

Angular Rate Gyro Modules

Type KCD16008, KCD16922

SAG (1-axis), DAG (2-axis), TAG (3-axis)

Measuring modules for dynamic yaw rate measurement.

- Integrated 1-, 2- or 3-axis measurement
- Measuring range ± 150 °/s, dynamic range
- 8 ... 42 V power supply
- Temperature range: -40 ... 85 °C
- Custom spans and bandwidths available
- Case made of anodized die-casting aluminum



Description

The angular rate gyro modules provide a complete angular rate measurement solution in a single, compact package. Utilizing a measurement structure micro-machined in silicon, these modules are robust enough to withstand the punishment of harsh environments in mobile vehicle testing.

Measurement signals are generated via a change in the capacitive property of the structure, caused by a change in angular rate and converted into an electrical signal which is amplified, filtered, and voltage-compensated, resulting in a highly accurate and linear measurement.

Application

- Measurement of yaw and roll rate
- Slip-angle correction
- Position & motion sensing

Technical Data

Performance Specifications

Sensitivity			
Value (nominal)	°/s		± 150
	mV/°/s		12,5
Tolerance	%FSO		± 10
Zero rate bias output			
Value (nominal)	VDC		+2,5
Tolerance	mV		± 100
Full scale span			
Value (nominal)	VDC		$\pm 2,0$
Tolerance	%FSO		± 10
Frequency response			
Value (nominal)	Hz		25
	dB		-3
Tolerance	%		± 20

RMS equivalent noise		
Value (nominal)	°/s	1
Tolerance	%	± 25
Nonlinearity	%	± 1
Alignment	°	± 2
Transverse sensitivity	°/s/g	$\pm 0,2$
Zero rate bias drift (max.)	mV	200

System Specifications

Power supply	VDC	8 ... 42
Supply current (per axis, no load)	mA	10
Temperature range		
Operation	°C	-40 ... 85
Storage	°C	-65 ... 105
Dimensions (LxWxH), approx.		
SAG	mm	51x34x19
DAG, TAG	mm	76x38x30
Weight		
SAG	grams	45
DAG, TAG	grams	100
Tolerance	grams	± 10
Shock		
Operation	g	1 000
Transport	g	2 000

Note: Additional ranges and frequencies available on request.

Dimensions

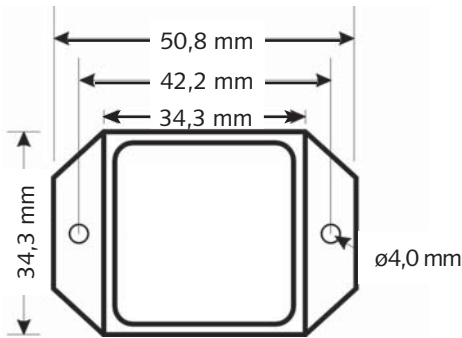


Fig. 1: Dimensions SAG

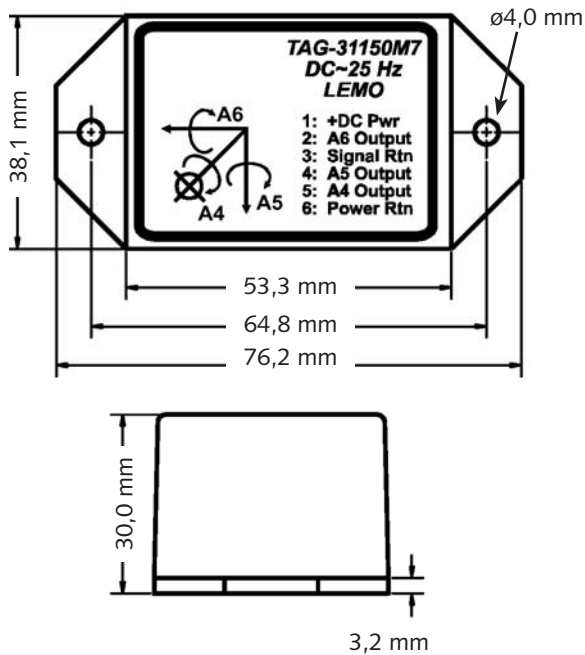
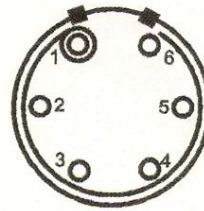


Fig. 2: Dimensions DAG, TAG

Pin Assignment



- 1 DC power supply
- 2 Signal axis A6 (TAG)
- 3 Signal GND
- 4 Signal axis A5 (DAG & TAG)
- 5 Signal axis A4
- 6 DC GND

Fig. 3: 6 pin LEMO connector

Note: Cables are not included in the scope of delivery and must be ordered additionally.

Cables

- 6 pin LEMO for SAG, l = 5 m
- 6 pin LEMO for DAG, l = 5 m
- 6 pin LEMO for TAG, l = 5 m

Ordering No.

- 18012577
- 18012589
- 18012586

Other cables on request.

Ordering Code

- Gyro Module SAG, 1-axis, ± 150 °/s
- Gyro Module DAG, 2-axis, ± 150 °/s
- Gyro Module TAG, 3-axis, ± 150 °/s

- 22000377
- on request
- 22000395

Other measuring ranges on request.