FMD1616-10 PLC

FMD-series: Ethernet, Modbus TCP/IP, Stepper Motor Drive, +Analog I/O, LCD port, RS232, RS485. Internet-TRiLOGI Ladder+Basic

Product Description

The FMD1616-10 PLC is an upgrade version of the T100MD1616 model, bringing its built-in capabilities very much in line with that of the super F-series PLCs. With the inclusion of an onboard Ethernet port, a faster CPU, more analog I/Os and program memory, the FMD1616-10 provides great enhancement opportunities for applications currently using the T100MD1616. However, if preferred, the FMD1616-10 can also, in most cases, work simply as a drop-in replacement for the T100MD1616 PLC.

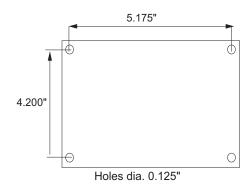
Built into the FMD1616-10 PLC are 16 digital inputs (includes 2 high speed encoders and 4 interrupts), 16 digital outputs (supports 4 PWM channels and 3 stepper motor pulse/direction controls) and 10 analog I/Os. Digital I/O capacity can be expanded to 128 digital inputs and 128 digital outputs using Triangle Research expansion boards EXP1616R or EXP4040. Analog I/O expansion modules which connect to the FMD1616-10's RS485 port are also readily available. Like all 'super' PLCs in Triangle Research's line-up, the FMD1616-10 is designed with ready connectivity to many peripheral device types. With the built-in Ethernet port and the iTRiLOGI client/server software, the FMD1616-10 is fully accessible for machine monitoring and OEM troubleshooting/reprogramming over the INTERNET. Built-in RS232 and RS485 connections and support of MODBUS protocols also makes the FMD1616-10 easy to integrate into mixed-brand PLC environments and networks.

As for all the super PLCs from Triangle Research, programming of the FMD1616-10 PLC is simplified with the powerful iTRiLOGI Ladder+BASIC software that is shipped with the starter kit. Similarly, as for all Triangle Research PLCs, the FMD1616-10 PLC incorporates a program code security feature in the interest of Automation OEMs' program protection.

Display sold separately Built-in LCD Interface 16 Digital Outputs (24V, 1A). Also PWM & Step Motor Controller Pulse RS232 HostLink and Modbus port **Expansion Port** 10-Channel Analog I/Os 16 Digital Inputs Interrupt & Encoder (24V NPN) **Built-in Ethernet** Connection

Mounting

(a) Hole Mounting Locations for direct panel mount.



(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
- MD-HMI: 16-key pad with 8 LED and 4x20 LCD; plugs into LCD and expansion ports
- MMI6050 : 4.3 Color Graphics Touch Panel HMI
- I/O Expansion : Exp4040 or Exp1616R (16 Opto-isolated Digital Inouts, 16 Relay Outputs)
- FRAM RTC : Battery-Backed Real Time Clock plus Program/Data Memory Expansion
- Auto485: RS232 to RS485 converter
- 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

Triangk Research International, Inc

FMD-Series PLCs www.tri-plc.com

Digital Inputs 16 (24V pop) with LED indicators. Expandable to 128	Operating Voltage		12 to 24V DC (+/- 5%)		
Encoder Inputs -2 x 32-bit High Speed Counter (quadrature: 2 Difs per channel)			· · ·		
Interrupts	Digital Imputs	Encoder Inputs			
Digital Outputs 16 (24V npm, vim.LED Indicators, Expandable to 128					
Output 9-16 24V NPN. 1A peak, 2.6 continuous Output 9-16 24V NPN. 1A peak, 2.5 continuous PVM (current) - 4.8 PVM; shares with DO 95 to 88 (continuous frequencies, 0.1% duty cycle resolution) Stepper Motor Control - 3. x stepper motor control pulsas/direction outputs (2 DiOs per stepper output) Analog I/O - Input Interface - 3. x 1.4 12 bit, 0-5V - Output Interface - 3. x 1.4 12 bit, 0-5V - Stephen Counter - 4.4 12 bit, 0-5V - Stephen Cou	Digital Outputs				
Output 9-16 PWM (current) - 4 x PWMs shares with D/O #5 to #8 (continuous frequencies, 0.1% duty cycle resolution) Stepper Motor Control - 3 x stepper motor control pulse/differention outputs (2 D/Os per stepper output) - Input Interface - 8 x A1 -12 bit, 0-5V - Output Interface - 8 x A0 -12 bit, 0-5V - Output Interface - 2 x A0 -12 bit, 0-5V or 0-10V (Software selectable)). Expandable to 4 channels (0-5V) - Output Interface - 2 x high-speed counters - 2 x high-speed counters - 3 x stepper motor ontrol pulse/differentions (requency, period and width) - simultaneous position and speed measurement on each channel. Counters - 5 12 internal relays, 64 times (any one or all can be configured as "HighSpeed" timers) Sequencers - 8 x with 3 steps (stepper 1 = 31) Real-Time Clock - Standard : Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Soc, day-of-week) - no battery backup With FRAM-RTC : Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Soc, day-of-week) - battery backup PID - Bull+ in 6 channels PID Computation function (Proportional, Integral, Deviative digital control) - RS322 - 1 x (De9 Female Socket) - RA945 - Analog (Visa) - Libermet - 1 x R445 - Analog (Visa) - Libermet - 1 x R445 - Analog (Visa) - Libermet - 1 x R445 - Analog (Visa) - Libermet - 1 x R545 - Randog (Visa) - Libermet - 1 x R645 - Randog (Visa) - Libermet - 1 x R645 - Randog (Visa) - Libermet - 1 x R645 - Randog (Visa) - Libermet - 1 x R645 - Randog (Visa) - Libermet - 1 x R645 - Randog (Visa) - Libermet - 1 x R645 - Randog (Visa) - Libermet - 1 x R645 - Randog (Visa) - Libermet - 2 x R6485 - Randog (Visa) - Libermet - 3 x x R6485 - Randog (Visa) - Libermet - 4 x 8 way detachable screw terminals (Smm pitch) for digital inputs and outputs - Libermet - 2 x R6485 - R6466 - R6466 - R64666 - R6466666666666666666666666666666666666	Engital Suspens	Output 1-8			
PWM (current) 2.4 x PWM; shares with DIO #51 to #8 (continuous frequencies, 0.1% duty cycle resolution)		· ·			
Stepper Motor Control -3 x stepper motor control pulse/direction outputs (2 D/Os per stepper output)			' '		
Analog VO - Input Interface - Output Interface - 2 x A0 - 12 bit, 0-5V - Output Interface - 2 x A0 - 12 bit, 0-5V or 0-10V (Software selectablei). Expandable to 4 channels (0-5V) - Output Interface - 2 x high-speed counters. 44 public measurement channels (frequency, period and width) - imultaneous position and speed measurement anneach channel. Counters - Standard: Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Sec, day-of-week) - no battery backup With FRAM-RTC: Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Sec, day-of-week) - battery backup PID - Sulmin 16 channels PID Computation function (Proportional, Integral, Dervisitive digital control) - RS232 - 1 x (DB9 Female Socket) - RS455 - 1 x (two-pin screw terminals) - Ethemet - Analog I/Os - 1 x DB-15 female socket for Analog Inputs and Outputs - CD - Others - 4 x 8 way detachable screw terminals (Smm pitch) for digital inputs and outputs Ethemet - Direct connection to LAN or Internet or programming, nonotioring and Renote Control - Support of Molbus/TCP Server (5 simult. communications) - RS232 & RS485 - Supported Protocost: Native Aside sore date say deathers and discussions of the Internet Control - Supported Protocost: Native Aside and several for internet for programming, monitoring and Renote Control - Supported Protocost: Native Aside Internet Server) - Extremely assy Peer-to-peer (or machine-to-machine) PLC communication TCP connection to any Server iP address-port number (e.g. to NST Timer Server) - Extremely assy Peer-to-peer (or machine-to-machine) PLC communication Por Connection to any Server iP address-port number (e.g. to NST Timer Server) - Extremely assy Peer-to-peer (or machine-to-machine) PLC communication Por Connection to any Server iP address-port number (e.g. to NST Timer Server) - Extremely assy Peer-to-peer (or machine-to-machine) PLC communication Por Connection to any Server iP address-port number (e.g. to NST Timer Server) - Extremely assy Peer-to-peer (or machine-to-machine) PLC communic					
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High-Speed Counter 2x high-speed counters, 4x pulse measurement channels (frequency, period and width) - simultaneous position and speed measurement on each channel. Counters 64 Internal Relays / Timers 512 internal relays, 64 timers (any one or all can be configured as "HighSpeed" timers) Sequencors 8 with 32 steps (step# 0 - # 31) Real-Time Clock Standard : Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Sec, day-of-week) - no battery backup PID Built-in 16 channels PID Computation function (Proportional, Integral, Derviative digital control) Connection Ports - RS322 - 1 x (DB9 Female Socket) - 1 x (Nb9 Female Socket) - 2 x (Nb9 Female Socket) - 2 x (Nb9 Female Socket) - 2 x (Nb9 Female Socket) - 3 x (Nb9 Female Socket) - 4 x x (Nb9 Female Socket) - 4 x x (Nb9 Female Socket) - 2 x (Nb9 Female Socket) - 3 x (Nb9 Female Socket) - 3 x (Nb9 Female Socket) - 3 x (Nb9 Female Socket) - 4 x x (Nb9 Female Socket) - 4 x x (Nb9 Female Socket) - 4 x x (Nb9 Female Socket) - 5 x (Nb9 Female Socket) - 6 x	Processing		can time = 0.6ms (can be interrupted by input interrupts). Program Scan time = 2.5us per step		
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Real-Time Clock Standard : Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Sec, day-of-week) - no battery backup Writh FRAM-RTC : Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Sec, day-of-week) - battery backup PID	Internal Relays / Timers				
With FRAM-RTC : Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Sec, day-of-week) - battery backup PID	Sequencers				
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Connection Ports - RS232 1 x (DB9 Female Socket) - RS485 1 x (two-pin screw terminals) - Ethernet 1 x RJ45 - Analog I/OS 1 x DB-15 female socket for Analog Inputs and Outputs - LCD 1 (IDC 14-pin) - Others 4 x 8 way detachable screw terminals (5mm pitch) for digital inputs and outputs Communications Ethernet Direct connection to LAN or Internet for programming, monitoring and Remote Control - Support both Modbus/TCP Server (5 simult. connections) and Modbus/TCP Client - Extremely easy Peer-to-peer (or machine-to-machine) PLC communication TCP connection to any Server IP address;port number (e.g. to NIST Timer Server) - Event-driven Emailing. Create and save data file on a networked PC's hard disk - Excel spreadsheet Data Logging using TRE-Excellank software - Supports web query. Enterprise Database or MS Excel software can log PLC data directly via the Internet. RS232 & RS485 Supported Protocols: Native ASCII Host Link Commands Default COM speed 38,400 bps, may be set from 1200 to 11s.2k & 230.4k bps Standard Program 8K words (16-bit) of program memory stored in flash memory Data A to Z (32-bit Integer), AS to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) - Nt Words (16-bit) additional non-volatile Flash memory for integer and string storage With FRAM-RTC Program 16k words (16-bit) of program memory stored in flash memory Data A to Z (32-bit Integer), AS to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) - configurable to non-volatile Data A to Z (32-bit Integer), AS to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) - configurable to non-volatile Data A to Z (32-bit Integer), AS to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) - configurable to non-volatile Data A to Z (32-bit Integer), AS to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) - configurable to non-volatile Data A to Z (32-bit Integer), AS to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) - configurable to non-		With FRAM-RTC: Real Time Clock and Calendar (Year, Day, Month, Hours, Min, Sec, day-of-week) - battery backup			
- RS485	PID	Built-in 16 channels PID Computation function (Proportional, Integral, Derviative digital control)			
- Ethernet	Connection Ports	- RS232	1 x (DB9 Female Socket)		
- Analog I/Os		- RS485	1 x (two-pin screw terminals)		
- LCD 1 (IDC 14-pin) - Others 4 x 8 way detachable screw terminals (5mm pitch) for digital inputs and outputs Communications Ethernet - Direct connection to LAN or Internet for programming, monitoring and Remote Control - Support both Modbus/TCP Server (5 simult. connections) and Modbus/TCP Client - Extremely easy Peer-to-peer (or machine)-to-machine) PLC communication TCP connection to any Server IP address:port number (e.g. to NIST Timer Server) - Event-driven Emailing. Create and save data file on a networked PC's hard disk - Excel spreadsheet Data Logging using TRI-ExcelLink software - Supports web query. Enterprise Database or M5 Excel software can log PLC data directly via the Internet. RS232 & RS485 - Supported Protocols: Native ASCII Host Link Commands (programming/monitoring) MODBUS RTU, MODBUS ASCII, OMRON C20H Host Link Commands Default COM speed 38,400 bps, may be set from 1200 to 115;2K & 230.4K bps Standard - Program - Sk words (16-bit) of program memory stored in flash memory Data - A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) 1K Words (16-bit) of program memory stored in flash memory Data - A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[4000] (16-bit integer array) - configurable to non-volatile Program - 16K words (16-bit) of program memory stored in flash memory Data - A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[4000] (16-bit integer array) - configurable to non-volatile 11K Words (16-bit) non-volatile Ferromagnetic RAM memory for integer and string storage. Programming Lang. / Env ITRILOGI Version 6.xx (Ladder+Basic) / Windows Dimensions / Weight - S.4"(L)x 4.5"(W) x 0.8"(H) / 5.9 oz (165 g)		- Ethernet	1 x RJ45		
- Others 4 x 8 way detachable screw terminals (5mm pitch) for digital inputs and outputs Communications Ethernet - Direct connection to LAN or Internet for programming, monitoring and Remote Control Support both Modbus/TCP Server (5 simult. connections) and Modbus/TCP Client - Extremely easy Peer-to-peer (or machine-to-machine) PLC communication TCP connection to any Server IP address: post number (e.g. to NIST Timer Server) - Event-driven Emailing. Create and save data file on a networked PC's hard disk - Excel spreadsheet Data Logging using TRi-ExcelLink software - Supports web query. Enterprise Database or MS Excel software can log PLC data directly via the Internet. RS232 & RS485 Supported Protocols: Native ASCII Host Link Commands (programming/monitoring) MDBUS RTU, MODBUS ASCII, OMRON C20H Host Link Commands Default COM speed 38,400 bps, may be set from 1200 to 115.2K & 230.4K bps Standard - Program - Data A to Z (32-bit Integer), AS to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) 1K Words (16-bit) of program memory stored in flash memory Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[4000] (16-bit integer array) - configurable to non-volatile. 11K Words (16-bit) non-volatile Ferromagnetic RAM memory for integer and string storage. Programming Lang. / Env. Frogramming Lang. / Env. ITRILOGI Version 6.xx (Ladder+Basic) / Windows Dimensions / Weight Dexpandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.		- Analog I/Os	1 x DB-15 female socket for Analog Inputs and Outputs		
Ethernet - Direct connection to LAN or Internet for programming, monitoring and Remote Control - Support both Modbus/TCP Server (5 simult. connections) and Modbus/TCP Client - Extremely easy Peer-to-peer (or machine-to-machine) PLC communication TCP connection to any Server IP address-port number (e.g. to NIST Timer Server) - Event-driven Emailing, Create and save data file on a networked PC's hard disk - Excel spreadsheet Data Logging using TRi-ExcelLink software - Supports web query. Enterprise Database or MS Excel software can log PLC data directly via the Internet. RS232 & RS485 Supported Protocols: Native ASCII Host Link Commands (programming/monitoring) MODBUS RTU, MODBUS ASCII, OMRON C20H Host Link Commands Default COM speed 38,400 bps, may be set from 1200 to 115.2K & 230.4K bps Standard - Program - Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) 1K Words (16-bit) additional non-volatile Flash memory Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[4000] (16-bit integer array) - configurable to non-volatile. Programming Lang. / Env. Programming Lang. / Env. ITRILOGI Version 6.xx (Ladder+Basic) / Windows Dimensions / Weight Expandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.		- LCD	1 (IDC 14-pin)		
Support both Modbus/TCP Server (6 simult. connections) and Modbus/TCP Client Support both Modbus/TCP Server (6 simult. connections) and Modbus/TCP Client Extremely easy Peer-to-peer (or machine-to-machine) PLC communication. TCP connection to any Server IP address-port number (e.g. to NIST Timer Server) Event-driven Emailing. Create and save data file on a networked PC's hard disk Excel spreadsheet Data Logging using TRi-ExcelLink software Supports web query. Enterprise Database or MS Excel software can log PLC data directly via the Internet. RS232 & RS485		- Others	4 x 8 way detachable screw terminals (5mm pitch) for digital inputs and outputs		
- Extremely easy Peer-to-peer (or machine-to-machine) PLC communication TCP connection to any Server IP address:port number (e.g. to NIST Timer Server) - Event-driven Emailing. Create and save data file on a networked PC's hard disk - Excel spreadsheet Data Logging using TRi-ExcelLink software - Supports web query. Enterprise Database or MS Excel software can log PLC data directly via the Internet. RS232 & RS485 Supported Protocols: Native ASCII Host Link Commands (programming/monitoring) MODBUS ASCII, OMRON C20H Host Link Commands Default COM speed 38,400 bps, may be set from 1200 to 115.2K & 230.4K bps Standard - Program - Program - Native ASCII strings) DM[1] to DM[1000] (16-bit integer array) - Native ASCII strings) DM[1] to DM[1000] (16-bit integer array) - Native ASCII strings) DM[1] to DM[1000] (16-bit integer array) - Native ASCII strings) DM[1] to DM[1000] (16-bit integer array) - Native ASCII strings) DM[1] to DM[1000] (16-bit integer array) - Native ASCII strings) DM[1] to DM[1000] (16-bit integer array) - configurable to non-volatile. 11K Words (16-bit) on-volatile Ferromagnetic RAM memory for integer and string storage. Programming Lang. / Env. Programming Lang. / Env. ITRILOGI Version 6.xx (Ladder-Basic) / Windows Dimensions / Weight Expandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.	Communicatons	Ethernet			
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- Excel spreadsheet Data Logging using TRi-ExcelLink software - Supports web query. Enterprise Database or MS Excel software can log PLC data directly via the Internet. RS232 & RS485 Supported Protocols: Native ASCII Host Link Commands (programming/monitoring) MODBUS RTU, MODBUS ASCII, OMRON C20H Host Link Commands Default COM speed 38,400 bps, may be set from 1200 to 115.2K & 230.4K bps Standard - Program - Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) 1K Words (16-bit) of program memory stored in flash memory. - Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) 1K Words (16-bit) additional non-volatile Flash memory for integer and string storage With FRAM-RTC - Program - Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[4000] (16-bit integer array) - configurable to non-volatile. 11K Words (16-bit) non-volatile Ferromagnetic RAM memory for integer and string storage. Programming Lang. / Env. Dimensions / Weight 5.4"(L) x 4.5"(W) x 0.8"(H) / 5.9 oz (165 g) Expandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.					
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MODBUS RTU, MODBUS ASCII, OMRON C20H Host Link Commands Default COM speed 38,400 bps, may be set from 1200 to 115.2K & 230.4K bps Standard					
Default COM speed 38,400 bps, may be set from 1200 to 115.2K & 230.4K bps Standard		RS232 & RS485	Supported Protocols : Native ASCII Host Link Commands (programming/monitoring)		
Memory Storage Standard					
Memory Storage - Program - Data - Data - Data - A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) - 1K Words (16-bit) additional non-volatile Flash memory for integer and string storage - With FRAM-RTC - Program - Data - Data - 16K words (16-bit) of program memory stored in flash memory Data - A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[4000] (16-bit integer array) - configurable to non-volatile 11K Words (16-bit) non-volatile Ferromagnetic RAM memory for integer and string storage. - Programming Lang. / Env Dimensions / Weight - Programming Lang. / Env Expandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.			Default COM speed 38,400 bps, may be set from 1200 to 115.2K & 230.4K bps		
- Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[1000] (16-bit integer array) 1K Words (16-bit) additional non-volatile Flash memory for integer and string storage With FRAM-RTC - Program 16K words (16-bit) of program memory stored in flash memory Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[4000] (16-bit integer array) - configurable to non-volatile. 11K Words (16-bit) non-volatile Ferromagnetic RAM memory for integer and string storage. Programming Lang. / Env. Dimensions / Weight 5.4"(L)x 4.5"(W) x 0.8"(H) / 5.9 oz (165 g) Expandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.	Memory Storage	' 			
Note that the second string storage With FRAM-RTC Program 16K words (16-bit) of program memory stored in flash memory. - Data A to Z (32-bit Integer), A\$ to Z\$ (ASCII strings) DM[1] to DM[4000] (16-bit integer array) - configurable to non-volatile. 11K Words (16-bit) non-volatile Ferromagnetic RAM memory for integer and string storage. Programming Lang. / Env. ITRILOGI Version 6.xx (Ladder+Basic) / Windows Dimensions / Weight 5.4"(L)x 4.5"(W) x 0.8"(H) / 5.9 oz (165 g) Expandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.			, , , , , , , , , , , , , , , , , , , ,		
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Dimensions / Weight 5.4"(L)x 4.5"(W) x 0.8"(H) / 5.9 oz (165 g) I/O Expansion (Digital) Expandable to 128 D/l and 128 D/l using EXP4040 and EXP1616R.					
I/O Expansion (Digital) Expandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.	Programming Lang. / Env.	iTRiLOGI Version 6.xx (Ladder+Basic) / Windows			
	Dimensions / Weight	5.4"(L)x 4.5"(W) x 0.8"(H) / 5.9 oz (165 g)			
I2C Interface (Future) Optional I2C-FRTC module provides I2C interface and 256K bytes EEPROM. (To Be Announced)	I/O Expansion (Digital)		Expandable to 128 D/I and 128 D/O using EXP4040 and EXP1616R.		
	I2C Interface (Future)	Optio	Optional I2C-FRTC module provides I2C interface and 256K bytes EEPROM. (To Be Announced)		

PLC Environmental Specs (Temperature and Vibration)

Operating Temperature	-20 to +85 deg C (-4 to 185 deg F)
Operating Humidity	10% to 90% Rel. Humidity, non condensing
Electrical Noise	IEC801-4 (Fast transient)
Resistance	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
Digital Inputs	30V
Digital Outputs	30V
Analog Inputs	7V
Analog outputs (low) (High)	-0.3V AO _{max} + 0.3V



FMD1616-10 PLC www.tri-plc.com