COSWORTH

CAN SERIAL GPS

CSG 10

QUICK LINKS

- Overview
- Connector Information
- Dimensions

T (UK) +44 (0) 1954 253 600 | **T (US)** +1 (317) 644 1037
E sales@cosworth.com | www.cosworth.com

CSG 10

The CAN Serial GPS (CSG) is an ultra compact unit that uses both GPS and GLONASS / BeiDou satellite arrays to deliver very high accuracy, low latency positioning information at up to 10Hz.

Built into the unit is a user configurable 9 axis motion pack with adjustable range and filters, with CAN update rates of up to 500Hz.

Supporting both RS232 serial and CAN V2.0 simultaneously, combined with an input voltage range of 5-32V, allows the CSG to be easily integrated to virtually any system.

Dual band antenna connection is supported via SMA connection which allows the CSG unit to be mounted in a precise position inside a vehicle to offer unprecedented levels of accurate measurement.

LEDs to show satellite fix and processor heart beat ease operation. Additionally, a 15 day rechargeable internal battery allows the unit to hot start in less than 1 second.

By default the CSG is ready to use advanced differential correction from WAAS EGNOS and SBAS messages allowing for an even greater level of positional accuracy to be achieved. The unit also supports a differential correction via an RTCM message, this requires the addition of a ground based basestation and a radio link to be implemented.

GPS Technical Data	
Receiver Type	72 Channel GPS/QZSS L1 C/A GLONASS L10F, BeiDou B1
Update Rate	10Hz
Time to Fix [1]	26s Cold start 1s Hot Start
Sensitivity [2]	-167dBm Tracking -160dBm Reacquisition -148dBm Cold start -156dBm Hot Start
Velocity Accuracy [3]	0.05m/s
Horizontal Position Accuracy [4]	2.0m
Antenna Excitation	Selectable 3V3 or off
Differential Correction	SBAS/WAAS/EGNOS RTCM (via NMEA RS232 Rx)
Motion Pack Technical Data	
Axis of Measurement	3 axis Accelerometer 3 axis Gyro 3 Axis Magnetometer
Accelerometer Range	±2g, ±4g, ±8g, ±16g
Accelerometer Low Pass Filter Response	5-260hz
Gyro Range	±250°/sec, ±500°/sec, ±1000°/sec, ±2000°/sec
Gyro Low Pass Filter Response	5-256hz
Magnetometer Range	±1200 µT

Technical Data	
Input Voltage	5 to 32V
Operating Temp	-10 to +70°C
Storage Temp	-20 to +85°C
LEDs	1 x Processor Status 1 x GPS Status
Debug Connection	1 x RS232
RS232 Communication	1 x Debug Tx/Rx 1 x NMEA 0183 Tx/Rx
CAN Communication	1 x CAN 2.0B
CAN Rate	125/250/500/1000 kbps
CAN Termination	Software Selectable
Mechanical Data	
Material	6082 T6 Alloy
Dimensions	50 x 50 x 26.5mm
Weight	74g
IP Rating	IP65
Mounting Points	3 x M3x0.5 male-female AV

Ordering Information

Part Number	Description
01S-630090	CSG10 (CAN Serial GPS)
01S-630105-A	GPS Antenna 3v3 SMA 5mtr
01S-630105-B	GPS Antenna 3v3 SMA 1.5mtr
60S-630106	CSG Debug Loom

Document: 29S-630090-P
Document Issue: 2 Rev: 3A
Date of release: 10 Oct 2023
Data subject to change without notice

COSWORTH

CSG 10

Connector Information

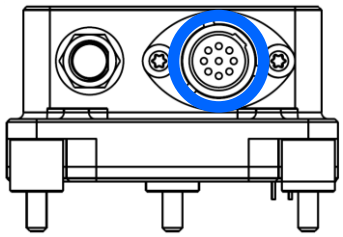
Please note, pin allocation is in functional order not pin number order.

Connector	Mating Connector
Deutsch ASDD006-09PB	Deutsch ASDD606-09SB

System Connector

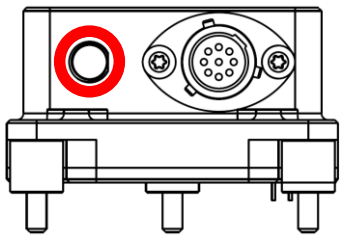
Pin	Signal	Description	
1	BATT+	Battery 5-32V Input Voltage	
2	DEBRX	Debug Rx	(DB9 pin 3)
3	DEBTX	Debug Tx	(DB9 pin 2)
4	RS232 Tx	NMEA RS232 Tx	
5	RS232 Rx	NMEA RS232 Rx	
6	CAN L	CAN Low	
7	CAN H	CAN High	
8	DEBGND	Debug Gnd	(DB9 pin 5)
9	BATT-	Battery 0V	

System Connector

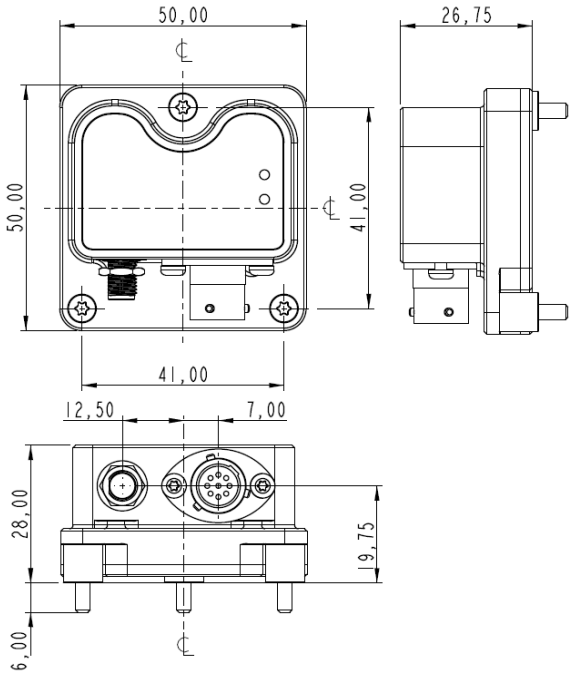


Connector	Mating Connector
SMA Female, standard polarity, Bulkhead 50 ohm	SMA Male, standard polarity, Cable, 50 ohm **Important Information:** **SMA coupling nut mating torque between minimum 4lbf.in (0.5Nm) and 6lbf.in (0.7Nm) maximum.** **If over torqued the bulk head SMA may turn and cause internal damage, voiding warranty.**

Antenna Connector



Dimensions



[1] All satellites at -130dBm
[2] Demonstrated with a good external LNA
[3] 50% @ 30m/s
[4] CEP, 50%, 24 hours static, -130dBm, 6 SVs

T (UK) +44 (0) 1954 235 600 | **T (US)** +1 (317) 644 1037
E sales@cosworth.com | www.cosworth.com