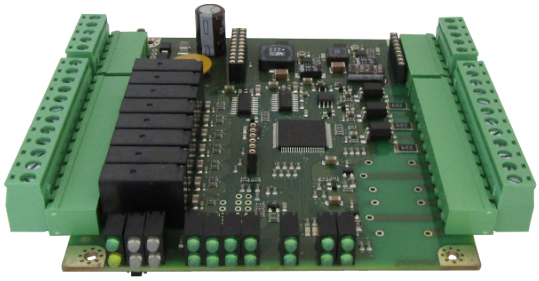
Automation systems

Short Catalog Sheet
METEL.EU

IO boards

- Installation on the PLC motherboard or as a stand-alone IO module
- A wide range of digital and analog inputs and outputs
- Highly durable hardware with integrated surge protectors
- Operating temperature from −40°C to +70°C



The individual PCBs cannot be ordered; they are provided solely for the purpose of listing all available interfaces, communication protocols, inputs and outputs.

IO boards are universally applicable for connection to a PLC motherboard or as a standalone IO module. Most boards feature an IF slot for fitting an IF module, which communicates using the Modbus RTU protocol.

Available models

Order name	Order code
AI8.1-PCB	0000-0200
AI4.1-PCB	0000-0300
DI8.1-PCB	0000-0100
AO8.1-PCB	0000-0600
RE8.1-PCB	0000-0500
BI8.1-PCB	0000-0400
BO8.1-PCB	0000-0800
RE8.3E-PCB	0000-1100
RE8.2E-PCB	0000-0900
RE8.2-PCB	0000-1000
BI8.2E-PCB	0000-1200
PP8.1-PCB	0000-0700
BI8.4-PCB	0000-1300
BI8.4E-PCB	0000-1400

Technical parameters

POWER	
Input voltage range	10 - 60 VDC
ENVIRONMENT AND SURGE PROTECTIONS	
I/O surge protections	Min. 600 W (10/1000 µs)
Operating temperature	–40…+70 °C
Storage temperature	–40…+70 °C / Max. 95 % humidity
12-BIT ANALOG CURRENT OR VOLTAGE INPUTS (with galvanic isolation)	
Voltage ranges	±2.5V, ±5V, ±10V, 0V to 5V, 0V to 10V
Current ranges	0 to 20mA, 4 to 20mA
Sampling rate	1 kSps (adaptive)
24-BIT RTD INPUTS	
Resistive ranges	PT100, PT1000 (3-wires connection)
Sampling rate	1 kSps
Isolation voltage	1.000 VRMS (RTDx / CPU)
SSR OUTPUTS	
Output type	MOSFET (SPST contact type)
Voltage / current	75 VAC to 264 VAC, 45 to 65 Hz / Max. 1 A, minimal 20 mA
Breakdown voltage	3.000 Vrms (Input / Output)
Isolation voltage between SSR outputs	1.500 Vrms
24 V DIGITAL INPUTS (with galvanic isolation 2.500 Vrms between inputs and CPU)	
Input voltage DC / AC | Input current	Log. 0: −30 V to 5 V, Log. 1: +15 V to 30 V | 12 mA at 24 VDC
Maximum input voltage	50 V / 1 s
NOC 24 V RELAY OUTPUTS (changeover contact)	
Max. load	0.5 A / 120 VAC, 1 A / 24 VDC (resistive load)
Electrical lifetime	3,000,000 operations
Isolation voltage	1.000 Vrms / 1 min. (terminals to electronic or case)
NO 230 V RELAY OUTPUTS (normal open contact)	
Max. load	5 A / 250 VAC, 3 A / 30 VDC (resistive load)
Electrical lifetime	100,000 operations at 250 VAC / 5A

NO 230 V RELAY OUTPUTS (normal open contact)	
Isolation voltage	2.500 Vrms / 1 min. (terminals to electronic or case)
NOC 230 V RELAY OUTPUTS (changeover contact)	
Max. load	10 A / 250 VAC, peak 15 A, (resistive load)
Electrical lifetime	50.000 operations, minimal value
Isolation voltage	2.500 Vrms / 1 min. (terminals to electronic or case)
ALARM / 5 V DIGITAL INPUTS	
Alarm / digital mode usage	PIR / tampers (input voltage max. 7VDC)
Dry contact schematic	Log. 0: open, Log. 1: close to ground
Alarm mode range	From 10 to 30.000 Ω (10-bit resolution)
5 V DIGITAL INPUTS	
Input voltage	Max. 7 VDC
Dry contact schematic	Log. 0: open, Log. 1: close to ground
OPEN COLLECTOR NPN TRANSISTORS OUTPUTS	
Internal Pull-Up	1,000 Ω, ON/OFF by a DIP switch
Maximum load (sinking | sourcing)	16 V / 250 mA | 12 V / 1 mA
8-BIT ALARM OUTPUTS	
Adjustable range	200 to 50 000 Ω
PUSH-PULL TRANSISTOR OUTPUTS	
Output type	Open collector NPN or PNP, Push-Pull (software selectable)
Maximum load	30 V / 0.25 A
Galvanic isolation	2.500 VRMS (PP x output / CPU)
Shortcut protection	Yes (polyswitch)
230 V DIGITAL INPUTS	
Input voltage AC	Log. 0: 0 VAC to 120 VAC, Log. 1: 200 VAC to 250 VAC
Isolation voltage	2.500 Vrms, (IN x / CPU)

Standards and protocols

Standard	Note
EN 61131-2	Programmable controllers

EMC and safety

Standard	Level	Note
EN 61000-6-2		Immunity - industrial environment
IEEE 1613		Environmental and Testing Requirements | Electric Power Substations
EN 50130-4 ed. 2		Alarm systems - Part 4: Electromagnetic compatibility
EN 55035		EMC of multimedia devices - immunity requirements
EN 55032		EMC of multimedia devices - emission requirements
EN 61131-2		Programmable control units
EN 62368-1		Safety requirements of Information technology equipment
EN IEC 63000		The Assessment Of Electrical And Electronic Products With Respect To The ROHS

Notes

- The manufacturer reserves the right to change technical parameters without prior notice.

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