

DCM-8044

DCM HVAC Controller



Review

DCM-8044 is a general-purpose IP controller, with 16 base points (8UI, 4DO, 4AO), including 8 universal inputs (AI/DI), 4 digital outputs, 4 analog outputs, which is web page functions configurable. This controller is dedicated to new fan unit and temperature humidity control system, such as fan, pump, heat exchanger, humidifier, boiler, valve and so on. Combining with different extension modules, such as IO-V0800 (8DI) or IO-V6002 (6UI, 2DO), to come out with a well-designed proposal. It can also be applied as a Modbus Master, Modbus Bridge, BACnet Router gateway. When used as Modbus Master, it's able to connect up to 4 devices (Only DCM-8446, IO-0008-485, IO-0800-485 and IO-6020-485 are supported).

Features

Standard Open Protocol

Provided with two open communication protocols, BACnet MSTP/IP and Modbus RTU/TCP IP, which is able to easily monitor devices in real-time and communicate to upper layer software.

High Precision Analog Channel Conversion

12-bits analog-to-digital converter (ADC) and programmable gain amplifier (PGA) provide high resolution, high precision analog input readings.

12-bits digital-to-analog converter (DAC) provide more accurate analog output readings.

Plug - In Extensible Module

DCM-8044 is able to be plugged with different extension modules into the right-sided slot to extend its functionality. Available extension modules are IO-V0800, IO-V6002 till this moment.

High Precision Analog Channel Conversion

Stability and reliability of operating system are improved with the software/hardware monitor (watchdog).

Come with built-in high precision real-time clock (back up lithium battery).

• Online Firmware Upgradable/Configurable

Functional modules are dedicated to energy and device management.

- ESP32 Processor
- Built-in Real-time Clock
- Alarm Handling
- RS485 X 1
- Flexible Functional Module Combination
- Mathematical and Logical Calculation
- Timer Program
- Login Password Protection
- Fully Programmable
- Flexible IO Points Combination
- Self Operational

Certifications

- CE • FCC • BTL

Device Specifications

Exterior	Dimensions	151x116x40mm	
	Casing Material	UL 94 ABS	
	Weight	500g	
Electrical Ratings	Power Supply	24VAC +20%/-15% or 24VDC +/-5%	
	Consumption	<10W	
	Rate Current	1A at 24VAC/VDC	
	Operating Temp	32 to 131 ° F (0 to 55 ° C)	
	Storage Temp	-4 to 185 ° F (-20 to 85 ° C)	
	Operating Humidity	0% to 95% relative humidity, without condensation	
	Battery	Panasonic CR1220 Lithium Battery	
Inputs & Outputs	Analog/Digital Inputs(U/DI)	8 Channels, 12-bits with PGA	
		Voltage	0-10V (±0.01V), 0-5V (±0.01V)
		Current	4 - 20mA (±0.01mA) , 0 - 20mA (±0.01mA)
		Resistance	0 - 30K, 0 - 10K, 0 - 1.5K
		Thermistor Sensor	NTC: 10K TYPE 2/3, 3K, 20K (±0.1°C)
		True DI supported with jumper selection	
	Digital Output (DO)	4 Channels	
		Type	Relay, SPST NO, 24VAC/DC, 1A
	Analog Output (AO)	4 Channels, 12-bits	
		Current:	0 - 20mA, 4 - 20mA (Max load resistance, 800Ω)
		Voltage:	0 - 10V
Communication 1	RS485	1 Channels, EIA-485 Standard Two Wire, Half Duplex, 1 Load	
	Baud Rate	9.6K, 19.2K, 38.4K, 76.8K, 115.2K bit/s	
	Data Bits	8 bits/7 bits/6 bits/5 bits	
	Parity	None, Even, Odd	
	Supported Protocols	Modbus RTU, BACnet MSTP	
Communication 2	Ethernet	10/100 Base-T	
	Basic agreement	IP, TCP, UDP, ICMP, IGMP, FTP, HTTP	
	Application Protocol	BACnet IP, ModbusTCP	

Optional extended IO module parameters

IO-V6002 Module		
Dimensions	120x80x40mm	
Casing Material	UL 94 ABS	
Weight	150g	
Power Supply	Internal Of The Controller	
Communication	Internal Of The Controller Protocol	
Universal Input	6 Channels, 12-bits with PGA	
	Voltage	0 - 10V (±0.01V), 0 - 5V (±0.01V)
	Current	4 - 20mA (±0.1mA) , 0 - 20mA (±0.1mA)
	Resistance	0 - 30K ,0 - 10K ,0 - 1.5K
	Thermistor Sensor	NTC: 10K TYPE 2/3, 3K, 20K (±0.1°C)
	True DI supported with jumper selection	
Digital Output	2 Channels	
	Type	Relay, SPST NO, 24VAC/DC, 1A

IO-V0800 Module		
Dimensions	120x80x40mm	
Casing Material	UL 94 ABS	
Weight	150g	
Power Supply	Internal Of The Controller	
Communication	Internal Of The Controller Protocol	
Digital Input	8 Channels	
	Type	Dry Contact, Isolated 3.7kV
	Limit	ON state < 2000Ω, OFF state > 20000Ω



IO-V6002 Module



IO-V0800 Module

MITSUBISHI ELECTRIC ASIA PTE LTD

307 ALEXANDRA ROAD, MITSUBISHI ELECTRIC BUILDING
SINGAPORE 159943

Phone: +65-64702601 FAX: +65-64760590

<https://www.MitsubishiElectric.com.sg>