

DRIVE PLATE TORQUE SYSTEM

NASCAR



The full system consists of the following components:

- Two Strain gauge receiver
- Two Receiver antenna
- Two wheel hubs fitted with strain gauges, LH & RH
- Two hub transmitters

The Drive Plate Torque System uses a low power radio link to transfer digitised strain measurements from a rotating wheel hub to a stationary antenna mounted nearby. The signals are passed to a receiver where they are decoded and output as CAN bus messages and analogue outputs.

The system is intended to be installed on a single vehicle. The system works with a hub transmitter on each drive wheel.

The hub transmitter can be fitted for testing and removed for race trim. When fitted back onto the same hub for further testing no additional calibration is required. A cover is provided to protect the contacts when in race trim.

The following customer provided equipment is required to configure the system:

- CAN Bus Protocol Analyser (capable of sending user defined messages)
- PC with RS232 interface and terminal emulator software

Electrical

Receiver

- CAN interface
- Analogue output
- Antenna supplied
- Supply +8 to +16 VDC
- Max positive torque $4.75 \pm 0.15V$ (clips at 4.9V)
- Zero torque $2.5 \pm 0.15V$
- Max negative torque $0.25 \pm 0.15V$ (clips at 0.1v)
- Max deviation of output from 20°C to 125°C:
Standard system = $\pm 7\%$ of full scale
Thermally compensated system = $\pm 3.5\%$ of full scale

Transmitter

- Internal $\frac{1}{2}$ AA Sulfuryl Chloride battery, can be renewed by user, no need to return to MESL
- Battery life 24 hours (typ) of continuous transmission
- RS232 interface for calibration
- Internal antenna
- Sampling rate 100Hz

Wheel can be fitted and removed with transmitter in place. A cover is supplied for the gauge contacts when the transmitter is not in place.

Each hub transmitter has a unique encrypted serial number. The system can be supplied with calibration data already programmed into the transmitter.

Application

- Measurement of strain on drive plate

Mechanical

Receiver

- Black anodised aluminium case

Transmitter

- Black polyester body
- Operating temperature +10°C to 125°C

Drive Plate

- Customer to supply drive plates to MESL
- Wheel hubs to be individually numbers
- Service covers allows drive shaft to be serviced while the plate remains on the car
- MESL can provide a balanced and thermally compensated full bridge gauge circuit on the hub

06/08/09

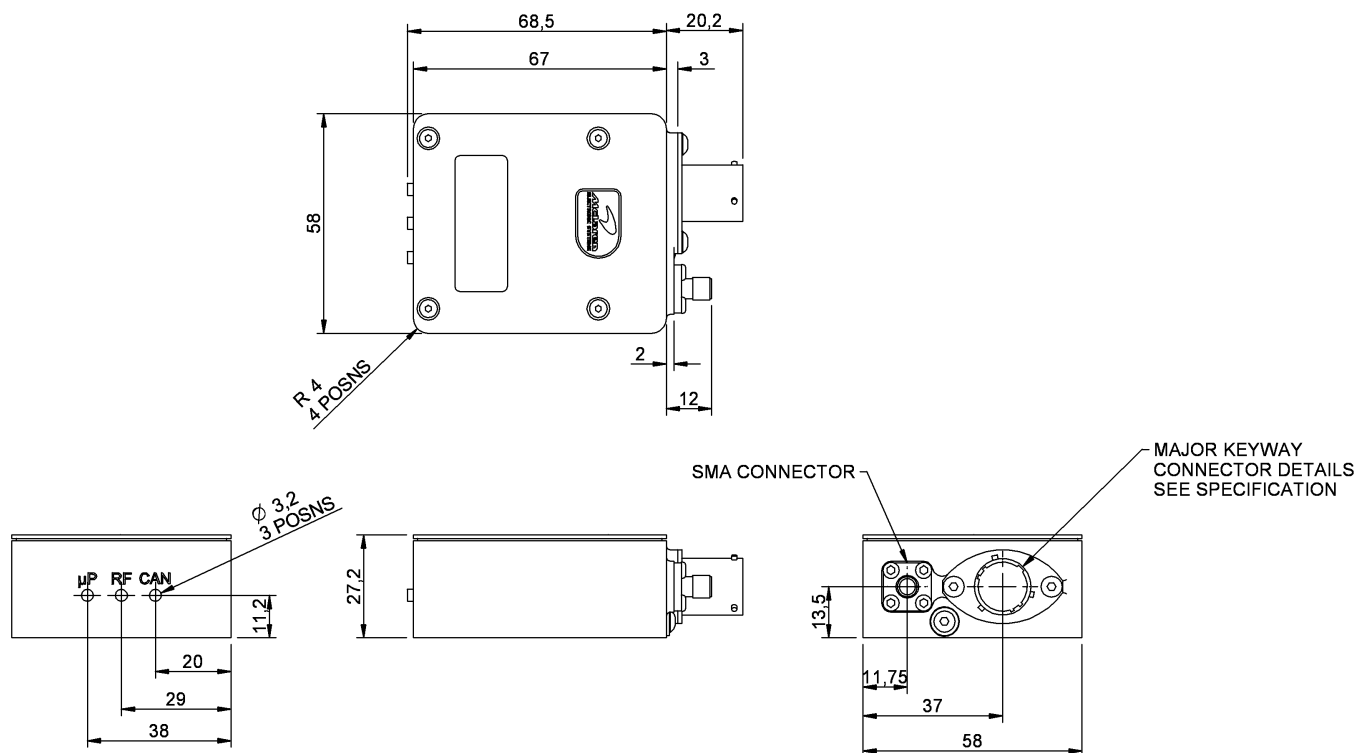
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Connection

Receiver

• AS2-10-35PN Connector

Pin 1	Supply +ve
Pin 2	RS232 In
Pin 3	Screen
Pin 4	CAN+
Pin 5	CAN-
Pin 6	NC
Pin 7	NC
Pin 8	Signal Ground
Pin 9	Analogue Signal
Pin 10	Power Ground
Pin 11	RS232 Out
Pin 12	NC
Pin 13	RS232 Ground



Description

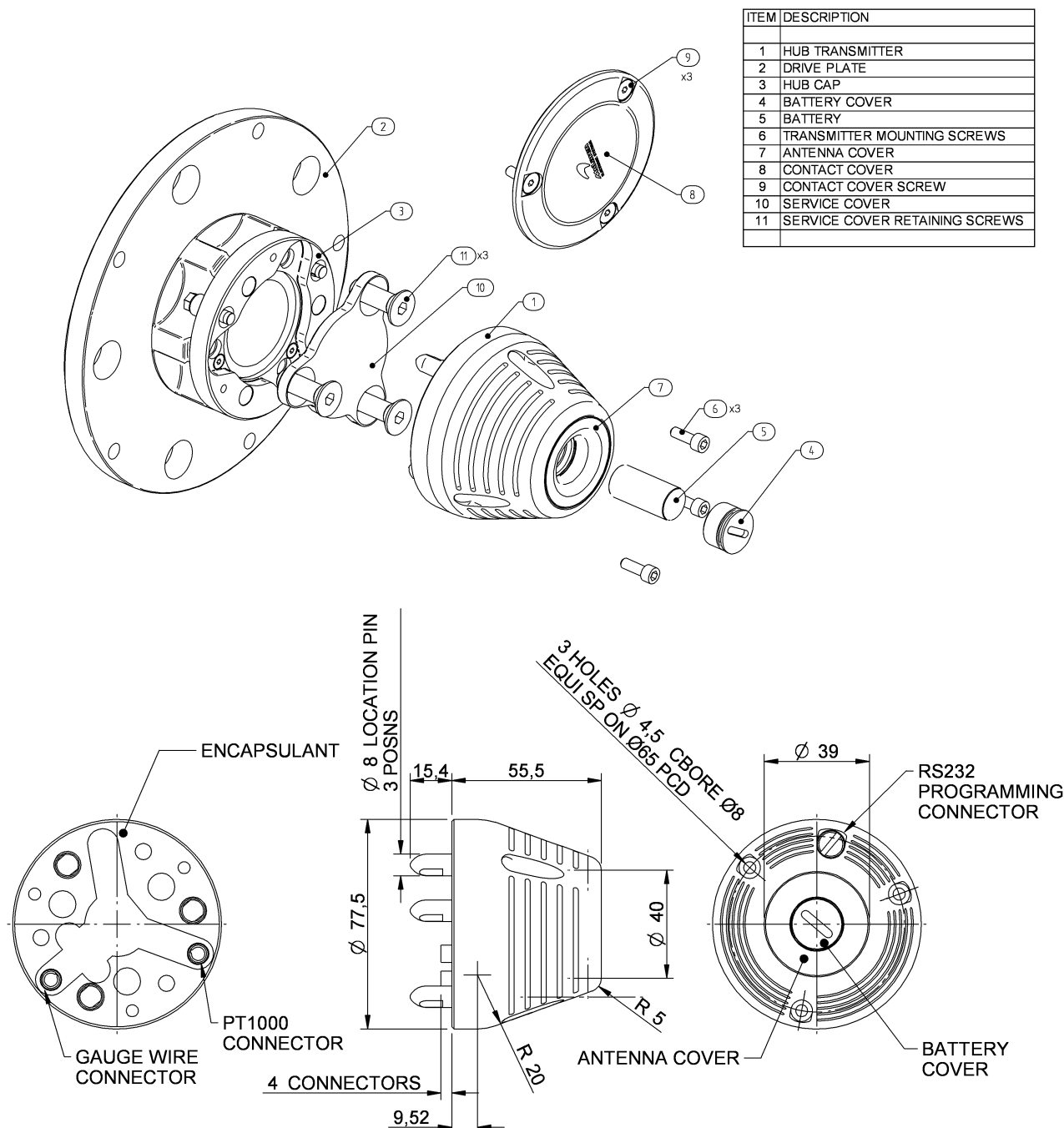
Drive plate receiver
Receiver ANA/CAN/PWR connection cable
1.5m antenna extension cable

Order Code

O 030 205 005 000
O 030 205 990 000
O 030 205 990 004

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ITEM	DESCRIPTION
1	HUB TRANSMITTER
2	DRIVE PLATE
3	HUB CAP
4	BATTERY COVER
5	BATTERY
6	TRANSMITTER MOUNTING SCREWS
7	ANTENNA COVER
8	CONTACT COVER
9	CONTACT COVER SCREW
10	SERVICE COVER
11	SERVICE COVER RETAINING SCREWS

Description

NASCAR Wheel Hub transmitter
RS232 programming cable
Spare battery

Order Code

O 030 205 006 000
O 030 205 990 001
O 030 205 990 002

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