

WIRELESS STRAIN GAUGE SYSTEM ABSOLUTE

The Absolute Strain Gauge System uses a low power radio link to transfer up to two digitised strain measurements 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 full system consists of the following components:

- Strain gauge receiver with antenna
- Transmitter with antenna

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

- Recommended CAN card Vector CANcardXL
- PC with RS232 interface and terminal emulator software
- PC with RS232 interface to run the calibration GUI for the transmitter, if re-calibration is required

Electrical

Receiver

- CAN interface
- 2x Analogue outputs
- 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

- Available with internal $\frac{1}{2}$ AA Sulfuryl Chloride battery, which can be renewed by user, no need to return to MESL, or external battery
- Battery life 24 hours (typ) of continuous transmission
- Two channels
- Gauge circuit specification for each channel
Balanced and modulus compensated full bridge
1kohm gauges
Gauge factor ≥ 2
- PT1000 connection if thermal compensation is required
- RS232 interface for calibration
- Antenna supplied
- Message transmission rate up to 1kHz
- RF Specification:
Nominal frequency 433.920MHz
Modulation ASK encoded serial data

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

Application

- Measurement of strain

Mechanical

Receiver

- Black anodised aluminium case
- Weight 115g
- Resistant to standard Motorsport fluids
- 434 MHz helical antenna, approx 79mm long x 15mm diameter, with SMA female connector
- Shock 50g (max), $\frac{1}{2}$ sine for 11ms, 5 times per axis

Transmitter

- Black aluminium body
- Operating temperature +10°C to 125°C
- Polyester cable bosses for strain relief where fitted

Connection

Receiver

- AS2-10-35PN Connector
- Antenna 25SMA-50-2-6/111 NE

Internal Battery Transmitter

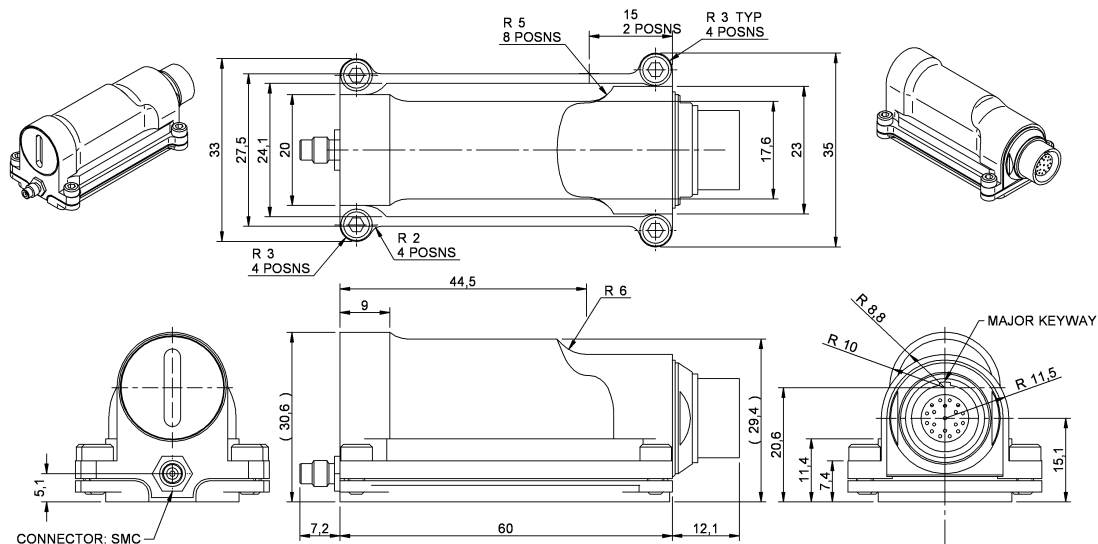
- EHN-2F-319-XLM Connector
- Antenna connector via case-mounted bulkhead SMC socket

External Battery Transmitter

- 28AWG un-screened cable
- Cable length 300mm
- DR25 jacketed cable
- Antenna connector via case-mounted bulkhead SMC socket

For pin-out details contact MESL

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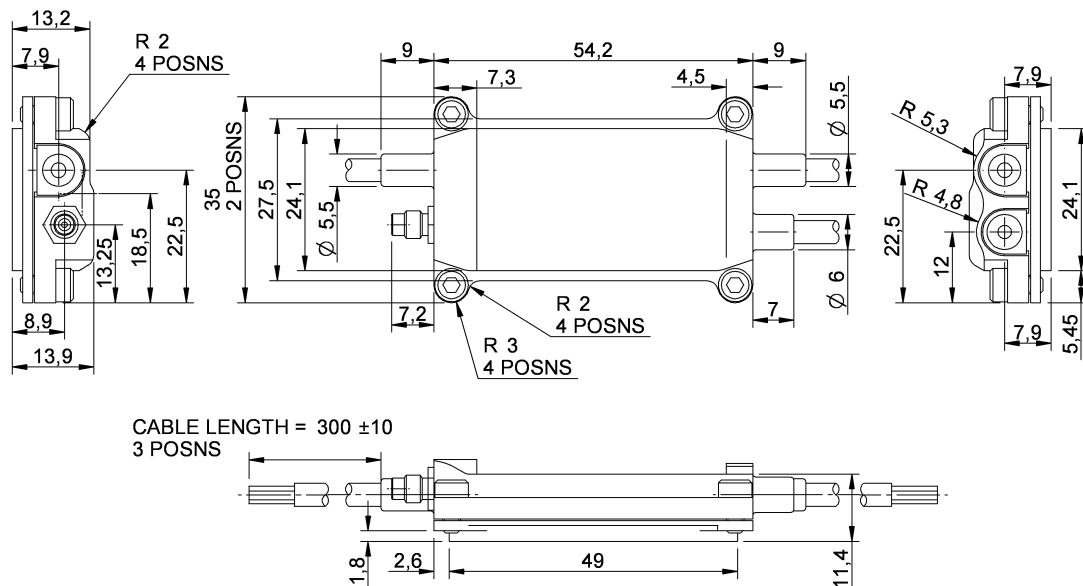


Description

ASGT with internal battery
Spare battery
Transmit antenna

Order Code

O 030 205 006 003
O 030 205 990 001
O 030 205 990 003



CABLE LENGTH = 300 ±10
3 POSNS

Description

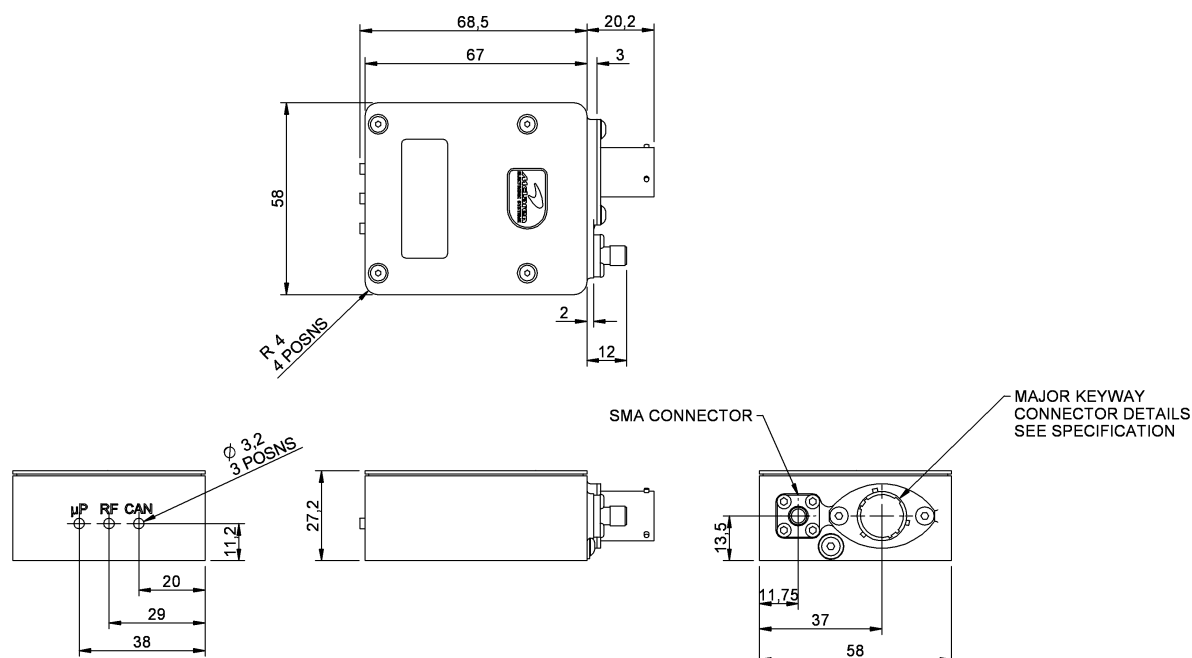
ASGT with external battery
Transmit antenna

Order Code

O 030 205 006 004
O 030 205 990 003

14/04/10

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Description	Order Code
Drive plate receiver	O 030 205 005 000
Receiver ANA/CAN/PWR connection cable	O 030 205 990 000
1.5m antenna extension cable	O 030 205 990 004