

# Angular Rate Gyro Modules

Type KCD16008, KCD16922

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

Gyro modules for dynamic yaw rate measurement.

- Integrated 1-, 2- or 3-axis measurement
- $\pm 150$  °/s dynamic range
- 6 ... 42 V power supply
- Temperature range:  $-40 \dots 85$  °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		$\pm 150$
	mV/°/s		20
Tolerance	%FSO		$\pm 1$
Zero rate bias output			
Value (nominal)	VDC		+2,5
Tolerance	mV		$\pm 100$
Full scale span			
Value (nominal)	VDC		$\pm 2,0$
Tolerance	%FSO		$\pm 1$
Frequency response			
Value (nominal)	Hz		25
	dB		-3
Tolerance	%		$\pm 10$

RMS equivalent noise		
Value (nominal)	°/s	1
Tolerance	%	$\pm 15$
Nonlinearity	%	$\pm 0,2$
Alignment	°	$\pm 2$
Transverse sensitivity	°/s/g	$\pm 0,2$
Zero rate bias drift (max.)	mV	200

#### System Specifications

Power supply	VDC	6 ... 42
Supply current (per axis, no load)	mA	10
Temperature range		
Operation	°C	$-40 \dots 85$
Storage	°C	$-65 \dots 125$
Dimensions (LxWxH), approx.		
SAG	mm	51x34x19
DAG, TAG	mm	76x38x30
Weight		
Value (nominal)	grams	45
Tolerance	grams	$\pm 10$
Shock		
Operation	g	1 000
Transport	g	2 000

**Note:** Additional ranges and frequencies available on request.

**Dimensions**

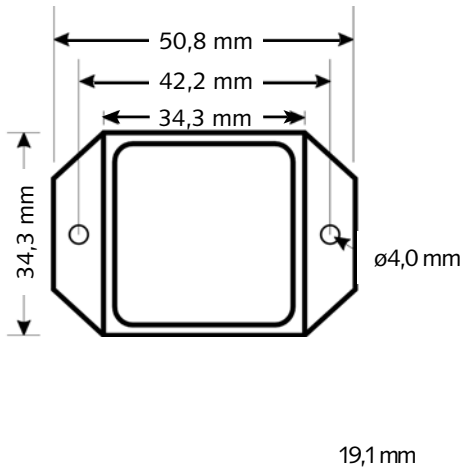


Fig. 1: Dimensions SAG

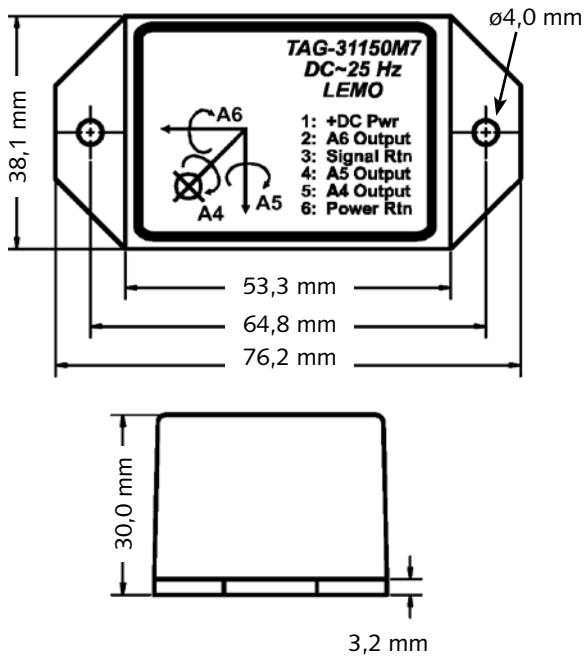
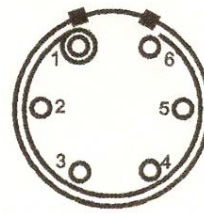


Fig. 2: Dimensions DAG, TAG

**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

**Attention:** The angular rate gyro modules of the new generation are equipped with a connector that is different from the former +5 V modules and cannot be used with the cables delivered with these +5 V sensor types!

**Included Accessories**

- Cable

**Type/Art. No.**

on request

**Ordering Code**

- Rate Gyro Module SAG
- Rate Gyro Module DAG
- Rate Gyro Module TAG

**Type**

KCD16008  
 on request  
 KCD16922

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