ASSEMBLY INSTRUCTIONS

DEEneo

DIGITAL SIGNAL CONDITIONER
FOR LVDT SENSORS

Technical data

Model	DEEneo
Output signal	0...20 mA, 4...20 mA (load < 300 Ohm), 0...5 V, ± 5 V; 0...10 V, ± 10 V
Output protection	signal output impedance 150 Ohm
Power supply	9...36 VDC
Power consumption	70 mA at 24 VDC, 130 mA at 12 VDC
Sensor supply	standard: 3V / 3.3 kHz, can be modified by software
Settings	frequency, amplitude, output signal
Resolution	16 bit
Signal processing	digital via microcontroller
Signal adjustment	via SET-button or software
Filter corner frequency	digital adjustable, standard 300 Hz
Linearisation of sensor	yes, optionally possible
Isolation voltage	> 500 VDC
Reverse polarity protection	yes
Overvoltage protection	output: bipolar suppressor diode 16 V / permanent overvoltage up to 24 V
	input: bipolar suppressor diode 36 V / Polyfuse 0.5 A
	on sensor side: 12 V
Switching output	open drain up to 60 V, max. 115 mA
Alarm output	open drain up to 60 V, max. 115 mA
Cable break detection	yes
Operating temperature	-40...+85 °C
Storage temperature	-40...+85 °C
EMC	EN IEC 61326-1:2021
Mounting	on 35 mm DIN rail in accordance with DIN EN 60715
Dimensions	77 x 75 x 26 mm

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Intended use

The electronics are designed for use in industrial applications and are used to operate inductive sensors based on the LVDT principle. DEEneo supplies the sensor and converts the sensor signal into a standardized output signal. The electronics may only be operated within the values specified in the technical data. Modifications to the device are not permitted.

Note: If the sensor and electronics are ordered together, eddylab calibrates the devices to each other. You receive a plug-and-play ready-to-use measuring system. No further adjustment is required. Please refer to the enclosed calibration certificate for the assignment. If a component is replaced, the output signal must be recalibrated.

Scope of delivery

DEEneo electronics, 7-pin sensor connector, test report/calibration certificate, installation instructions

Important notes on initial operation

Please observe the following instructions to protect the device from damage or failure. Connect the power supply in accordance with the safety regulations for electrical equipment and do not exceed the specified limits. Avoid shocks and impacts to the electronics. Do not bend or damage the sensor connection cable.

Intended environment

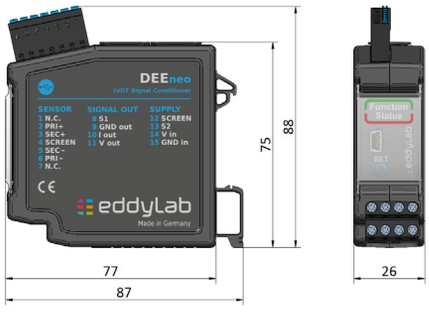
- Operating/storage temperature: -40...85 °C
- Shock: 30 g / 11 ms, Vibration: 1 g
- Humidity: 5...95 % (non-condensing)
- Protection class: IP40

EU Declaration of Conformity

This product complies with the applicable EU Directive 2014/30/EU. The valid declaration of conformity can be found at www.eddylab.com/service/quality-management.

Please note the detailed operating instructions including information on configuration using the eddySETUP software as a download at www.eddylab.com/service/Downloads.

Technical drawing



Assignment

Clamp	Function	Description	Wire color eddylab cable	
			TPE	PTFE-UL
1	n.c.			
2	PRI +	primary coil	white	white
3	SEC +	secondary coil	black	green
4	SCREEN	screen		
5	SEC -	secondary coil	blue	brown
6	PRI -	primary coil	brown	yellow
7	n.c.	not connected		
8	S1	switching output		
9	GND out	GND signal		
10	I out	signal, e.g. 4...20 mA		
11	V out	signal, e.g. 0...10 V		
12	SCREEN	screen		
13	S2	alarm-/switching output		
14	V in	Supply voltage		
15	GND in	GND supply		

DIN rail mounting

Position the DEEneo on a 35 mm DIN rail and push it backwards until it clicks into place. To remove, pull the locking mechanism forwards with a screwdriver and tilt the controller to remove it upwards from the rail.

Display / control elements

Button / LED	Function	Description
Teach Button „SET“	Menu navigation, confirmation	The SET button is used to start the menu, to navigate within the menu and to confirm.
LED Function	Function display	Blue during startup process
		Green during normal operation
		Yellow when measuring range is exceeded.
		Red in the event of an error (defective sensor, sensor cable or sensor not connected)
LED Status	Status and operating display	Standard OFF
		e.g. set start of measuring range
		For more colors, see menu structure
		LED flashes in the respective color as confirmation
USB Port	Data connection	A connection to a PC can be established using a USB cable (USB mini B plug).

Configuration / setting

The following parameters can be configured using the SET button:

- Set start of measuring range (MB_A)
- Set switching point
- Factory Reset: load factory settings
- Set end of measuring range (MB_E)
- Invert switching direction
- Invert signal direction

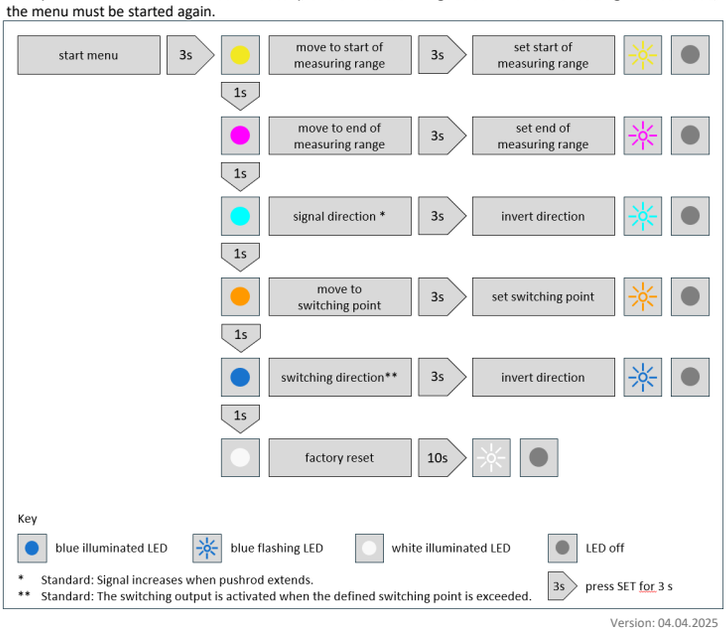
Other parameters such as filter cut-off frequency, carrier frequency, are set using the eddySetup software. Please follow the complete operating instructions for this.

Menu structure

Starting configuration mode: Press the SET button for 3 seconds. The controller jumps to the first menu item “start of measuring range” and signals this with a yellow illuminated Status LED.

Navigation within the menu: The next menu item is selected by briefly pressing SET (approx. 1s). The controller indicates this with a colored Status LED.

Confirming a setting: Press the SET button for 3 seconds to confirm the desired setting and the LED flashes briefly. The menu is then exited automatically, and the Status LED goes out. If a further setting is to be made, the menu must be started again.



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