

INTERFACE

TIU-32 Thermocouple Interface Unit



The TIU-32 is a 32 channel thermocouple interface unit. Two versions are available, the TIU-32 and the TIU-32C providing output as either 0-5V analogue or via CAN.

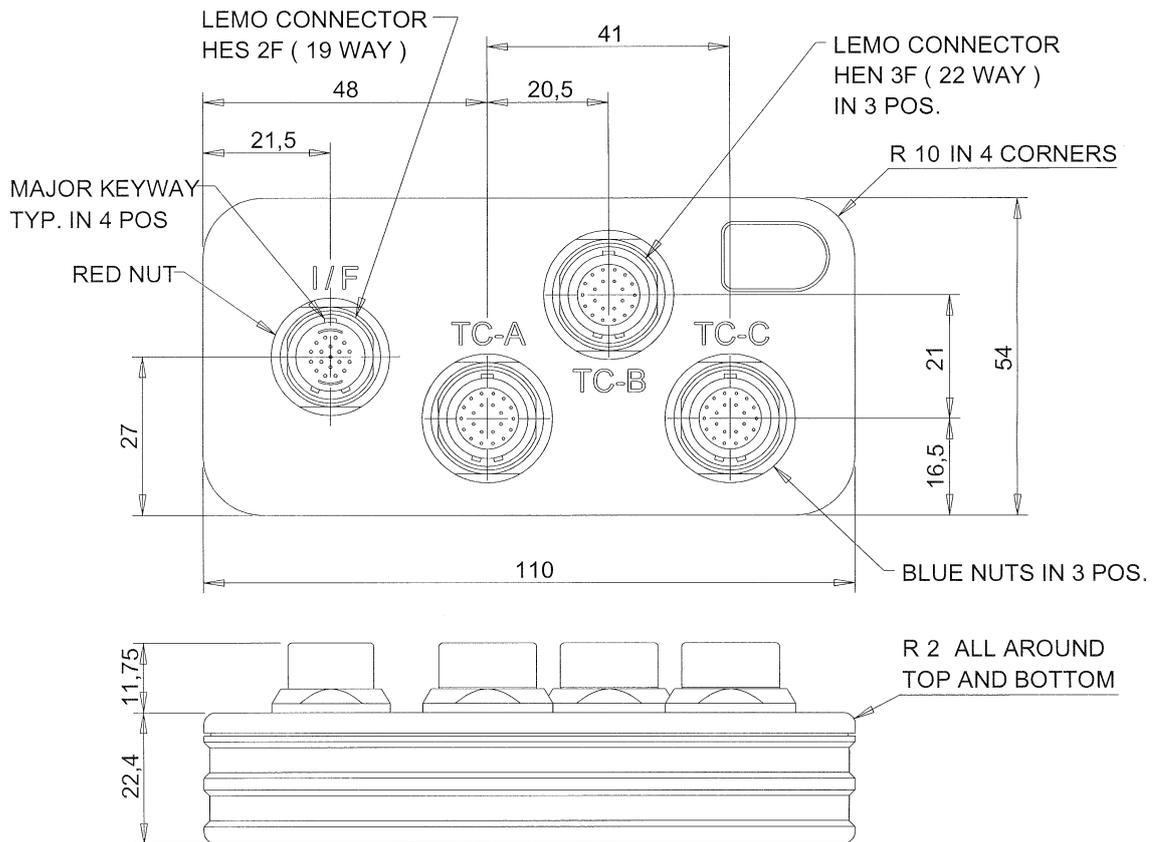
Cold junction is provided with the TIU-32 and TIU-32C. In the case of the standard TIU-32 the 32 compensated signals are then multiplexed (32:2) to provide two 0-5V scaled outputs. Channel selection is under the control of a host ECU via 4 channel select pins.

The TIU-32C CAN-linked version is fitted with a microcontroller that samples the analogue signals and scales them accordingly ready for transmission to a control unit via the CAN bus at speeds up to 1Mbps.

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|---|---|--------------|--------|--------------|-------------|--------|--------------|
| <p>Electrical</p> <ul style="list-style-type: none"> Supply Voltage 7V to 17.5V Supply Voltage must not exceed 17.5V continuous (the unit is protected against transients and reverse polarity) Current 95mA maximum (70mA, typ) <p>Mechanical</p> <ul style="list-style-type: none"> Case material Magnesium alloy, finished with stippled black epoxy Weight less than 155g <p>Sensor Inputs</p> <ul style="list-style-type: none"> 32 Analogue Type 'K' thermocouple inputs, -50°C to +1300°C nominal sensor range, cold-junction compensated, open circuit detection (1M pull-up to 160mV) 4 Digital channel select inputs (10k pull-downs), 5V clamp, can be driven from TTL or Moog output <p>Outputs</p> <ul style="list-style-type: none"> 2 0-5V outputs (16 multiplexed outputs per channel) Nominal scale 60mV at -50°C, 230mV at 0°C, 3.944V at 1000°C Outputs can be scaled and transmitted via a CAN link at 1Mbps <p>Application</p> <ul style="list-style-type: none"> Multiple channel temperature monitoring. | <p>Connection Definition</p> <ul style="list-style-type: none"> Integral, sealed, LEMO series F motorsport connectors <table border="0"> <tr> <td>Connector 1</td> <td>22 way</td> <td>HEN3F322XLNP</td> </tr> <tr> <td>Connector 2</td> <td>19 way</td> <td>HES2F319XLDP</td> </tr> </table> <ul style="list-style-type: none"> For pin numbers, please contact our Technical Consultancy Service <p>Electro Magnetic Compatibility</p> <ul style="list-style-type: none"> Complies with the essential protection requirements of 89/336/EEC <p>Environmental</p> <ul style="list-style-type: none"> Splash resistant to standard motorsport fluids Lid and screws sealed with silicone sealant, lid 'O' ring sealed Maximum humidity 100% Operating temperature -50°C to +70°C Storage Temperature -50°C to +85°C Vibration 100 to 1000Hz, all axes, 24 hours Care must be taken to shield the TIU-32 from draughts and sources of direct heat, as uncompensated errors will occur if the unit is subjected to thermal gradients or operated in an unstable ambient temperature. | Connector 1 | 22 way | HEN3F322XLNP | Connector 2 | 19 way | HES2F319XLDP |
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| Connector 2 | 19 way | HES2F319XLDP | | | | | |

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| Description | Order Code |
|----------------------|-------------------|
| TIU-32 | O 030 095 008 001 |
| TIU-32C (CAN linked) | O 030 095 008 002 |

29/11/07