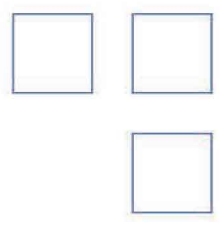


# Remote Electronics Upgrade Procedure

Fernelektronik-Upgrade-Verfahren

Procedimiento de actualización electrónica remota

远程电子升级程序



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## 1.0 PURPOSE:

The purpose of this document is to support non-FCI personnel to upgrade an MT91 or MT86 series electronics to new MT100 Series electronics and enclosure. This procedure assumes the MT100 transmitter (electronics) will use existing power input wiring, output wiring, and multi-point sensor elements, via removing and landing repositioned connections. If end user experiences discrepancies at any point during the procedure, please contact FCI Technical Support personnel, for further support.

## 2.0 REFERENCE DOCUMENTS:

- MT100 Delta-R ( $\Delta R$ ) Data Sheet, serial number specific
- MT100 Installation & Operation Manual
- ST100/MT100 Configurator Software Manual
- MT91 Installation & Operation Manual *(for reference only)*
- MT86 Installation & Operation Manual *(for reference only)*

## 3.0 TOOLS & EQUIPMENT:

### 3.1 MT100 TRANSMITTER UPGRADE KIT (INCLUDED):

- MT100 transmitter assembly
  - *includes enclosure, with mounted electronics, pre-programmed specific to every serial number*
- Cable markers / labels and wire markers / labels
  - *up to qty 8 sets, one label per sensing element wire, 8 per sensor head (FCI part# 010509-01)*
  - *up to qty 8 cable markers, one label per sensor head (FCI part# 010509-04)*
- Latest ST/MT100 Configurator software version (*ver 3.1.0.0 or newer, also available at FCI website*)
- USB male-to-male, type A-to-B, 6½', 2.0 cable

### 3.2 TOOLS & EQUIPMENT (NOT INCLUDED):

- Personal Computer (*laptop*) with Microsoft® Windows XP, 7, Vista, 8, or 10 Operating System
- Pencil with eraser or Stylus Pen (*used for touchscreen navigation*)
- Small hand tools: cutters, strippers, crimps, crescent wrench, small flat-head screwdriver (1/4" or 3/8")
- Plastic tie wraps, electrical tape, and wire caps
- Digital Multimeter
- Heat shrink gun

## 4.0 SETUP:

- Ensure MT100 series transmitter assembly upgrade kit is complete with included items in 3.1, above
  - Contact sales representative if any of items missing from kit assembly
- Install latest FCI ST/MT100 Configurator software version on designated computer

## 5.0 PROCEDURE:

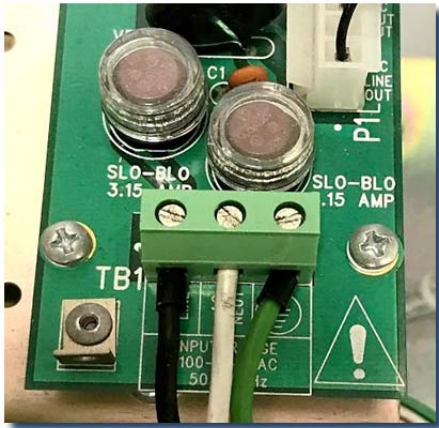
### 5.1 MT91 / MT86 TRANSMITTER REMOVAL

***WARNING: Ensure power is removed. Obtain site approvals as necessary. Input power wires will be securely tied off, taped, and clear of contact from personnel or conductive metal. Conduct lock-outs and tag-outs, as necessary.***

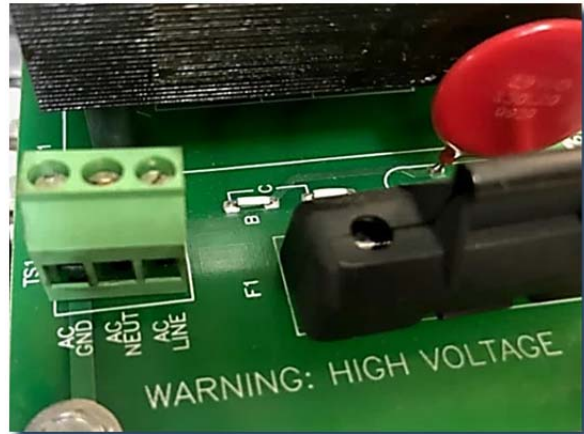
- 5.1.1 Remove power from MT91 or MT86 flow meter.
- 5.1.2 Loosen input power terminal block screws. Terminal blocks may be either VAC or VDC input.
  - See FIGURE A1, for MT91 TB1 input terminal block connection.
  - See FIGURE A2, for MT86 TS1 input terminal block connection.

5.1.3 Pull input wires through transmitter box opening conduit or cable gland, as necessary.

5.1.4 Tie off, tape, and cap wire leads away from contact within MT cabinet.



**FIGURE A1: MT91 POWER INPUT**



**FIGURE A2: MT86 POWER INPUT**

## 5.2 OUTPUT CONNECTION REMOVAL

5.2.1 Locate output connections at output board(s) of MT91 or MT86 transmitter assembly.

- See FIGURE B1 for MT91, J2 (& J4) terminal block.
- See FIGURE B2 for MT86, P2 terminal block.

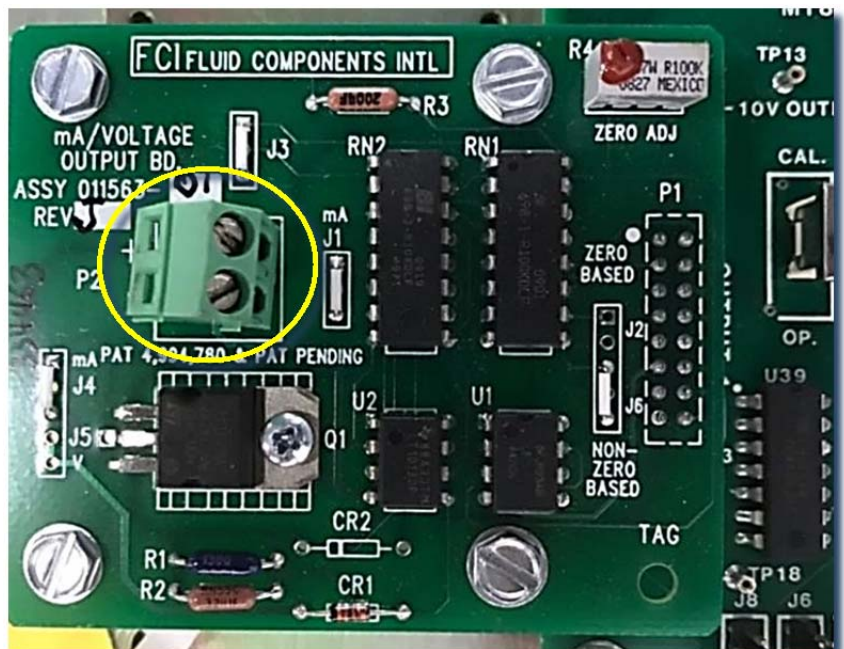
5.2.2 For MT91, pull J2 & J4 female connectors(s). For MT86, unscrew and disconnect positive and negative output wiring at P2.

5.2.3 Ensure output wires are labeled, for use in reconnection with MT100 transmitter.

5.2.4 Tie off, tape, and cap wire leads away from contact of MT cabinets, upon removal..



**FIGURE B1: MT91 OUTPUT**



**FIGURE B2: MT86 OUTPUT**



### 5.3 SENSOR ELEMENT CONNECTION REMOVAL

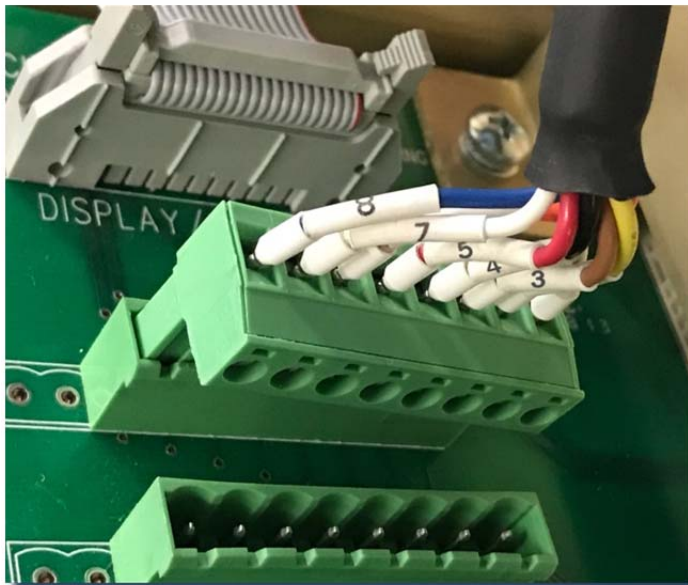
#### 5.3.1 Locate sensor element connections:

- For MT91, J1 through J8 connections on motherboard. See FIGURE C1.  
(ref: MT91 manual, section 2-6, figure 2-2)
- For MT86, input boards 1 through 4, connected to control board. See FIGURE C2.  
(ref: MT86 manual, section 2-5, figure 2-2)

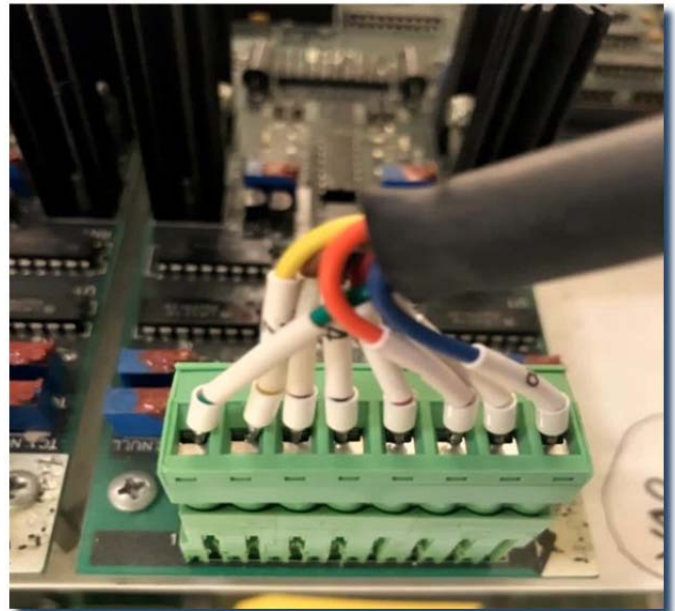
**NOTE:** MT91 & MT86 sensor head connector plugs are not used with MT100 connections.  
Avoid losing/misplacing MT91 or MT86 sensor head connection plugs upon wiring removal.

#### 5.3.2 Identify all sensor head wiring assemblies, connected to each sensor head connection. Sensor wiring assemblies should be labeled to indicate sensor #1, sensor #2, etc. They will be the same sensor #1, sensor #2, etc. upon connecting with new MT100 sensor head connections.

#### 5.3.3 Firmly grab sides of sensor head connectors and pull from input boards, whether MT86 or MT91.



**FIGURE C1: MT91 SENSOR INPUT WIRING**

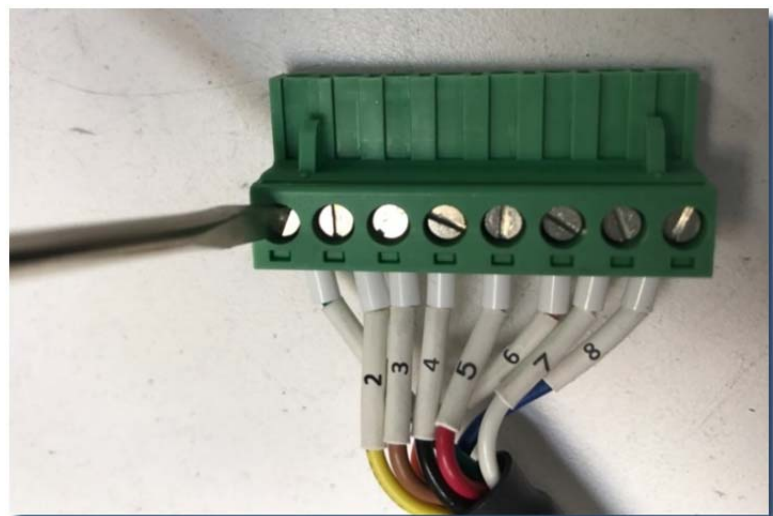


**FIGURE C2: MT86 SENSOR INPUT WIRING**

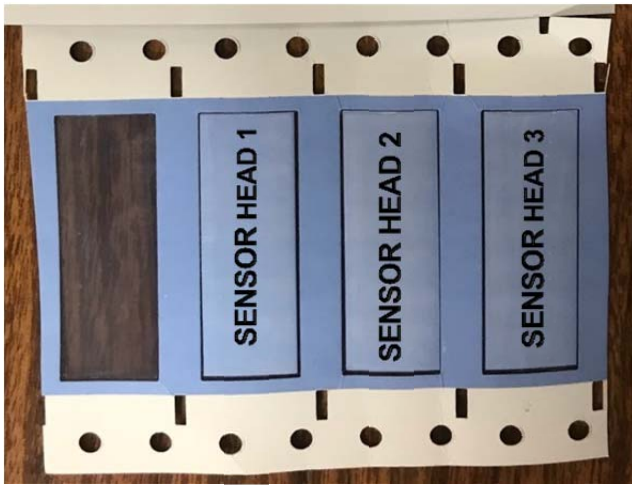
#### 5.3.4 Flip disconnected sensor head connection over to observe 8 individual sensor wiring screws. See FIGURE C3.

#### 5.3.5 With a flat-head, small, slotted screwdriver, unscrew all 8 individual screws and pull all 8 wiring leads from sensor head #1 connector, first. See FIGURE C3.

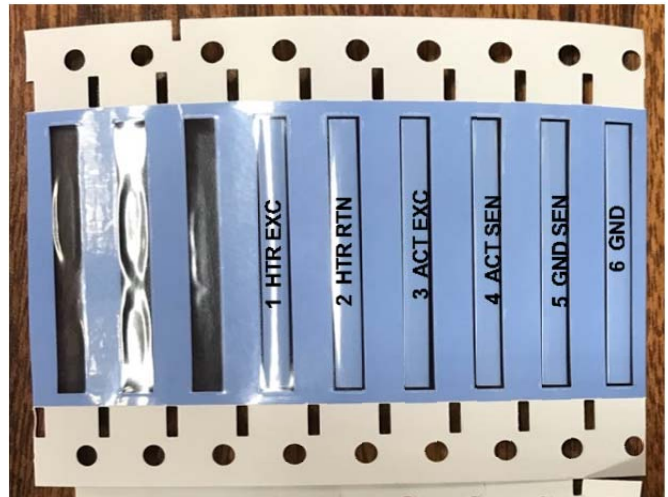
#### 5.3.6 Place removed sensor head connector back into MT91 or MT86 sensor head connections, to avoid losing or misplacing.



**FIGURE C3: MT86/MT91 SENSOR WIRING**

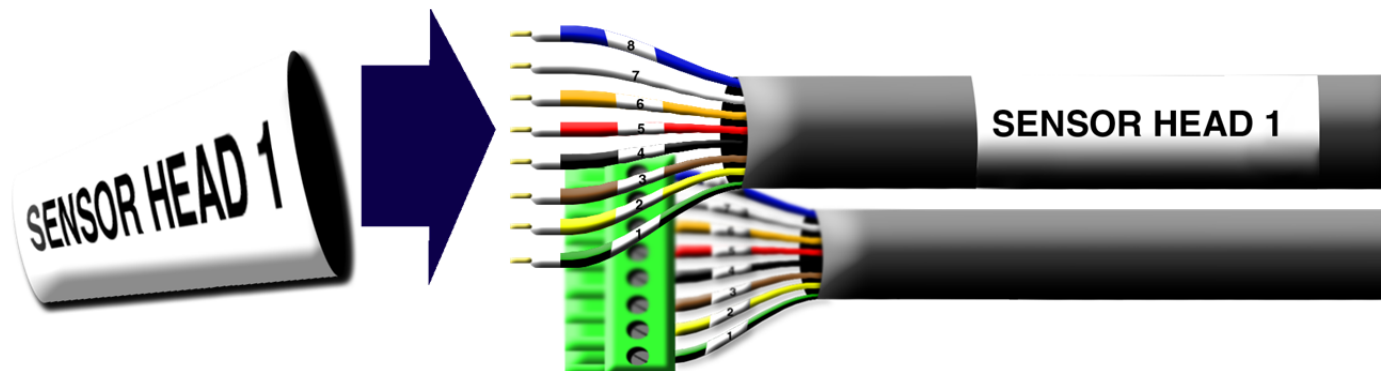


**FIGURE D1: SENSOR HEAD LABELS**



**FIGURE D2: SENSOR WIRE LABELS**

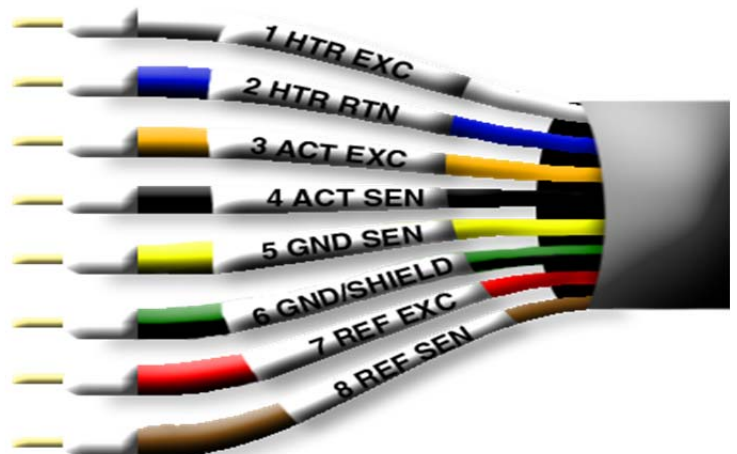
- 5.3.7 Locate new new labels from MT100 conversion kit accessories. Identify “SENSOR HEAD 1”, “SENSOR HEAD 2”, etc. labels (FCI part# 010509-01 and -04). See FIGURE D1 & D2, above.
- 5.3.8 If existing sensor head labeling is in good condition, where sensor head 1 label is visible, legible, and identifiable, skip forward to procedure step 5.3.10 and continue with removing more sensor heads. See FIGURE D1 & D2 above for examples.
- 5.3.9 Apply new “SENSOR HEAD 1” label sleeve over wires and onto cable, as seen in illustration, below, in FIGURE D3.



**FIGURE D3: SENSOR HEAD LABEL APPLICATION**

- 5.3.10 Each of the 8 individual wire leads, per each sensor head, will require new labels, as the pinouts are different from existing MT91 or MT86 sensor head connections. Referencing FIGURE D2, above, and FIGURE D4, to the right, slide on and apply new wiring labels (FCI part# 010509-01), per new MT100 configuration.

**NOTE:** Closely follow and adhere to MT100 wiring configuration in FIGURE D4. Do not place new MT100 sensor head connection on until later in procedure, as directed.



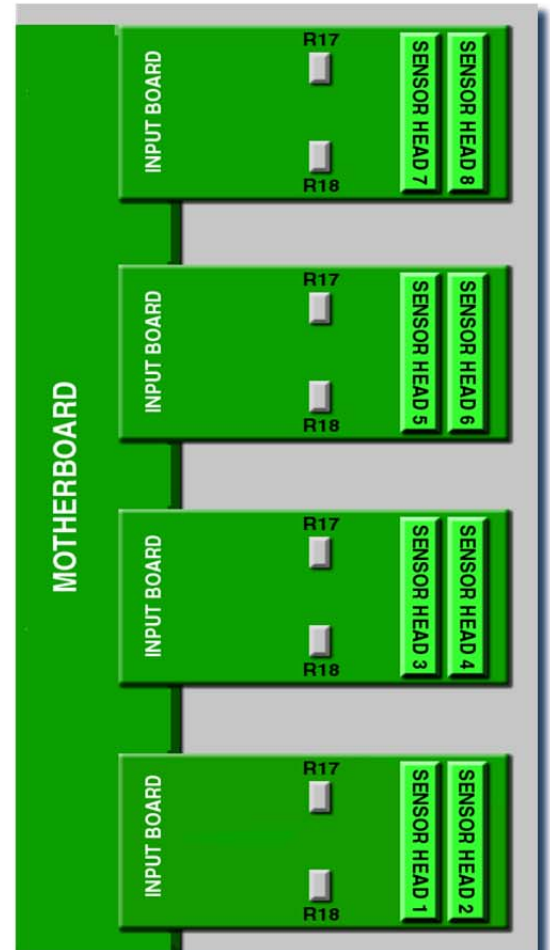
**FIGURE D4: SENSOR WIRING CONFIGURATION**

- 5.3.11 Referencing FIGURE E1 and E2 below, locate the remaining sensor head connections, for either MT91 or MT86 models, disconnect, unscrew 8-pin connector pins, remove sensor head connector, slide on new sensor head labels, and relabel individual wires, as directed through previous procedure steps 5.3.3 through 5.3.10. Repeat until all sensor head cables are removed, relabeled, and reconfigured correctly.



**FIGURE E1: MT91 TRANSMITTER J1-J8**

- 5.3.12 Use a tie wrap or electrical tape to tie off sensor head wiring. As all sensor head connections are now removed, the wrapping helps isolate wires from other sensor head connections, and allow for ease in conduit or cable gland removal from cabinet connection.



**FIGURE E2: MT86 TRANSMITTER SENSOR INPUTS**

*NOTE: MT91 and MT86 sensor wiring configurations are not the same as MT100 wiring configuration. Pin 9 will not be used during this procedure.*

*NOTE: MT100 sensor head terminal blocks TB1, TB2, etc., will not be connected to the sensor wiring until later in procedure. Wires will be unconnected for proper removal from within cabinet.*

*NOTE: A heat gun or dryer should be necessary to help shrink the labeling to fit the sensor head cable and individual wiring.*

- 5.3.13 Loosen, disconnect, and pull MT91 or MT86 conduits or cable glands from cabinet connections.
- 5.3.14 Pull all wiring from within MT91 or MT86 cabinet.
- 5.3.15 If necessary, tie off conduits or cable glands externally, to prepare for reconnection.
- 5.3.16 It is at this point, it is assumed that all external connections are free of existing MT91 or MT86 transmitter. Ensure no other connections from outside MT91 or MT86 transmitter are present.



## 5.4 MT91/MT86 REMOVAL & MT100 REPLACEMENT

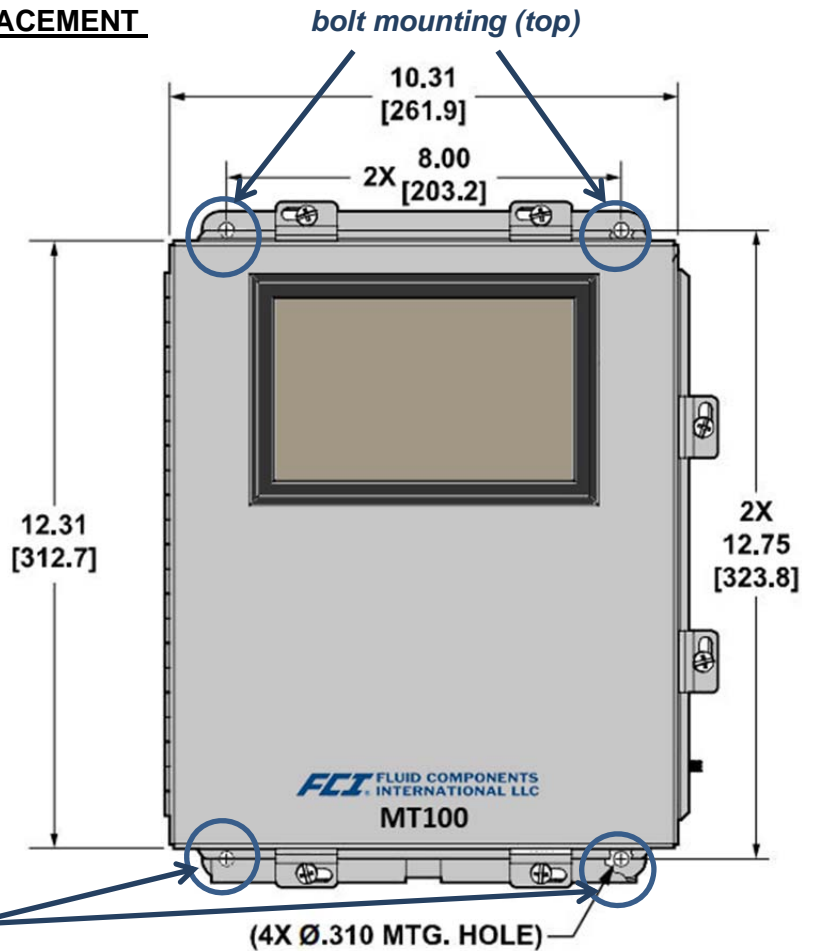
*NOTE: Use necessary hand tools such as a wrenches, ratchets, sockets, etc., to remove bolting or mounting of existing MT91 or MT86.*

- 5.4.1 Remove bolts from MT91 or MT86 cabinet. Remove MT91 or MT86 cabinet.
- 5.4.2 Determine new MT100 transmitter bolt mounting connections, as defined in FIGURE F.

*NOTE: MT100 cabinet bolt mounting pattern is different than existing MT91 or MT86 bolting pattern.*

- 5.4.3 Mark areas for new bolt mounting for MT100 cabinet position.
- 5.4.4 Install MT100 cabinet at mounting position and tighten bolts, using applicable hand tools.

*bolt mounting (bottom)*



**FIGURE F**

## 5.5 MT100 CABLE CONNECTIONS

**WARNING: Do not attempt to power on new MT100 transmitter assembly until directed.**

*NOTE: The correct sensor head number must connect to corresponding transmitter sensor terminal block. Please follow this section carefully, as it is critical to operation of converted MT100.*

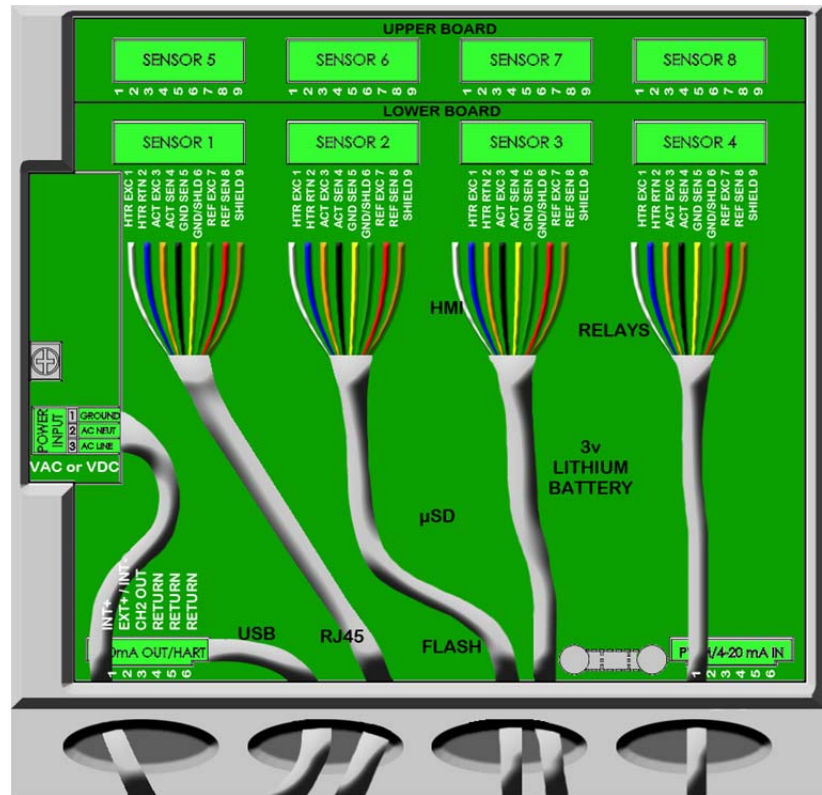
- 5.5.1 Reattach and tighten conduits or cable glands securely to MT100 conduit ports. See FIGURE G1.
- 5.5.2 Untie and prepare wires for routing through open ports. FCI recommends routing cables through open ports, as follows:
  - Port 1: input power only
  - Port 2: analog output &/or sensor wiring
  - Port 3: sensor wiring
  - Port 4: digital output &/or sensor wiring
- 5.5.3 Additional example and detail on following page, FIGURE G2, for cable routing diagram, within MT100 transmitter case.



**FIGURE G1: NPT or M25 CONDUIT PORTS**

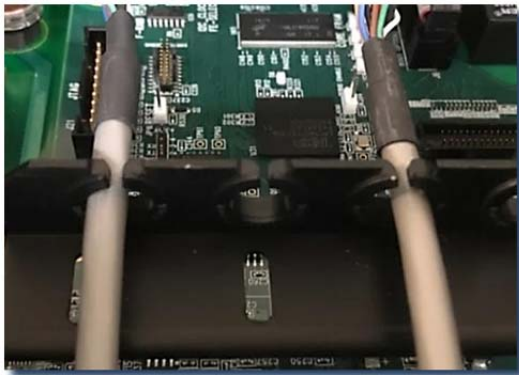


- 5.5.4 Route SENSOR HEAD 1 wiring and cable through first cable guide bushing, at the left, to help secure connection. See FIGURE G2 and H1. Ensure adequate slack is available to make the new connection, as seen in FIGURE G2 and H2.
- 5.5.5 Locate SENSOR 1 TB1 on motherboard. See FIGURE F2 and F4. Pull SENSOR 1 TB1, 9-pin connector plug (FCI part# 023715-02).
- 5.5.6 With SENSOR HEAD 1 wiring harness, land all wire leads, referencing the new numerical wire labels, as applied earlier in procedure, and tighten screws, to secure wiring. See procedure step 5.3.10, FIGURE D4, two pages prior, and FIGURE H2, below, if necessary.

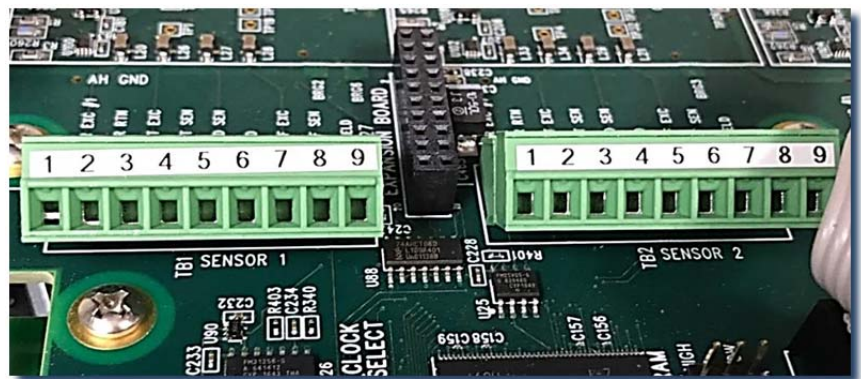


**FIGURE G2: CABLE ROUTING**

- 5.5.7 Tug wires to ensure they're solidly inserted and snug within connector.
- 5.5.8 Ensure cables have adequate slack within transmitter to make solid TB1 connection.

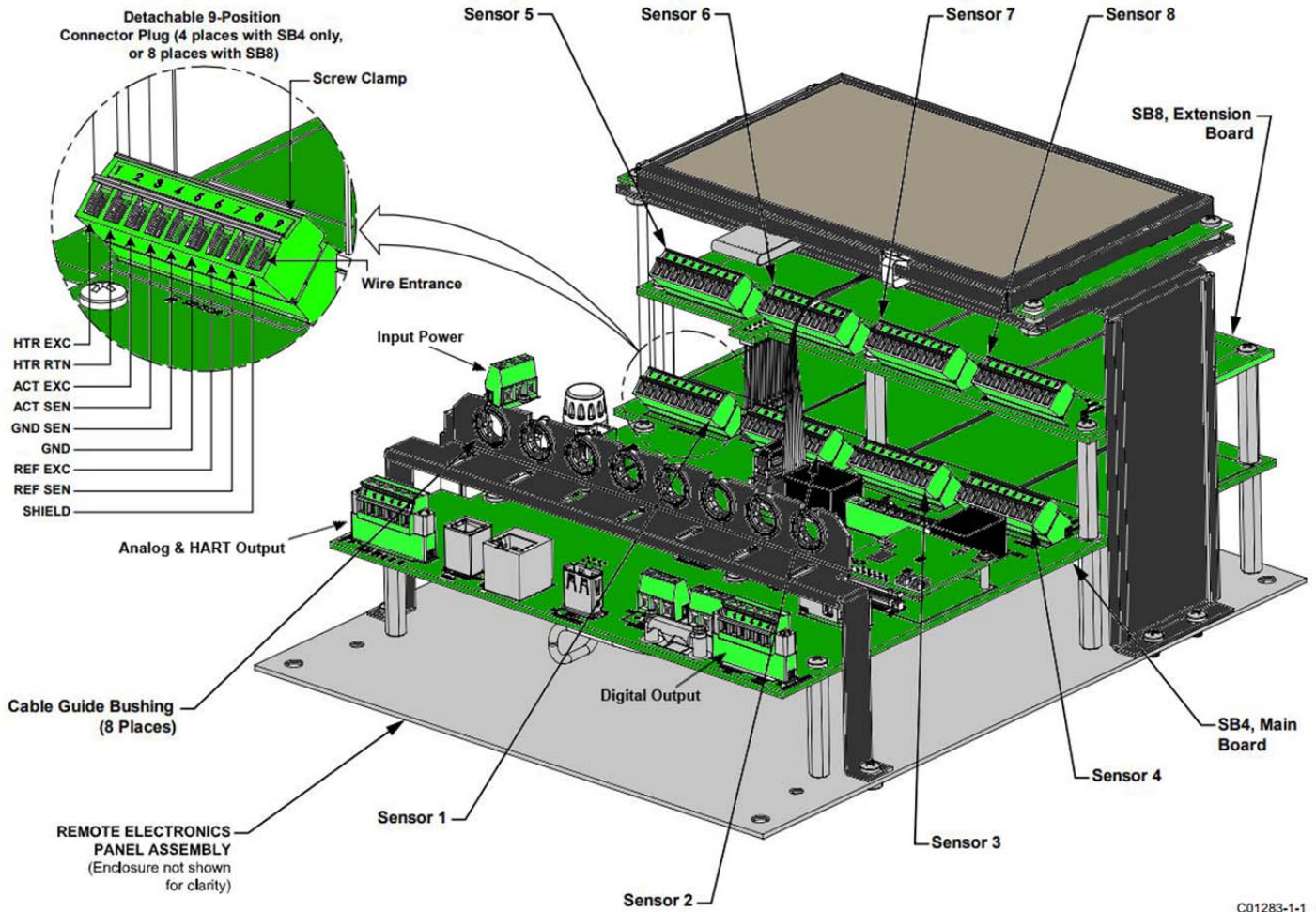


**FIGURE H1: CABLE GUIDES**



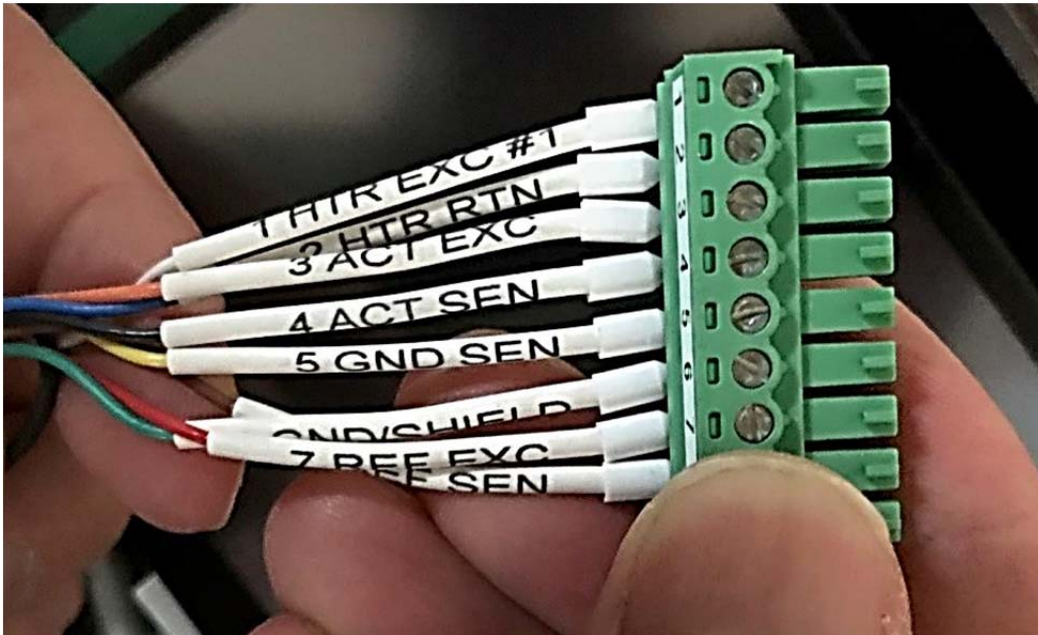
**FIGURE H2: SENSOR TERMINAL BLOCKS**

- 5.5.9 For SENSOR (HEAD) 2 wiring assembly and individual wiring, route cables through dedicated conduit port, land in next cable guide bushing, pull TB2 connector, attach individual wires into TB2 connector, and insert into dedicated SENSOR 2 connection of MT100, like wiring configuration that of SENSOR (HEAD) 1. Refer to previous FIGURE D4 and G1 on previous pages, as well as FIGURE G2, H1, and H2, on this page.
- 5.5.10 Continue wiring configuration with all additional sensors, repeating procedure step 5.5.4 to 5.5.9.
- 5.5.11 Once completed with all sensor head connections, tug check wires of all sensor wiring assemblies, to ensure positive connections. See FIGURE I1 & I2 on following page.
- 5.5.12 Ensure adequate slack is present for all sensor wiring cables, for solid seated connections.



**FIGURE I1: MT100 TRANSMITTER ILLUSTRATION**

C01283-1-1



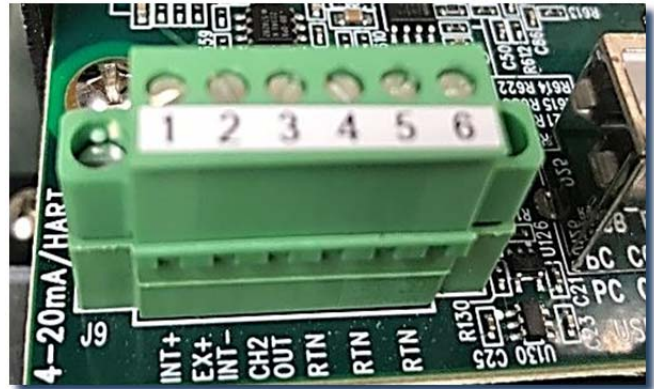
**FIGURE I2: PROPERLY TERMINATED MT100 SENSOR (HEAD) CONNECTION**



## 5.6 MT100 OUTPUT CONNECTIONS

**NOTE:** *MT100 HART output 1 must be isolated. If output 1 cannot be isolated, use output 2, which is not HART. (Reference: MT100 manual, appendix A, page 128)*

- 5.6.1 Locate, untie, and route 4-20mA output wires through new MT100 transmitter box conduit. Conduit port 1, at the left, is closest to new output connection.
- 5.6.2 Locate 4-20mA/HART connection J9 at the edge of main circuit board. See FIGURE J.
- 5.6.3 Remove J9 6-pin output connector plug (FCI part# 025267-01).
- 5.6.4 Loosen screws of J9 connector, with small screwdriver.
- 5.6.5 Insert output wires into J9 connector, as follows: (*output 2 is optional*)
  - Output 1 (HART): insert positive wire to INT+ (pin 1) and negative wire to EX+/INT- (pin 2).
  - Output 2: insert positive wire to CH2 OUT (pin 3) and negative wire to RTN (pin 4).
- 5.6.6 Tighten screws to secure wiring, and ensure both wires are snug. Ensure adequate slack of output wiring is available, prior to reconnecting at J9.



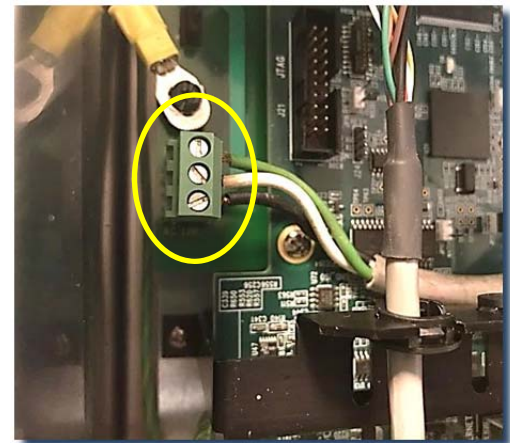
**FIGURE J**

## 5.7 MT100 INPUT POWER CONNECTION

**WARNING:** *Ensure MT100 transmitter power remains off, until directed, once input wiring is complete.*

**NOTE:** *Either VAC or VDC input power connection will be at the same P1 location on the side, within MT100 transmitter. Printed circuit board will contain labeling for designating input wiring connection.*

- 5.7.1 Locate, untie, and route input power wires through the dedicated NPT.
- 5.7.2 Locate input power P1 connector. See FIGURE F5 on previous page and FIGURE K, to the right.
- 5.7.3 Ensure adequate slack available for connection.
- 5.7.4 P1 connector does not have a detachable plug, like previous wiring steps. Input wiring, VAC or VDC, will be routed and terminated directly to P1.
- 5.7.5 Land wires in accordance with VAC and VDC labeling on motherboard:
  - VAC wire landing as follows: AC LINE +, AC NEUT -, ETH GND ☐
  - VDC wire landing as follows: DC POS +, DC NEG -, ETH GND ☐ (*optional*)
- 5.7.6 Tighten P1 screws and ensure input wires are securely fastened. Tug check to ensure wires are firmly attached to P1.



**FIGURE K**

**WARNING:** *Ensure wires are firmly affixed to P1, to avoid shorting the new MT100 motherboard components, if either of input wires were to inadvertently slip out of from connector.*

- 5.7.7 Determine area, equipment, and operation is safe for restoring power to newly installed MT100 transmitter. Follow tag clearing protocols, if necessary. When permissible apply power and continue procedure.



## 5.8 MT100 START-UP INITIALIZATION

5.8.1 As MT100 is powered on, the display will load with a blue background and progress bar. See FIGURE L1. Initialization should complete within one minute. (Reference MT100 I&O Manual, section 2 INSTALLATION, page 25, Figure 21, and section 3 OPERATION, page 31.)

5.8.2 Once initialization phase is complete, the MT100 display will render the normal operation screen, as seen in FIGURE L2. (reference MT100 manual pages 28 and 31)



FIGURE L1

NOTE: Using a **pencil eraser tip** or Stylus Pen is more effective for touchscreen command execution than fingertips, and helps prevent scratches, smudges, &/or inability to execute commands.

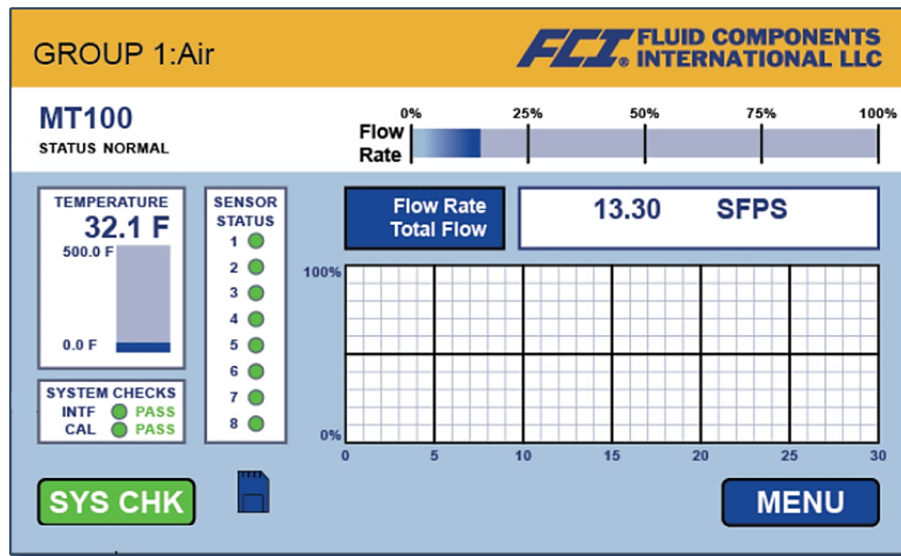


FIGURE L2

## 5.9 MT100 OUTPUT TESTING

NOTE: ST/MT100 Configurator software should be installed on dedicated computer medium, such as a laptop. Locate disk that FCI provided or download latest software version from [fluidcomponents.com](http://fluidcomponents.com) website. Refer to ST/MT100 Configurator Software Manual for installation details and instruction, prior to conducting output checks. Retrieve USB cable, included in MT100 Upgrade Kit, to connect from dedicated computer medium to MT100 USB connection.

5.9.1 Run Configurator software program, connect USB cable, and connect to enter into MT100 Configurator.

5.9.2 Navigate to the left-pane of program, MT100 > Configuration > Output tab.

5.9.3 Observe Analog Output Selection section, "4-20mA #1:" (channel 1). At **HART Flow** v, "4mA @ Units <=" and "20mA @ Units >=". Ensure output 1 scale meets site requirements. See FIGURE M1.

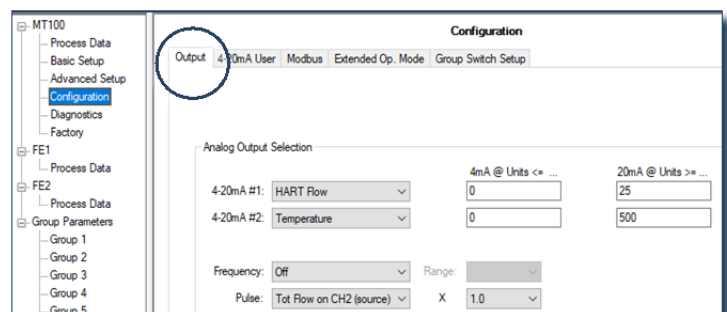


FIGURE M1

- 5.9.4 Navigate to 4-20mA User tab, locate “4-20mA #1:” > “Manual mA Output” field. See FIGURE M2.
- 5.9.5 Type a 4 to 20 value in the field.
- 5.9.6 Click **Click to Output Manual**.
- 5.9.7 “USER Password required” pops up. Type **2772**. Click **OK**.
- 5.9.8 Observe “4-20 #0 Manual Output” pop-up, indicating analog signal is actively outputting assigned mA value entered in step 5.12.4. See FIGURE M3.
- 5.9.9 Gather digital multimeter for this output testing. Turn on and set (*dial*) to measure mA VDC.
- 5.9.10 Locate the output terminal block, J9, 4-20mA/HART, at the bottom-left of the main circuit board. See FIGURE N.
- 5.9.11 With multimeter leads, apply negative test lead (-) to pin 2, positive test lead (+) to pin 1, of J9, and verify the previously assigned mA signal measures on multimeter display.
- 5.9.12 As the manual output test is conducted, the value entered in step 5.9.5 should closely measure and display on the multimeter.

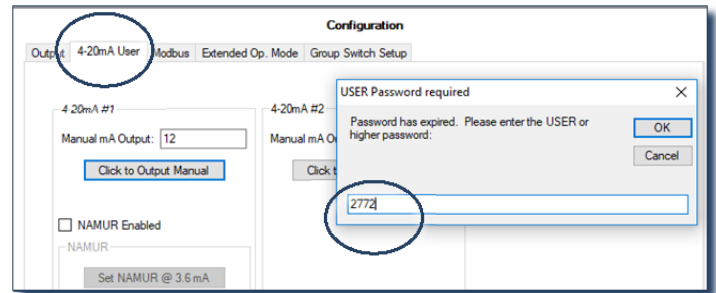


FIGURE M2

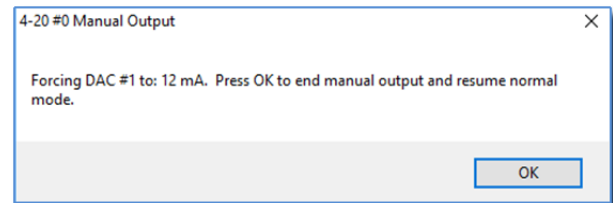


FIGURE M3

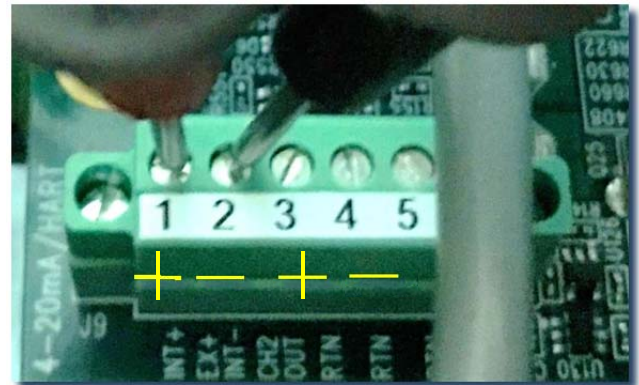


FIGURE N

*NOTE: At this juncture, it is presumed the MT100 conversion is complete, configured, and outputting. Refer to MT100 manual “Installation”, for loop checks (pg 27), and follow through to “Startup & Commissioning” (pg 33) for further information. Disconnect USB cabling, secure all wiring, tighten conduits or cable glands, and close cabinet.*

## 5.10 TECHNICAL SUPPORT

- 5.10.1 For any observed discrepancies, please make note of, take pictures or screenshots if possible, and contact [techsupport@fluidcomponents.com](mailto:techsupport@fluidcomponents.com) with serial number and details.
- 5.10.2 For more immediate assistance, please gather serial number, details, and dial FCI main number at +1.800.854.1993, and ask for technical support.

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The following Return Authorization Request form and Decontamination Statement **MUST be completed, signed and faxed back to FCI before** a Return Authorization Number will be issued. The signed Decontamination Statement and applicable MSDS Sheets **must be included with the shipment**. FCI will either fax, email or telephone you with the Return Authorization Number upon receipt of the signed forms.

**Packing Procedures**

1. **Electronics** should be wrapped in an **anti-static** or **static-resistant** bag, then wrapped in protective bubble wrap and surrounded with appropriate dunnage\* in a box. Instruments weighing **more than 50 lbs., or extending more than four feet**, should be secured in wooden crates by bolting the assemblies in place.
2. **The sensor head must be protected** with pvc tubing, or retracted the full length of the probe, locked and secured into the Packing Gland Assembly (cap screws tightened down).
3. FCI can supply crates for a nominal fee.
4. No more than **four (4)** small units packaged in each carton.
5. **FCI will not be held liable for damage caused during shipping.**
6. To ensure immediate processing **mark** the RA number on the outside of the box. Items without an RA number marked on the box or crate may be delayed.
7. **Freight must be "PrePaid"** to FCI receiving door.

\* Appropriate dunnage as defined by UPS, will protect package contents from a drop of 3 feet.

<p><b>*** Decontamination Statement *** This Section Must Be Completed ***</b></p>
<p>Exposure to hazardous materials is regulated by Federal, State, County and City laws and regulations. These laws provide FCI's employees with the "Right to Know" the hazardous or toxic materials or substances in which they may come in contact while handling returned products. Consequently, FCI's employees must have access to data regarding the hazardous or toxic materials or substances the equipment has been exposed to while in a customer's possession. Prior to returning the instrument for evaluation/repair, FCI requires thorough compliance with these instructions. The signer of the Certificate must be either a knowledgeable Engineer, Safety Manager, Industrial Hygenist or of similar knowledge or training and responsible for the safe handling of the material to which the unit has been exposed. <b>Returns without a legitimate Certification of Decontamination, and/or MSDS when required, are unacceptable and shall be returned at the customer's expense and risk.</b> Properly executed Certifications of Decontamination must be provided before a repair authorization (RA) number will be issued.</p>
<p><b>Certification Of Decontamination</b></p>
<p>I certify that the returned item(s) has(have) been thoroughly and completely cleaned. If the returned item(s) has(have) been exposed to hazardous or toxic materials or substances, even though it(they) has (have) been thoroughly cleaned and decontaminated, the undersigned attests that the attached Material Data Safety Sheet(s) (MSDS) covers said materials or substances completely. Furthermore, I understand that this Certificate, and providing the MSDS, shall not waive our responsibility to provide a neutralized, decontaminated, and clean product for evaluation/repair at FCI. Cleanliness of a returned item or acceptability of the MSDS shall be at the sole discretion of FCI. <b>Any item returned which does not comply with this certification shall be returned to your location Freight Collect and at your risk.</b></p>
<p><b>This certification must be signed by knowledgeable personnel responsible for maintaining or managing the safety program at your facility.</b></p>
<p>Process Flow Media _____</p>
<p>Product was or may have been exposed to the following substances: _____</p>
<p>Print Name _____</p>
<p>Authorized Signature _____ Date _____</p>
<p>Company Title _____</p>

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FCI Document No. 05CS000004D [U]

### WARRANTIES

Goods furnished by the Seller are to be within the limits and of the sizes published by the Seller and subject to the Seller's standard tolerances for variations. All items made by the Seller are inspected before shipment, and should any of said items prove defective due to faults in manufacture or performance under Seller approved applications, or fail to meet the written specifications accepted by the Seller, they will be replaced or repaired by Seller at no charge to Buyer provided return or notice of rejection of such material is made within a reasonable period but in no event longer than one (1) year from date of shipment to Buyer, and provided further, that an examination by Seller discloses to Seller's reasonable satisfaction that the defect is covered by this warranty and that the Buyer has not returned the equipment in a damaged condition due to Buyer's or Buyer's employees', agents', or representatives' negligence and Buyer has not tampered, modified, redesigned, misapplied, abused, or misused the goods as to cause the goods to fail. In addition, this warranty shall not cover damage caused by Buyer's exposure of the goods to corrosive or abrasive environments. Moreover, Seller shall in no event be responsible for (1) the cost or repair of any work done by Buyer on material furnished hereunder (unless specifically authorized in writing in each instance by Seller), (2) the cost or repair of any modifications added by a Distributor or a third party, (3) any consequential or incidental damages, losses, or expenses in connection with or by reason of the use of or inability to use goods purchased for any purpose, and Seller's liability shall be specifically limited to free replacement, or refund of the purchase price, at Seller's option, provided return or rejection of the goods is made consistent with this paragraph, and the Seller shall in no event be liable for transportation, installation, adjustment, loss of good will or profits, or other expenses which may arise in connection with such returned goods, or (4) the design of products or their suitability for the purpose for which they are intended or used. Should the Buyer receive defective goods as defined by this paragraph, the Buyer shall notify the Seller immediately, stating full particulars in support of his claim, and should the Seller agree to a return of the goods, the Buyer shall follow Seller's packaging and transportation directions explicitly. In no case are the goods to be returned without first obtaining a return authorization from the Seller. Any repair or replacement shall be at Seller's factory, unless otherwise directed, and shall be returned to Seller transportation prepaid by Buyer. If the returned goods shall prove defective under this clause they will be replaced or repaired by Seller at no charge to Buyer provided the return or rejection of such material is made within a reasonable period, but in no event longer than (1) year from the date of shipment of the returned goods or the unexpired terms of the original warranty period whichever is later. If the goods prove to be defective under this paragraph, the Buyer shall remove the goods immediately from the process and prepare the goods for shipment to Seller. Continued use or operation of defective goods is not warranted by Seller and damage occurring due to continued use or operation shall be for Buyer's account. Any description of the goods contained in this offer is for the sole purpose of identifying them, and any such description is not part of the basis of the bargain, and does not constitute a warranty that the goods will conform to that description. The use of any sample or model in connection with this offer is for illustrative purposes only, is not part of the basis of the bargain, and is not to be construed as a warranty that the goods will conform to the sample or model. No affirmation of that fact or promise made by the Seller, whether or not in this offer, will constitute a warranty that the goods will conform to the affirmation or promise. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE GOODS OR THEIR INSTALLATION, USE, OPERATION, REPLACEMENT OR REPAIR, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OF PURPOSE; AND THE GOODS ARE BEING PURCHASED BY BUYER "AS IS". SELLER WILL NOT BE LIABLE BY VIRTUE OF THIS WARRANTY OR OTHERWISE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE RESULTING FROM THE USE OR LOSS OF USE OF THE GOODS.





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**FCI World Headquarters**

1755 La Costa Meadows Drive | San Marcos, California 92078 USA | Phone: 760-744-6950 Toll Free (US): 800-854-1993 Fax: 760-736-6250

**FCI Europe**

Persephonestraat 3-01 | 5047 TT Tilburg, The Netherlands | Phone: 31-13-5159989 Fax: 31-13-5799036

**FCI Measurement and Control Technology (Beijing) Co., LTD | [www.fluidcomponents.cn](http://www.fluidcomponents.cn)**

Room 107, Xianfeng Building II, No.7 Kaituo Road, Shangdi IT Industry Base, Haidian District | Beijing 100085, P. R. China  
Phone: 86-10-82782381 Fax: 86-10-58851152

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