

# DIGEM B 96 x 48

## Digital Panel Meter

3-349-048-03  
1/7.99

- Front panel dimensions: 96 x 48 mm
- Display range: -1999 ... +9999
- Can be optimally adapted to the measuring task at hand through the use of various measuring modules
- Two separately adjustable limit values (optional)
- Extremely easy programming
- Power supply is electrically isolated from the measuring circuit
- Housing suitable for grid mounting
- Quick installation with mounting tabs
- Also available in accordance with IEC 61010



### Applications

The DIGEM B 96 x 48 is an especially easy to program panel meter of modular design. Depending upon which measuring module is used, it is suitable for the following measuring tasks:

- Direct current in the 0 to 20 mA and 4 to 20 mA ranges
- Direct current from 4 to 20 mA with auxiliary power for 24 V/20 mA 2-wire measuring transducers
- Temperature measurement with Pt100 sensor
- Direct voltage from  $\pm 60$  mV to  $\pm 200$  V
- Direct current from  $\pm 2$  mA to  $\pm 200$  mA
- Alternating voltage from 0.2 V to 700 V
- Alternating current from 2 mA to 200 mA

The display range can be adapted for the 4 to 20 mA and 0 to 20 mA measuring ranges without a calibrator, even after the instrument has been installed. This measuring instrument is thus also suitable for applications which require frequent, on-site adjustments to the display.

The instrument can also be equipped with two optional limit values, each of which is assigned to a relay with changeover contact. Alarm messages are read out optically by means of two LEDs at the right-hand side of the digital display.

### Description

The DIGEM B 96 x 48 is equipped with a precision, direct voltage meter which functions as a basic unit and is adapted to the required measuring task through the use of an upstream measuring module. Measured values are processed with a downstream microcomputer, and are read out at a 7 segment display unit.

Lower and upper display range values, relay switching performance, the limit values and hysteresis can be adjusted with the keys at the front panel. The selected parameters can be protected from unauthorized changes with an external contact at the back of the instrument.

If limit values have to be changed during operation, protection can be disabled, but only to allow for limit value adjustments.

The power supply is electrically isolated from the measuring circuit. Models are available for 230 V/110 V AC/DC or 24 V AC/DC supply power.

The instrument is equipped with a control input which allows for the storage of display values to memory, and which freezes the current display. The measuring cycle is not influenced by this function.

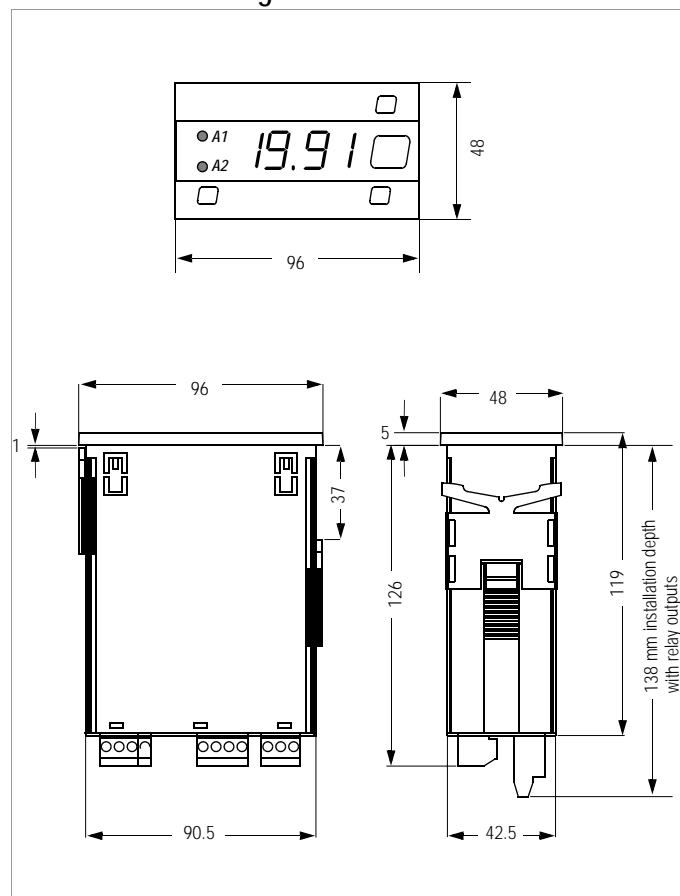
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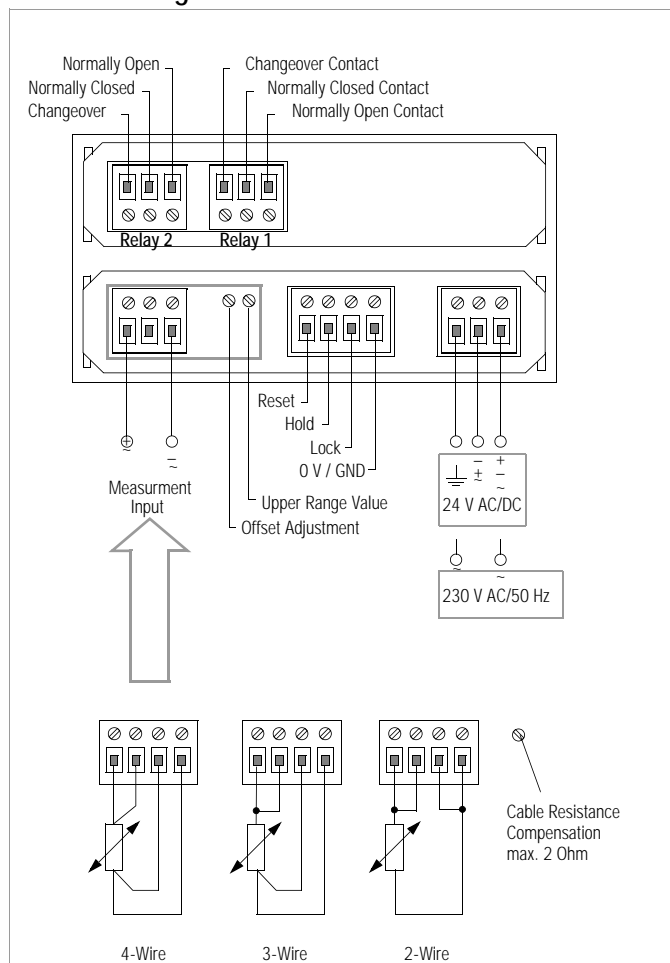
### Applicable Requirements and Standards

EN / IEC 61010-1	Safety requirements for electrical equipment for measurement, control and laboratory use.
EN 50081-2	EMC, interference emission
EN 50082-2	EMC, interference immunity
DIN 40040	Utilization category and reliability data for telecommunications and electronic components

### Dimensional Drawing



### Terminal Assignments



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### Characteristic Values

#### Display

Type	7 segment LED
Display Color	red
Character Height	approx. 13.2 mm
Display Range	– 1999 ... 9999
Polarity	"–" is automatically displayed
Decimal Point	programmable

#### Input

One Measuring Range  
(depending upon the  
measuring module  
in use)

Possible measuring ranges are listed  
under Order Information.

#### Error Limits for the Basic Instrument

Without Measuring Module	$\pm(0.1\% \text{ of rdg.} + 1 \text{ digit})$
Direct Current and Direct Voltage	$\pm(0.1\% \text{ of rdg.} + 2 \text{ digits})$
SMRR	> 35 dB at 50 Hz
CMRR	> 120 dB at 50 Hz with reference to the 200.00 mV measuring range

Alternating Current and Alternating Voltage for 45 ... 65 Hz	$\pm(0.2\% \text{ of rdg.} + 3 \text{ digits})$
for 30 Hz ... 1 kHz	$\pm(0.3\% \text{ of rdg.} + 5 \text{ digits})$
TC Value	$\pm(0.01\% + 0.01 \text{ mV})/\text{K}$

Alternating Current and Alternating Voltage, TRMS for 45 ... 65 Hz	$\pm(0.2\% \text{ of rdg.} + 3 \text{ digits})$
for 20 Hz ... 1 kHz	$\pm(0.5\% \text{ of rdg.} + 5 \text{ digits})$
Crest Factor	6 (additional 0.5% of rdg.)

#### Temperature

Pt 100	$\pm(0.4\% + 3 \text{ digits})$
TC Value	< 150 ppm/K
Offset Drift	< 0.1 digit/K

#### Control Commands

Store Display Value	externally controlled
Disable Programming	externally controlled
Reset	externally controlled

#### Auxiliary Power Supply

Depending upon Model	230 V/115 V 50/60 Hz +15 – 10%, or 18 ... 36 V DC/24 V AC $\pm 15\%$
Power Consumption	max. 2.0 W

#### Relay Contacts

Contacts	1 each changeover contact
Switching Capacity	5 A/240 V AC, 5 A/24 V DC
Switching Time	max. 400 ms
Switching Hysteresis	adjustable from 0 to $\pm 100$ digits

#### Ambient Conditions

Operating Temp.	0 ... + 50° C
Storage Temperature	– 20 ... + 70° C
Relative Humidity	max. 75%, no condensation allowed
Fouling Factor	2
Overvoltage Category	II III

#### Operating Voltage

DC Voltage Module	300 V	150 V
AC Voltage Module	1000 V	600 V
DC-AC Current Module	300 V	150 V
Temperature Module	50 V	50 V

#### Housing

Plastic	ABS
Front Panel Dimensions	96 x 48 mm
Bezel Height	5 mm
Panel Cutout	$92^{+0.8} \text{ mm} \times 45^{+0.6} \text{ mm}$
Protection	Front panel: IP 54 IP 65 is possible for the front panel if installed with additional seal between the meter and the panel. Rear panel: IP 20
Installation Depth	115 mm + 24 mm for plug
Weight	0.3 kg
Installation Terminals	mounting tabs screw terminal blocks

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### Order Information

Description / Feature	Article Number
DIGEM B 96 x 48 Digital Panel Meter	A1380
<b>Illumination color for indicator LEDs for optional limit values</b>	
red (standard)	A0
<b>Limit Value Function</b>	
No limit values	C0
2 limit values min-max contact	C1
min-min contact	C2
max-max contact	C3
max-min contact	C4
<b>Measuring Range</b>	
<b>Direct current</b>	
0 ... 20 mA	D001
4 ... 20 mA	D002
4 ... 20 mA with 24 V/20 mA output	D003
0 ... x mA (x = min. 2 mA, max. 200 mA)	D900
±x mA (x = min. 2 mA, max. 200 mA)	D901
<b>Direct voltage</b>	
0 ... 10 V	D010
0 ... 2 V	D011
0 ... x V (x = min. 2 V, max. 250 V)	D910
±x V (x = min. 2 V, max. 600 V)	D911
DC shunt ± 60 mV	D012
DC shunt ± 150 mV	D013
DC shunt ± 200 mV	D014
DC shunt ± 300 mV	D015
<b>Alternating current, sinusoidal</b>	
0 ... x mA (x = min. 2 mA, max. 200 mA)	D920
<b>Alternating voltage, sinusoidal</b>	
0 ... 200.0 V	D020
0 ... 700 V	D021
0 ... x V (x = min. 0.2 V, max. 100 V)	D921
<b>Alternating current, TRMS</b>	
0 ... x mA (x = min. 2 mA, max. 200 mA)	D925
<b>Alternating voltage, TRMS</b>	
0 ... 200.0 V	D025
0 ... 700 V	D026
0 ... x V (x = min. 2 V, max. 100 V)	D926
<b>Temperature, Pt100, – 200.0 ... 800.0 °C</b>	
3-wire connection	D60
2/4-wire connection	D61

Description / Feature	Article Number
<b>Display Range</b>	
Same as measuring range	E00
±x as requested (x = max. 1999)	E90
0 ... x as requested (x = max. 9999)	E91
x ... y as requested (x, y = max. 9999)	E92
– x ... y as requested (x = max. 1999, y = max. 9999)	E93
Display in °F (only in combination with D60, D61)	E01
<b>Measured Quantity</b>	
Same as measuring range	EM00
Without measured quantity	EM01
As requested, max. 4 characters	EM90
<b>Decimal Point</b>	
Same as measuring range at max. resolution	ED0
No decimal point	ED1
XXX . x	ED2
XX . xx	ED3
X . xxx	ED4
<b>Auxiliary Power</b>	
230 V/115 V AC	H1
24 V AC or 18 ... 36 V DC	H3
<b>Switching Hysteresis</b>	
No switching hysteresis	MD0
Switching hysteresis (number: enter max. ±100 characters in clear text)	MD9
<b>Instrument Designation</b>	
No designation	T0
With designation as requested	T9

Printed in Germany • Subject to change without notice

GOSSEN-METRAWATT GMBH  
 Thomas-Mann-Str. 16-20  
 90471 Nuremberg, Germany  
 Phone +49 911 8602-0  
 Fax +49 911 8602-669  
 e-mail: info@gmc-instruments.com  
 http://www.gmc-instruments.com

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 CAMILLE BAUER