T100MD2424+ PLC
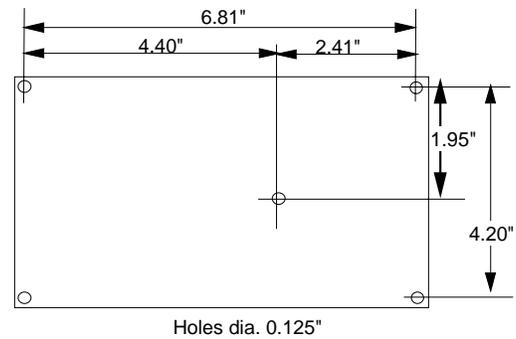
Product Description

The T100MD2424+ PLC is part of Triangle Research's M-Series Super PLC family - an advanced range of micro-controllers designed for the OEM machine builder as well as general automation integration. The T100MD2424+ PLC has 24 digital inputs, 24 digital outputs and 8 analog I/Os built-in. It can be expanded to 96 digital inputs and 96 digital outputs using expansion boards EXP1616R or EXP4040. It is designed for connectivity to many peripheral devices and through the iTRiLOGI client/server software, is fully programmable over the INTERNET. Programming of the T100MD series PLCs is further simplified with the powerful iTRiLOGI Ladder+BASIC software that is shipped with the starter kit.

While the T100MD2424+ PLCs provide Original Equipment Manufacturers with ideal built-in controller features such as program code protection, remote troubleshooting/data-logging via Internet, onboard analog I/Os, its versatility and support of MODBUS protocol makes it popular for a very broad range of system integration applications, including HVAC.

Display sold separately

Built-in LCD Interface

2 x PWM or digital outputs (10A @24V PNP)

22 Digital Outputs (24V, 1A) also Step Motor Pulse

RS485

RS232 to Host PC

5V Analog Reference Output

8 Analog I/Os on detachable terminals

Expansion Port

24 Digital Inputs (24V NPN) also Interrupt & Encoder
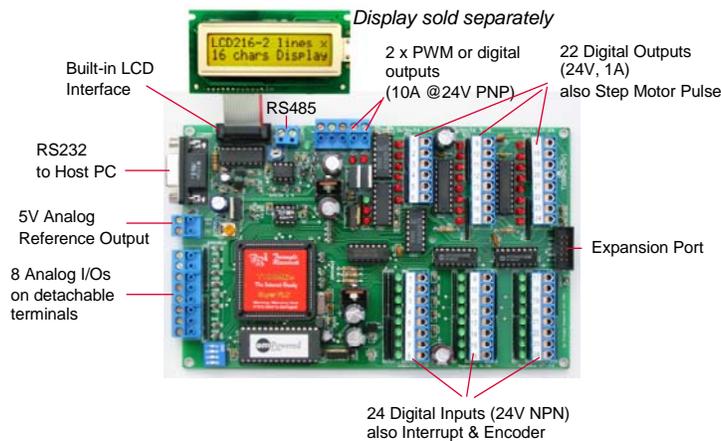
Mounting

(a) Hole mounting locations for direct panel mount

6.81"
4.40"
2.41"
1.95"
4.20"

Holes dia. 0.125"

(b) Optional Din-Rail mounting kit available for installation on din-rails

Accessories

- LCD Displays : LCD216 (2 lines x 16 char.), LCD420 (4 lines x 20 char.)
- Networked Display : MDS100-BW for multiple displays application or for extended mounting of display
- I/O Expansion : Exp4040 and Exp1616R (16 Opto-isolated Digital Inputs, 16 Relay Outputs)
- Auto485 : RS232 to RS485 converter
- MX-RTC : Battery-backed real-time clock and data with PLC power-off
- Ethernet X-Server : equips an M-Series PLC with Ethernet port and continuously operating TCP/IP gateway.
- ExcelLink : to log data to Excel™ spreadsheet on a local PC or remotely via LAN/internet.
- Analog Expansion : I-7000 series Analog I/O expansion modules
- USB-RS232 Interface : for connection to USB port on PC
- Din Rail Mounting : Din-Kit-2 and Din-Kit-3 for M-Series PLCs

Features and Specs

Operating Voltage	Input **12** or **24V DC**	
Digital Inputs	**24** (24V npn) with LED indicators	
	Encoder Inputs	- accept both single phase and quadrature signal (See: High Speed Counter)
	Interrupts	- 4-Channel Interrupt Inputs
Digital Outputs	**24** (24V npn) with LED Indicators	
	#7 & #8 : 24V, 10A npn, Continuous Output Current 2A, Inductive Back EMF Bypas	
	Rest : 24V, Max.1A npn, Continuous Output Current 350mA. Inductive Back EMF Bypas	
	PWM (current)	- includes **2** x PWM **10**A @24VDC
	Stepper Motor Control	- include **2** x stepper motor pulse outputs.
Analog I/Os	**8** (screw terminal connection)	
	- Input Interface	(6 to 8 @ 10 bit, 0 to 5V)
	- Output Interface	(0 to 2 @ 8 bit, 0 to 5 V)
Processing	I/O Scan time = 2ms (interruptible), Program Scan time = 10us per step	
High-Speed Counter	**2**-Channel 32-bit High Speed Counters count up to 10,000 Hz (share with 4 digital inputs)	
Counters	**64**	
Internal Relays / Timers	**512** Int Relays **/ 64** Timers (resolution 0.01s)	
Sequencers	**8** with 32 steps (step# 0 - # 31)	
Real-Time Clock	Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Sec, day-of-week).	
PID	Built-in 16 channels PID Computation Engine (Proportional, Integral, Derviative digital control)	
Connection Ports	- Comms	**1 x RS232** (DCE), **1 x RS485** (2-wire screw terminal)
	- LCD	**1** (IDC 14-pin)
	- I/O Expansion	**1** (IDC 10-pin)
Memory Storage	- Program	**6016 words** (expandable to 8190 with M2018P)
	- Data	**1770** words in EEPROM for user data, 4000 words in volatile RAM (unless used with MXRTC)
Programming Lang. / Env.	**iTRiLOGI** (Ladder+Basic) / Windows, DOS	
Supported Industry Protocol	Both RS232 and RS485 support : native **ASCII based Host Link Commands**, **MODBUS™ RTU, MODBUS™ ASCII, OMRON™ C20H Host Link Commands**	
Dimensions / Weight	7.05"(L)x 4.45"(W) x 1.0"(H) / 0.55 lbs (0.25 Kg)	
I/O Expansion (Digital)	Additional 80 In, 80 Out	

PLC Environmental Specs (Temperature and Vibration)

Operating Temperature	- Operating 0 to 70 deg C (32 to 158 deg F) - Storage -20 to +85 deg C (-4 to 185 deg F)
Operating Humidity	10% - 90% Rel. Humidity, non condensing
Electrical Noise Resistance	IEC801-4 (Fast transient) - 2KV to power supply, 50 microsecond pulse width, 1 min. 1KV to I/O by capacitive coupling, 50 microsecond pulse width.
Vibration resistance	IEC 68-2-6/1980 Vibration 1.6mm - 25Hz to 100Hz - Amplitude = +1. - Acceleration = + 4.0g

Absolute Max. Rating

Power Supply Input	30V (18V if operating voltage set @12V DC)
Digital Inputs	30V
Digital Outputs	30V
Analog Channels (0 to 5V)	7V

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