GOSSEN Müller & Weigert

Operating Manual

Digital Panel Meter — DPM 48/96 - 40.000 MF

The **DPM 48/96-40.000 MF** are intelligent multifunction digital panel instruments for measurement of voltage, current and temperarture. The instruments incorporate all measuring ranges and functions for easy adjustment by the user via the front keys or the interfaces. A genuine wide range power supply unit enables the direct supply of the instrument with any direct and alternaring voltges starting from 19 V to 230 V.

Service:
The 2 front keys can be used to configure all the instrument parameters. A separate, definite function can be assignet to each of the 2 keys.This function is triggered when the key is pressed in the normal measuring mode. Key programming can be inhibited by a code as a protection against unauthorized use. The front keys can be used to configure all the instrument parameters: Setting of the measuring type / Scaling of the measured value / Valuation of the measured value / Display format and display functions / Key function and Ctrl Input Pin / Alarms configuration / Digital filter and temperature scale / Serial interface / Cascading / Analogue output / Datalogging / LOOP service / Init, Restart and factory-set configuration. When the LED triangular sactivated, they indicate the trend or Alarms.

Further **DPM xx/96-40.000 MF** versions from the range:

DPM 24/96-40.000 MF	Correspond with DPM 48/96-40.000 MF, but in 24 mm x 96 mm DIN-standard housing and 2 LEDs and 2 front buttons.
DPM 48/96-40.000 MF/ R2	Correspond with DPM 48/96-40.000 MF, but with 2 relays outputs and not open collector output.
DPM 48/96-40.000 MF/ E1	Correspond with DPM 48/96-40.000 MF, but with 4 relays, RS-485 interface and analogue output, 4 keys, 9 additional status LEDs,
DPM 48/96-40.000 MF/ E2	Corespond with DPM-24/96-40.000 MF/E1, but parallel BCD output, not RS-485 interface.

Technical data:

Display

A/D conversion range	-19999 to +40000
Display range	-19999 to +99999, free scalable
Display of	direct measured, or internally scaled value or values from the interface
Display memory	Min., Max. or display HOLD value
Decimal point position	programmable
Negative display indication	„-“ (to -19999)
Digit height	14 mm / 7-segment digits
Overload indication	programmable, flashing
LED indicators	2 programmable LED (trend or alarms)

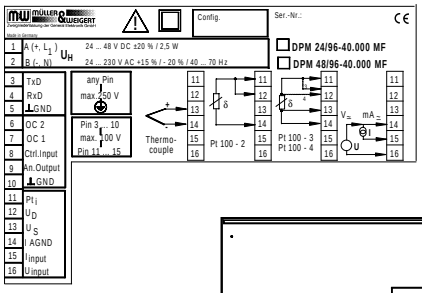
Measuring ranges

Voltage DC		
Measuring range	200 / 400 mV	2 / 4 / 20 / 40 / 200 / 400 / 650 V
Accuracy	0,05 % f.s. plus 4 digit	0,03 % f.s. plus 3 digit
Input resistance	> 100 MΩ	> 2 MΩ
Temperature coefficient	< 50 ppm / °C	
Current DC		
Measuring range	20 / 40 mA	
Current shunt	10 Ω	
Accuracy	0,04 % plus 3 digit	
Temperature coefficient	< 100 ppm / °C	
Voltage AC		
Measuring range	500 / 1000 mV	2 / 4 / 20 / 40 / 200 / 400 / 650 V
Accuracy	0,2 % f.s. plus 4 digit	0,03 % f.s. plus 3 digit
Input resistance	> 100 MΩ	> 2 MΩ
Frequency influence (typ) 40 - 400 Hz	2 %	0,1 %
Temperature coefficient	< 100 ppm / °C	
Current AC		
Measuring range	20 / 40 mA	
Current shunt	10 Ω	
Accuracy	0,04 % plus 3 digit	
Frequency influence (typ) 40 - 400 Hz	0,1 %	
Temperaturkoeffizient	< 125 ppm / °C	
Temperature	Pt 100	Thermocouple
Measuring range	-200 ... 850 °C	-260 ... 1820 °C
Sensor current	< 1 mA	
Resolution	0,1 °C	
Temperature coefficient	< 80 ppm / °C	< 100 ppm / °C
Broken sensor indication	‘99999’ flashes (except 4L)	
Conductor resistance		< 1,5 µV / 10 Ω
Lead resistance	2-L: 10 Ω 3-L: < 500 Ω symmetrical 4-L: < 50 Ω	
Internal reference junction error		< 1 °C (0 ... 50 °C)

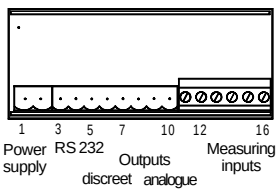
	ThThermocouple type	Type	Range [°C]	Accuracy [°C]
		J (Fe-CuNi)	-210 ... 1200	1,5
		L (Fe-CuNi)	-200 ... 900	1
		T (Cu-CuNi)	-260 ...400	1
		U (Cu-CuNi)	-200 ... 900	1
		K (NiCr-NiAl)	-260 ... -150	2
			-150 ... 1370	1
		E NiCr-CuNi)	-260 ... 1000	1
		N (Nicrosil-Nisil)	-260 ... -50	2
			-50 ... 0	1,5
			0 ... 1000	1
		R (Pt13Rh-Pt)	-50 ... 1230	1,5
			1230 ... 1770	2
		S (Pt10Rh-Pt)	-50 ... 1340	1,5
			1340 ... 1770	2
		B (Pt30)	400 ... 1820	2
Limit	Number	max. 2;	settable over the measuring range, as required. settable output quantities, as required.	
Output signals	Open collectors	2		
	Analogue output	1		
	Resolution	> 2000 steps f.s. (0 ... 20 mA) > 1600 steps f.s. (4 ... 20 mA)		
	Accuracy	0,5 % f.s.		
	Load	< 250 Ω max. (5 V min.)		
Digital signals	Interface	RS 232 C		
Power supply	Direct voltage	19 ... 36 V DC	3 W approx.	
	or	19 ... 36 V DC and 115 / 230 V AC	8 W approx.	
Ambient conditions	Climatic class	Class 2 to VDE / DIN 3540		
	Operating temperature	0 ... 50 °C		
	Storage temperature	-40 °C ... +80 °C		
	Safety class	II to IEC 348 / VDE 0411		
	Protection class	IP 20 to IEC EN 60 529		
	front	IP 54 (IP 65 on request)		
	Device safety	corresp. IEC EN 61 010		
	EMC immunity	corresp. DIN EN 61 000-4-1 to 4		
	EMC radiated interference	corresp. DIN EN 50 081 class B		
Sundry	Connections	Plug-in screw terminals blocks Direct screw terminal for measuring input		
Dimensions and weights	Front bezel size	96 mm x 48 mm (DIN 43 718)		
	Panel cut-out	92 +0,8 mm x 45 +0,6 mm		
	Overall depth	143 mm		
	Weiht	< 300 g		

Connections

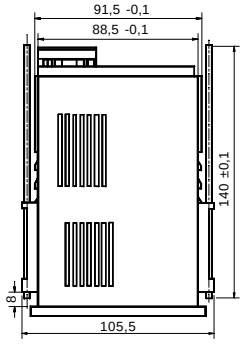
Rating plate

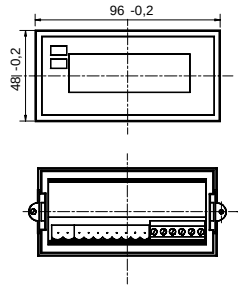


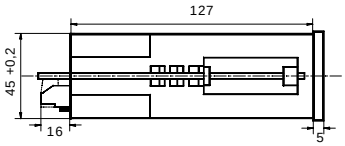
Connections



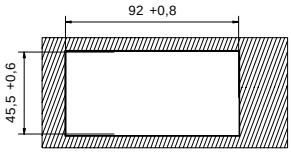
Design and installation







Panel cut-out



We reserve the right to make alterations !
III/99
Item no.:

File: \EIN\ANL\ÜBERS\48-96mf40e.pm6

CE

Made in Germany

GOSSEN Mueller & Weigert
Kleinreuther Weg 88
D-90408 Nuernberg
Tel.: +49(0)911 3502-0 Fax: +49(0)911 3502-307
E-Mail: info@g-mw.de http://www.g-mw.de