



# SmartRail

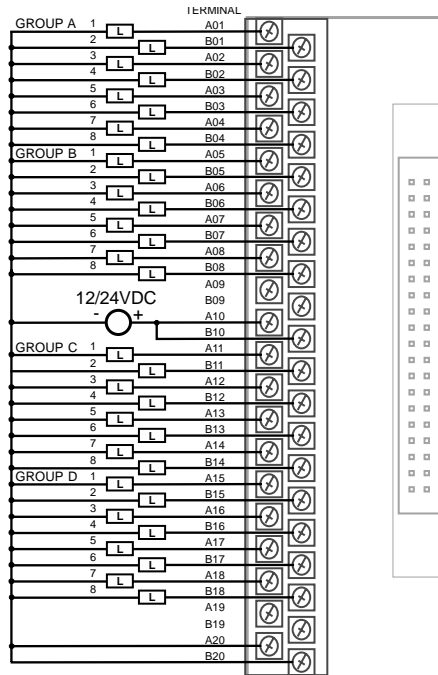
## 12/24VDC Output Modules

### HE599DQM506 (8pt), HE599DQM606 (16pt), HE599DQM706 (32pt)

#### Positive Logic

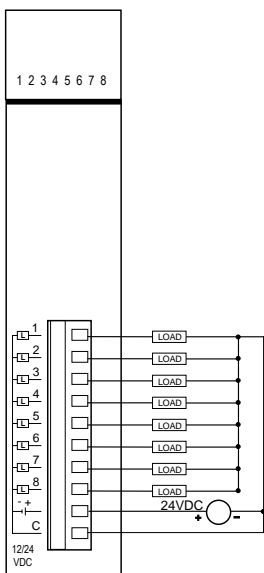
**1 Specifications**

Specifications			
	DQM506	DQM606	DQM706
Number of outputs	8	16	32
Commons per Module	1		
Output Voltage Range	12/24VDC (10.2 – 26.4VDC)		
Rated Output Current	0.5A/pt		0.2A/pt
	2A/common		
Max. Inrush Current	4A for 10ms		
Off Leakage Current	0.1mA or less		
Max. Voltage Drop (On)	0.4VDC or less		
Response Time	1ms or less		
Isolation	500VDC or greater		
LED indication	Labeled 1-8 for each output group		
Backplane Power Consumed @5V (all outputs on)	40mA	60mA	120mA
Terminal Type	M2 Screw Type, Removable		M3 Fixed
Optional Spring Clamp Terminal Strips	HE599 TRM010	HE599 TRM010 + HE599 TRM008	None
Number of Terminals	10 posn	10 posn + 8 posn	40-pins
Terminal Torque Rating	0.22 to 0.25 N-m 1.95 to 2.21 in-lbs		1.2 N-m 10.6 in-lbs
Accepted Wire Size	16-28 AWG (use copper)		
Wire Stripping Length	7mm		
General Specifications			
	DQM506	DQM606	DQM706
Storage Temp.	-25° to 70° Celsius		
Operating Temp.	-0° to 55° Celsius		
Relative Humidity	5 to 95% Non-condensing		
Dimensions WxHxD	20mm x 90mm x 60mm 0.79" x 3.54" x 2.36"		
Weight	30g (1.1 oz.)	40g (1.4 oz.)	60g (2.1 oz.)
CE & UL Compliance	CE, UL & C-UL Class I, Div 2 Groups A, B, C & D		

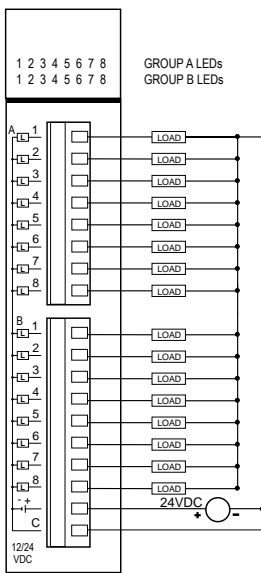


DQM706 Wiring (SmartLink Terminal Strip)

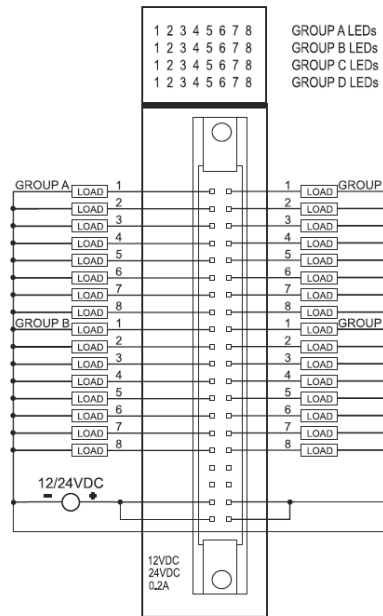
**2 Wiring – I/O**



DQM506 Wiring



DQM606 Wiring



DQM706 Wiring  
40-pin IDE Header cannot be directly wired. SmartLink Terminal Strip recommended

2.1 Output Wiring Terminals

Group	Output	DQM506 Terminal	DQM606 Terminal	DQM706 Pin
A	1	10posn – Terminal 1	8posn – Terminal 1	B20
	2	10posn – Terminal 2	8posn – Terminal 2	B19
	3	10posn – Terminal 3	8posn – Terminal 3	B18
	4	10posn – Terminal 4	8posn – Terminal 4	B17
	5	10posn – Terminal 5	8posn – Terminal 5	B16
	6	10posn – Terminal 6	8posn – Terminal 6	B15
	7	10posn – Terminal 7	8posn – Terminal 7	B14
	8	10posn – Terminal 8	8posn – Terminal 8	B13
+12/24V		10posn – Terminal 9	10posn – Terminal 9	B02
Common		10posn – Terminal 10	10posn – Terminal 10	A02
B	1	N/A	10posn – Terminal 1	B12
	2		10posn – Terminal 2	B11
	3		10posn – Terminal 3	B10
	4		10posn – Terminal 4	B09
	5		10posn – Terminal 5	B08
	6		10posn – Terminal 6	B07
	7		10posn – Terminal 7	B06
	8		10posn – Terminal 8	B05
C	1	N/A	N/A	A20
	2			A19
	3			A18
	4			A17
	5			A16
	6			A15
	7			A14
	8			A13
D	1	N/A	N/A	A12
	2			A11
	3			A10
	4			A09
	5			A08
	6			A07
	7			A06
	8			A05
+12/24V		N/A	N/A	B01
Common				A01
No Connect		N/A	N/A	B04
				B03
				A04
				A03

Note: Groups A, B, C & D are share the same +12/24V & Common terminals.

2.2 SmartLink Wiring Accessories (DQM706)

The DQM706 32-pt DC Output module utilizes a 40pin IDC male connector for user connections. SmartLink Wiring Accessories can be used with the DQM706 to provide a more convenient wiring method. These DIN-rail mounted options consist of a barrier style, 40position terminal strip (TRM040) and a 32-point replaceable relay block (RLY037) connected to the front of the DQM706 with a 40pin round cable. This cable is available with two different pinouts, and in 0.5m or 2.0m lengths. The table below lists the part numbers for the SmartLink Wiring Accessories compatible with the HE599DQM706 input module.

NOTE: The TRM040 and RLY037 accessories utilize different cables. They are high-density cables, and the pin out on the accessory side of the unit is different..

SmartLink Wiring Accessories	
Description	Part Number
DIN-rail mounted Barrier Style Terminal Strip	HE599TRM040
Terminal Strip Cable, 0.5m	HE599CBL040
Terminal Strip Cable, 2.0m	HE599CBL240
DIN-rail mounted 32-point Relay block	HE599RLY037
Relay Adapter Cable, 0.5m	HE599CBL037
Relay Adapter Cable, 2.0m	HE599CBL237

HE599TRM040  
40-Pin Din Rail Mounted Terminal Strip for DQM706



General Specifications	
Rated Voltage	AC, DC 125V
Rated Current	1A
Withstanding voltage	600V
Applicable cable	1.25mm/max
T/B screw	M3 x 10L
Screw torque	1.2 N-m (12kgf / cm)
Ambient temperature rating	-10°C to 50°C (non-condensing)
Dimensions (L x W x D)	149mm x 40mm x 36.8mm

HE599CBL040 (Shown)  
.5m Cable for Terminal Strip TRM040 to DQM706 module  
HE599CBL240  
2.0m Cable for Terminal Strip TRM040 to DQM706 module



Note: Connector with ~80° angle connector must be inserted into the Terminal Strip. Straight connector must be inserted into the DQM706 Module.

**HE599RLY037**

32-Point Din Rail Mount Relay Block for DQM 706



**3 Configuration DATA**

The SmartRail digital output modules are configurable to "hold last state" if desired – when communications is lost with the controlling CPU. This is not configurable on a point-by-point basis, but rather by a group-by-group basis (8points/group). Cscape (9.1 or later) is required for configuration:

Cscape Configuration Data – Selectable per Group				
Parameter	Selections	DQM506	DQM606	DQM706
Hold Last State (Yes or No)	Group A (outputs 1-8)	X	X	X
	Group B (outputs 9-16)	N/A	X	X
	Group C (outputs 17-24)		N/A	X
	Group D (outputs 25-32)			X

**4 Installation / safety**

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or Non-hazardous locations only

**WARNING - EXPLOSION HAZARD -**  
Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous

**WARNING - EXPLOSION HAZARD -**  
Substitution of any component may impair suitability for Class I, Division 2

**WARNING – POSSIBLE EQUIPMENT DAMAGE**  
Remove power from the I/O Base 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.

For detailed installation and a [handy checklist](#) that covers panel box layout requirements and minimum clearances, refer to the hardware manual of the controller you are using.

When found on the product, the following symbols specify:



**5 Technical Support**

Technical Support at the following locations:

<b>North America:</b>	<b>Europe:</b>
Tel: 317 916-4274	Tel: +353-21-4321266
Fax: 317 639-4279	Fax: +353-21-4321826
Web: <a href="http://www.hornerautomation.com">http://www.hornerautomation.com</a>	Web: <a href="http://www.horner-apg.com">http://www.horner-apg.com</a>
Email: <a href="mailto:techsppt@heapg.com">techsppt@heapg.com</a>	Email: <a href="mailto:tech.support@horner-apg.com">tech.support@horner-apg.com</a>

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General Specifications		
Contact	Arrangement	1a
	Resistive Load	5A 250VAC
	Max Switching Current	5A
	Max switching voltage	250VAC
Coil	Nominal Voltage	24VDC
	Pick-up voltage	16.8VDC
	Drop-out voltage	1.2VDC
	Coil Resistance	3200Ω
	Nominal Operating Power	180mW
	Surge Voltage between contact and Coil	4000V
	Initial Breakdown Voltage between Contact and Coil	2000V rms
Installed Relay		Matsushita PA1a-24v
I/O Count		32-point (1 A)
Coil Voltage Rating		24VDC
Coil Side Interface		Mil-C 83503 40 pin
Contact Side Interface		Screw terminal block
Dimensions (L x W x D)		174mm x 70mm x 39.5mm ; din rail
Terminal Screw		M3 x 8L
Terminal Screw Torque		1.2 N-m (12kgf / cm)
Ambient Temperature Rating		-10°C to 50°C (non-condensing)

**HE599CBL037** (Shown)

0.5m Cable for Relay Block RLY037 to DQM706 module

**HE599CBL237**

2.0m Cable for Relay Block RLY037 to DQM706 module



**NOTE:** Connector with ~80° angle connector must be inserted into the Relay block. Straight connector must be inserted into Module