

DC Voltage Measuring Amplifier for Strain Gauge Sensors

Type LCV

- Level of Protection IP67
- High Accuracy
- Design-Independent
- Low Temperature Drift
- Direct Connection to PLC
- 12V - 28 V DC Supply
- Reduced Perturbations
- Integrable in Large Sensors
- Many Output Versions



DESCRIPTION:

The LCV was designed for the adaption between SG-Sensor and evaluation. The interference-prone SG-Signals are raised to standardized output levels at the sensor, directly. By this, the noise immunity and the accuracy of measurement is decisively increased.

The LCV is connected between the supply line of sensor and signal acquisition (e.g. PLC). The robust tube-housing with high level of protection also allows application in rough environments. A screw clamp is sufficient for fastening. At large sensors, a circuit board module can be integrated.

The supply of 12...28 V DC is suitable for automotive and industrial applications. High flexibility is ensured by the analog output versions.

For very slow measurements; a 50 Hz- 3 dB filter can be pre-configured as an option.

An optional external control switch allows to activate the 100 % calibration control in the sensor (if available, see data sheet) with a control signal, externally. By this, the calibration and the subsequent calibration can be checked at any time.

Scope of Delivery

If the LCV is ordered with a Lorenz-Sensor, it will be mounted and calibrated together ex-factory.

If the LCV is ordered without a sensor, a not calibrated assembly set (amplifier module, tube-housing, screw connection) is delivered. All output versions can be configured by solder jumpers. In option, the amplifier module can be pre-calibrated to a value, determined by the customer. At initiation the zero point still needs to be adjusted, only.

TECHNICAL DATA:

Type	LCV-U10	LCV-U5	LCV-I0	LCV-I4	LCV-I10	LCV-I12
Output	0...±10V	0...±5V	0...20mA	4...20mA	10±10mA	12±8mA
Art. No.	100430	100626	101177	100432	100956	101018

Evaluation Side

Supply	Supply voltage	12...28 V DC
	Ripple	<10%
	Current consumption	max. 70 mA
Signal Output Voltage	Output signal U-Out	0 ...±10 V max.: 2 mA
	Ripple	<10 mV
	Gain drift	<0.015%/10 K
	Zero point drift	<0.015%/10 K
	Linearity	<0.02%
	Output resistance	<1 Ω
	Cut-off frequency	1 kHz -3 dB
Signal Output Current	Output signal I-Out	0...20 mA at 0...400 Ω
	Ripple at 400 Ω	<10 mV
	Gain drift	<0.02%/10 K
	Zero point drift	<0.02%/10 K
	Linearity	<0.02%
General	Cable length for evaluation	U5/ U10: 3 m (max.10 m) I0/ I4/ I10/ I12 3 m (max.100 m)

Sensor Side

Supply	Sensor supply	5.00 V 20 mA short-circuit resistance
	TC Excitation voltage	<25 ppm/K
Signal Input	Sensor sensitivity	0.35...3.5 mV/V
	Input resistance	10 ⁹ Ω
General	Cable length to sensor	1 m (max. 3 m)

Miscellaneous

Nominal Temperature Range	+10...+50 °C
Service Temperature Range	0...+60 °C
Storage Temperature Range	-10...+70 °C
Dimensions (Ø x L)	25 x 115 mm (incl. Screw joint)
Level of Protection	IP 67

Options	Art. No.	Function
LCV/50Hz	100563	Filter 50 Hz -3 dB
LCV/sensitivity	110564	mV/V calibrated characteristic value
LCV/range	110565	kOhm range resistance
LCV/KE	103760	External control (5V...28V=On)