

### DMT16xA8G Expansion Modules



DMT160/161A8G Input Output Module

Introducing our 16-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.

### Features

The DMT160, DMT161, and DMT162 are intelligent 16-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.

The DMT16xA8G Expansion Modules provide flexible, Extra Low Voltage (ELV), UL Class 2 I/O for a wide range of building automation tasks.

DMT160 and DMT161 models offer 8 universal inputs, 4 digital outputs, and 4 analog outputs, whilst the DMT162 offers lower power consumption, concentrated inputs, with 16 universal inputs and no physical outputs.

The DMT160 uses hardware jumpers for universal input type selection whilst the DMT161 and DMT162 universal inputs are software configured.

Configured entirely through the Niagara Framework and PJ Bus driver—no extra tools required—it supports 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 four DMT160/161 modules, two DMT320/321 modules, or one DMT641—a dedicated 24 V supply must be provided for each additional DMT module group. When using multiple low-power DMT162 input-only modules, the 64-point power limit can be extended substantially. **Note 1.**

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

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

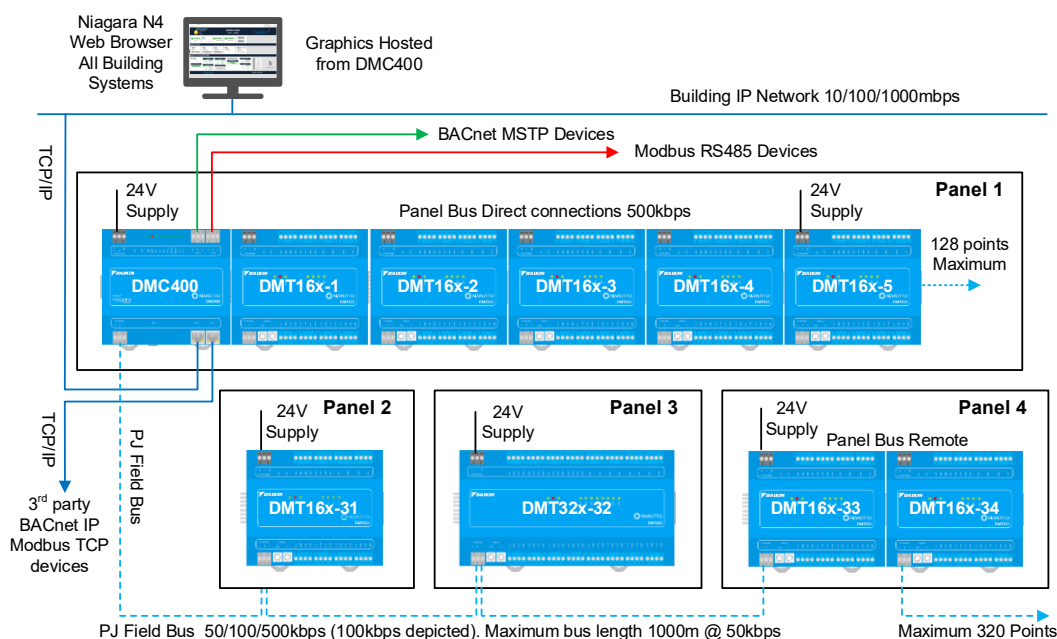
When remote DMT I/O modules are required, or when PJ Panel Bus addresses are already in use, the DMC series offers a dedicated, wired, PJ Field Bus connection. Using the PJBUS field wiring terminals, the parent DMC controller communicates with both local and remotely mounted DMT modules.

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. **Note 1.**

**Note1:** 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 and other device connections.

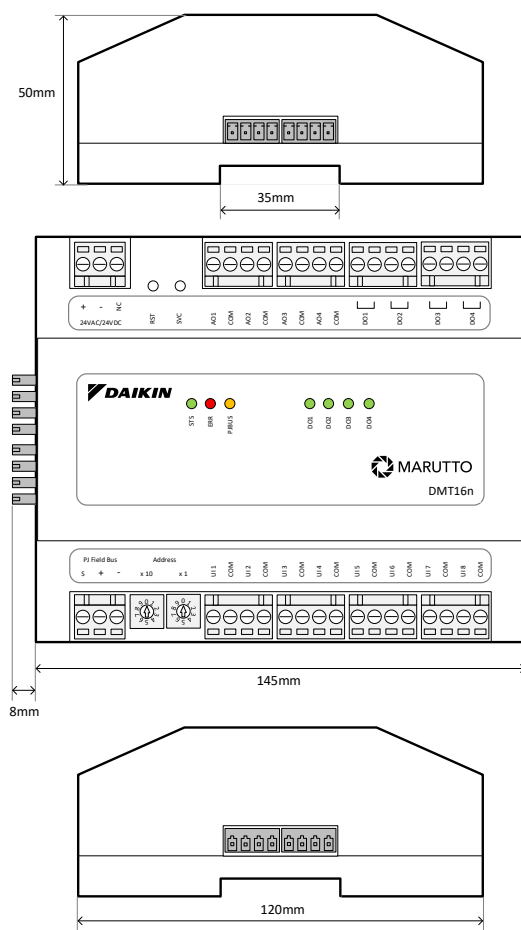
### Technical Data

Item	Description	Details		
Hardware	Power Supply	Class 2 24VAC +20% / -15% 24VDC +/-3%		
	Power Consumption DMT160 and DMT161 DMT162	4.8VAAC/120mA DC or 1.0 x Power Unit (1PU) 0.72VAAC/20mA DC or 0.2 x Power Units (0.2PU)		
	Processor	GigaDevice ARM Cortex M4 @ 72 MHz		
	RAM	64Kb		
	Flash Memory	512Kb		
	Communication Ports	2 x PJ Panel Bus connectors 1 x PJ Field Bus terminal block connector		
	Universal Input DMT160 x8 DMT161 x 8 DMT162 x 16	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 DMT160/161 x 4 DMT162 none	12bit DAC Voltage Mode 0-10VDC , 3% accuracy Min load impedance 1,000 Ohm at 10mA max.		
	Digital Output DMT160/161 x 4 DMT162 none	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		
	Cooling	Internal air convection. Mount horizontally.		
	IP Rating	IP20		
Mechanical	Dimensions and weight L x W x H	145mm x 120mm x 50mm	DMT160/161 Unit weight 315grams Packed weight 370grams	DMT162 Unit weight 295grams Packed weight 350grams
	Material	Base: Plastic - Cover: Plastic		
	Mounting	35mm DIN rail mount options standard and keyhole slots		

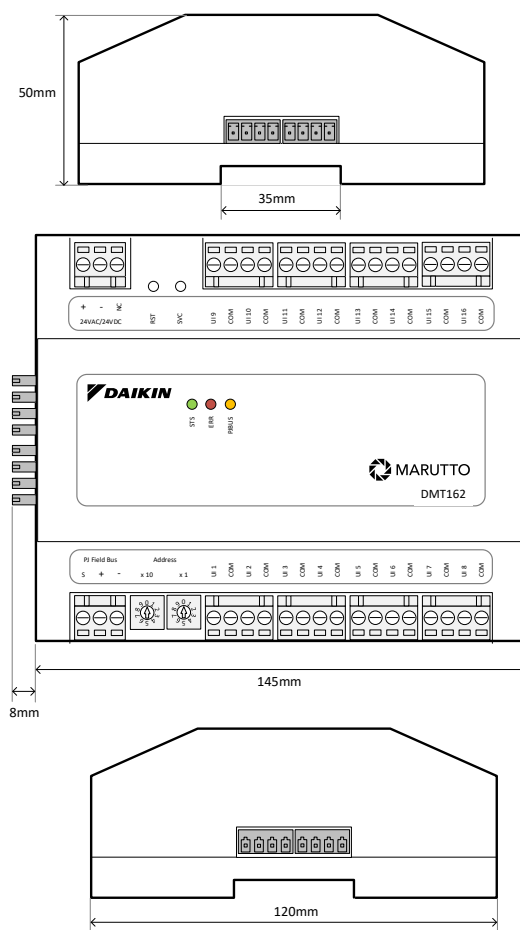
### Ordering Information

Product Code	Description	Details
DMT160A8G	16 Input/Output expansion module Physical jumpers for UI type configuration	8 Universal Input 4 Analog Output, 4 Digital Output
DMT161A8G	16 Input/Output expansion module Software configured UI type	8 Universal Input 4 Analog Output, 4 Digital Output
DMT162A8G	16 Inputs only expansion module Software configured UI type	16 Universal Input No physical outputs

## Product dimensions & layout DMT160/161A8G & DMT162A8G



**Figure 1 - DMT160 and DMT161 dimensions and physical layout**



**Figure 2 - DMT162 dimensions and physical layout**