

### DMT32xA8G Expansion module



Introducing our 32-point high-speed Input/Output expansion modules, 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.

**DMT320A8G and DMT321A8G Input Output Module**

The DMT320 and DMT321 are intelligent 32-point I/O expansion modules designed to interface with DMC400 and DMC200 series controllers. Communication is established via the PJ Panel Bus or PJ Field Bus, enabling scalable extension of the controller's physical point monitoring and control functions.

### Features

The DMT32xA8G IO expansion modules provide flexible, Extra Low Voltage (ELV), UL Class 2 I/O for a wide range of building automation tasks.

DMT32xA8G models offer 16 universal inputs, 8 digital outputs, and 8 analog outputs for concentrated IO applications.

The DMT320 uses hardware jumpers for universal input type selection whilst the DMT321 universal input type is software selectable. In-built End of Line termination is selectable via an onboard jumper.

Configured entirely through the Niagara Framework and PJ Bus driver—no extra tools required—they support module-level fallback values for Digital and Analog outputs providing predictable, reliable operation. Paired with DMC series controllers, they deliver powerful, scalable control, monitoring and high-speed pulse counting for HVAC plant, chillers, pumps, variable speed drives, and bulk I/O applications.

### Architecture and Communications

The DMC400 and DMC200 series controllers support high-speed serial communication with DMT IO modules at up to 500 kbps. Each module address is easily configured on the network using two built-in decimal rotary DIP switches, allowing quick setup of both module address and PJ Bus speed.

Whether your IO modules are panel-mounted, on a common DIN rail, or located remotely, the DMC controller series adapts to your needs. Use PJ Panel Bus for local connections on a common DIN rail, or PJ Field Bus for secure, wired communication to remote panels.

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 DMC400 controller. <sup>Note 1.</sup>

### PJ Panel Bus - Modular Power and PJ Bus Connectivity

The DMC400 and DMC200 series controllers are designed with integrated modular power and PJ Panel Bus communication, enabling seamless connection to the DMT module family.

Using the PJ Panel Bus, up to 64 points can be powered and communicated without requiring an external 24 V power supply. For installations exceeding this limit—such as more than two DMT320/321 modules, four DMT160/161 modules, or one DMT641—a dedicated 24 V supply must be provided for each additional DMT module group.

The PJ Panel Bus supports up to 128 points in total, offering both scalability and efficiency. <sup>Note 1.</sup>

When planning installations, consider available physical space to ensure optimal use of modular PJ Panel Bus connections.

### PJ Field Bus — Long-Distance, High-Performance Control with Maximum Flexibility

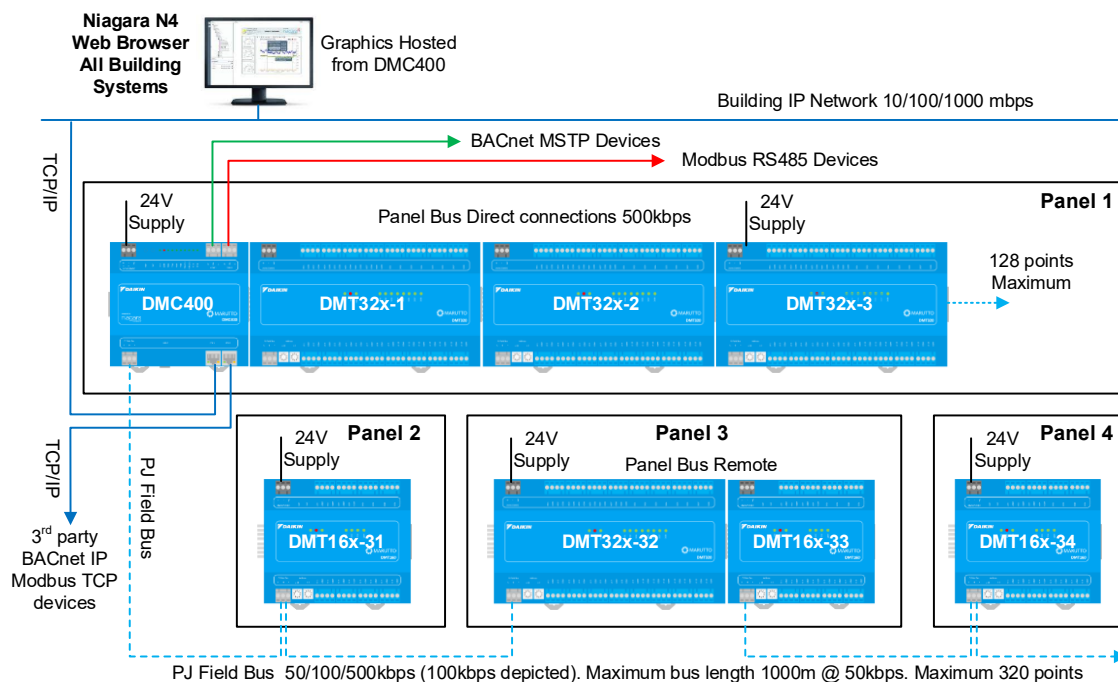
When remote DMT I/O modules are required, or when PJ Panel Bus addresses are already in use, the DMC series offers a dedicated, wired, PJ Field Bus connection. Using the PJBUS field wiring terminals, the parent DMC controller communicates with both local and remotely mounted DMT modules.

PJ Field Bus devices are wired in a daisy chain topology with no stubs or tees permitted. The maximum cable run is 1000 m (3280 ft), and communication speed is determined by the total cable length and the address range of the DMT I/O modules.

Each remote module set requires its own 24V power supply. A single PJ Field Bus connection can support up to 320 points from one DMC controller. <sup>Note 1.</sup>

**Note 1:** For actual maximum point and device capacities please consult the DMC series Architectural Guidelines document (document reference number here) for further information.

### Application Architectures



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

### Technical Data

Item	Description	Details
Hardware	Power Supply	Class 2 24VAC +20% / -15% 24VDC +/-3%
	Power Consumption DMT320 and DMT321	8.4VA AC/200mA DC or 2 x Power Unit (2PU)
	Processor	GigaDevice ARM Cortex M4 @ 72 MHz
	RAM	64Kb
	Flash Memory	512Kb
	Communication Ports	2 x PJ Panel Bus connector 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	-20°C ~ 60°C
	Operating Humidity	10% ~ 90% RH, non-condensing
	Storage Temperature	-40°C ~ 65°C
	IP Rating	IP20
	Cooling	Internal air convection. Mount horizontally.
Mechanical	Dimensions & Weight L x W x H	230mm x 120mm x 50mm Unit Weight ~504 grams Packed Weight ~580 grams
	Material	Base: Plastic Cover: Plastic
	Mounting	35mm DIN rail mount options standard and keyhole slots

### Ordering Information

Product Code	Description	Details
DMT320A8G	32 Input/Output expansion module Physical jumpers for UI type configuration	16 Universal Input 8 Analog Output, 8 Digital Output
DMT321A8G	32 Input/Output expansion module Software configured UI type	16 Universal Input 8 Analog Output, 8 Digital Output

### Product dimensions DMT320A8G

