



SIGNAL CONDITIONING & ISOLATION LOADCELL AMPLIFIER

LOAD CELL AMLIFIER MODEL NO.: LCAV 2D X10 – 3 & LCAI 2D X42 – 3

Overview

The **Load Cell Amplifier** is a precision amplifier with In-Built Reference Voltage Source for interfacing with the Strain Gauge Bridge Type Load Cells.

The unit provides a highly stable temperature compensated 10V (or 5V) reference voltage source for excitation of the Load Cell. The differential millivolt (mV) output of the Load Cell is Amplified and Filtered by the unit to provide isolated 0–10V or 4–20mA output linearly proportional to the Load Cell mV signal.

Provision for **TARE** adjustment is useful in setting 0V (or 4mA) output for No-load condition to compensate for the Dead Weight of the system.

These amplifier units are extremely stable and accurate for long term measurement applications and can also be calibrated to suit the Load Cell response characteristics so that maximum sensitivity is available in the measurement range.



Features

- ✓ Interfaces with Strain Gauge Bridge Type Load Cells.
- ✓ Built -in Precision, Highly Stable Reference for excitation of Load Cells.
- ✓ TARE adjustment facility
- ✓ 0-10V/4-20mA Output
- ✓ Improved performance.
 Low peak and RMS noise.
 - Low drift input circuitry For long term stability.
- ✓ Response Time: 50mSec
- ✓ 24VDC Power Supply.
- ✓ 35mm DIN rail mounted unit.

i echnical Speci	incations		
Input Differential I/P signal from Loadcell	Range(mV _{DC}) 0-10, 0-16, 0-20,0-30,0-250, or Customized I/P range mV _{DC}	Factory Set	
Louuten	Full Scale O/P Calibration Range.	50% to 100% of I/P range	
	Input Resistance	1M Ohms	
	TARE Adjustment Range	±30% of I/P range	
Reference		+10VDC, 60mA Max.	
Voltage		+5VDC, 50mA Max.	
	Accuracy	$\pm 0.01\%$	
	Load Regulation	<0.02%	
	Temp. coefficient	<10ppm	
Output Range	For Voltage	0-10VDC	
	For Current	4-20mADC	
Load Resistance	For Voltage	>1KOhms	
	For Current	<500 Ohms	
Performance	Accuracy	±0.2% of Span	
	Non –Linearity	0.1%	
	Temp. Drift	0.01%/°C	
	Calibration	Tare & Span (Trimpot)	
	Response Time	50 Milliseconds*	
		* Faster Response time up to min. 10mSec can be provided on request.	

General Specifications						
Isolation		2KV – 3 Port.				
Power Supply	Voltage	24VDC (nominal)				
	Operating Range	18 to 36 VDC				
	Current Consumption	250mA.Max				
Enclosure ABS Plastic,	Single Output	$W-55 \ mm$				
35 mm DIN Rail		$H-75 \ mm$				
Mounted. IP40		D – 110 mm				
Protection class.						
Operating temp. range		$0-60^{\circ}\mathrm{C}$				
Storage temp. range		-10 - 80°C				
Relative Humidity		0-90%				
		RH Non-Condensing				
Max. Altitude		3000 mts above MSL				

Model Numbers

Load Cell Amplifier	LCAV 2D XX10 - 3
(Voltage Output)	
Load Cell Amplifier	LCAI 2D XX42 - 3
(Current Output)	
X: Input range of Amp	lifier (i. e. I/P signal from
Load Cell)	

Mechanical Details:



PIN	Details	PIN	Details
1	Shield	11	GND
2	+ Reference to Load Cell	12	+24V _{DC}
3	- Reference to Load Cell	13	-Output
4	+Input From Load Cell	14	+Output
5	-Input From Load Cell	15	NC
6	NC	16	NC
7	NC	17	NC
8	NC	18	NC
9	NC	19	NC
10	NC	20	NC

Applications

- For Weighing & Batching application in industries e.g. Cement, Steel, Chemical & Pharmaceuticals.
- Tension Monitoring & Control systems in Conveyer based applications.
- Speed Reference Feedback for Synchronization of AC Drives in Foil printing machinery.

Related Products

• Programmable Loadcell Amplifier with Display & Keypad Interface

About Us

CANOPUS INSTRUMENTS is engaged in the development & manufacturing of industrial automation and process control instrumentation products. The product areas cover mainly Analog Signal Conditioning Instruments for Process Automation, Embedded Systems & Ultrasonic Equipment for Non-Destructive Testing Applications.

All the CANOPUS range of products are designed and manufactured with special care, to ensure trouble free performance in Industrial applications where Electromagnetic Interference (EMI) & Harsh environmental conditions exist.

Today these products come to our customers with the quality assurance and tech-support in H/W & S/W, which has evolved with our experience of over 28 years, to ensure uninterrupted operation in field conditions. This has enabled us to successfully create an installed base of tens of thousands of units performing satisfactorily in a wide spectrum of Critical Real time Industrial applications all over India and in other parts of the world.

INNOVATION - QUALITY - RELIABILITY