Installation and Operating Guide

Scope: The LAU73.1 is a highly reliable device which can link an analogue strain-gauge transducer to a wide range of analogue equipment. The LAU produces a current loop output which can be easily converted to a voltage output by adding a resistor. Switches are provided to give a wide range of filter, off-set and gain settings to suit many industrial applications, and the compact configuration provides versatility of mounting.

Power supply: The power supply can be any regulated source of 12-24 V DC +10/- 5%, 80 mA maximum.

Output: Current loop output is produced by load cell signals over the range 0-0.25 mV/V up to 0-2.3 mV/V FS as required. The Iout range can be set to 0-20 mA or 4-20 mA. Selecting the 0-20 mA output and placing a 500R resistor across the current output will generate a 0-10 V DC analogue signal.

Analogue input: Strain-gauge load cell or force transducer, minimum load impedance 320Ω. A four-wire ratiometric measurement technique is employed. Provision is made for connection of sense wires for 6-wire circuits, these connections being commoned to the load cell excitation terminals on the LAU 73.1 pcb.

Gain set: Through the use of three DIP-switches, the relative gain factor can be set in steps of 1 over the range 1 to 7. This allows the full output signal range to be obtained from load cells/transducers which provide only 0.25 mV/V output at the applied load.

Linearity: Max deviation 0 - Full scale: <100 ppm FS. (<0.010% FS)

EMC: CE regulations regarding EMC in accordance with 89/336/EEC and meets the Low Voltage Directive 73/23/EEC, as amended by 93/68/EEC.

Technical data:
The LAU 73.1 meets the CE regulations regarding EMC in accordance with 89/336/EEC and the Low Voltage Directive 73/23/EEC, as amended by 93/68/EEC.

Load cell input:
Excitation voltage: 10 V DC <= 32 mA
Load cell drive capability: 320 - 2000 Ohms
Input offset range for 0/4mA Iout: 0 - 1.5 mV/V
Standard input gain range for 20 mA Iout: 0.25 - > 2.0 mV/V
Input signal resolution: ~100 mV

Analog output:
Current loop output (Iout): 0-20 mA or 4-20 mA
Ri <=500Ω

Linearity:
Drift 5 min. upon power ON: <50 ppm FS.
Operating temperature range: -10°C to +40°C.
Storage temperature range: -20°C to +50°C.
Temperature offset on offset: <100 ppm°C.
Temperature offset on gain: <50 ppm°C.

Power supply:
Regulated DC source: 12-24 V DC +10/- 5% <=80mA
Optional Unit Adapter Model UA73.202

An optional Unit Adapter for the Model LAU73.1 which allows DIN rail mounting and gives screw terminals for all connections. The unit has an on-board fuse and provision for resistors to be added to give a voltage output instead of current.

Unit Adapter Model UA73.20x Options

The UA 73.202 is available with additional fine zero and span adjustments via on-board potentiometers and resistors to give a 0-10V output.

Fitting instructions and dimensions

To mount the LAU73.1 to the UA 73.20x simply push the pre-fitted pins on the underside of the LAU 73.1 into the corresponding socket on the UA 73.20x.

All UA73.20x units are 41mm wide.