



# SmartBlock Relay & SSR

## High Current Socketed Output Modules

### HE569DQM212 (7A Form C), HE569DMQ204 (1A AC SSR), HE569DQM205 (2A DC SSR)

**1 Specifications**

Specifications	
General	All Versions
Outputs (Commons)	8 (8)
LED indication	ON indication per Relay Output
DC Input Power	<200mA @ 24Vdc (17-30Vdc)
Load Terminal Type	Removable Spring-Clamp (2 x 12posn)
Storage Temp.	-40° to +80° Celsius
Operating Temp.	-20° to +60° Celsius
Relative Humidity	5 to 95% Non-condensing
Dimensions HxWxD	5" x 4.31" x 2.5" (127x110x63mm)
Weight	340g (12oz.)
CE (UL) Compliance	CE (all components UL recognized)
<b>Contact Ratings</b>	<b>DQM212</b>
Contact Configuration	Normally Open & Normally Closed
AC Voltage, max.	400Vac
AC current, max.	7A* per Load, 50A max/board
DC Voltage, max	220Vdc
DC current, max	7A* @ 30Vdc    220mA @ 110Vdc    80mA @ 220Vdc
*at 20°C. For each 10°C ambient rise, derate max. current by 12.5%	
Minimum Output	5V @ 5mA
Response Time	8mS OFF>ON, 6mS ON>OFF
Life	30 million cycles mechanical 70,000 cycles minimum at rated load
<b>Contact Ratings</b>	<b>DQM204</b> <b>DQM205</b>
Contact Configuration	Normally Open
Voltage, max.	275Vac                      35Vdc
Rated Current	1A @ 240Vac                      2A @ 24Vdc
Minimum Output	12Vac @ 50mA                      1.5Vdc @ 1mA
Off-state leakage current	1mA                      0.01mA
On-state voltage drop	1.1Vac                      0.3Vdc
Response Time	OFF>ON                      10mS                      0.05mS
	ON>OFF                      10mS                      0.25mS

**2 Output Wiring**

Model	Top Connector Terminal Number (left to right)											
	1	2	3	4	5	6	7	8	9	10	11	12
DQM212	1C	NO	NC	2C	NO	NC	3C	NO	NC	4C	NO	NC
DQM204	1C	NO		2C	NO		3C	NO		4C	NO	
DQM205	1C	NO		2C	NO		3C	NO		4C	NO	

  

Model	Bottom Connector Terminal Number (left to right)											
	1	2	3	4	5	6	7	8	9	10	11	12
DQM212	5C	NO	NC	6C	NO	NC	7C	NO	NC	8C	NO	NC
DQM204	5C	NO		6C	NO		7C	NO		8C	NO	
DQM205	5C	NO		6C	NO		7C	NO		8C	NO	

C = Common NO=Normally Open NC=Normally Closed <Empty>=No Connect

**2.1 CsCAN Network Wiring**

Color	Signal	Description
■ Red	V+	DC Power In
□ White	CAN_H	CAN Data High
	SHIELD	Shield Ground
■ Blue	CAN_L	CAN Data Low
■ Black	V-	CAN Ground

**2.2 CsCAN Network ID**



The CsCAN Network ID is set using two 16-position rotary switches labeled HI and LO. Addresses 01-FD hex (1-253 decimal) are legal in CsCAN. To convert the readings in hex on the rotary switches to the equivalent decimal value, use the following equation:

$$ID \text{ (decimal)} = HI \times 16 + LO$$

**3.0 Software Configuration**

The DQM modules are configured in Cscape as a 16pt SmartStix Output module. Sixteen bits of output reference data (e.g. %Q) are assigned to the unit. The first eight bits control the relay outputs, and the last eight bits are unused.

**3.1 LED Status Indication**

Each output has an ON status LED physically located next to the relay on the DQM module. There is also a PWR LED (lit when DC power is applied), and CsCAN status LEDs labeled MS (module status) and NS (network status). Those LEDs are described below.

Diagnostic LED	State	Meaning
MS: (Module Status)	Solid Red	RAM or ROM test failed
	Blinking Red	I/O test failed
	Blinking Green	Module is in power-up state
NS: (Network Status)	Solid Green	Module is running normally
	Solid Red	Network Ack or Dup ID test failed
	Blinking Red	Network ID test failed
	Blinking Green	Module is in Life Expectancy default state
	Solid Green	Network is running normally

**4 Installation / safety**

**Warning:** Remove DC and AC power from the relay module and any peripheral equipment connected to this local system before adding or replacing this or any module.

- a. All applicable codes and standards should be followed in the installation of this product.

When found on the product, the following symbols specify:



**5 Technical Support**

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