

DCB

Panel-mounted digital instruments



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 **DCB** 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} and optional power supply at 24 V_{dc}.
- 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
- Can be installed on 48 x 48 or 72 x 72 mm panels, depending on the model

Applications

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

General technical features

AC power supply	Standard power supply voltage	80...270 Vac
	Frequency	50 / 60 Hz
	Consumption	≤ 5 VA
CC Power supply	Power supply voltage	80...270 Vdc / 24 Vdc power supply (optional)
	Consumption	≤ 5 VA
Outputs (optional)	No. of outputs	2
	Type	1 to relay
Display	No. of digits	4 digits
	Indicator limits	-1999...9999
	Digit height	14 mm
Build features	Enclosure	PC + ABS
	Protection degree	IP 54 (front panel) + IP 20 (rear panel)
	Weight	108 g
Environmental conditions	Temperature	-40...+70 °C
	Relative humidity	≤ 93% (no condensation, at 50 °C)
	Maximum altitude	2000 m
Safety	Designed for CAT III 300/520 Vac installations, in accordance with EN 61010 . Double-insulated electric shock protection, Class II	
Standards	IEC 61000-4-2:2008, IEC 61000-4-3:2006, IEC 61000-4-4:2012, IEC 61000-4-5:2014, IEC 61000-4-6:2013, IEC 61000-4-8:2009, IEC 61000-4-11:2004	

Technical features of the AC voltmeters

Voltage measurement circuit	Rated voltage U_n	63.5 / 100 / 110 / 230 / 380 / 480 Vac
	Frequency measurement margin	45...65 Hz
	Overvoltage	1.2 U_n Continuous, 2 U_n Instantaneous (1 min)
	Consumption	< 0.2 VA
	Impedance	> 1.7 M Ω
Accuracy	Voltage measurement	0.5%

Technical features of the DC voltmeters

		DCB-48 LVdc	DCB-48 HVdc	DCB-72 HVdc
Voltage measurement circuit	Rated voltage U_n	± 10 Vdc	± 500 Vdc	± 1500 Vdc
	Overvoltage	1.2 U_n Continuous, 2 U_n Instantaneous (1 min)		
	Consumption	< 1 VA		
	Impedance	> 1 M Ω		> 5 M Ω
Accuracy	Voltage measurement	0.5%		

Voltmeter references

Type	Scale	Model	Code
Voltmeter (Vac)	63.5 V / 100 V / 110 V / 230 V / 380 V / 480 V	DCB-48 Vac	M22110
		DCB-72 Vac With 2 relay outputs	M22210 M22212
		DCB-48 LVdc	M22120
Voltmeter (Vdc)	± 10 V	DCB-72 LVdc With 2 relay outputs	M22220 M22222
	± 500 V	DCB-48 HVdc	M22130
	± 1500 V	DCB-72 HVdc With 2 relay outputs	M22230 M22232

Attribute **MXXXXX0030000** for 24 V power supply.

Technical features of the AC ammeters

Current measurement circuit	Nominal current (I_n)	1 Aac / 5 Aac
	Frequency measurement margin	45...65 Hz
	Overcurrent	1.2 I_n Continuous, 10 I_n Instantaneous (5 s)
	Consumption	< 0.2 VA
	Impedance	< 20 m Ω
Accuracy	Current measurement	0.5%

Technical features of the DC ammeters

Current measurement circuit	Nominal current (I_n)	1 Adc / 5 Adc
	Overcurrent	1.2 I_n Continuous, 10 I_n Instantaneous (5 s)
	Consumption	< 0.2 VA
	Impedance	< 20 m Ω
Accuracy	Current measurement	0.5%

Ammeter references

Type	Scale	Model	Code
Ammeter (Aac)	1 Aac / 5 Aac	DCB-48 Aac	M22150
		DCB-72 Aac With 2 relay outputs	M22250 M22252
		DCB-48 Adc	M22170
Ammeter (Adc)	1 Adc / 5 Adc	DCB-72 Adc With 2 relay outputs	M22270 M22272

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Technical features of the mA DC process indicators

Current measurement circuit	Nominal current I_n	±20 mA
	Nominal current	-20...+20 mA / 0...20 mA / 4...20 mA
	Consumption	< 0.2 VA
	Overcurrent	1.2 I_n Continuous, 10 I_n Instantaneous (5 s)
	Impedance	< 10 Ω
Accuracy	Current measurement	0.5%

Technical features of the mV DC process indicators

Voltage measurement circuit	Rated voltage U_n	±200 mV
	Rated voltage	60 / 75 / 100 / 150 / 200 mV
	Consumption	< 0.1 VA
	Overvoltage	1.2 U_n Continuous, 2 U_n Instantaneous (1 min)
	Impedance	> 1 MΩ
Accuracy	Voltage measurement	0.5%

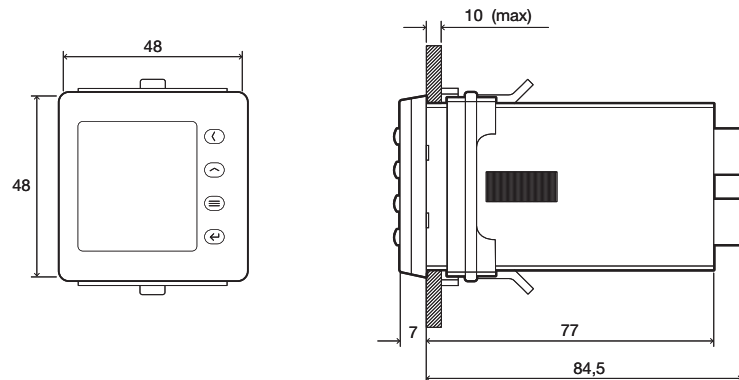
References

Type	Scale	Model	Code
Process indicator (mVdc)	60 mV / 75 mV / 100 mV / 150 mV / 200 mV	DCB-48 mVdc	M22140
		DCB-72 mVdc	M22240
		With 2 relay outputs	M22242
Process indicator (mAdc)	-20...+20 mA / 0...20 mA / 4...20mA	DCB-48 mAdc	M22160
		DCB-72 mAdc	M22260
		With 2 relay outputs	M22262

Attribute **MXXXXX0030000** for 24 V power supply.

Dimensiones

48 x 48 mm



72 x 72 mm

