

# mV TRANSMITTER



- Load cell amplifier
- mV to current / voltage conversion
- Front-programmable / LED display
- Relative calibration of input span
- NPN / PNP input for external taring
- Supply for standard transducers



SUPPLY:	
Supply voltage:	24 VDC
Transducer supply:	5...13 VDC
INPUT RANGE:	
Measurement range:	-40...100 mV
Taring input:	PNP/NPN/front key
OUTPUT RANGE:	
Current output:	0...20 mA
Voltage output:	0...10 V

**Applications:** Tank filling and draining  
Weighing with a taring function  
Measurement of cable tensile force  
Level control  
Signal conversion / amplification

The 2261 converts bipolar mV signals from transducers supplied directly by the module to standard current / voltage signals. ● The 2261 is suitable for load cell applications. ● By way of the relative calibration function the scale can be tared, i.e. 0% and 100% calibrated without the need of the equivalent load. ● By way of the taring function the measured range is set to either 0% when filling or 100% when draining.

#### Technical characteristics:

##### In general:

The 2261 is microprocessor-controlled and basic-calibrated meaning that input and output can be programmed acc. to the requested signal range without any re-adjustment. This guarantees high accuracy and flexibility.

The user interface consists of a 3-digit display and 3 front function keys which are used for taring or change of input / output signal range.

##### Inputs:

##### Analogue input:

The analogue input can be programmed for voltage in the range -40...100 mVDC with a min. span of 10 mV and max. offset of 70% of max. mV value.

A percentage overrange of the selected measurement range can be defined, thereby making the unit react to an mV input outside the selected 0% and 100% range. The display will show the input percentage.

The output must be scaled in such a way that the selected overrange is within the allowed output signal range.

##### Digital input:

The digital signal can be selected as either NPN (short circuit to gnd.) or PNP (+24 VDC).

##### Taring:

Taring can either be by way of the digital input or from the front. At 0% taring, the analogue input will show 0% after taring. At 100% taring, the analogue input will show 100% after taring, corresponding to tara + net weight = gross weight.

The analogue input span is not changed but is kept relative to the new offset value.

The taring function can be disabled at the front.

##### Standard current / voltage output:

The analogue output can be programmed to current in the range 0...20 mA or voltage in the range 0...10 VDC with a min. span of 5 mA or 250 mVDC with max. offset of 50% of the selected max. value. By short-circuiting pins 2 and 3, the voltage signal is available between pins 2 and 1.

For voltage signals in the range 0...1 VDC, a 50 Ω shunt (DP 2-1) is applied; in the range 0...10 VDC, a 500 Ω shunt (DP 2-2) is applied.

When both voltage and current signals are used simultaneously, the mA loop must go to ground through the internal shunt.

##### Front error LED:

At an incorrect output, the red LED will flash, e.g. at overrange saturation.

##### Transducer supply:

Front-programmable to 5...13 VDC. The supply is short circuit-protected and has a max. load of 230 mA (e.g. 6 parallel 350 Ω load cells).

##### Sense:

When the transducer supply is applied, the sense input can be used for compensation for cable resistance to the transducer.

**Electrical specifications:****Specifications range:**

-20°C to +60°C

**Common specifications:**

Supply voltage.....	19.2...28.8 VDC
Internal consumption.....	2.2 W
Max. consumption.....	7.2 W
Signal / noise ratio.....	Min. 60 dB
Signal dynamics, input.....	17 bit
Signal dynamics, output.....	16 bit
Updating time.....	20 ms
Response time, programmable.....	0.06...999 s
Calibration temperature.....	20...28°C
Temperature coefficient.....	< ±0.01% of span / °C
Linearity error.....	≤ ±0.1% of span
Effect of supply voltage change.....	< ±0.002% of span/ %V

**Auxiliary voltage:**

Transducer supply.....	5...13 VDC
Load (max.).....	230 mA

EMC immunity influence ..... &lt; ±0.5% of span

Humidity.....	< 95% RH (non-cond.)
Dimensions (HxWxD).....	80.5 x 35.5 x 84.5 mm
Protection degree.....	IP50
Weight.....	130 g

**Electrical specifications - Input:****mV input:**

Measurement range.....	-40...100 mV
Min. measurement range (span).....	10 mV
Max. offset.....	70% of selec. max. value
Input in relation to supply gnd.....	> -5 V and < +10 V
Max. cable resistance per wire.....	15 Ω
Suppression of transducer cable resistance.....	> 300
Input resistance.....	> 10 MΩ
Overrange.....	0...999% of selected measurement range

**Digital input:**

NPN.....	Pull up 24 VDC / 6.9 mA
PNP.....	Pull down 0 VDC / 6.9 mA
Trig level low.....	< 6 VDC
Trig level high.....	> 10.5 VDC
Pulse width.....	> 30 ms

**Electrical specifications - Output:****Current output:**

Signal range.....	0...20 mA
Min. signal range (span).....	5 mA
Max. offset.....	50% of selec. max. value
Load (max.).....	20 mA / 600 Ω / 12 VDC
Load stability.....	< ±0.01% of span/100 Ω
Current limit.....	< 23 mA

**Voltage output through internal shunt:**

Signal range.....	0...10 VDC
Min. signal range (span).....	250 mVDC
Max. offset.....	50% of selec. max. value
Load (min.).....	500 kΩ
Voltage limit.....	< 11.5 VDC

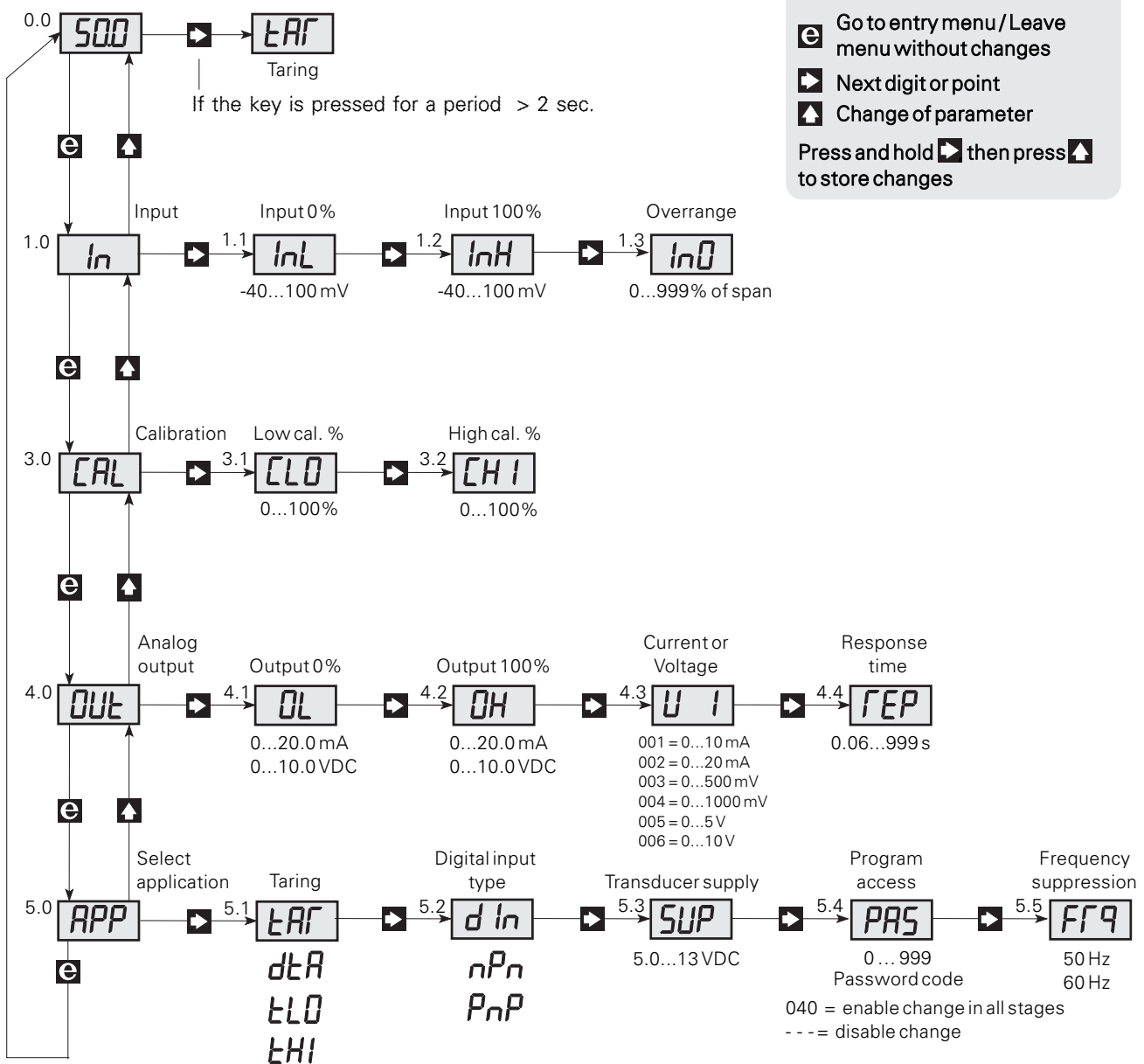
**GOST R approval:**

VNIIM, Cert. no..... Ross DK.ME48.V01899

**Observed authority requirements: Standard:**EMC 2004/108/EC  
Emission and immunity..... EN 61326**Of span** = Of the presently selected range

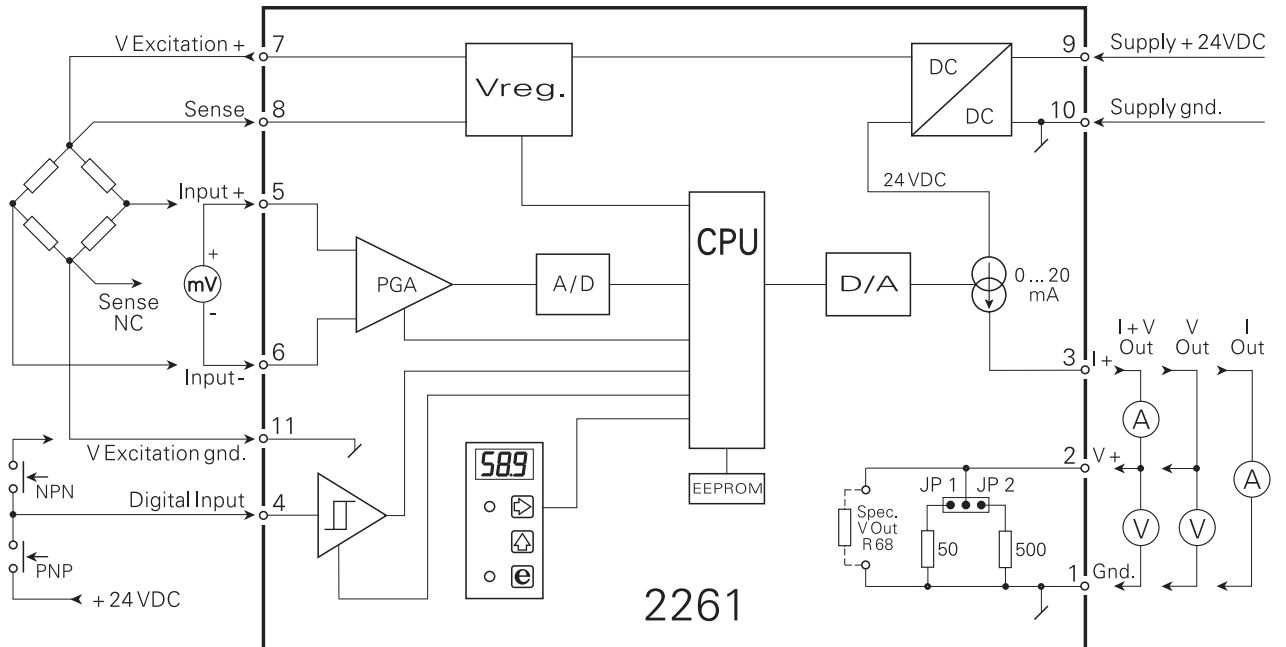
# Routing diagram

If no buttons are pressed for a period of 2 minutes, display returns to stage 0.0

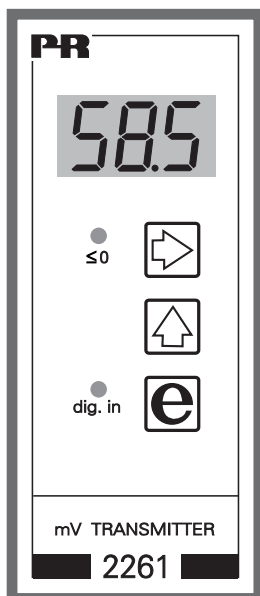


Order: 2261

**Block diagram:**



**Front layout:**



**Hardware programming:**

JP1	JP2	Output range	MENU 4.3
OFF	OFF	0...10 mA 0...20 mA	001 002
ON	OFF	0...500 mV 0...1000 mV	003 004
OFF	ON	0...5 V 0...10 V	005 006