



DIGITAL MEASURING INSTRUMENTS

4 DIGIT, WITH TWO ADJUSTABLE LIMIT CONTACTS FOR DIRECT AND ALTERNATING CURRENT TYPE DSMG 96 4-stellig

Application

The DSMG 96 digital measuring instrument can be used for measuring and monitoring two limit values under direct current, direct voltage, alternating current and alternating voltage, as well as converted non-electric output quantities.

Function

The measured variable is relayed via series and shunt resistors (via a root-mean-square rectifier in the case of alternating current) to a 4 digit analog/digital converter on the basis of the dual slope principle. Details are displayed optically on low-power, seven-bar segmented LED displays. The measurement operation will be compared continuously with the two preset limit values. If the limit values are attained, a switching action is triggered off. The programming of the limit values will be effected on the frontage by transparency keys. The meters have a minimum- and maximum-memory. The zero offset is performed automatically.

Remove the front panel to alter the decimal point, zero point, blinding out the last digit as well as changing the display range.

Technical data

Display	Seven-bar segmented LED, low power, 13 mm tall, red, 4 digit
Decimal points	Adjustable on the front with jumper
Polarity	Via a minus (-) display
Overflow indication	Flasher display
Resolution	Maximum display ± 9999 digits
Measuring rate	Approx. 3 measuring sequences per second
Measuring principle	Dual-slope integration
Measuring accuracy	0.1 % ± 1 digit of the measurement reading with direct voltage 0.2 % ± 2 digits of the measurement reading with direct current 0,5 % ± 2 digits with all a.c. variables in any wave form, root-mean-square value up to a peak factor of 4, DC, 40-1000 Hz
Temperature range	-15 °C – +55 °C
Temperature effect	< 0,05 % at 10 K
Overload capability	Voltage 10 fold, max. 850 V Current 10 fold up to 20 mA, 2 fold at currents above that
Switching accuracy	± 0 digits
Switching time	400 ms if the limit value is exceeded by 10 %
Hysteresis	Adjustable between 0 and 10 % of the limit value
Delay	Adjustable between 0 and 10 sec.
Relay contacts	2 pcs., in each changeover contact
Switching capacity	Max. 8 A, 250 V, 2000 VA
Testing voltage	at a working voltage up to 300V 4 kV between measuring input and aux. voltage at a working voltage up to 600V 5,2 kV between measuring input and aux. voltage
Auxiliary supply	230 V AC ± 20 %, 45 – 65 Hz, 3 VA Options: 24 V DC – 15 % up to + 25 %, 2,5 W, 36 – 265 V AC + DC, 2,5 W



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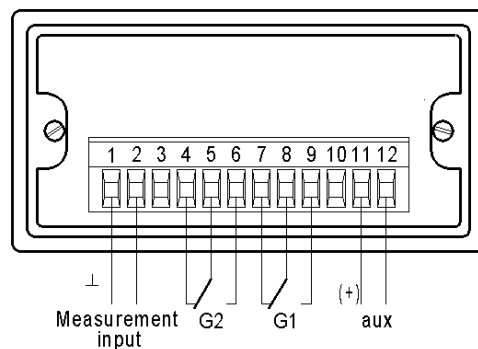
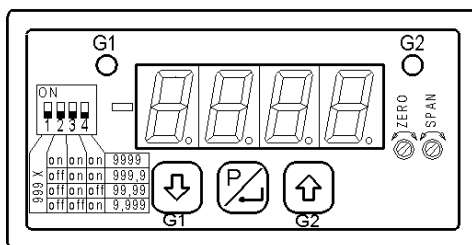
Dimensions

Front frame	96 x 48 mm
Housing	90 x 42,5 mm
Panel cut-out	92 x 45 mm
Mounting depth	118 mm
Weight	0,35 kg

Technical datas of the deliverable measuring ranges:

	Measuring range	Indication	Internal resistance
DC	+/- 60 mV	+/- 1000 bis 9999	> 100 MOhm
	+/- 100 mV	+/- 1000 bis 9999	> 100 MOhm
	+/- 1V	+/- 1000 bis 9999	> 100 MOhm
	+/- 10 V	+/- 1000 bis 9999	1 MOhm
	+/- 100 V	+/- 1000 bis 9999	1 MOhm
	+/- 600 V	+/- 1000 bis 9999	1 MOhm
	+/- 1 µA	+/- 1000 bis 9999	100 kOhm
	+/- 10 µA	+/- 1000 bis 9999	10 kOhm
	+/- 100 µA	+/- 1000 bis 9999	1 kOhm
	+/- 1 mA	+/- 1000 bis 9999	100 Ohm
	+/- 10 mA	+/- 1000 bis 9999	10 Ohm
	4 - 20 mA	1000 bis 9999	10 Ohm
	+/- 100 mA	+/- 1000 bis 9999	1 Ohm
	+/- 1 A	+/- 1000 bis 9999	0,1 Ohm
	+/- 5 A	+/- 1000 bis 9999	0,02 Ohm
	AC + DC effektiv	0-100 mV	1000 bis 9999
0-1 V		1000 bis 9999	100 kOhm
0-10 V		1000 bis 9999	1 MOhm
0-100 V		1000 bis 9999	1 MOhm
0-600 V		1000 bis 9999	1 MOhm
0-1 mA		1000 bis 9999	100 Ohm
0-10 mA		1000 bis 9999	10 Ohm
0-100 mA		1000 bis 9999	1 Ohm
0-1 A		1000 bis 9999	0,1 Ohm
0-5 A		1000 bis 9999	0,02 Ohm






After removing the front frame and the front pane, the settings for decimal points and dimming of the last digit can be changed by the DIP switch. Zero point and range of indication can be changed at the bores "ZERO" and "SPAN" by means of a screw driver via spindle potentiometers.



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




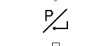














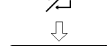




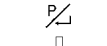














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In the indication mode the keys have the following functions:

-  • Indication of limit value G1 (LED G1 lights up)
-  • Indication of limit value G2 (LED G2 lights up)
-  • Pushing > 3 sec ⇒ Indication of minimal value
-  • Pushing > 3 sec ⇒ Indication of maximal value
-  • if pushing during the indication of minimal- or maximal-value you can delete the minimal- or maximal-values

After 7 sec. the meter switches into the indication mode. The minimal- and maximal-values are not stored in case of power outage.

Programming

-   • Selection of limit values, key  for limit value G1,  for limit value G2
 -   • Key  for indication mode
 -   • Setting of the limit values with the keys  and 
 -    • Setting of the hysteresis with the keys  and  (0 – 10 %)
 -    • Setting of the delay in case of limit value violation with the keys  and  (0 – 150 sec)
 -    • Setting of the delay in case of limit value deviation  and  (0 – 150 sec)
 -    • Switching function of the relay,  ⇒ open circuit working,  ⇒ closed circuit working
 -  • adjustable with the keys  and 
 -  ⇒ • **at limit value G2**, saving of the settings and returning to the indication mode
 -   • **at limit value G1**, Selection G1 = min-contact  , G1 = max-contact 
 -  • adjustable with the keys  and 
 -  ⇒ • **at limit value G1**, saving of the settings and returning to the indication mode
- Function only available at limit value G1

If there's no input for two minutes, the instrument is reset automatically to the display mode and remains unchanged. In case of power failure, the settings remain stored. During the display of limiting values, minimum or maximum values or in the programming mode, the limiting values will not be monitored.

