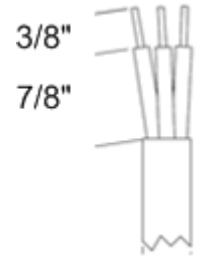


Connecting evoQ₄ Output Module to Bare Wire Endpoints

The following procedure illustrates how to connect a bare wire endpoint to an evoQ₄ output module in the field.

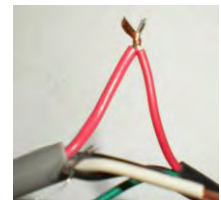
The procedure involves the following main steps:

1. Wire preparation
2. Wire splicing
3. Splice moisture proofing



Tools and Materials:

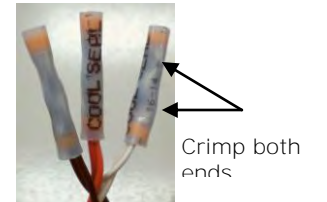
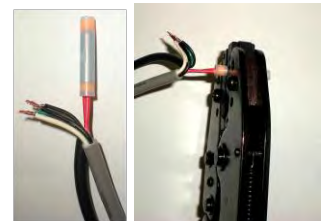
- Wire stripper – Klein Tools Katapult Wire Stripper AWG 18 to 22
- Splice crimping tool - Control Cycle Cat. No. 94230, by FTZ Industries
- Splices - Cool Seal Butt Splice 16-14AWG Cat. No. 33330, by FTZ Industries Elster AMCO Water Part No.2523Q0014
- Grease Lithium/Multi-Purpose – MAG1 3oz Part No. 712
- Small Connection Box, Elster AMCO Water Part No.BQA0375
- Grease Gun Kit: Plews-LubriMatic® 30-132 or equivalent (optional)



Procedure:

For both outdoors, and pit, applications use the following installation process:

1. Insure cable gland bulkhead nut is tight, leave gland nut loose for cable feed through.
2. Insert cables for connections through gland at opposite ends of Connection Box.
3. Prepare the cable wires:
 - a. Cut the evoQ₄ cable and the endpoint cable to the needed combined length of installation. Leave enough length for required bends or pit mount.
 - b. Use the Katapult wire stripper to remove 1¼" of jacket from each cable end using the #8 blade position.
 - c. Use the Katapult wire stripper to strip each wire so 3/8" of bare wire is exposed using the #20 blade position. **Do not nick the wires.**
4. Pair and twist wires together per Device Wiring Matrix (below)
5. Insert the twisted pairs each into one end of the butt splice connector ensuring that the wire insulation is inside the connector.
6. Crimp the twisted wire assembly using the ratchet crimp tool by placing the splice metal shell and wire assembly firmly into the center position [1.5-2.5 / 16-14]. Crimp the unused open end of the butt splice connector.
7. Repeat for all wire pairs.
8. Center crimp cable assemblies within the Small Connection Box by adjusting the gland routed cables and bending butt-splice to lay as shown to ensure complete grease coverage.
9. Tighten gland nut to compress seal around cables at both ends.
10. Fill the Small Connection Box assembly with one tube of grease (required for pit applications) to insure the crimps are completely surrounded by the grease as shown in picture to the right.
11. Crown grease above rim of box.
12. Place cover over and tighten to complete the connection seal.





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| DEVICE | EvoQ4 MX-39 PULSER (DIGITAL) | | | | EvoQ4 MX-39 ENCODER (Elster protocol) | | |
|--|------------------------------|---------|-------------|-------|---------------------------------------|---------|---------|
| | G | B | R | W | R | W | B |
| | Common | Tamper | Ch. 1 | Ch. 2 | Data | Power | Common |
| Fully tested for compatibility | | | | | | | |
| Acalra MTU | Black | White | Red | N/A | White | Red | Black |
| Datamatic Firefly Mosaic | Black | Green | Blue | N/A | Green | Red | Black |
| Itron 60W | N/A | N/A | N/A | N/A | Red | Black | White |
| Itron 60WP | White | Black | Red | N/A | N/A | N/A | N/A |
| Itron 100WR | N/A | N/A | N/A | N/A | Brown | Grey | Yellow |
| Itron 100WPR | Grey | Yellow | Brown | N/A | N/A | N/A | N/A |
| Itron 200WM | Red | Black | White | N/A | Red | Black | White |
| Itron 200WP | Red | Black | White | N/A | Red | Black | White |
| Itron In Line Connector (ILC) | Bare | Black | Red | N/A | Red | Black | Bare |
| REX Fixed or Remote Pit | N/A | N/A | N/A | N/A | Black | Red | Bare |
| Pitpad | N/A | N/A | N/A | N/A | Red | Green | Black |
| Datamatic Firefly | Brown | CUT | Blue | N/A | White | Red | Black |
| Evolution™ Pulser | Red | Green | Black | N/A | N/A | N/A | N/A |
| Evolution™ Encoder | N/A | N/A | N/A | N/A | Red | Green | Black |
| Hexagram Star MTU | Red | None | Black White | N/A | White | Red | Black |
| Compatibility testing NOT completed | | | | | | | |
| Itron 60WR + Cable | N/A | N/A | N/A | N/A | Brown | Grey | Yellow |
| Itron 60WR Fixed | N/A | N/A | N/A | N/A | Brown | Grey | Yellow |
| Itron 60WRP + Cable | Grey | Yellow | Brown | Brown | N/A | N/A | N/A |
| Itron 60WRP Fixed | Grey | Yellow | Brown | Brown | N/A | N/A | N/A |
| Trace Fixed or Remote - Digital Only | Bare | Black | Red | N/A | N/A | N/A | N/A |
| Trace Pit - Digital Only | Bare | Black | Red | N/A | N/A | N/A | N/A |
| Mars Smart Radio | Black | Red | Green | N/A | Green | Red | Black |
| Ramar TransPondIT | 2 Red | 3 Green | 1 Black | N/A | 3 Red | 1 Green | 2 Black |

| DEVICE | EvoQ4 MX-39 PULSER (DIGITAL) | | | | EvoQ4 MX-39 ENCODER (Sensus Protocol) | | |
|---|------------------------------|--------|-------|-------|---------------------------------------|-------|--------|
| | G | B | R | W | R | W | B |
| | Common | Tamper | Ch. 1 | Ch. 2 | Data | Power | Common |
| Neptune R900 | N/A | N/A | N/A | N/A | Red | Black | Green |
| Badger ADE | N/A | N/A | N/A | N/A | Green | Red | Black |
| Sensus MXU510R 3 wire configuration; For 2 wire, contact Elster Tech Support | N/A | N/A | N/A | N/A | Green | Red | Black |

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