

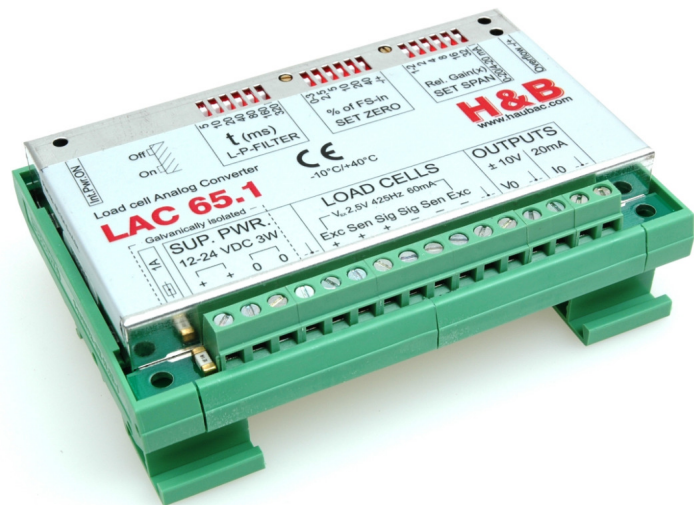
LAC 65.1 - Versatile - High stability

Load cell Analogue Unit 065.101.5. Ver. 4.01

LAC65.1 is a Universal analogue amplifier for static/semi-dynamic weighing applications in **hostile industrial environments** providing both **current** and **bipolar voltage** output at a very high precision. Zero, span and filter settings are performed via **firm DIP-switches** in binary organized steps and fine trimmed by 20 turn pots to achieve a very high resolution.

The LAC 65.1 can be clipped on to various DIN rails and offers robust screw terminals for all connections.

- Offers **extreme stability** and security in **hostile**, industrial environments.
- Both **Bipolar voltage output** $\pm 10V$ and **current output** 0-20 or 4-20mA
- Can drive up to **8 Pc** 350 ohm load cells or **24 Pc** 1000 ohm load cells.
- **Wide range of gain** and **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 filter from **33 to 0.33Hz** to meet any requirement.
- AC excitation voltage (425Hz) cancels influence from **EMI** and **thermo electric forces** from wire joints.
- Low 2,5V excitation voltage effectively **prevent load cell warm up errors**.
- The lay out of the front and the LED indicators **ease the set-up and calibration**



LAC 65.1 Qualities

The AC load cell excitation voltage assures a long time stability which is exceptionally for analogue amplifiers. The advantage about the AC is the automatic cancellation of errors due to off-set from thermo EMF's and the input stage as well as a suppression of EMI.

Both the bi-polar output voltage and the current output are available at the same time which enables dual readouts at two locations.

The extremely low excitation voltage permits load cell drive as low as 40 ohm and hinder warm-up errors.

The adjustment of gain and zero virtually do not affect one another. Binary DIP-switches and quality 25-turn trim pots permit fine resolution of adjustments.

A wide supply voltage range and the isolated power supply underline the electrical robustness.

The LAC65 has been manufactured since 1998 and operates at over 10 000 locations world wide.

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	$\pm 0,17\text{mV/V}$ to $\pm 3,3\text{mV/V}$.
	Load cell input resolution	<100 nV (>50 000 increments at 2 mV/V input)
Zero/Gain	Zero coarse, binary increments	$\pm 2,4\text{mV/V}$ as 32 incr. of each 0,075mV/V input
	Zero fine trim, 20 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, 20 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- $\pm 10\text{Vdc}$

General	Off-set deviation between V_{OUT} and I_{OUT}	< 2%
	Gain deviation between V_{OUT} and I_{OUT}	< 2%
	Power supply	12-24Vdc $\leq 15\%$ ripple; ≤ 3 Watt Isolated
	Isolation of the Power source	>10 M Ω <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 $\mu\text{V/VSI}$

Accessories, optional