

ATEX 4-20mA Load Cell Amplifiers

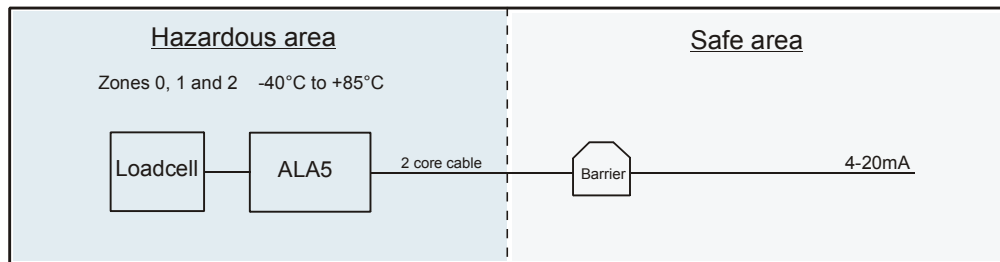
Features

- High performance amplifier certified for ATEX Hazardous Zones 0, 1 & 2
- Designed for fitting in-line to strain gauge sensors such as load cells
- Environmentally sealed to IP67
- Provides 2-wire 4-20mA current loop output
- Input range up to 5 mV/V
- Bridge Impedance min 350 Ohms max 5000 Ohms
- Fast calibration via gain and offset trim
- Wide temperature range -40°C to + 85°C
- Supply Voltage range min 9V max 28V
- Supplied with 1m strain gauge cable and 5m output cable & stainless steel enclosure
- Robust design, reverse polarity & short circuit protected
- OEM option available



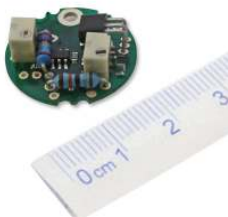
Introduction

The ALA5 is an ATEX approved strain gauge/load cell amplifier designed for operation within hazardous zones 0,1 & 2. The high performance amplifier provides 2-wire 4-20mA current loop output and connects in-line for a range of signal conditioning for strain gauges, load cells, pressure and torque transducers. Intrinsically safe to EN60079-11 (previously EN 50020) standards. The device can be connected to ATEX approved equipment within the hazardous zone or to non-approved ATEX equipment outside the hazardous zone provided that a suitable barrier is used.



OEM Option Available

ICA5ATEX



An OEM option for customers wishing to embed the ATEX amplifier within the sensor. A high performance device with competitive volume discounts available.

Please note, the ICA5ATEX is approved for incorporation into load cells and other enclosures, however installers must comply to ATEX & QAN (Quality Assurance Notification). Please contact us to discuss your requirements.

ATEX Load Cell Amplifier Marking



II 1 G Ex ia IIC T4
 T_{amb} = -40 °C to +85 °C
 CE0891 TRAC09ATEX1xxxX

ATEX Marking details



II Explosion protection
 1 Equipment group: industrial
 G Equipment category: very high protection
 Hazard: gas atmosphere - zones 0, 1 and 2

Certification Code details

Ex Explosion protection
 ia Intrinsic safety according to EN60079-11 (previously EN 50020)
 IIC Hydrogen/Acetylene gas group
 T4 Temperature Classification - surface temperature <135 °C

Specifications

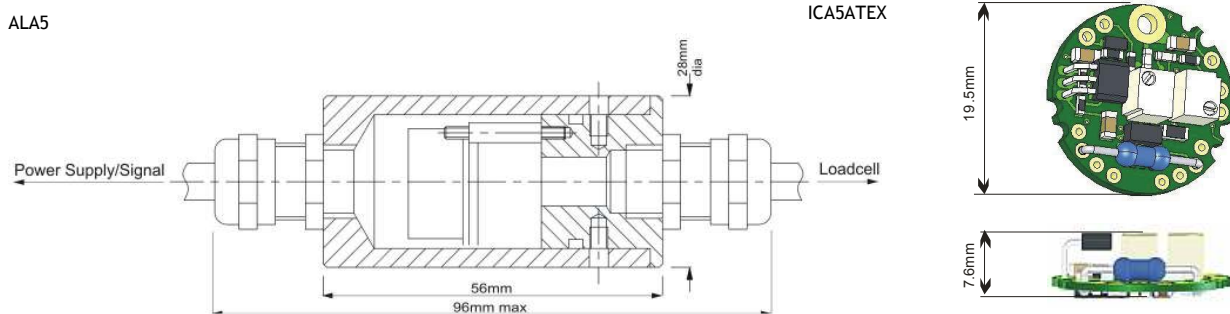
ALA5 2-wire 4-20mA Amplifier

Parameter	ALA5 2-wire 4-20mA			Units	Notes
	Min	Typ	Max		
Electrical & Environmental					
Supply voltage range	9	24	28	Volts	
Operating current	4	-	20	mA	
Operating temperature range	-40	-	85	°C	
Storage temperature range	-40	-	125	°C	
Reverse polarity protection	-	-	-28	Volts	
Measurement					
Bridge excitation	1.05	1.11	1.16	Volts	1000 Ohms load cell connected.
Bridge Impedance	350	1000	5000	Ohms	Recommended bridge impedance is 1000 Ohms.
Bridge sensitivity	0.5	2.5	55	mV/V	Factory setting is the typical value shown. For other values an alternative calibration resistor can be fitted (see manual).
Output current range	4	-	20	mA	
Output load	-	-	800	Ohms	At 24V supply minimum
Bandwidth	DC	-	1000	Hz	
Zero adjustment	-	±2	-	%FR	
Span adjustment	-	±8	-	%FR	
Linearity	-	0.02	-	%FR	
Zero temp stability	-	0.001	0.005	±%FR/°C	
Span temp stability	-	0.007	0.014	±%FR/°C	

General Notes

The voltage between either of the power supply connections and the load cell shield should not exceed 50V. Any leakage will be greater than 10M Ohms.
 FR = Full Range

Mechanical Dimensions



Product Order Codes:

ALA5 ATEX approved 4-20mA Load Cell Amplifier
 ICA5ATEX OEM ATEX approved 4-20mA Load Cell Amplifier

Evaluation Units:

S173 In-line Stainless Steel Enclosure with Amplifier
 S174 OEM ICA5ATEX PCB

Environmental & CE Approvals

Storage temperature -40 to +85°C
 Operating temperature -40 to +85°C
 Relative humidity 95% maximum non condensing
 Sealed to IP67
 European EMC Directive 2004/108/EC



CE In the interest of continued product development, Mantracourt Electronics Limited reserves the right to alter product specifications without prior notice.