual output (P / G)
Red (RD)	Supply +5 V	Supply 1 +5 V
Blue (BU)	Signal output	Signal output 1
Black (BK)	GND	GND 1
White (WH)	–	Supply 2 +5 V
Green (GN)	–	Signal output 2
Brown (BN)	–	GND 2

Electrical data

Supply voltage	5 V DC (4.5–5.5 V)
Current consumption	10 mA per channel
Output signal	Ratiometric 0.5–4.5 V DC; 2.5 V at centre / zero position
Number of outputs	1, or 2 (redundant)
Signal direction	E: CCW · P: CCW / CCW · G: CCW / CW
Resolution	0.1°
Update rate	2000 Hz
Minimum load resistance	10 kΩ
Reverse-polarity protection	Yes; outputs short-circuit proof
Temperature coefficient	typ. ±250 ppm/K
Typical linearity error	±0.2° (≤±15°) · ±0.4° (≤±25°) · ±1.0° (≤±35°) · ±2.0° (≤±45°) · ±5.0° (≤±60°)
EMC	Testing to the applicable standard (e.g. ISO 13766-1, EN ISO 14982) can be arranged per project.

Mechanical and environmental data

Housing material	PBT
Bearing	Plastic plain bearing
Mechanical stop	Yes, at approx. 180°
Permissible shaft load	None (axial and radial 0 N) – drive the shaft via a coupling, not a lever

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Fastening screw torque	1 N·m
Protection class	IP67
Operating / storage temperature	−40 °C to +85 °C
Cable	Stranded wires, 0.5 m; −40 °C to +105 °C (fixed installation)

Ordering code

GD-868Z – **E** – **120**

Series

GD-868Z = axial Hall angle sensor

Output

E = single output, CCW

P = dual output, parallel (CCW / CCW)

G = dual output, opposite (CCW / CW)

Measuring range

030 = 30°

045 = 45°

060 = 60°

090 = 90°

120 = 120°

Example: GD-868ZE120 = single output, counter-clockwise rising signal, 120° measuring range.

Installation notes

- Do not apply axial or radial force to the shaft; use a flexible or slotted coupling.
- Align the sensor shaft with the rotation axis before tightening the screws (1 N·m).
- Fix the cable along the machine so that it is not pulled or bent at the cable exit.

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