## DHC-96 LVdc

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DHC-96 LVdc, digital process indicator $96 \times 48.2$ output relays
Code: M22328.
> Protocol: Modbus/RTU
$>$ Scale: $\pm 10 \mathrm{~V}$
> IP: 54
> Communications: RS-485
$>N^{0}$ relays: 2
> Digital inputs: 2
> Analog output: 1 ( 20 mA )
> System: DC
> Parameter: Vdc
> Mounting: Pannel
> Modules: $96 \times 48$

## 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 $80 \ldots 270 \mathrm{~V}_{\text {ac/dc }}$ (DHC-96-CPM: 100...270 Vac/dc) and optional power supply at 16 .. 36 V dc (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 $96 \times 49 \mathrm{~mm}$ 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


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## Specifications

AC power supply

| Installation category | CAT III 300 V |
| :--- | :--- |
| Consumption | $3.1 \ldots 5.4 \mathrm{VA}$ |
| Frequency | $50 / 60 \mathrm{~Hz}$ |
| Nominal voltage | $80 \ldots 270 \mathrm{~V} \sim$ |

DC power supply

| Installation category | CAT III 300 V |
| :--- | :--- |
| Consumption | $1.7 \ldots 1.8 \mathrm{~W}$ |
| Nominal voltage | $80 \ldots 270 \mathrm{Vdc}$ |

## Mechanical characteristics

| Size (mm) width $x$ height $x$ depth | $96 \times 49 \times 89.2(\mathrm{~mm})$ |
| :--- | :--- |
| Envelope | Polycarbonate + ABS |
| Torque setting | Power supply and measurement: PZ1, Other terminals: PZO |
| Communications cable cross-section | $\leq 2.5 \mathrm{~mm}^{2}$ |
| Cable gauge at power supply terminals | $\leq 1 \mathrm{~mm}^{2}$ |
| Cable gauge at input and output terminals | $\leq 2.5 \mathrm{~mm}^{2}$ |
| Cable gauge at current terminals | $\leq 1 \mathrm{~mm}^{2}$ |
| Cable gauge at voltage terminals | $\leq 1 \mathrm{~mm}^{2}$ |
| Weight (kg) | 0,2 |

## Environmental characteristics

| Protection class | Front: IP54, Rear: IP20 |
| :--- | :--- |
| Relative humidity (without condensation) | $\leq 95 \%$ |
| Storage temperature | $-40 \ldots+85^{\circ} \mathrm{C}$ |
| Working temperature | $-40 \ldots+70^{\circ} \mathrm{C}$ |

## Voltage measurement circuit

| Installation category | CAT III 300 V |
| :--- | :--- |
| Consumption | $<0.1 \mathrm{VA}$ |
| Input impedance | $>5 \mathrm{M} \Omega$ |
| Nominal voltage | $\pm 10 \mathrm{~V} \mathrm{dc}$ |
| Maximum permanent measurement voltage | 1.2 Un continuous, 2 Un instantaneous (1 min) |

## Communications

| Data bits | 8 |
| :--- | :--- |
| Stop bits (ModBus) | $1-2$ |

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| Parity | without, even, odd |
| :--- | :--- |
| Protocol | ModBus RTU |
| Speed | $2400-4800-9600-19200$ |
| Standards | 2000 |
| Electrical safety, Maximum height (m) | CAT III 300 V |
| Electrical safety, Installation category | IEC 61010-1, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC |
| Standards | $61000-4-6$, IEC 61000-4-8, IEC 61000-4-11 |
| User interface | 4 keys |
| Keyboard | LCD 5 digits |
| Display type | $2000 \mathrm{~V} \mathrm{\sim}$ |
| Digital inputs | 2 |
| Input/output insulation | Potential-free contact |
| Quantity | 3.3 mA dc |
| Type | 17 Vdc |
| Maximum short-circuit current |  |
| Maximum open circuit voltage |  |

## Analogue outputs

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

Digital relay outputs

| Quantity | 2 |
| :--- | :--- |
| Resistive load (max.) | $250 \mathrm{Vca} / 5 \mathrm{Aca}, 30 \mathrm{Vcc} / 5 \mathrm{Acc}$ |
| Maximum current | $5 \mathrm{~A} \sim$ |
| Maximum open contact voltage | $277 \mathrm{~V} \sim$ |
| Electrical life | $1 \times 10^{5}$ |
| Maximum switching capacity | 1385 VA |

Measurement accuracy
Phase voltage measurement
$0.5 \%$

DHC-96

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Digital instruments $96 \times 48$

| CODE | TYPE | Protocol | Scale | Communications | $N^{\circ}$ relays | Analog output | System | Paramètre | Modules | Measure | Power supply (Vac) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Voltmeters |  |  |  |  |  |  |  |  |  |  |  |
| M22318. | DHC-96 Vac | Modbus/RTU | $\begin{aligned} & 63,5 \mathrm{~V} / 100 \mathrm{~V} / 110 \mathrm{~V} / 230 \mathrm{~V} / 380 \\ & \mathrm{~V} / 480 \mathrm{~V} \end{aligned}$ | RS-485 | 2 | $1(20 \mathrm{~mA})$ | AC | V ~ | $96 \times 48$ |  |  |
| M22388. | DHC-96 Vdc | Modbus/RTU | $\pm 10 \mathrm{Vdc} / \pm 24 \mathrm{Vdc} / \pm 48 \mathrm{Vdc}$ | RS-485 | 2 | $1(20 \mathrm{~mA})$ | DC | Vdc | $96 \times 48$ | $\begin{aligned} & \pm 10 \mathrm{Vdc} \\ & / \pm 24 \\ & \mathrm{Vdc} / \pm \\ & 48 \mathrm{Vdc} \end{aligned}$ | $\begin{aligned} & 80 \ldots 270 \\ & \text { Vac/Vdc } \end{aligned}$ |
| M22338. | DHC-96 HVdc | Modbus/RTU | $\pm 1500 \mathrm{~V}$ | RS-485 | 2 | $1(20 \mathrm{~mA})$ | DC | Vdc | $96 \times 48$ |  |  |
| Ammeters |  |  |  |  |  |  |  |  |  |  |  |
| M22348. | DHC-96 mVdc | Modbus/RTU | $\begin{aligned} & 60 \mathrm{mV} / 75 \mathrm{mV} / 100 \mathrm{mV} / 150 \mathrm{mV} \\ & / 200 \mathrm{mV} \end{aligned}$ | RS-485 | 2 | $1(20 \mathrm{~mA})$ | DC | V dc | $96 \times 48$ |  |  |
| M22358. | DHC-96 Aac | Modbus/RTU | $1 \mathrm{~A} \sim / 5 \mathrm{~A} \sim$ | RS-485 | 2 | $1(20 \mathrm{~mA})$ | AC | A ~ | $96 \times 48$ |  |  |
| M22378. | DHC-96 Adc | Modbus/RTU | 1 Adc / 5 Adc | RS-485 | 2 | $1(20 \mathrm{~mA})$ | DC | A dc | $96 \times 48$ |  |  |
| Process indicators |  |  |  |  |  |  |  |  |  |  |  |
| M22328. | DHC-96 LVdc | Modbus/RTU | $\pm 10 \mathrm{~V}$ | RS-485 | 2 | $1(20 \mathrm{~mA})$ | DC | Vdc | $96 \times 48$ |  |  |
| M22368. | DHC-96 mAdc | Modbus/RTU | $\begin{aligned} & -20 \ldots+20 \mathrm{~mA} / 0 \ldots 20 \mathrm{~mA} / 4 \ldots 20 \\ & \mathrm{~mA} \end{aligned}$ | RS-485 | 2 | $1(20 \mathrm{~mA})$ | DC | mAdc | $96 \times 48$ |  |  |

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[^0]:    Option of 0/2... 10 VDC outputs on demand

