



IQRL-D002 (powers 2 DC modules)  
 IQRL-D004 (powers 4 DC modules)  
 IQRL-D008 (powers 8 DC modules)  
 IQRL-2002 (powers 2 AC modules)  
 IQRL-2004 (powers 4 AC modules)  
 IQRL-2008 (powers 8 AC modules)

# ACTIONI/Q® IQRL

## Power Distribution Bus

Provides Power to ActionI/Q  
Signal Conditioning Modules

- Reduces Wiring Time
- Improves Reliability with Fewer Wire to Terminal Connections

- Attaches Directly to the ActionI/Q Module
- SnapLoc™ Plug-In Terminals

### Description

The I/QRail is a power distribution bus for the ActionI/Q Series of multi-channel signal conditioners. It can be used optionally on DC powered units, but is required for AC powered units. The I/QRail provides a means of effectively distributing 24VDC or 120/240VAC power to ActionI/Q modules.

#### DC Powered Rails

IQRL-D002 (up to 2 modules)  
 IQRL-D004 (up to 4 modules)  
 IQRL-D008 (up to 8 modules)

#### AC Powered Rail Assemblies

IQRL-2002 (up to 2 modules)  
 IQRL-2004 (up to 4 modules)  
 IQRL-2008 (up to 8 modules)

The I/QRail is a two-layer printed circuit board with power and ground planes protected to withstand an 1800VDC differential. There are 2, 4 or 8 female plug-in connectors to mount as many as 2, 4 or 8 modules. All assemblies include DIN rail and Action I/Q mounting feet.

### Application

The I/QRail is designed to reduce the time and cost associated with power wiring. It eliminates the need to daisy chain or make power connections to individual modules. The I/QRail is held in place by the ActionI/Q mounting feet, which are already attached to the I/QRail. The mounting foot is simply attached to a DIN rail. The I/Q Rail allows the user to easily remove or replace any module, with or without power applied.

### Operation

The DC powered versions are designed to power 3-wire or 4-wire transmitters in the ActionI/Q product family, specifically models Q1x8, Q4x4, Q4x5 and Q4x8. The AC powered versions are designed to power 4-wire transmitters in the ActionI/Q family, specifically models Q1x6, and Q4x6.

Individual modules can be removed or replaced with power applied to the I/QRail without damage to the rail or the modules.

*Note: When installing modules while power is on, it is highly recommended that the input and output connections be made after mounting the module to the I/Q Rail, making certain that the output circuit will not cause a hazardous condition in the event of minimum or full-scale output from the module.*

The ActionI/Q modules are designed to hold the I/QRail firmly in place and parallel to the DIN mounting rail. No additional mounting holes or cutouts are required for I/QRail installation. ActionI/Q modules mount on standard TS32 (32mm) or TS35 (35mm) DIN rails which then support the complete installation.

## Installation

1. Separate the DIN rail from the I/Q Rail assembly by either sliding it off or releasing each mounting foot tab. Mount the DIN rail in the panel or rack at the desired location.

*Note: The module which is to mount on the I/Q Rail and DIN rail has a base (foot) which is removable from the body. This foot has one bracket to mount on a DIN rail (32mm or 35mm) and another bracket to hold the I/Q Rail (see Figure 1).*

2. Once the DIN rail is firmly in place, snap the foot and I/Q Rail assembly to the DIN mounting rail, starting from the center unit on the rail and working outward. When all the feet are mounted to the DIN rail the I/Q Rail should be held firmly in place parallel with the DIN mounting rail (see Figure 2).

3. To mount the first module on its foot, start with the farthest left hand foot (P1 or P2 on I/Q Rail). Snap the module to this foot making sure that the rail connector matches the opening receptacle on the base of the module. Check that both tabs on the foot have snapped in place.

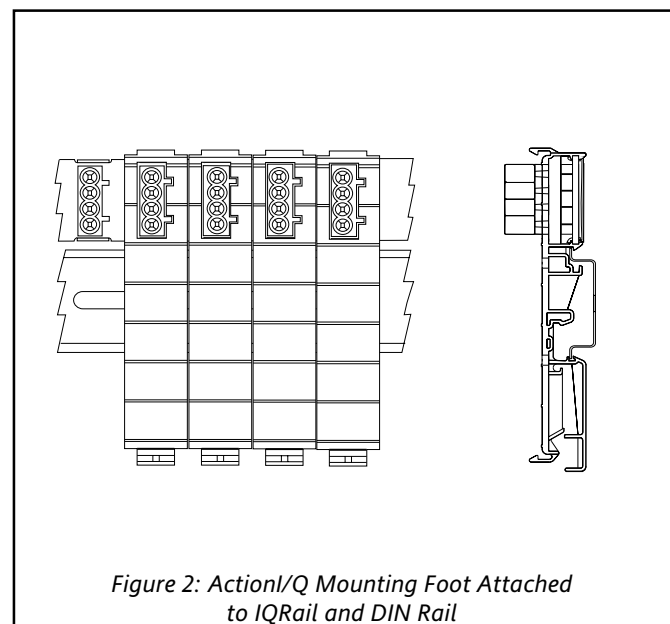
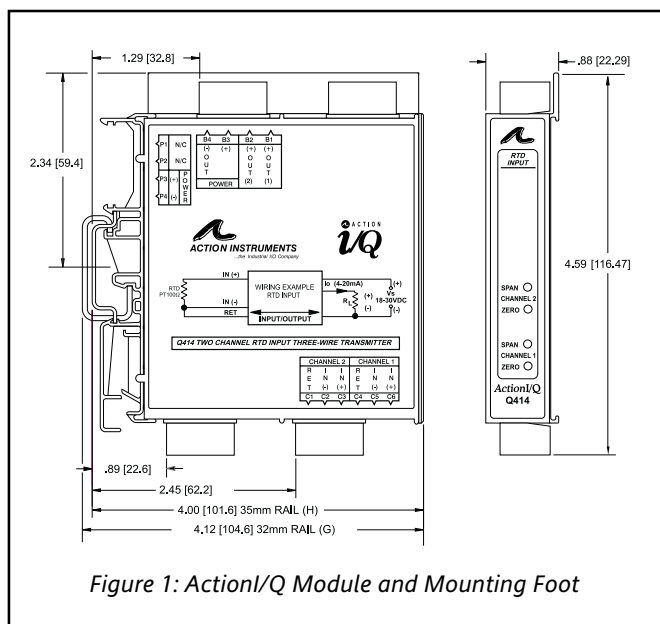
4. The second module can now slide on to the first module's metal heatsink. Align the plastic ridges, which start at the base of the second unit, into the grooves on the metal heatsink. Slide the second unit down until the foot tabs snap in place. Repeat this procedure for the remaining modules to be attached.

5. To remove a module from a row, first detach the faceplate of the unit to the right of the unit to be removed (see figure 3). Then remove the terminal connectors by gently pulling them away from the module. Once the terminals are clear, use a blade screw driver to release the foot tabs from the base of the module while pulling the unit gently free (see Figure 4). Replace the faceplate of the adjacent unit.

6. Installation can be accomplished by reversing step 5, making sure the right hand unit's faceplate is removed before installation.

7. Individual modules can be removed or replaced with power applied to the I/Q Rail, without damage to the rail or the modules.

8. Calibration should be performed as specified on the specific module's data sheet.



## Specifications

### Isolation:

1800V DC, between power conductors

### Power Rating:

DC Versions: 30VDC max., powering up to 8 two channel modules

AC Versions: 265VAC max., powering up to 8 two channel modules

### ESD Susceptibility:

Meets IEC 801-2 Level 2 (4kV)

### Temperature:

Operating: 0 to 65°C (32 to 131°F)

Storage: -40 to 80°C (-40 to 176°F)

### Humidity (non-condensing):

Operating: 25 to 95% @40°C

Soak: 90% for 24 hours @60°C

### Wire Terminals:

Socketed screw terminals for 14-22 AWG

### Agency Approvals

The IQRL is designed to operate with and support the UL, CE and CSA approvals for the specific signal conditioners listed. Refer to the signal conditioner data sheets for specific approvals.

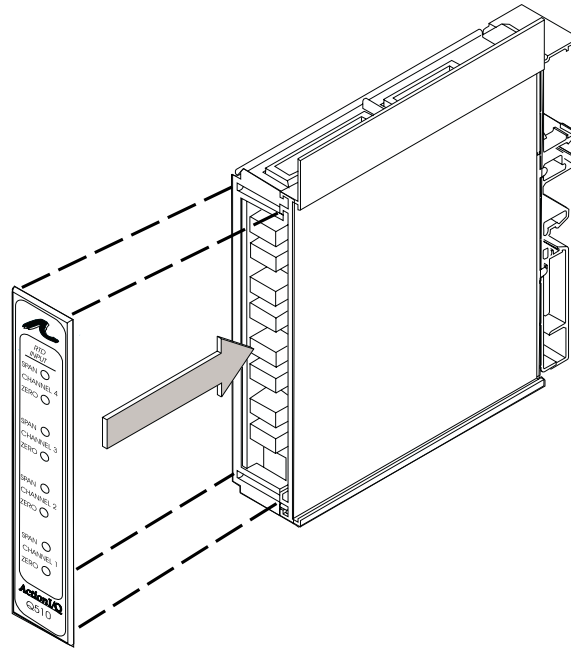


Figure 3: ActionI/Q Module and Removable Faceplate

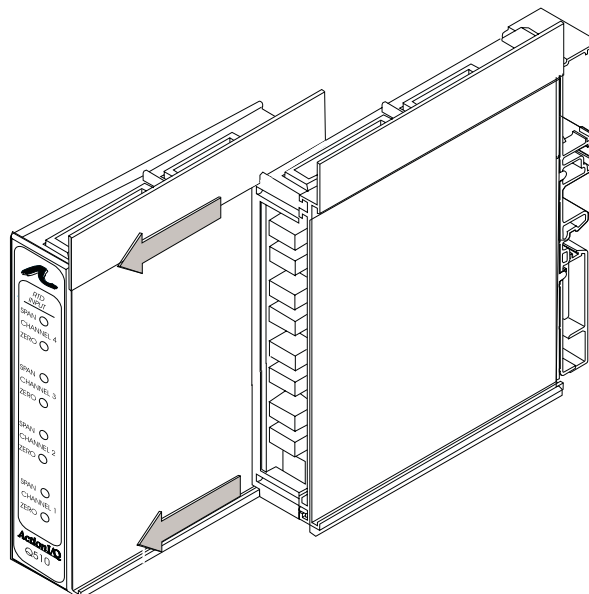
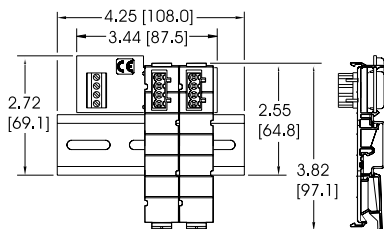


Figure 4: ActionI/Q Modules and Interlocking Slides

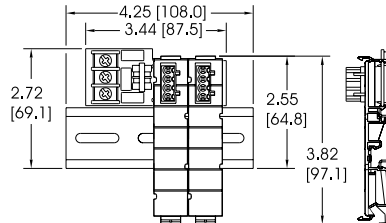
## Dimensions

Dimensions are in inches (millimeters)

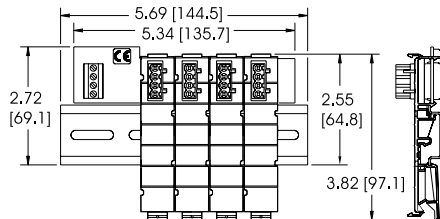
**IQRL-D002 (DC Power Only)**



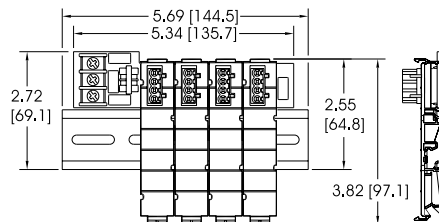
**IQRL-2002 (AC Power Only)**



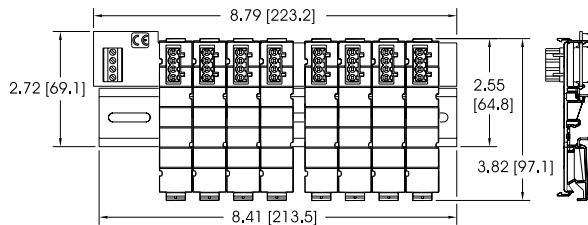
**IQRL-D004 (DC Power Only)**



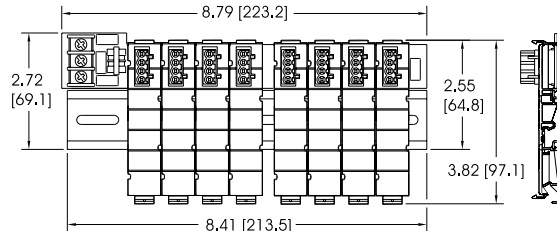
**IQRL-2004 (AC Power Only)**



**IQRL-D008 (DC Power Only)**



**IQRL-2008 (AC Power Only)**



## Ordering Information

### Models & Accessories

#### Specify:

##### 1. Model:

- IQRL-D002** (powers 2 DC modules), or
- IQRL-D004** (powers 4 DC modules), or
- IQRL-D008** (powers 8 DC modules), or
- IQRL-2002** Assembly (powers 2 AC modules) includes DIN rail, or
- IQRL-2004** Assembly (powers 4 AC modules) includes DIN rail, or
- IQRL-2008** Assembly (powers 8 AC modules) includes DIN rail

##### 2. Accessories: (see Accessories):

## Accessories

Action/I/Q modules mount on standard TS32 (model MD02) or TS35 (model MD03) DIN rails. The I/QRail mounts to the Action/I/Q.

The following accessories are available:

- MD02** TS32 DIN rail
- MD03** TS35 x 7.5 DIN rail
- WV905** 24VDC Power Supply (500mA)
- H910** 24VDC Power Supply (1A)
- H915** 24VDC Power Supply (2.3A)



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