LIU-4

LVDT Interface Unit

PRODUCT DESCRIPTION

The LIU-4 provides signal conditioning for four 5 wire LVDT positioning sensors. When the LVDT sensors are being used in latency critical control systems, the conditioned signals are passed to the host ECU as four 0 to 5V analogue outputs. Where LVDT sensors are used for diagnostics or where control system speed is less critical, the signal conditioned values can be made available over the CAN bus communications link in order to reduce system harnessing.

A common primary sine wave signal is generated to supply all 4 LVDT sensors. This prevents beat notes being generated due to stray magnetic coupling when the LVDT sensors are used in close proximity using similar frequencies. The frequency and amplitude of the common primary signal are software programmable. The primary signal to each LVDT is individually buffered such that an overload on one sensor primary does not affect the other.

The four 0 to 5V LVDT signal conditioned analogue outputs are individually software programmable for gain and offset in order to provide more flexibility for the measurement span. LVDT sensor open circuit diagnostics are available through the CAN bus communications link.

Typical inductive sensors, for illustrative purposes only

Features

- 4 off 5 wire LVDT inputs with ratiometric measurement Common primary signal, software adjustable frequency between 1kHz to 15kHz, and voltage between 0.5Vrms to 3.0Vrms. Maximum output current 20mArms.
- Software adjustable gain and offset for each signal conditioned output
- Secondary signal input range 1Vrms to 3.5Vrms
- CAN Bus address ID analogue input
- Unit reset input – switch to ground
- 4 off 0 to 5V LVDT signal conditioned analogue outputs, with separate reference ground input
- Internal 16 bit micro controller, 12 bit resolution ADC, Flash program memory
- LVDT sensor open circuit diagnostics, unit internal diagnostics including internal temperature
- CAN Bus interface, 1Mbaud standard

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Application

- LVDT sensor signal conditioning

Electro Magnetic Compatibility

Complies with the essential protection requirements of EMC Directive 204/108/EC

Mechanical

- Case material hard anodised aluminium
- Weight 105g

Connection Definition

- Integral, sealed, Deutsch high density Autosport series connectors

LVDT Connector	23 way ASDD210-23PN
Main connector	11 way ASDD208-11PN

For pin numbers please consult our Technical Consultancy service

Electrical

- Supply Voltage 7.5V to 16V DC
- Supply Voltage not to exceed 17V continuous (the unit is protected against transients and reverse polarity)
- Current 180mA typical at 13.8V (with 10mArms LVDT primary loads)

Environmental

- Splash resistant to standard motorsport fluids
- Lids 'O' ring sealed, screws sealed with silicone sealant
- Maximum humidity 100%
- Minimum operating temperature 00C
- Internal temperature not to exceed 850C as measured by internal diagnostic sensor
- Storage temperature -100C to 850C
- Vibration 100 to 1000Hz, all axes, 24 hours

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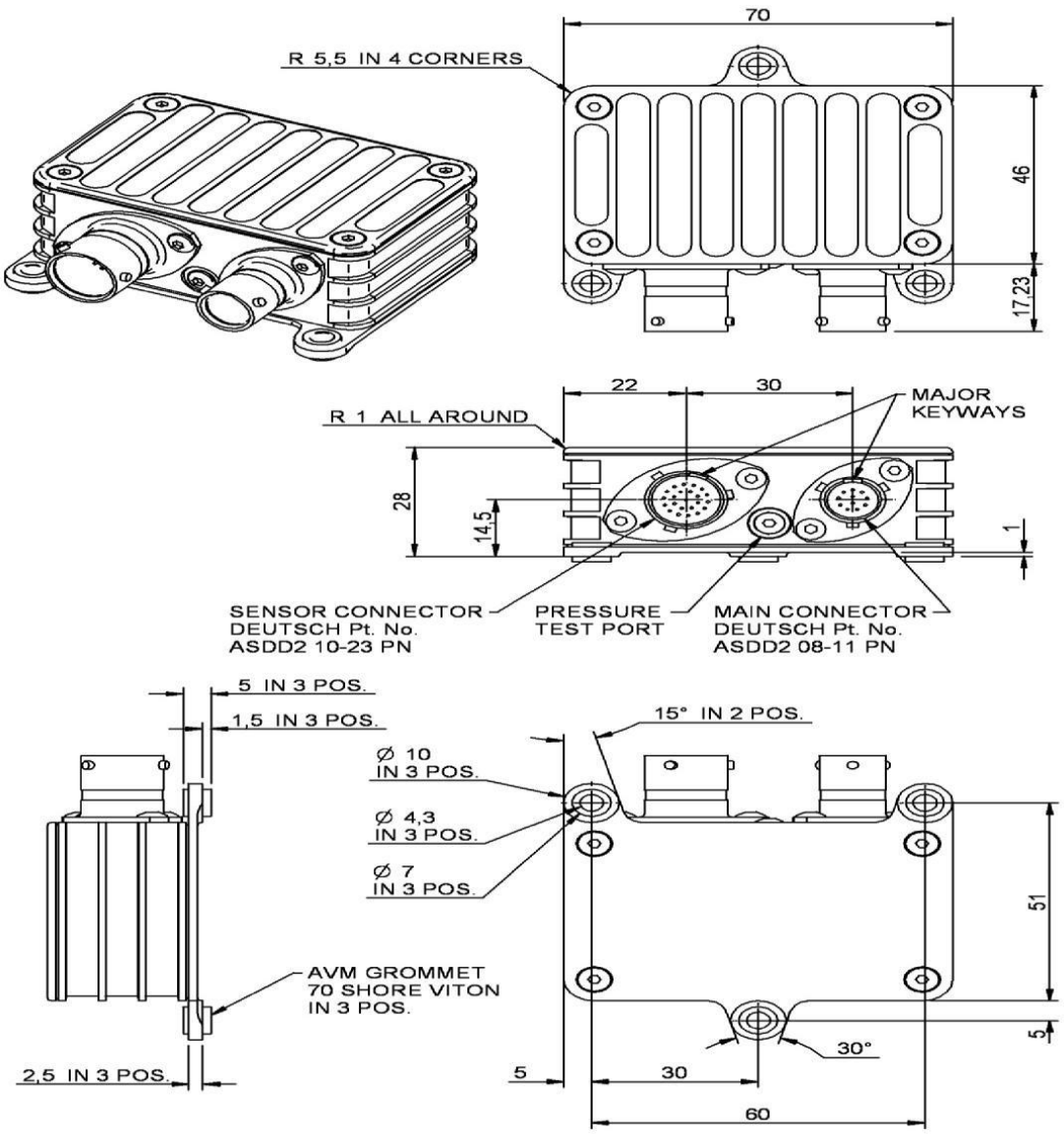

Description	Order Code
LIU-4	O 030 110 012 000

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