16 Point Expansion Module

Technical Data Sheet

DMT160 Expansion module

DMT160A8G Module

Introducing our high-speed Input/Output expansion module, designed for optimal compatibility with the DMC400 and DMC200 family of network control engines.

Elevate your system's capabilities with lightning-fast input/output processing, ensuring swift and efficient operations. Experience seamless integration and enhanced performance for your network control needs.

The DMT160A8G expansion module is an intelligent, 16-point IO expansion module that extends the physical point monitoring and control capability of the DMC400 and DMC200 series controller family, via the PJ Panel Bus and the PJ Field Bus.

Features

The DMT160A8G expansion module is an Extra Low Voltage (ELV) device complete with:

- 8 x Universal Inputs (DI, AI, 0-10VDC & Current inputs (mode selectable for each input)
- 4 x Normally Open (NO) digital outputs
- 4 x Analog Outputs (0-10VDC)

Universal input physical operation mode selection is determined via jumper links adjacent to each input terminal. The default input mode for the module is resistance mode. The DMT160A8G point configuration is handled via the Niagara Framework interface. No separate module configuration tool is required. It includes fallback values for offline and power up states that are held at module level.

When combined with compatible DMC series controller, the DMT IO modules are suitable for:

- Control and monitoring air handling Units and ventilation plant
- Control and monitoring of chillers, heat pumps, cooling towers and associated pumping and control equipment
- Control and monitoring of variable speed drives via physical IO
- Bulk IO point monitoring and control applications.

Architecture and Communications

The DMC400 and DMC200 series controllers provide high speed serial communications to the DMT IO modules at speeds of up to 500kbps. The DMT module is identified on the network via two onboard decimal format, rotary DIP switches to set the module address.

When a compatible DMC series controller is mounted in the same panel as the IO modules, PJ Panel Bus may be used. When the DMT modules are located in remote panels, the wired PJ Field Bus connection to the parent DMC controller must be used.

It is possible to have concurrent connections to both PJ Panel Bus and PJ Field Bus network modules on a single DMC series controller, enabling a maximum of 448 PJ IO points on a single DMC controller. Note 1.

PJ Panel Bus Connection

The DMC400 and DMC200 series controllers feature the modular power and PJ Panel Bus communications connection to the DMT module family.

The PJ Panel Bus modular connection powers up to 64 points without the need for an additional 24V power supply. If more than 64 points are required, (more than 4 x DMT160 or 2 x DMT320), a separate 24 Volt power supply should be connected to each group of DMT module set that exceeds the 64-point total. Up to 128 points can be connected to the PJ Panel Bus. Available physical space should be considered when using modular Panel Bus connections. Note 1.

PJ Field Bus Connection

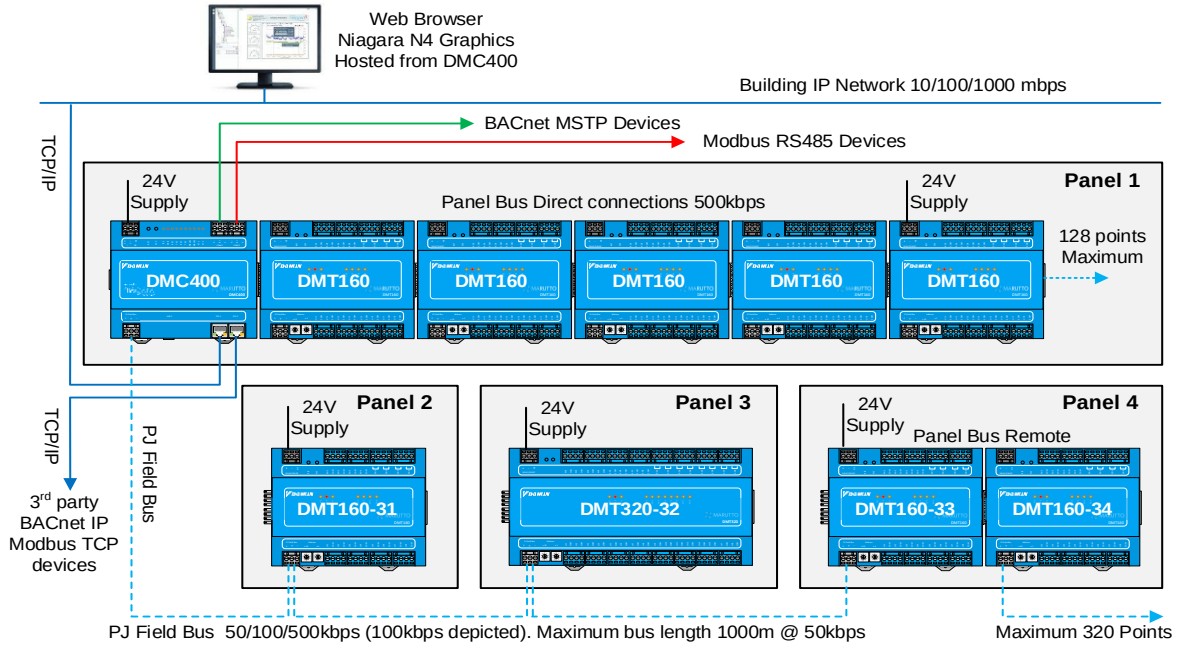
For installations where remote DMT IO modules are required, or PJ Panel Bus addresses are unavailable, the DMC PJ Field Bus communications connection can be used when available.

The parent DMC series controller communicates with local or remotely mounted DMT family IO modules using the designated PJ Field Bus field wiring terminals (PJBUS). The DMT IO modules require a local 24Volt power supply. Presently, a maximum of 320 points can be driven from a single DMC PJ Field Bus connection. Note 1.

The PJ Field Bus devices are wired in a daisy chain architecture to the parent DMC controller. No cabling stubs or tees are allowed. Maximum PJ Field Bus cabling distance is 1000m (3280 ft). PJ Field Bus communications speed is dependent on the overall communications cabling length and is defined via the DMT IO module address range.

NOTE 1: For actual maximum point device capacities and power architecture please consult the DMC and DMT family Architectural Guidelines document for further information.

Application Architectures



Application depicting PJ Panel Bus and PJ Field Bus application and other device connections.

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Technical Data

Item	Description	Details	
Hardware	Power Supply	Class 2 24VAC +20% / -15% 24VDC +/-3%	
	Power Consumption	4.8VA AC/ 120mA DC or 1 x Power Unit (1PU)	
	Processor	GigaDevice ARM Cortex M3 @ 72 MHz	
	RAM	48Kb	
	Flash Memory	256Kb	
	Communication Ports	2 x PJ Panel Bus connectors 1 x PJ Field Bus terminal block connector	
	Universal Input	12-bit ADC with PGA Resistance – 500 Ohm ~ 300K Ohm , 3% accuracy Voltage – 0-10VDC , 3% accuracy Current – 0-20mA , 3% accuracy Pulse Count – up to 30Hz at 50% duty cycle minimum pulse width 16.6ms. (Counter totalization stored on module) Digital – voltage free dry contact	
	Analog Output	12bit DAC Voltage Mode 0-10VDC , 3% accuracy Min load impedance 1,000 Ohm at 10mA max.	
	Digital Output	Built in onboard LED indicator Voltage Free SPST Normally Open Relay Contact 48VA / 2A at 24VAC	
Compliance	North America	UL 60730 Energy Management Equipment** c-UL Canada** FCC 47 CFR Class B, Part 15, Sub-part B ICES-003 Issue 7	
	Europe CE	IEC 60730, EMC	
	UK CA	IEC 60730, EMC	
	Oceania RCM	IEC 60730, EMC AS/NZS CISPR 32:2015 AMD1:2020	
	Others	RoHS2, REACH, WEEE.	
Environment	Operating Temperature	0 °C ~ 50 °C	
	Storage Temperature	-20 °C ~ 65 °C	
	Operating Humidity	10% ~ 90% RH, non-condensing	
Mechanical	Dimension and Weight	145mm x 120mm x 50mm	400 grams
	Material	Base: Plastic Cover: Plastic	
	Mounting	35mm DIN rail mount options standard and keyhole slots	
	IP Rating	IP20	
	Cooling	Internal air convection. Mount horizontally.	

****Compliance in progress**

Ordering Information

Product Code	Description	Details
DMT160A8G	16 Input/Output expansion module	8 Universal Input 4 Analog Output, 4 Digital Output

Product dimensions DMT160A8G