



SmartRail

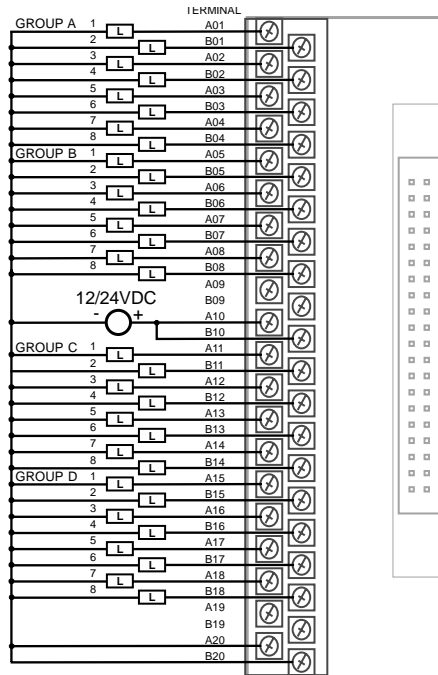
12/24VDC Output Modules

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

Positive Logic

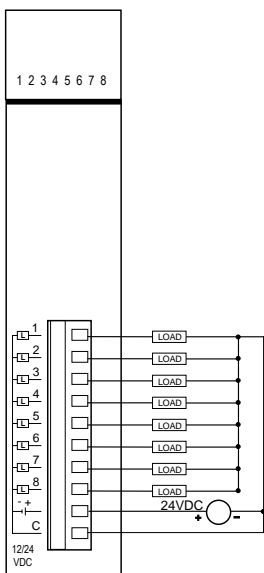
1 Specifications

| 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 | | |

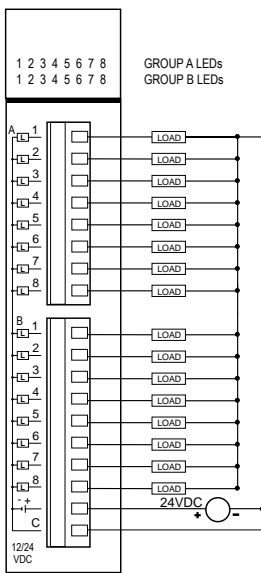


DQM706 Wiring (SmartLink Terminal Strip)

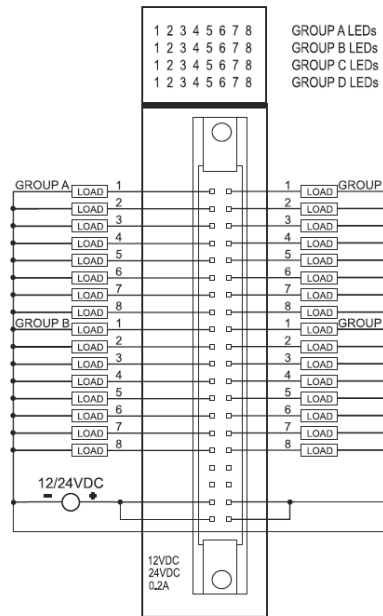
2 Wiring - I/O



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:

| | |
|--|---|
| North America: | Europe: |
| Tel: 317 916-4274 | Tel: +353-21-4321266 |
| Fax: 317 639-4279 | Fax: +353-21-4321826 |
| Web: http://www.hornerautomation.com | Web: http://www.horner-apg.com |
| Email: techsppt@heapg.com | Email: tech.support@horner-apg.com |

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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