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Strain Gauge Sensor-Interface

LCV

- High Accuracy
- Direct Connection to PLC
- Long Input Lead Possibility from LCV to Evaluation
- Voltage or Current Output
- Integrable in large Sensors as Board
- High Level of Protection IP67

DESCRIPTION

This sensor-interface 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 the sensor and signal acquisition (e.g. PLC). The robust tube-housing with a high level of protection also allows operation in rough environments. A screw clamp is sufficient for the fixation. A circuit board module can be integrated for large sensors.

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

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

An optional external control signal excitation allows to activate the control signal in the sensor (if available) with a control signal, externally. By this, the adjustment 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, an uncalibrated assembly set (amplifier module, tube-housing, screw connection) is delivered. All output versions can be configured by solder jumpers. As an option, the amplifier module can be pre-calibrated to a value, determined by the customer. At initiation only the zero point must be adjusted.

TECHNICAL DATA

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

Evaluation Side

Supply	Supply Voltage	12...28 V DC
	Ripple	<10%
	Current Consumption	≤70 mA
Signal Output	Output Signal U-Out	±5 V / ±10 V ≤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
Signal Output	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 LCV-Evaluation	U5/U10 3 m (max.10 m) I0/I4/I10/I12 3 m (max.100 m)

Sensor Side

Supply	Sensor Supply	5 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 LCV-Sensor	1 m (max. 3 m)

Miscellaneous

Cut-Off Frequency	1 kHz -3 dB
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	IP67

Art.-No.	**Options**	**Function**
110564	mV/V	mV/V adjusted sensitivity
110651	5±5 V	Output signal 5±5 V
103760	LCV/KS	Control signal excitation external 5...28 V DC
100563	LCV/50Hz	Filter 50 Hz -3 dB
110565	LCV/R	Measuring range resistance
108200	5 kHz -3 dB	Increased dynamics 5kHz -3 dB
108533	10 kHz -3 dB	Increased dynamics 10kHz -3 dB