



## TYPE: ICA5ATEX



# ICA5ATEX 2-wire 4-20mA ATEX Load Cell Amplifier

## Description

The ICA5ATEX is an ATEX approved strain gauge/load cell amplifier that can be embedded within the load cell to produce a sensor that is suitable for use within hazardous zones 0, 1 & 2. Its sub-miniature design enables it to be fitted into the majority of transducers.

This high performance amplifier provides 2-wire 4-20 mA current loop output and a range of signal conditioning for strain gauges, load cells and pressure transducers.

The ICA5ATEX 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.

## Features

- High performance amplifier
- Robust design
- Reverse polarity and short circuit protected
- Fast calibration via gain and offset trim
- Approved for use in explosive atmospheres, Zones 0, 1 & 2

## Specification

Power supply	9 to 28V DC (24V DC typical)
Operating current/output	4 to 20mA (2-wire)
Operating temperature range	-40 to +85°C
Storage temperature range	-40 to +85°C
Reverse polarity protection	-30V
Bridge excitation	1.05 to 1.16V (1.11 typical) (note 1)
Bridge resistance	350 to 5000Ω (1000Ω typical) (note 2)
Bridge sensitivity	0.5 to 55mV/V (2.5mV/V typical) (note 3)
Full Range (FR)	16mA
Output load	300Ω (note 4)
Band width	dc to 1000Hz
Zero adjustment	±2%FR (note 4)
Span adjustment	±8%FR
Linearity	0.02%FR
Zero temp stability	0.005±%FR/°C max. with input of 2.5mV/V
Span temp stability	0.014±%FR/°C max. with input of 2.5mV/V
ATEX certification details	II 1 G Ex ia IIC

## Typical Applications

- Force measurement systems
- Simple weighing systems
- Hoist load monitoring
- Crane safe load monitoring

## Notes

Note 1 Based on 1000Ω load cell (typically 0.53V for 350Ω load cell)

Note 2 1000Ω min bridge resistance is recommend

Note 3 Set by gain resistor on PCB

Note 4 Based on 1000Ω load cell (change R1 to have same adjustment for other bridge resistances)



## SCIGATE AUTOMATION (S) PTE LTD

No 1 Bukit Batok Street 22 #01-01 Singapore 659592

Tel: (65) 6561 0488

Fax: (65) 6561 0588

Email: sales@scigate.com.sg

Web: <https://scigate.com.sg/>

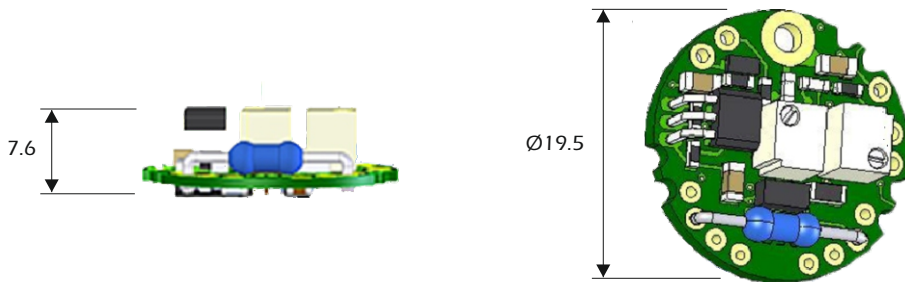
Business Hours: Monday - Friday 8:30AM - 6:15PM

Ex i



# ICA5ATEX 2-wire 4-20mA ATEX Load Cell Amplifier

## Dimensions



All dimensions are in mm



www.lcmsystems.com

### LCM Systems Ltd

Unit 15, Newport Business Park, Barry Way  
Newport, Isle of Wight PO30 5GY UK  
Tel: +44 (0)1983 249264  
sales@lcmsystems.com  
www.lcmsystems.com

### LCM Systems (România)

Strada Ștefan Cel Mare 26a,  
Tunari, cod.077180, Ilfov, România  
Tel: +40 (0)77 4641899  
ro@lcmsystems.com  
www.lcmsystems.ro

Due to continual product development, LCM Systems Ltd reserves the right to alter product specifications without prior notice.

### Issue No. 1

Issue date: 08/07/2021

APPROVED

(unapproved if printed)