RaceGrade Specification

Document Number		RG_SPEC-0017	
Title		Angular Rate Sensor	
Revision	**Date**	**Prepared By**	**Change History**
1.1	2/15/2012	Chris Brown	Initial release, added application note

This sensor outputs a DC voltage proportional to the rate of turn. It is a solid state MEMs single axis angular rate sensor, used to measure the rate of turn in units of degrees per second. It is designed to withstand vibration and shock, and exceeds the capabilities of normal mechanical gyro-based sensors. Unlike accelerometers, this sensor is independent of chassis vibration and has a faster response time.

Part #	**Range**	**Application**
M YAW 100	+/- 100 deg/s	vehicle yaw
M YAW 200	+/- 200 deg/s	bike lean

Specifications:

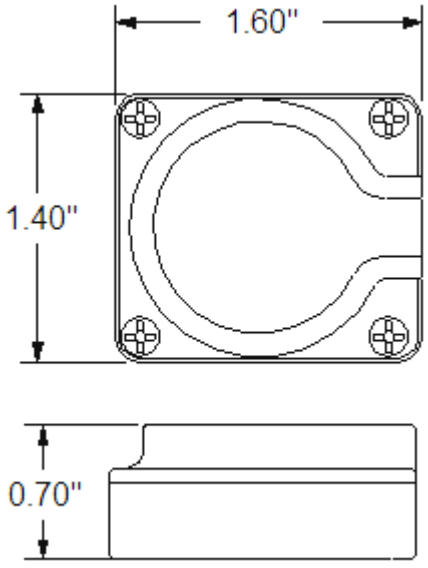
Output:	0 - 5v ratiometric
Supply Voltage:	5.00 ±0.25 VDC
Current Consumption:	typical 35mA, max 50mA
Rate Range:	±100°/s (±200°/s available)
G sensitivity:	less than ±0.1°/s/g
Drift vs Time:	less than ±0.55°/s in 30s
Temp Variation:	less than ±3%
Non Linearity:	less than 0.5% full scale
Temperature Range:	-20°C to +85°C
Humidity:	5% – 95%
Weight:	38 grams w/o connector

Calibration:

Rate Range: ±100°/s (±200°/s available)

Scale Factor: 20mV/°/s (10mV/°/s available)

Mounting Notes: Lead length is 6" long. Use Velcro for mounting. Location in vehicle does not matter.



Connection:

Mating Connector: DTM06-03P

Part # M DTM 3P	optional Autosport:
DTM-03P	AS 606-05SD-HE
pin 1 – 0 volts	pin 1 – 0 volts
pin 2 – signal	pin 2 – n/c
pin 3 – 5 volts	pin 3 – signal
	pin 4 – n/c
	pin 5 – 5 volts