CALIBRATION INSTRUCTIONS

Interface module LVA for inductive sensors

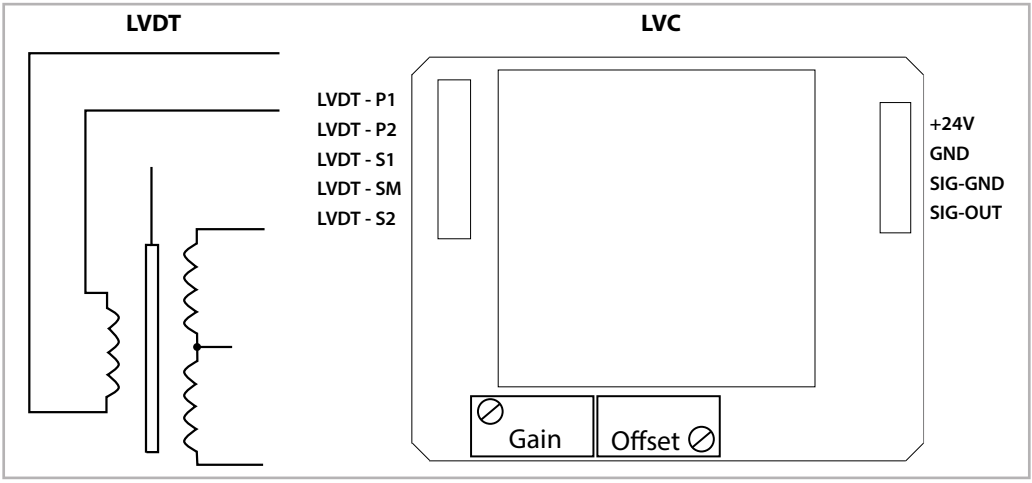
For further information please see the data sheet at
https://www.waycon.biz/products/inductive-sensors-lvdt/

MEASURING AND AUXILIARY EQUIPMENT

For the handling of the interface module LVC you need the following measuring and auxiliary devices:

- LVC electronics to be calibrated. The housing must be opened.
- Inductive displacement sensor to which the LVC is to be calibrated. The sensitivity of the displacement sensor must be known.
- Holding and adjusting device for the displacement sensor.
- Power supply 24 VDC ±10 % / 600 mA stabilized.
- Voltage meter DC for ±20 V or current meter DC for 0...50 mA depending on the LVC to be adjusted for the output.
- Voltage meter AC (true RMS) for 0.05...4 V_{RMS}.

TEST SETUP

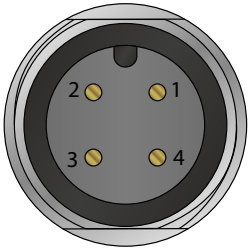


LVC WITH THE COVER REMOVED

ELECTRICAL CONNECTION

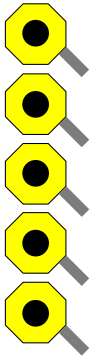
Cable electronics LVC

Connector output, M12, male



Function	Connector
+V	Pin 1
Signal	Pin 2
GND_{Supply}	Pin 3
GND_{Signal}	Pin 4

Circuit board



Function
LVDT Primary coil 1
LVDT Primary coil 2
LVDT Secondary coil 1
LVDT Centre
LVDT Secondary coil 2

CALIBRATE LVC-LVDT

The primary voltage (P1 - P2) for feeding the inductive displacement sensor is 4 V_{RMS} at a frequency of 5 kHz.

The secondary voltage (S1 - S2) is the product of the primary voltage (4 V_{RMS}), the sensitivity of the displacement sensor (mV/V/mm) and half the measuring displacement (± mm).

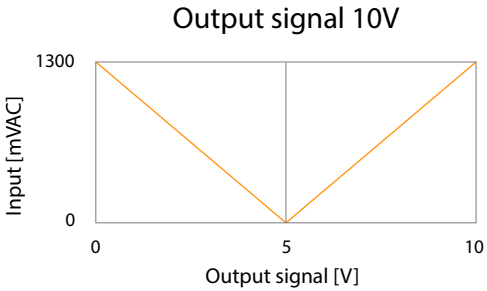
The secondary voltage (AC) has a minimum in the middle of the measuring range.
By means of the offset trimmer, 5 V or 12 mA is set at the output.

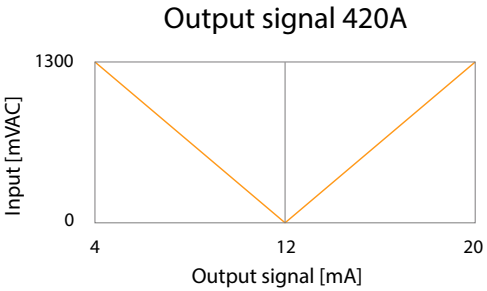
At the start of the measuring range, the secondary voltage (AC) has a maximum.
The gain trimmer is used to set 0 V or 4 mA at the output.

At the end of the measuring range, the secondary voltage (AC) has the same maximum.
This automatically results in an output of 10 V or 20 mA.

EXAMPLE CALIBRATION LVC-LVDT

Example of an inductive displacement sensor with a sensitivity of 65 mV/V/mm and a measuring range of 10 mm.
Output signal: 4 V x 65 mV/V/mm x 5 mm = 1300 mV





DECLARATION OF EC-CONFORMITY

WayCon Positionsmesstechnik GmbH
Mehlbeerenstrasse
482024 Taufkirchen / Deutschland

This is to certify that the products

Classification	Measuring amplifier
Product series	LVC

Fulfill the current request of the following EC-directives:
Directive 2011/65/EU
Directive 2014/30/EU

The declaration of conformity loses its validity if the product is misused or modified without proper authorisation.

Taufkirchen, 19.04.2021

Andreas Täger
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