

M91-2-T1

12/24 VDC, 12 pnp/npn digital inputs, 2 high-speed counter/shaft encoder inputs, 12 transistor outputs, I/O expansion port, RS232/RS485 port

Power supply	
Permissible range	12VDC or 24VDC
Maximum current consumption	10.2VDC to 28.8VDC with less than 10% ripple 80mA@24VDC (pnp inputs) 140mA@12VDC (pnp inputs) 170mA (npn inputs)
Digital inputs	
Nominal input voltage	12VDC or 24VDC. See Notes 2 and 3.
Input voltages for pnp (source):	
For 12VDC	0-3VDC for Logic '0' 8-15.6VDC for Logic '1'
For 24VDC	0-5VDC for Logic '0' 17-28.8VDC for Logic '1'
Input voltages for npn (sink):	
For 12VDC	8-15.6VDC/<1.2mA for Logic '0' 0-3VDC/>3mA for Logic '1'
For 24VDC	17-28.8VDC/<2mA for Logic '0' 0-5VDC/>6mA for Logic '1'
Input current	4mA@12VDC 8mA@24VDC
Input impedance	3KΩ
Response time (except high-speed inputs)	10mS typical
Galvanic isolation	None
Input cable length	Up to 100 meters, unshielded
High-speed counter	
	Specifications below apply when inputs are wired for use as a high-speed counter input/shaft encoder. See Notes 4 and 5.
Resolution	16-bit
Input freq.	10kHz max.
Minimum pulse	40μs

Notes:

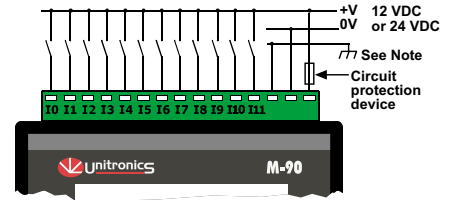
- All 12 inputs can be set to pnp (source) or npn (sink) via a single jumper and appropriate wiring.
- All 12 inputs can function in 12 VDC or 24 VDC; set via a single jumper and appropriate wiring.
- npn (sink) inputs use voltage supplied from the controller's power supply.
- Inputs #0 and #2 can each function as either high-speed counter or as part of a shaft encoder. In each case, high-speed input specifications apply. When used as a normal digital input, normal input specifications apply.
- Inputs #1 and #3 can each function as either counter reset, or as a normal digital input; in either case, specifications are those of a normal digital input. These inputs may also be used as part of a shaft encoder. In this case, high-speed input specifications apply.



Warnings:

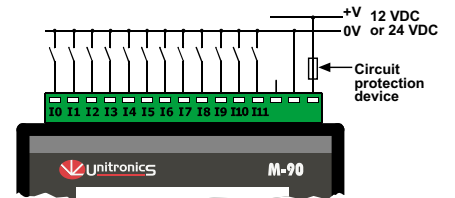
- Unused pins should not be connected. Ignoring this directive may damage the controller.
- Improper use of this product may severely damage the controller.
- Refer to the controller's User Guide regarding wiring considerations.
- Before using this product, it is the responsibility of the user to read the product's User Guide and all accompanying documentation.

Power supply, pnp (source) inputs

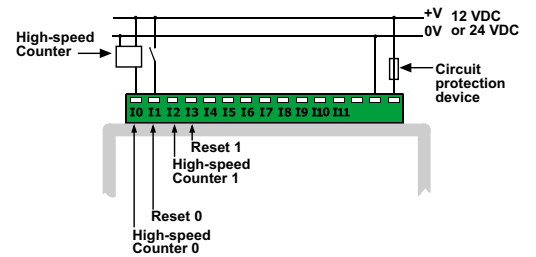


Note:
To avoid electromagnetic interference, mount the controller in a metal panel/cabinet and earth the power supply. Earth the power supply signal to the metal using a wire whose length does not exceed 10cm. If your conditions do not permit this, do not earth the power supply.

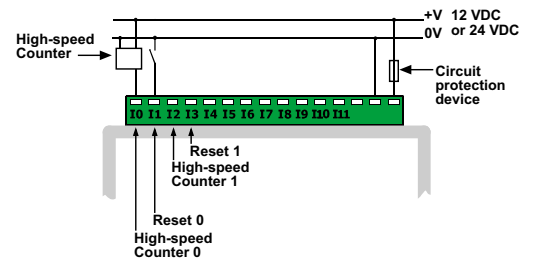
npn (sink) inputs



pnp (source) high-speed counter



npn (sink) high-speed counter



Shaft encoder

