

LAC65.1 UNIVERSAL ANALOGUE AMPLIFIER

Model LAC65.1 is a universal analog amplifier for static/semi-static weighing applications in adverse industrial environments, providing high precision current and bipolar-voltage outputs. It can be mounted to a variety of DIN rails and uses robust terminals for worry free connections.

The AC load cell excitation voltage assures lasting stability which is critical for analogue amplifiers. The AC voltage provides the advantage of EMI mitigation as well as suppression of the effects from thermal-electric effects. Both voltage and the current outputs are available simultaneously enabling dual readouts at separate locations. Low excitation voltage allows for low bridge resistance (40) preventing errors from thermal drift. Gain and zero adjustments do not affect each other. With the use of DIP-switches and precision 25 turn potentiometers, resolution of adjustments are maximized. With the wide input voltage range and isolated power supply, the LAC65.1 provides superior and reliable operation. Being manufactured since 1998, the LAC65.1 has been used and continues to be relied upon by thousands of customers worldwide.

FEATURES

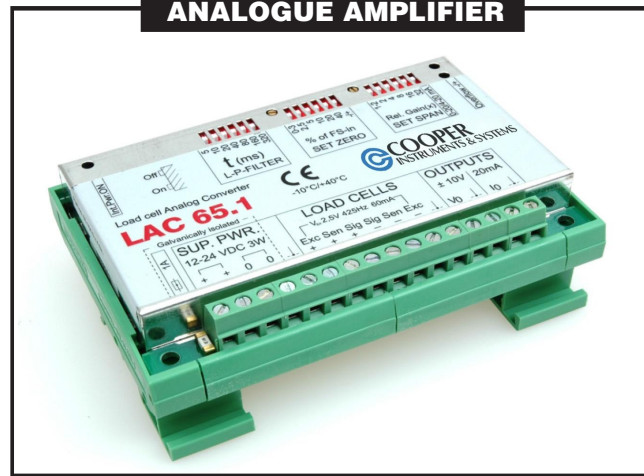
- Extreme stability and reliability in adverse industrial environments.
- Both Bipolar voltage output ($\pm 10V$) and current output 0-20 or 4-20mA, with ability for simultaneous output.
- Can drive up to 8 Pc 350 ohm load cells or 24 Pc 1000 ohm load cells.
- Wide range of gain with virtually no zero drift enables a live range down to a few percent of the load cell's rating.
- Wide range of the low pass input filtering from 33 to 0.33Hz to meet any requirement.
- AC excitation voltage (425Hz) cancels interference from EMI and thermal-electric effects from poor electrical connection.
- Low 2.5V excitation voltage effectively prevent load cell warm up errors.
- The layout of the front and the LED indicators simplifies set-up and calibration.

DIMENSIONS

L	W	H
114mm	77 mm	35mm

- **HIGH STABILITY**
- **BIPOLAR VOLTAGE OUTPUT $\pm 10V$**
- **CURRENT OUTPUT 0-20 or 4-20mA**
- **CAN DRIVE UP TO 8 PC 350 OHM LOAD CELLS OR 24 PC 1000 OHM LOAD CELLS**

ANALOGUE AMPLIFIER



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SPECIFICATIONS

Input	Linearity	<0.005 % of full scale.
	Load cell excitation voltage	2.5 Vac 425Hz
	Load cell drive capability	R _{LC} 40-2000 ohm
	Load cell wiring system	6 wires inclusive sense
	Load cell input range for full output	±0.17mV/V to ±3.3mV/V.
	Load cell input resolution	<100 nV (>50 000 increments at 2 mV/V input)
Zero/Gain	Zero coarse, binary increments	±2.4mV/V as 32 incr. of each 0.075mV/V input
	Zero fine trim, 25 turn potentiometer	0.1mV/v, trim resolution <0.5uV/V
	Gain coarse, binary increments	1*-32* relative as 32 incr. of each 1*
	Gain fine trim, 25 turn potentiometer	1-2* trim resolution <0.005*
	Optional gain set	10*-320*
	Zero/Gain change influence on zero	0.045%FS/1*gain change
Input filters	First filter: Fixed 2nd order:	32Hz cut off frequency (5ms)
	Second filter: Adjustable 1st order	32-0.25Hz cut off frequency (5ms-640ms)
Analog output	Current output range	0-20mA or 4-20mA (reversed current protected)
	Voltage output range	0-±10Vdc

General	Off-set deviation between V _{OUT} and I _{OUT}	< 2%
	Gain deviation between V _{OUT} and I _{OUT}	< 2%
	Power supply	12-24Vdc ≤15% ripple; ≤3 Watt Isolated
	Isolation of the Power source	>10 MΩ <1 nF >0.5kV

Influences	Temperature effect on Zero	Typical 10 ppm/°K, Max 25ppm/°K
	Temperature effect on Span	Typical 15 ppm/°K, Max 30ppm/°K
	Temperature range	Operating: -20 °C/+50 °C; Storage -30 °C/+60 °C
	Relative humidity	0-95 % non condensing
	EMI	10 V/m (1-1000 MHz) IEC801-1 level 2
	Burst (Transients)	IEC 801-4 (level 2)
	Electrostatic discharge to meet	IEC 801-2 (level 3)
	General I/O protection, all pins	Reversed polarity, excess voltage and surge
	Vibration	2.5 G operational; 5 G non-operational
	Protection, environment	IP40

Dimensions	Height /length/width	L 114 mm; W 77 mm; H 35 mm incl. DIN rail clips.
	Weight	130g (4.6oz) Net. (Packed 170g)
	I/O pins	6 screw terminals, 3.81 mm pitch;
Mounting	Universal DIN-rail clips is provided	15 to 35mm C or Hat profile

Standards	Conform to Council Directive	CE in accordance with 93/98/EEC; 89/336/EEC
	Certificate of approval	-
	Certification accuracy	Class III: 10000e; 1 μV/VSI