

Digital Display

dem-49, dem-49-sv

General Function

Digital displays **dem-49** and **dem-49-sv** have been designed to measure and display industrial measured variables.

The digital displays can be adapted to the respective input signal (0-20, 4-20mA or 0-10V) by means of plug-in jumpers which are located at the back of the display.

The display's wide range can be assigned to the chosen input.

Display **dem-49-sv** has additionally been equipped with an output to supply a sensor with an integrated two-wire measuring transducer (e.g. pressure sensors **DAN-...** or Pt100-transducer **mpu-2**).

The 3 1/2-digit 7-segment display has been fitted into a DIN-standard housing and is protected by a filter screen which is almost free from reflexions.

Features

- measurement input freely adjustable
- zero and gain freely adjustable
- decimal point adjustable
- decoupled from supply voltage
- on request: printing of unit of measurement
- printing of individual company's name possible
- plug-in terminal blocks
- sensor supply with **dem-49-sv**

Specification

Housing	flush-type	96x48x130mm with 2 side mounting clips	
Cutout	(Width x height)	92,5x45mm Tol. -0,5mm	
Type of protection	front / rear	IP54/IP20 (IP65 on request)	
Ambient temp.	Working temperature	0...+50°C	
	Storing temperature	-20...+70°C	
Input	Current	0/4-20mA	$R_i=50\Omega$
	Voltage	0-10V	$R_i=100k\Omega$
	Voltage	0-1V	$R_i=10k\Omega$
Accuracy	Display	$\pm 0,1\% \pm 1\text{Digit}$	
Display	7-segment	-1999...+1999, 13mm height	
	Range	can be chosen individually	
Sensor supply	short circuit proof	approx. 20V max. 25mA	
Supply voltage	AC	230VAC, 50Hz approx. 3VA, 115VAC, 24VAC	
	DC	24V DC $\pm 10\%$ max. 0,15A	

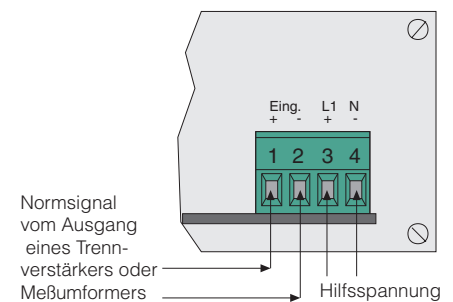
Product Type and Designation

Type	without sensor supply	with sensor supply
Supply voltage 24V DC	dem-49 24VDC	dem-49-sv 24VDC
Supply voltage 24V AC	dem-49 24VAC	dem-49-sv 24VAC
Supply voltage 115V AC	dem-49 115V	dem-49-sv 115V
Supply voltage 230V AC	dem-49,230V	dem-49-sv 230V

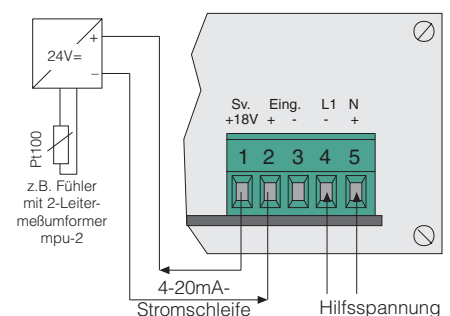


Digital display dem-49

Connection diagram dem-49



Connection diagram dem49-sv



Trimmer

Design.	Function	Setting Range
N	Zero point	±500 Digit
V	Gain	80...120 Digit / mA

Functions jumper

Design.	Function	Setting
N-	zero offset negative	-1999...-310
N+	zero offset positive	+310...+1999
V1	decreasing of gain, factor 10	Trimmer V x0,1
V3	increasing of gain, factor 1.5	Trimmer V x1,5
V4	increasing of gain, factor 10	Trimmer V x10
S1	plugged at input	0-1V, 0/4-20mA
S2	plugged at current input	0/4-20mA
DP1	decimal point tens digit	100,0
DP2	decimal point hundreds digit	10,00
DP3	decimal point thousands digit	1,000

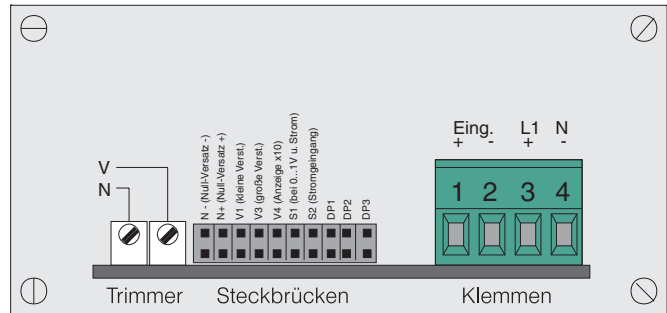
Set-up and Calibration

1. Remove plug-in jumpers N- and N+.
2. Put DP-jumper decimal point at desired place.
3. Apply input signal 0V/0mA.
4. Using trimmer „N“ set output to „000“.
5. Choose desired input and output range from opposite table and plug-in of jumpers.
6. Feed maximum input signal. (20mA, 16mA with 4-20mA input, 10V, 1V).
7. Using trimmer „V“ set display to the desired display range (full scale less initial value).
8. Feed zero signal (0V/0mA, 4mA with 4-20mA-input).
9. Using trimmer „N“ set display to desired beginning of display range. (if necessary plug in N+ resp. N-)

Setting Examples (see diagram)

1. Input 4-20mA = Display 0-100,0%
 - plug in of jumper DP1
 - feed 0mA, set display to „00.0“
 - plug in of jumpers V1, S1, S2 (table plug-in jumpers)
 - feed 16mA, set display to „100.0“ with „V“
 - feed 4mA, set display to „00.0“ with „N“
 - check correct function
2. Input -5V...+5V = Display 0-15.00
 - plug in of jumper DP2
 - feed 0V, set display to „00.0“
 - plug in of jumper V1 (table plug-in jumpers)
 - feed 10V, set display to „15.00“ with „V“
 - feed -5V, set display to „00.0“ with „N“
 - check correct function
3. Input 0-10mA = Display 500-1999
 - no plug-in of jumper DP
 - feed 0mA, set display to „00.0“
 - plug in of jumpers S1, S2 (table plug-in jumpers)
 - feed 10mA, set display to „1500“ with „V“
 - feed 0mA, set display to „500“ with „N“
 - check correct function

dem-49 back view



dem-49-sv back view

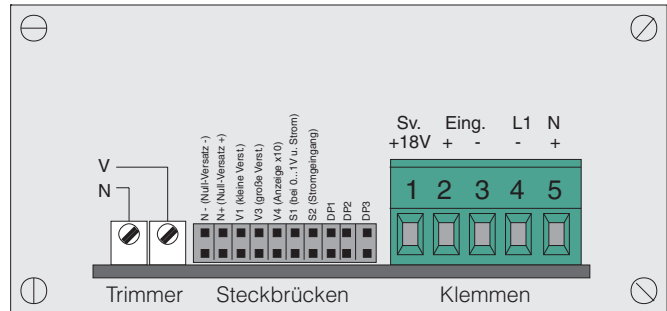


Table Configuration of Plug-in Jumpers

Input	Display Range V-Trimmer	Plug-in Jumpers						
		N-	N+	V1	V3	V4	S1	S2
0-20mA	90...1800	-	-	X	-	-	X	X
	1600... 1999	-	-	-	-	-	X	X
4-20mA = (0-16mA)	70...1400	-	-	X	-	-	X	X
	1300...1999	-	-	-	-	-	X	X
0-10V	90...1800	-	-	X	-	-	-	-
	1600...1999	-	-	-	-	-	-	-
0-1V	90...1800	-	-	X	-	-	X	-
	1600...1999	-	-	-	-	-	X	-

Diagram

