The UNIFLEX DMS transmitter provides measurement and monitoring of signals from strain gauges (DMS) as also load cells in process control and other industrial applications.

Configuration and parameter setting is possible via the front panel keys. With a PC and connecting adapter the transmitter can be configured and adjusted remotely. This also allows documentation of the adjusted parameters, as also reading of the input signal and parameters during operation.

**DESCRIPTION**

The transmitter offers a mV-signal input as also the supply voltage necessary to drive strain gauges respectively load cells. The scaling function converts the input signal direct into the value being measured. Signal characterizing with up to 8 segments features the use of non linear inputs.

**Password**

A password, freely selectable prevents unauthorized access to configuration and parameter settings as also the tare function.

**Input circuit monitoring**

The mV signal always is monitored for break. Signalling options: red LED in front (lights up on alarm)

Via switching output (selection of energized or de-energized or not operational)

Via the output signal (selectable for upscale or downscale).

**Tare function**

The tare function is used to suppress pre-loads. It also can be initiated via an external contact.

**Limit signalling**

Min. and max. alarm (adjusted in engineering units). Adjustable between -10 and 110 % referred to the output signal span.

**Hysteresis**

Programmable in engineering units or in % in the range from 0,0... 99,9 % referred to the output signal span.

**Alarm suppression (response delay)**

Programmable from 0... 9999 s. All alarms shorter than the selected delay are ignored.

**Signalling**

Red LED in front panel (lights up on alarm)

With switching output (selection of energized or de-energized or no operation)
Filter
Built-in is a 1st-order mathematical filter. It is adjustable for time constant and bandwidth. The bandwidth is the tolerance above and below the process value, in which the filter is operating. Changes of the process value larger than the adjusted bandwidth are not filtered and will be transferred directly to the output to minimize any delay.

**Fig. 1 Filter function**

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**TECHNICAL DATA**

**INPUT (CONFIGURABLE)**
Resolution: approx. 20 000 steps referred to full span.
Measuring cycle: 100 ms

**Direct voltage mV**

<table>
<thead>
<tr>
<th>Range</th>
<th>Smallest Span</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3.23 mV</td>
<td>2.5 mV</td>
</tr>
<tr>
<td>-11.89 mV</td>
<td>9 mV</td>
</tr>
<tr>
<td>0.160 mV</td>
<td>15 mV</td>
</tr>
</tbody>
</table>

**Input resistance:** 1 MΩ

**Error of display:** ≤ 0.1 % ± 1 digit

**Additional linearization**
Up to 8 segments respectively 9 supporting points

**Input circuit monitor**
For break

**Permissible interference at input**
to DIN IEC 770 6.2.4
Common mode suppression: negligible
Series mode: no effect up to 1 Vrms for 0...50 mV

**BRIDGE SUPPLY**
12 V DC respectively 10 V, max. 150 mA
Temperature effect: approx. ± 0.03 %

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**OUTPUT**
The required calibrated output signal is activated via software. The current and voltage output signals are always available in parallel.

**Standard current signal**
0...20 mA or 4...20 mA

**Output sense:** direct or inverse controlled range: -0.3...23 mA

**Load:** 0...700 Ω
Load effect: ≤ 0.1 % / 100 Ω

**Standard voltage signal**
0...10 V parallel to current signal

**Output sense:** direct or inverse
Controlled range: -0.15...11.5 V

**Load:** ≥ 2 kΩ (not continuous short-circuit proof)
Load effect: negligible with ≥ 2 kΩ

**Resolution:** 13 bit (9000 steps)

**Characteristic:** linear

**Conformity error**
(including factory calibration error) ≤ 0.25 % of fsd

**Reproducibility:** ≤ 0.03 %

**Input circuit monitor**
Output action selectable upscale or downscale.

**Dynamic response**
(For a step change from 10 to 90 % of input signal)
Output follows input: approx. 600 ms.

**Output ripple**
Voltage output: ± 10 mV
Current output: ± 8 mV
Spikes up to 100mV[U]; 25 mV[I]

**Switching output**
One relay with potential-free N.O. contact.
Contact rating: max. 250 VAC, 1 A
min. 5 V, 0.1 A
Energized or de-energized operation configurable.

**Operating mode**: selectable for input circuit monitor and/or limit signalling.

**DISPLAY**
4-digit LCD, 7 mm high, with front panel keys for configuration and parameter setting.
Green LED: ready for operation.
Red LED: input circuit monitor or limit signaller activated.
Blinking mode during operating the Tare function.

**OPERATION**
Configuration, Parameter setting and Tare correction are menu-guided via three front-panel keys.
A separately available engineering tool (base WINDOWS) permits setting with a PC via adapter and serial interface.

**Password**
A password, freely selectable prevents unauthorized access to configuration and parameter settings and tare.

**TARE**
By means of an external contact or after release of function in the configuration level via front key or with engineering tool via interface in front.
**SERIAL INTERFACE**

RS 232C with active adapter for operating the engineering tool.

**POWER SUPPLY**

**AC(DC) supply**
90...265 VAC\(^1\), 50 or 60 Hz

*Power consumption:* approx. 7.7 VA

**Universal supply**
18...32 VDC / 24 VAC +10-15%

*Consumption:* approx. 4.6 W/ 7.1 VA

*Power supply effect*
Negligible within specified limits.

*Behavior with mains failure*
No loss of configuration data.

**GALVANICAL ISOLATION**

Between input and output and power supply.

*Test voltages*
Between input and output: 500 VAC
Between mains and in-/output: 2,3 kVAC

**ENVIRONMENTAL CONDITIONS**

**Temperature limits**
For specified accuracy: 0...55 °C\(^2\)
For operation: -10 ... + 60 °C
Storage: -20 ... + 70 °C

*Temperature effect*
(within -10...+ 60 °C)
On span start: \(\leq 0.04 \% / 10K\)
On span: \(\leq 0.06 \% / 10K\)

*Relative humidity:* 90 % rH, no condensation

*Shock and vibrations*
According to DIN IEC 68-2-6/Fc and DIN 68.2.29/Eb

**ELECTROMAGNETIC COMPATIBILITY**

Complies with EN 50081-1 and EN 50082-2 for unlimited use within rural and industrial areas.\(^3\)

**EXPLOSION PROTECTION**

No explosion protection

**SAFETY CHARACTERISTICS**

According to EN 61010-1

Excess-voltage category II
Pollution degree 2
Operating voltage range 300 V
Protective class I
CE-marking: According to European directives for “Electromagnetic compatibility” and “Electrical equipment use within specified voltage limits (safety characteristics).”

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\(^1\) also limited use with direct current

\(^2\) in fieldhousing max. + 50 °C

\(^3\) not valid for smallest span
**ORDERING INFORMATION**

If not specified otherwise, the transmitter will be delivered with the following standard settings:

**Standard version**

CON1 0520, CON2 0001.
Range 0...160 mV. Input circuit monitoring upscale action. Switching output de-energized, set to span start and end. Hysteresis 5%, suppression 2s, filter time 0.1 s, bandwidth 5 mV.

**GENERAL**

**Dimensions:** 93 x 111 x 40 mm

**Protection:** Housing and terminals IP30

**Electrical connection**
screw terminals for max. 2,5 mm²

**Weight:** 0,23 kg net

**Mounting:** 35 mm rail to DIN 46277

**Mounting position**
vertical
Dense mounting and temperatures ≥ 50 °C forced ventilation recommended.

**ACCESSORIES**

**Operating notes:** D / E / F
9499-040-57051

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**ACCESSORY**

<table>
<thead>
<tr>
<th>Description</th>
<th>Order-no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapter for connection of UNIFLEX DMS to a RS232 interface of a laptop or PC</td>
<td>9407-998-00001</td>
</tr>
<tr>
<td>Engineering tool for setting of configuration and parameters, read-out and documentation, base Windows from 3.11 On CD-ROM Licence (1x)</td>
<td>9407-999-00801</td>
</tr>
<tr>
<td>Field housing for UNIFLEX transmitter. Protection IP 67, with transparent lid. Cable gland PG 13.5.</td>
<td>9407-290-01001</td>
</tr>
</tbody>
</table>

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**Fig. 7 Field housing IP 67**

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**Your local distributor**

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