

# Specifications

## E-PDISO16



**MEASUREMENT  
COMPUTING™**

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# Specifications

Typical for 25 °C unless otherwise specified.

Specifications in *italic text* are guaranteed by design.

## Output relay specifications

Table 1. Output relay specifications

Number	16
Contact configuration	16 Form C (SPDT) NO, NC and Common available at connector
Contact rating	<i>6 amperes (A) @ 240 volts AC (VAC) or 28 volts DC (VDC) resistive</i>
Contact resistance	100 milliohms (mΩ) max.
Operate time	<i>10 milliseconds (ms) max.</i>
Release time	<i>5 ms max.</i>
Vibration	<i>10 to 55 hertz (Hz) (Dual amplitude 1.5 millimeters (mm))</i>
Shock	<i>10 G (11 ms)</i>
Dielectric isolation	<i>500 V (1 minute)</i>
Life expectancy	<i>10 million mechanical operations, min.</i>
Power on state	Not energized. NC in contact to Common.
State after RESET button activated	Not energized. NC in contact to Common.

## Isolated inputs

Table 2. Isolated inputs specifications

Number	16	
Isolation	<i>500 volts (V)</i>	
Resistance	1.6 K ohms (Ω) min.	
Voltage range	DC	Input high: +5.0 VDC min. or -5.0 VDC min.
		Input low: +1.5 VDC max. or -1.5 VDC max.
		Input range: ± 30 VDC max.
	AC (with filter)	Input high: 4.0 V <sub>rms</sub> min. (50-1000 Hz)
		Input low: 1.5 V <sub>rms</sub> max. (50-1000 Hz)
Response	Without filter	20 μs
	With filter	5 ms
Filters	Time constant	5 ms (200 Hz)
	Filter control	Software programmable at each input
	Power-up	Filter setting is stored on-board and will remain at the last stored configuration
	After RESET button activated	Filters off

## Power consumption

Table 3. Power consumption specifications

External power input		6.0 VDC to 12.5 VDC (9 VDC power supply provided)
External power supply (included)	MCC p/n CB-PWR-9V3A	9 V $\pm$ 10% @ 3 A
Operating current	All relays off, Ethernet idle	250 mA typical, 320 mA max.
	All relays on, Ethernet idle	1.3 A typical, 1.6 A max.
	All relays on, Ethernet active	1.45 A typical, 1.7 A max.

**Note 1:** The E-PDISO16 monitors the external power supply with a voltage supervisory circuit. If this power supply exceeds the supervisor limits, the POWER LED will turn off, indicating a power fault condition.

## External power output

Table 4. External power output specifications

Parameter	Conditions	Specification
External power output - current range	See Note 2	4.0 A max.
External power output - voltage range	The input voltage minus the output voltage at the daisy chain output.	0.5 V max.
Compatible cable(s) for daisy chain	C-MAPWR-x	x = 2, 3, or 6 feet

**Note 2:** The daisy chain power output option allows multiple Measurement Computing boards to be powered from a single external power source in a daisy chain fashion. The voltage drop between the module's power supply and the daisy chain output is 0.5 V max. Users must plan for this drop to ensure the last module in the chain will receive at least 6.0 V.

## Ethernet compliance

Table 5. Ethernet compliance specifications

Device type	IEEE 802.3 Ethernet 10/100Base-T
Device compatibility	IEEE 802.3-2003 10/100 Media Access Control

## Ethernet connection

Table 6. Ethernet connection specifications

Ethernet type	10Base-T, 100Base-T
Connector	RJ-45, 8 position
Cable	CAT-5 shielded, unshielded twisted pair
Length	100 meters max.
Max connections	3 (one control port and two monitoring ports)
MAC address	00:12:71:XX:XX:XX

## EEPROM memory

Table 7. EEPROM memory specifications

EEPROM memory	1024 bytes residing in the processor
Reserved space	128 bytes, Address 0x00 to 0x7F
User space	896 bytes, Address 0x80 to 0x3FF

## Ethernet and input filter "Factory Default" settings

Table 8. Factory default specifications

Default IP address	10.0.2.251
Default IP mask	255.255.255.252
Default Gateway	10.0.2.1
Default DHCP setting	Enabled
Default Filter setting	All Filters Off

## LED displays and the "Factory Default" button

Table 9. LED and button configurations

POWER LED	$6.0\text{ V} < V_{\text{ext}} < 12.5\text{ V}$ On $V_{\text{ext}} < 6.0\text{ V}, V_{\text{ext}} > 12.5\text{ V}$ Off (power fault)
TEST LED	Blinks when commanded to by software.
LINK LED	On when there is a valid Ethernet connection.
ACTIVITY	Blinks when an Ethernet packet is sent or received.
Factory default button	Returns the device to its factory default condition including resetting all Ethernet, filter and relay conditions.

## Mechanical

Table 10. Mechanical specifications

Card dimensions	17.0" (L) x 4.8" (W) x 0.8" (H)
	431.8 mm (L) x 121 mm (W) x 20.3 mm (H)
Case dimensions	17.2" (L) x 5.2" (H) x 1.6" (H)
	436.9 mm (L) x 132.1 mm (W) x 40.6 mm (H)

## Environmental

Table 11. Environmental specifications

Operating temperature range	0 to 70 °C
Storage temperature range	-40 to 100 °C
Humidity	0 to 95% non-condensing

## Main connector

Table 12. Main connector specifications

Connector type	Screw terminal
Wire gauge range	14-30 AWG

## Screw terminal pin out

Table 13. Screw terminal pin out specifications

Pin	Signal Name	Pin	Signal Name
IP0A	Input 0 terminal A	IP8A	Input 8 terminal A
IP0B	Input 0 terminal B	IP8B	Input 8 terminal B
IP1A	Input 1 terminal A	IP9A	Input 9 terminal A
IP1B	Input 1 terminal B	IP9B	Input 9 terminal B
IP2A	Input 2 terminal A	IP10A	Input 10 terminal A
IP2B	Input 2 terminal B	IP10B	Input 10 terminal B
IP3A	Input 3 terminal A	IP11A	Input 11 terminal A
IP3B	Input 3 terminal B	IP11B	Input 11 terminal B
IP4A	Input 4 terminal A	IP12A	Input 12 terminal A
IP4B	Input 4 terminal B	IP12B	Input 12 terminal B
IP5A	Input 5 terminal A	IP13A	Input 13 terminal A
IP5B	Input 5 terminal B	IP13B	Input 13 terminal B
IP6A	Input 6 terminal A	IP14A	Input 14 terminal A
IP6B	Input 6 terminal B	IP14B	Input 14 terminal B
IP7A	Input 7 terminal A	IP15A	Input 15 terminal A
IP7B	Input 7 terminal B	IP15B	Input 15 terminal B
NO0	Relay 0 Normally Open contact	NO8	Relay 8 Normally Open contact
C0	Relay 0 Common contact	C8	Relay 8 Common contact
NC0	Relay 0 Normally Closed contact	NC8	Relay 8 Normally Closed contact
NO1	Relay 1 Normally Open contact	NO9	Relay 9 Normally Open contact
C1	Relay 1 Common contact	C9	Relay 9 Common contact
NC1	Relay 1 Normally Closed contact	NC9	Relay 9 Normally Closed contact
NO2	Relay 2 Normally Open contact	NO10	Relay 10 Normally Open contact
C2	Relay 2 Common contact	C10	Relay 10 Common contact
NC2	Relay 2 Normally Closed contact	NC10	Relay 10 Normally Closed contact
NO3	Relay 3 Normally Open contact	NO11	Relay 11 Normally Open contact
C3	Relay 3 Common contact	C11	Relay 11 Common contact
NC3	Relay 3 Normally Closed contact	NC11	Relay 11 Normally Closed contact
NO4	Relay 4 Normally Open contact	NO12	Relay 12 Normally Open contact
C4	Relay 4 Common contact	C12	Relay 12 Common contact
NC4	Relay 4 Normally Closed contact	NC12	Relay 12 Normally Closed contact
NO5	Relay 5 Normally Open contact	NO13	Relay 13 Normally Open contact
C5	Relay 5 Common contact	C13	Relay 13 Common contact
NC5	Relay 5 Normally Closed contact	NC13	Relay 13 Normally Closed contact
NO6	Relay 6 Normally Open contact	NO14	Relay 14 Normally Open contact
C6	Relay 6 Common contact	C14	Relay 14 Common contact
NC6	Relay 6 Normally Closed contact	NC14	Relay 14 Normally Closed contact
NO7	Relay 7 Normally Open contact	NO15	Relay 15 Normally Open contact
C7	Relay 7 Common contact	C15	Relay 15 Common contact
NC7	Relay 7 Normally Closed contact	NC15	Relay 15 Normally Closed contact

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