

Type: **MFD-TP12-NI-A**

Article No.: **106044**

Sales text **E/A MFD 24VDC,Trans., 2E x NI1000**



IP20, springloaded terminals

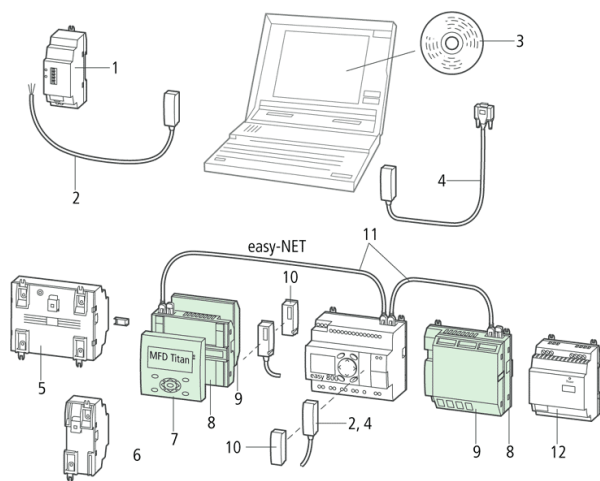
Ordering information

Description			24 V DC for MFD-CP8... (from device version 08), temperature range can be set.
Inputs			
Digital			6
of which can be used as analog			2
Upper value of setting range			2
Outputs			
Transistor			4
Temperature range			-40...+90 °C 0...+250 °C

Notes concerning the product group

Accessories

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1 Ethernet gateway	→ 101520
2 Connection cable	→ 280887
3 Programming software	→ 266040
4 PC programming cable	→ 256277
5 I/O expansion	→ 212314
6 Output expansion, bus module, coupling module	→ 212315
7 Display/keypad	→ 265251
8 Power supply unit/CPU	→ 265253
9 I/O module	→ 265254
10 Memory card	→ 256279
11 easy-NET	→ 256283
12 Switched-mode power supply unit	→ 212319

General

Standards			EN 61000-6-1/-2/-3/-4, IEC 60068-2-6, IEC 60068-2-27
Weight		kg	0,14
Mounting			Fitted into the power supply unit.

Terminal capacities

Solid		mm ²	0.24 (AWG 24 – 12)
Flexible with ferrule		mm ²	0.22.5 (AWG 24 – 12)
Standard screwdriver		mm	3.5 × 0.6

Climatic environmental conditions

Operating ambient temperature		°C	–25 to 55, cold as per IEC 60068-2-1, heat as per IEC 60068-2-2
Condensation			Take appropriate measures to prevent condensation
Storage		°C	... 40...+70
Relative humidity, non-condensing (IEC/EN 60068-2-30)		%	5...95
Air pressure (operation)		hPa	795...1080

Ambient conditions, mechanical

Pollution degree			2
Degree of protection IEC/EN 60529			IP 20

Vibrations (IEC/EN 60068–2–6)			
Constant amplitude 0.15 mm		Hz	10...57
Constant acceleration 2 g		Hz	57...150
Mechanical shock resistance (IEC/EN 60068–2–27) semi-sinusoidal 15 g/11 ms		Impacts	18
Drop to IEC/EN 60068–2–31	Drop height	mm	50
Free fall, packaged (IEC/EN 60068–2–32)		m	1
Mounting position			horizontal, vertical
Electromagnetic compatibility (EMC)			
Electrostatic discharge (IEC/EN 61000–4–2, Level 3, ESD)			
Air discharge		kV	8
Contact discharge		kV	6
Electromagnetic fields (IEC/EN 61000–4–3, RFI)		V/m	10
Radio interference suppression (EN 55011)			EN 55011 Class B, EN 55022 Class B
Burst pulses (IEC/EN 61000–4–4, level 3)			
Supply cables		kV	2
Signal lines		kV	2
High-energy pulses (surge) (IEC/EN 61000–4–5)		kV	2 (supply cables, symmetrical)
High-energy pulses (surge) (IEC/EN 61000–4–5, level 2)		kV	0.5 (supply cables, symmetrical)
Immunity to line-conducted interference to (IEC/EN 61000–4–6)		V	10
Insulation resistance			
Clearance in air and creepage distances			EN 50178, UL 508, CSA C22.2, no. 142
Insulation resistance			EN 50178
Digital inputs 24 V DC			
Number			6
Inputs can be used as analog inputs			2 (I11, I12)
Potential isolation			
From power supply			No
Between digital inputs			No
From the outputs			Yes
for Program code			Yes

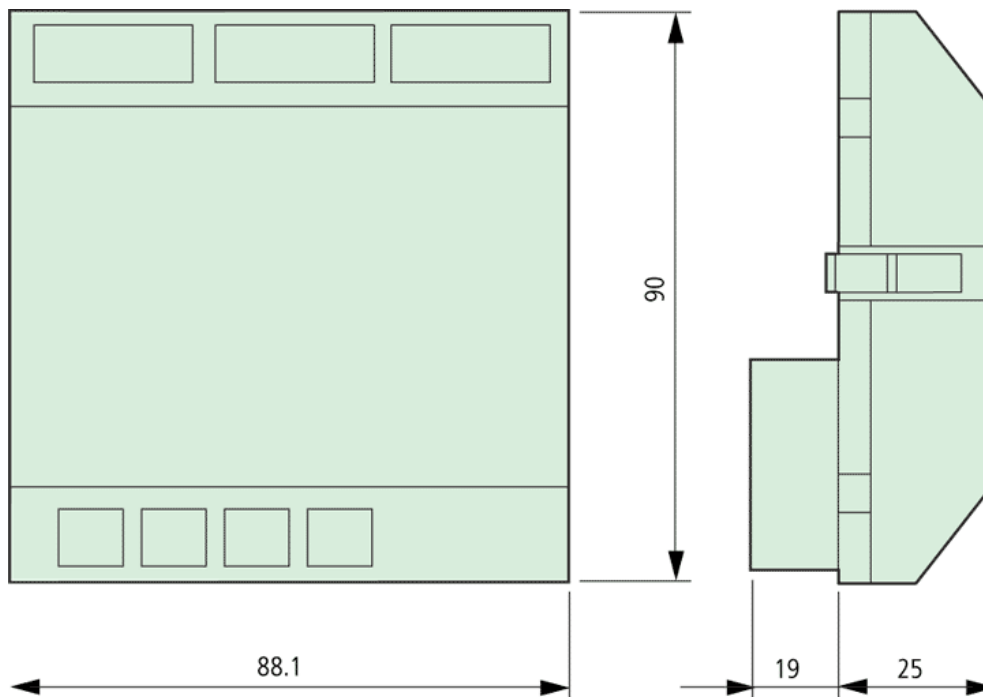
Rated operational voltage	U_e	V DC	24
On 0 signal	U_e	V DC	$< 5.0 (I_1 - I_4) < 8.0 (I_{11}, I_{12})$
On 1 signal	U_e	V DC	$> 15.0 (I_1 - I_4) > 8.0 (I_{11}, I_{12})$
Input current on 1 signal			
I_{11}, I_{12}		mA	2.2 (at 24 V DC)
Delay time from 0 to 1			
Debounce ON		ms	20
Debounce OFF		ms	Normally 0.1 ($I_1 - I_4$), Normally 0.25 ($I_{11} - I_{12}$)
Delay time from 1 to 0			
Debounce ON		ms	20
Debounce OFF		ms	Normally 0.1 ($I_1 - I_4$), normally 0.2 (I_{11}, I_{12})
Cable length (unscreened)		m	100
Frequency counter			
Quantity			4 (I_1, I_2, I_3, I_4)
Counter frequency		kHz	< 3
Pulse shape			Square
Incremental counter			
Quantity			2 ($I_1 + I_2, I_3 + I_4$)
Counter frequency		kHz	3
Pulse shape			Square
Signal offset			90°
Rapid counter inputs			
Number			4 (I_1, I_2, I_3, I_4)
Counter frequency		kHz	< 3
Pulse shape			Square
Cable length, screened		m	< 20

Analog inputs

Potential isolation			
From power supply			No
From the digital inputs			No
From the outputs			Yes
for Program code			Yes
Input type			DC voltage
Signal range		V DC	0 – 10
Resolution, analog		V	0,01
Resolution, digital		V	0,01
Resolution		Bit	10 (value 0 – 1023)

Input impedance		k	11,2
Accuracy of actual value			
two MFD devices		%	± 3
Within a single device		%	± 2
Conversion time, analog/digital		ms	Each CPU cycle
Input current		mA	< 1
Cable length screened		m	< 30

Dimensions



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