





DHC-96 mAdc, digital process indicator 96 x 48, 2 output relays

Code: M22368.

> Protocol: Modbus/RTU

> Scale: -20 ... +20 mA / 0...20 mA / 4...20 mA

> IP: 54

> Communications: RS-485

> N° relays: 2 > Digital inputs: 2

> Analog output: 1 (20 mA)

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

Application

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

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







Panel-mounted digital instruments

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Specifications

AC power supply	
Installation category	CAT III 300V
Consumption	2.7 5 VA
Frequency	50/60 Hz
Nominal voltage	80270 V ~
DC power supply	
Installation category	CAT III 300 V
Consumption	1.5 1.6 W
Nominal voltage	80270 Vdc
Mechanical characteristics	
Size (mm) width x height x depth	96 x 49 x 89.2 (mm)
Envelope	Polycarbonate + ABS
Torque setting	Power supply and measurement: PZ1, Other terminals: PZ0
Communications cable cross-section	≤ 2.5 mm ²
Cable gauge at power supply terminals	$\leq 1 \text{ mm}^2$
Cable gauge at input and output terminals	≤ 2.5 mm²
Cable gauge at current terminals	≤1 mm²
Cable gauge at voltage terminals	$\leq 1 \text{ mm}^2$
Weight (kg)	0,2
Environmental characteristics	
Protection class	Frontal: IP54, Rear: IP20
Relative humidity (without condensation)	≤ 95 %
Storage temperature	-40 +85 °C
Working temperature	-40 +70 °C
Current measurement circuit	
Installation category	CAT III 300 V
Consumption	< 0.2 VA
Nominal current (In)	± 20 mA / 0 20 mA / 4 20 mA dc
Allowable overload	1.2 In continuous, 10 In instantaneous(5s)
Communications	
Data bits	8
Stop bits (ModBus)	1-2
Parity	without, even, odd







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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 Vdc Analogue outputs 1 Linearity 0.5 % Current mode, nominal range 0 20 mA, 4 20 mA, 4-12-20 mA Current mode: maximum load resistance 350 Ω Maximum internal voltage 17 V dc Digital relay outputs 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA Measurement accuracy	Protocol	ModBus RTU
Electrical safety, Maximum height (m) 2000 Electrical safety, Installation category CAT III 300 V Standards IEC 61010-1, IEC 61000-42, IEC 61000-43, IEC 61000-45, IEC 61000-45, IEC 61000-48, IEC 61000-411 User interface	Speed	2400-4800-9600-19200
Electrical safety, Installation category SAT III 300 V	Standards	
Standards IEC 61010-1, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, 61000-4-5, 61000-4-6, IEC 61000-4-8, IEC 61000-4-4, IEC 61000-4-5, 61000-4-6, IEC 61000-4-8, IEC 61000-4-4, IEC 61000-4-4, IEC 61000-4-5, 61000-4-6, IEC 61000-4-8, IEC 61000-4-4, IEC 61000-4-5, 61000-4-5, IEC 61000-4-6, IEC 61000-4-7, IEC 61000-4-4, IEC 61000-4-5, 61000-4-5, IEC 61000-4-6, IEC 61000-4-7, IEC 61000-4-4, IEC 61000-4-5, 61000-4-5, IEC 61000-4-6, IEC 61000-4-6, IEC 61000-4-6, IEC 61000-4-7, IEC 61000-4-5, IEC 61000-4-11 Very substitute of the	Electrical safety, Maximum height (m)	2000
User interface	Electrical safety, Installation category	CAT III 300 V
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 de Maximum open circuit voltage 17 Vdc 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 Ω Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1x 10 ⁶ Maximum switching capacity 1385 VA	Standards	IEC 61010-1, 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
Digital inputs Input/ output insulation 2000 V ~ Quantity 2 Potential-free contact Maximum open 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 Ω Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Quantity 2 Electrical life 1 x 10 ³ Maximum open contact voltage 277 V − Electrical life 1 x 10 ³ Maximum switching capacity 1385 VA	User interface	
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 Vdc 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 Ω Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA	Keyboard	4 keys
Input/ output insulation Quantity Z Type Potential-free contact Maximum short-circuit current 3.3 mA dc Maximum open circuit voltage 17 Vdc 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 Q Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity Measurement accuracy	Display type	LCD 5 digits
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Maximum short-circuit current Maximum open circuit voltage 17 Vdc 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 Q Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁶ Maximum switching capacity Measurement accuracy	Quantity	2
Maximum open circuit voltage 17 Vdc Analogue outputs 1 Quantity 0.5 % Current mode, nominal range 0 20 mA, 4 20 mA, 4-12-20 mA Current mode: maximum load resistance 350 Ω Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Resistive load (max.) 2250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA Measurement accuracy	Туре	Potential-free contact
Analogue outputs Quantity Linearity 0.5 % Current mode, nominal range 0 20 mA, 4 20 mA, 4-12-20 mA Current mode: maximum load resistance 350 Ω Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity Measurement accuracy	Maximum short-circuit current	3.3 mA dc
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 Ω Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA	Maximum open circuit voltage	17 Vdc
Linearity 0.5 % Current mode, nominal range 0 20 mA, 4 20 mA, 4-12-20 mA Current mode: maximum load resistance 350 Ω Maximum internal voltage 17 V dc Digital relay outputs Quantity 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA	Analogue outputs	
Current mode, nominal range Current mode: maximum load resistance Maximum internal voltage 17 V dc Digital relay outputs Quantity Resistive load (max.) Maximum current 5 A ~ Maximum open contact voltage Electrical life 1 x 10 ⁵ Maximum switching capacity Measurement accuracy	Quantity	1
Current mode: maximum load resistance Maximum internal voltage 17 V dc Digital relay outputs Quantity Resistive load (max.) Maximum current 5 A ~ Maximum open contact voltage Electrical life 1 x 10 ⁵ Maximum switching capacity Measurement accuracy	Linearity	0.5 %
Digital relay outputs Quantity Resistive load (max.) Maximum current Maximum open contact voltage Electrical life Maximum switching capacity Measurement accuracy 17 V dc 2 2 2 250 Vca / 5 Aca, 30 Vcc / 5 Acc 1 × 10 ⁵ 1 × 10 ⁵ Maximum switching capacity	Current mode, nominal range	0 20 mA, 4 20 mA, 4-12-20 mA
Digital relay outputs Quantity Resistive load (max.) Maximum current Maximum open contact voltage Electrical life 1x 10 ⁵ Maximum switching capacity Measurement accuracy	Current mode: maximum load resistance	350 Ω
Quantity 2 Resistive load (max.) 250 Vca / 5 Aca, 30 Vcc / 5 Acc Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA	Maximum internal voltage	17 V dc
Resistive load (max.) Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA Measurement accuracy	Digital relay outputs	
Maximum current 5 A ~ Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA Measurement accuracy	Quantity	2
Maximum open contact voltage 277 V ~ Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA Measurement accuracy	Resistive load (max.)	250 Vca / 5 Aca, 30 Vcc / 5 Acc
Electrical life 1 x 10 ⁵ Maximum switching capacity 1385 VA Measurement accuracy	Maximum current	5 A ~
Maximum switching capacity 1385 VA Measurement accuracy	Maximum open contact voltage	277 V ~
Maximum switching capacity 1385 VA Measurement accuracy	Electrical life	1 x 10 ⁵
	Maximum switching capacity	
	Measurement accuracy	
Thase current measurement U.3 /6	Phase current measurement	0.5 %

DHC-96

Digital instruments 96 x 48







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CODE	TYPE	Protocol	Scale	Communications	N° relays	Analog output	System	Paramètre	Modules	Measure	Power supply (Vac)
Voltmete	rs										
M22318.	DHC-96 Vac	Modbus/RTU	63,5 V / 100 V / 110 V /230 V /380 V /480 V	RS-485	2	1 (20 mA)	AC	V ~	96 x 48		
M22388.	DHC-96 Vdc	Modbus/RTU	± 10 Vdc / ± 24 Vdc / ± 48 Vdc	RS-485	2	1 (20 mA)	DC	Vdc	96 x 48	± 10 Vdc / ± 24 Vdc / ± 48 Vdc	80 270 Vac/Vdc
M22338.	DHC-96 HVdd	Modbus/RTU	± 1500 V	RS-485	2	1 (20 mA)	DC	Vdc	96 x 48		
Ammeter	's										
M22348.	DHC-96 mVd	c Modbus/RTU	60 mV / 75 mV / 100 mV / 150 mV / 200 mV	RS-485	2	1 (20 mA)	DC	V dc	96 x 48		
M22358.	DHC-96 Aac	Modbus/RTU	1 A~ / 5 A~	RS-485	2	1 (20 mA)	AC	A ~	96 x 48		
M22378.	DHC-96 Adc	Modbus/RTU	1 Adc / 5 Adc	RS-485	2	1 (20 mA)	DC	A dc	96 x 48		
Process i	ndicators										
M22328.	DHC-96 LVdc	Modbus/RTU	± 10 V	RS-485	2	1 (20 mA)	DC	Vdc	96 x 48		
M22368.	DHC-96 mAd	c Modbus/RTU	-20 +20 mA / 020 mA / 420 mA	RS-485	2	1 (20 mA)	DC	mAdc	96 x 48		

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









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Connections Dimensions





