



## DHC-96 CPM

DHC-96 CPM, digital multimeter 96 x 48, 2 output relays

Code: M223A8.

- > Protocol: Modbus/RTU
- > IP: 54
- > Communications: RS-485
- > N° relays: 2
- > Digital inputs: 2
- > Analog output: 1 (20 mA)
- > System: DC (Shunt)
- > Measurement Range (V):  $\pm 150 / 300 / 600$  Vdc
- > Measurement Range (A): 50 / 60 / 75 / 100 / 150 / 200 / 250 / 300 / 400 / 600 mV
- > Paramètre: V/A/kW/kWh dc
- > Mounting: Pannel
- > Modules: 96 x 48

### Description

Panel-mounted digital instruments that display the value of an electrical variable measured or proportional value of a process signal on its screen (depending on the model). Designed to supervise, regulate and control units with the use of relay outputs that are built in the unit.

The **DHC-96** series displays the value of an electrical variable measured or proportional value of a process signal on its screen (depending on the model). The unit displays the electrical parameters of a single-phase installation, depending on the model, such as the voltage, current, etc. In DC systems, the unit can measure the voltage, current, frequency and other variables associated with industrial processes. The AC models take the measurements in true RMS (TRMS).

All models in this range have the following features:

- Universal power supply at 80...270 V<sub>ac/dc</sub> (DHC-96-CPM: 100...270 Vac/dc) and optional power supply at 16 ... 36 V<sub>dc</sub> (DHC-96-CPM: 20...60 Vdc)
- IP 54 protection degree on the front panel
- High measurement accuracy
- Programmable measuring input
- Alarm delays and interlockings
- Galvanic insulation between external circuits
- Self-configurable decimal point
- Installed on 96 x 49 mm panels

### Application

These digital instruments have many different applications and can be used in:

- Industrial applications
- Air conditioning units
- Solar photovoltaic energy installations
- Industrial process control systems



## DHC-96 CPM

Digital instruments: Programmable DC measurement Central

Code: M223A8.

### Specifications

#### AC power supply

Installation category	CAT III 300V
Consumption	6 ... 18 VA
Frequency	50/60 Hz
Nominal voltage	100...270 V ~

#### DC power supply

Installation category	CAT III 300 V
Consumption	1.3 ... 2 W
Nominal voltage	100...270 Vdc

#### Mechanical characteristics

Size (mm) width x height x depth	96 x 49 x 107.8 (mm)
Screw type	Power supply and Measurement: PZ1, Other terminals: PZ0
Torque setting	Power supply and Measurement: $\leq 0.5$ Nm, Other terminals: 0.5 ... 0.6 Nm
Communications cable cross-section	$\leq 2.5$ mm <sup>2</sup>
Cable gauge at power supply terminals	$\leq 1$ mm <sup>2</sup>
Cable gauge at input and output terminals	$\leq 2.5$ mm <sup>2</sup>
Cable gauge at current terminals	$\leq 1$ mm <sup>2</sup>
Cable gauge at voltage terminals	$\leq 1$ mm <sup>2</sup>
Weight (kg)	0,24

#### Environmental characteristics

Protection class	Front: IP54, Rear case: IP20
Relative humidity (without condensation)	$\leq 93$ %
Storage temperature	-25 ... +70 °C
Working temperature	-25 ... +55 °C

#### Current measurement circuit

Installation category	CAT III 600 V
Consumption	< 1 VA
Nominal current (In)	Shunt: 50 / 60 / 75 / 100 / 150 / 200 / 250 / 300 / 400 / 600 mV
Allowable overload	1.2 In continuous

#### Voltage measurement circuit

Installation category	CAT III 600 V
Consumption	< 1 VA
Input impedance	> 1 M $\Omega$



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Nominal voltage	$\pm 150 / 300 / 600$ Vdc
Maximum permanent measurement voltage	1.2 Un continuous

### Communications

Data bits	8
Stop bits (ModBus)	1-2
Parity	without, even, odd
Protocol	ModBus RTU
Speed	2400-4800-9600-19200

### Standards

Electrical safety, Maximum height (m)	2000
Electrical safety, Installation category	CAT III 300 V
Standards	IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11

### User interface

Keyboard	4 keys
Display type	LCD 5 digits

### Digital inputs

Input/output insulation	2000 V ~
Quantity	2
Type	Potential-free contact
Maximum short-circuit current	3.3 mA dc
Maximum open circuit voltage	17 V dc

### Analogue outputs

Quantity	1
Linearity	0.5 %
Current mode, nominal range	0 ... 20 mA, 4 ... 20 mA, 4-12-20 mA
Current mode: maximum load resistance	350 $\Omega$
Maximum internal voltage	17 V dc

### Digital relay outputs

Quantity	2
Maximum current	2.5 A
Electrical life	$1 \times 10^5$
Maximum switching capacity	625 VA

### Measurement accuracy



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Phase current measurement	Class 0.5
Active energy measurement (kWh)	Class 1
Active power measurement (kW)	Class 1
Phase voltage measurement	Class 0.5

### DHC-96 CPM

Digital instruments: Programmable DC measurement Central

CODE	TYPE	Protocol	Communications	N° relays	Analog output	System	Measurement Range (V)	Measurement Range (A)	Paramètre	Modules
<b>Multimeter</b>										
M223A8.	DHC-96 CPM	Modbus/RTU	RS-485	2	1 (20 mA)	DC (Shunt)	± 150 / 300 / 600 Vdc	50 / 60 / 75 / 100 / 150 / 200 / 250 / 300 / 400 / 600 mV	V/A/kW/kWh dc	96 x 48
M223B8.	DHC-96 CPM-HS	Modbus/RTU	RS-485	2	1 (20 mA)	DC (Hall)	± 150 / 300 / 600 Vdc	4 Vdc	V/A/kW/kWh dc	96 x 48
M223C8.	DHC-96 CPM 1500	Modbus/RTU	RS-485	2	1 (20 mA)	DC (Shunt)	± 150 / 300 / 600 / 1000 / 1500 Vdc	50 / 60 / 75 / 100 / 150 / 200 / 250 / 300 / 400 / 600 mV	V/A/kW/kWh dc	96 x 48

Option of 0/2... 10 VDC outputs on demand



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### Dimensions

### Connections

