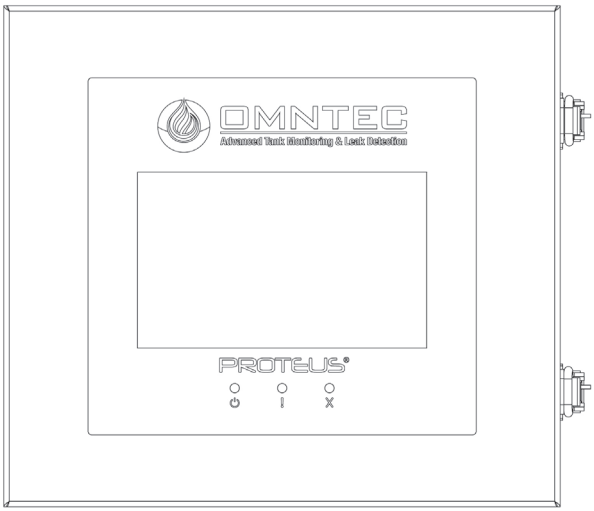
OMNTEC
Advanced Tank Monitoring & Leak Detection

1. Open the camera app
2. Focus the camera on the QR code by gently tapping the code
3. Follow the instructions on the screen to view PDF file

PROTEUS® Mini-Me™

INSTALLATION MANUAL

(OUTDOOR MMRD7-SS SERIES)



PROTEUS® Series
UNIVERSAL REMOTE DISPLAY

Revision 1.3

Document No. DI00007

OMNTEC® Mfg., Inc. has been certified by DQS Inc. to ISO 9001:2015

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PROPRIETARY INFORMATION NOTICE

NOTICE

Use of unauthorized parts in the MMRD7 Series system, or modification to any parts of the system, will nullify our warranty. OMNTEC Mfg., Inc. will not be responsible for any claims arising from the performance of modified units.

If you have any questions, please contact OMNTEC Mfg., Inc. at (631) 981-2001.

WARRANTY

The seller, OMNTEC Mfg., Inc., warrants the buyer that the product is free of defects when properly installed and maintained by the user. The warranty period is one year from the date of installation or 15 months from the date of shipment from the factory, whichever occurs first. OMNTEC warranty for add-ons, spare or replacement parts is for 90 days from date of shipment. All items must be properly installed for the warranty to be valid. Please note, direct and constant sunlight exposure can adversely affect the life span of the LCD display. Avoid direct sunlight exposure when installing. The seller's sole obligation is to repair or replace parts found to be defective upon evaluation by OMNTEC. Parts can be returned for evaluation by requesting an RMA (Return Material Authorization) from OMNTEC. Any items found to have factory defects after evaluation by OMNTEC through return material authorization process, will be repaired or replaced. The liability of the seller shall not exceed the price paid for components found to be defective. The above warranty is exclusive of all other warranties whether implied or expressed. The seller assumes no obligation for special or indirect damages incurred by the user.

REFERENCE DOCUMENTS

For further information, please refer to these documents:

- PROTEUS MINI-ME MMRD7|MMRD7-SS SERIES SYSTEM PROGRAMMING MANUAL
  File name: DOC00011
- OPTION BOARD INSTALLATION INSTRUCTIONS
  File name: DI00012
- RAS SERIES WIRING INSTRUCTIONS
  File name: DI00001

Please check your local government rules and regulations.

DESCRIPTION

The Mini-Me™ MMRD7-SS is a 7” color-graphic display, intended for outdoor use, and provides automatic tank gauge (ATG) users the freedom to gain access to current tank data, leak detection, and alarm status from compatible ATG consoles.

Automatic tank gauges monitor storage vessels for level, temperature, volume, and potential leaks. Typically, ATG’s are located where audiovisual alarms and level information are not conveniently accessible due to installation constraints. These tank gauges are often difficult to use or understand. They are installed in locations that are outside the operator’s normal work area, therefore allowing potential alarms to go unnoticed.

The PROTEUS® Mini-Me MMRD7-SS allows the user to gain remote access easily and intuitively to these alarms and level information anywhere throughout a facility. It provides both wired and wireless access to industry-standard ATG’s, providing easily accessible information where required.

The Mini-Me MMRD7-SS features standard RS-232, RS-485, and Ethernet communication. The Mini-Me MMRD7-SS also has wireless communication options.

SAFETY

- Do not perform any installation or service procedures if you are not familiar with the National Electrical Code®, Canadian Electrical Code, and all other federal, state, and local codes and regulations pertaining to this installation.
- Do not perform any installation or service procedures until you have read and understood this entire manual.
- Locate the controller in a **non-hazardous**, protected location.
- Do not drill through the enclosure.
- Do not mount where temperatures are outside of the operating temperature range (see SPECIFICATIONS section) without a heater and/or thermostat. Contact OMNTEC sales for details and options.
- Avoid mounting where the display is subject to prolonged periods of direct sunlight.
- Locate the panel at eye-level where it is easily accessible, and alarms will be heard.
- Allow for adequate clearance around the panel for conduit access. All conduits will enter the panel through any of the preformed knockouts (see Figure 4.0).
- Use proper anchor bolts for wall type.
- Make certain there is sufficient clearance for opening the panel door.
- Avoid installing in corners.
- Do not install behind doors that may cause damage to the unit.
- Always turn off power to the controller before servicing.
- Take all safety precautions to avoid accidents.
- Keep the entire work area clean.

SPECIFICATIONS

Input Power	100-240 VAC +/-10% 50/60 Hz 30 watts
Audiovisual Controls Display Audible Alarm System Status	 7-inch color graphic display with touch-screen 85 dB piezoelectric horn 3 LEDs (POWER, WARNING, ALARM)
Operating Temperature	-30° C to 60° C (-22° F to 140° F)
Outdoor Rating	NEMA 4X
Relay Ratings	**Relay Specification** — **Max.** — **Units** AC Voltage — 250 — Volts DC Voltage — 30 — Volts AC Current — 6 — Amps DC Current — 6 — Amps
Standard Communications	RS-232 RS-485 Ethernet (TCP-IP)
Distance to Console	RS-232: 75 feet (extender options available; see Accessories below) RS-485: 3,000 feet Ethernet: 300 feet (open communication to network devices)
Accessories (Contact OMNTEC sales for more details)	**C232-485** RS-232 to RS-485 Converter **C232-422-RD7CTS** RS-232 to 422 Booster Kit **WRS-232** Wireless RS-232 link; includes both tank gauge and remote transceivers and (2) RD-232C-75 cables **ENC-4X-WRS-232** NEMA 4X enclosure for wireless WRS-232 link **MB-232-485** RS-232/485 option board **RAS Series** Remote Annunciators
Cables	RS-232 (optional; OMNTEC EC-4) RS-485 (optional; OMNTEC EC-4) Ethernet (optional)
Additional I/O	MicroSD
Weight	14 pounds
Dimensions	(h) 10.50” x (w) 14.41” x (d) 5.08”
Compatible Consoles	Any ATG with industry-standard protocol

PREPARATION

Perform the following steps before beginning installation:

1. Inspect all parts for shipping damage.
2. Review Figure 7.0.
3. Determine all the conduit paths, power, and controller and annunciator mounting locations.
4. Direct and constant sunlight exposure can adversely affect the life span of the LCD display. Avoid direct sunlight exposure when installing.
5. Review the National Electrical Code, Canadian Electrical Code, and the Federal, State, and Local codes applicable to this installation to ensure compliance.

Do not apply power to the unit until all installations and wiring have been completed.

WARNING

FAILURE TO COMPLY CAN CREATE AN ELECTRIC SHOCK OR EXPLOSION HAZARD CAUSING DEATH, PERSONAL INJURY, OR PROPERTY DAMAGE.

COMMUNICATION WIRING AND SETUP

Communication wiring and setup is either RS-232, RS-485, or Ethernet depending on your preference of communication. The setup of these communication options follows below.

RS-232 SETUP

1. Bring a low-voltage RS-232, DB9, male connector (4-conductor, 22 AWG, twisted pair with shield) and secure to the RS-232, DB9, female port connector.
2. Prepare the proper ATG connection for RS-232.
3. Configure the RS-232 port from the main ATG through the programming settings.
4. Power up the Mini-Me and view the programming guide to adjust system settings making certain communication settings match the ATG.

When using an RS-232 connection, the Mini-Me can connect to ATG's using industry-standard protocol.

RS-232/RS-485 OPTION BOARD

Refer to document DI00012 (Option Board Installation Instructions) for option bus setup.

ETHERNET SETUP

Reference Figures 4.0, 5.0, and 8.0 in this document for lettered callout components.

1. Bring an Ethernet cable and secure it to the Ethernet port (RJ45).
2. Prepare the proper ATG connection for Ethernet through the Ethernet port.
3. Configure the Ethernet port from the main ATG through the programming settings.
4. Power up the Mini-Me and view the programming guide to adjust system settings.

RELAY PINOUT

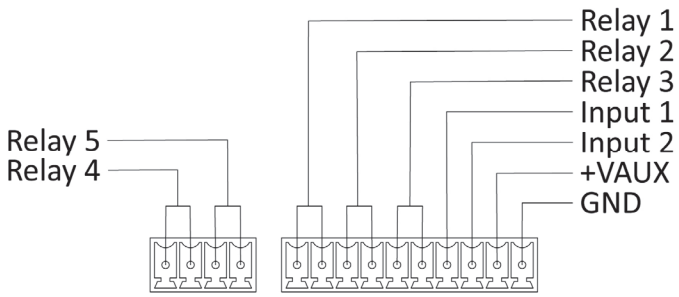


Figure 1.0

WIRELESS

Optional wireless communication is available. Please contact OMNTEC for additional information.

MICROSD CARD

A microSD card can be added into the microSD card slot (O) as illustrated in Figures 5.0 and 8.0. This can be used to upload new software to the device. See the programming manual for more information.

ADDITIONAL OPTIONS

Additional components can plug into Option Bus 1 and 2. Please call OMNTEC for more details.

Refer to supplemental document DI00012 (Option Board Installation Instructions).

NOTE: Specifications are subject to change without notice.

DIMENSIONS AND EXTERNAL COMPONENTS

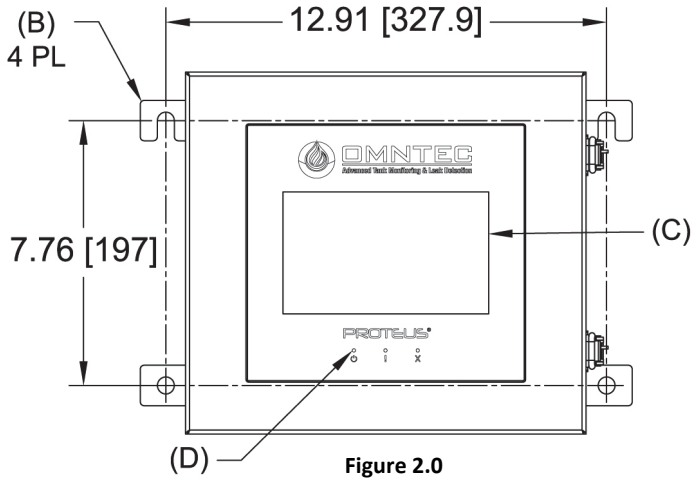


Figure 2.0

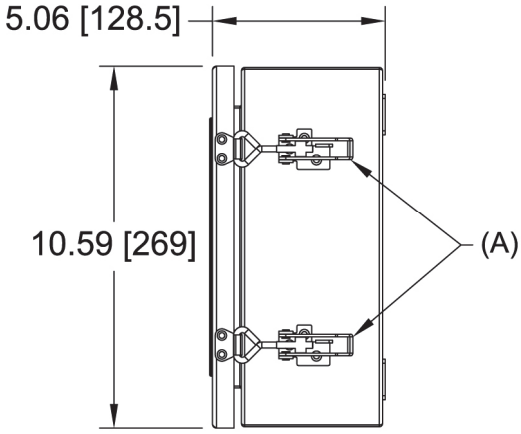


Figure 3.0

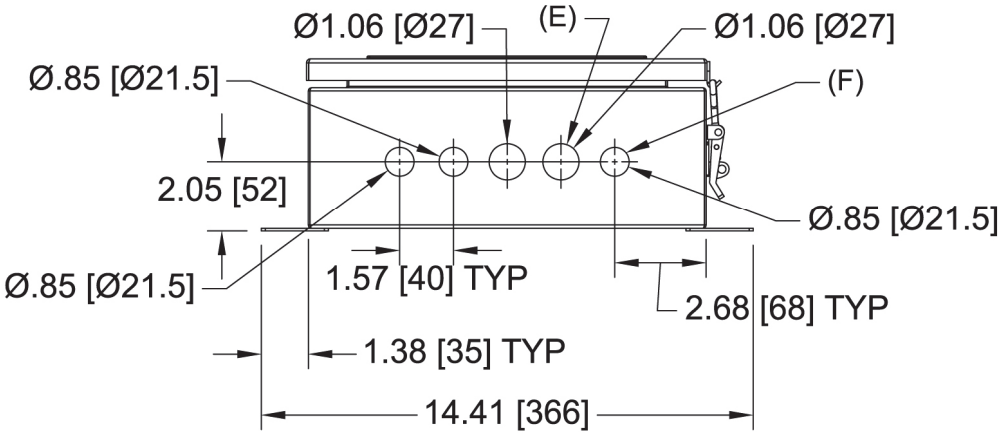


Figure 4.0

(A) Latches
(B) Mounting Brackets
(C) Touch-Screen Display
(D) Indicator Lights
(E) Additional Knockouts (a total of four)
(F) Power Supply Knockout

INTERNAL COMPONENTS

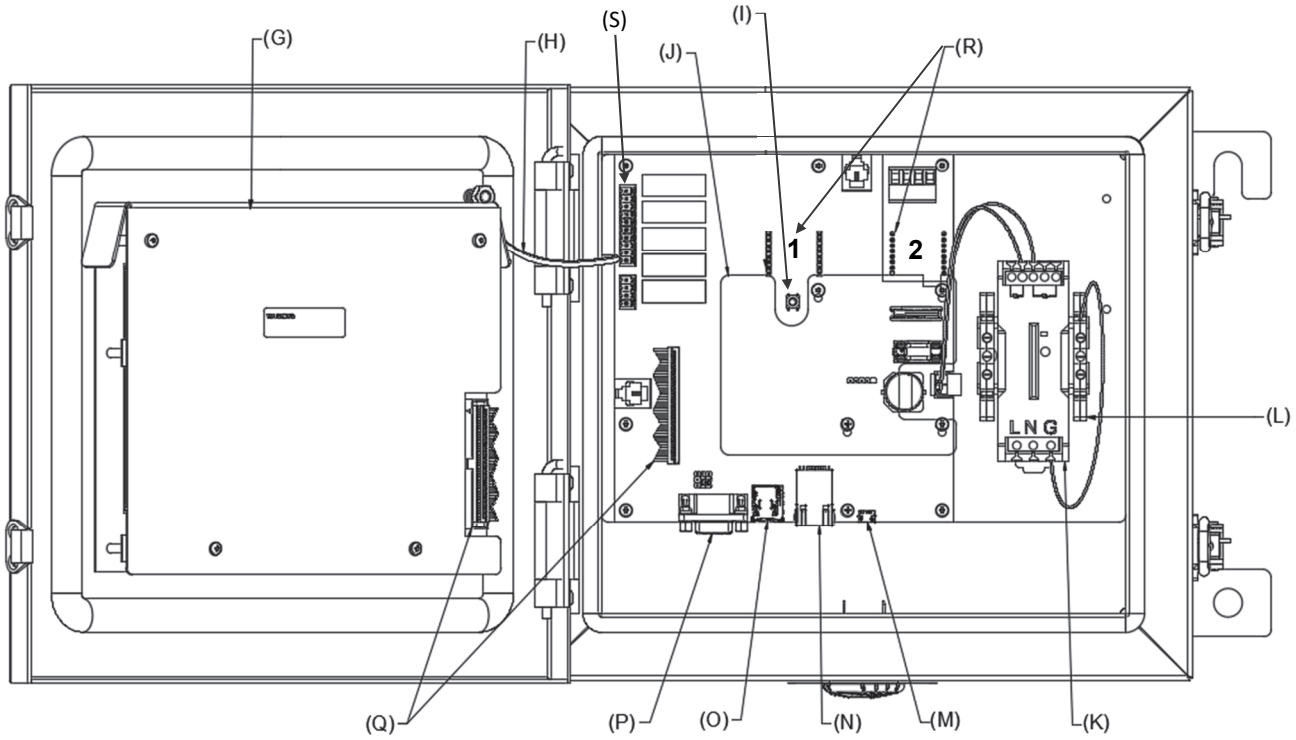
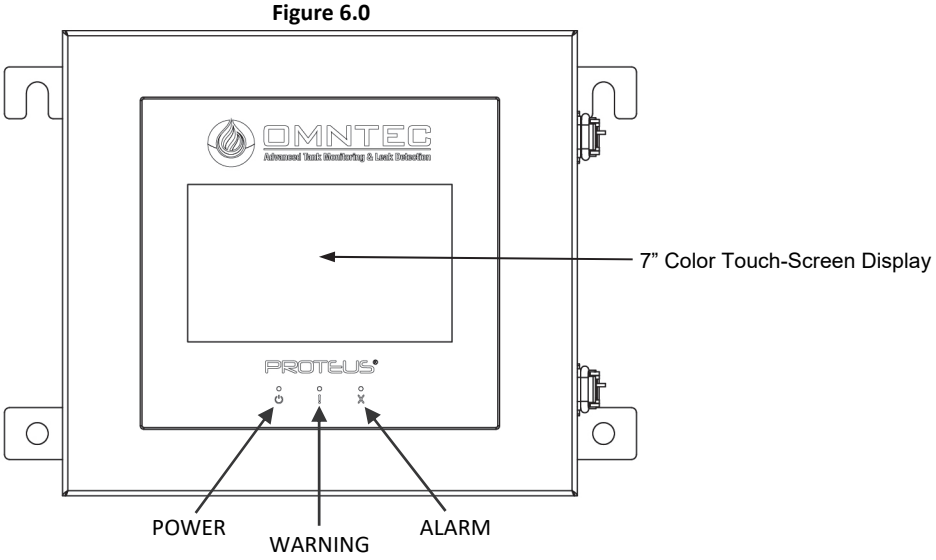


Figure 5.0

(G) Display Board Cover
(H) Grounding Stud
(I) Reset Button
(J) MCU Cover
(K) Power Supply
(L) Grounding Block
(M) MicroSD USB
(N) Ethernet
(O) MicroSD Card
(P) RS-232 Connector
(Q) Display Cable
(R) MB-232/485 Option Board
(S) Relays

FRONT PANEL INDICATOR LIGHTS

Figure 6.0



INSTALLATION

IMPORTANT: Refer to the SAFETY section of this document. Read all instructions prior to starting the installation process. Do not apply power to the Mini-Me until the unit has been mounted and all wiring connections have been made. All work must be performed by authorized installers in accordance with National Electrical Code, Canadian Electrical Code, and all local applicable codes.

AC power wires must be combined in a separate (isolated) conduit.

Use and select the proper conduit types and sizes in accordance with applicable codes. Even in situations where they are not required by code, it is recommended that conduit is used to protect wiring.

Note: Make certain that all conduits and junction boxes are dry and watertight. Wet wires can result in the faulty operation of the system.

All wires should enter the unit via proper conduit.

Reference Figures 4.0, 5.0, and 8.0 in this document for (lettered callout) components.

1. Measure base mounting dimensions. Install screws for the top two mounting flange holes, Figure 2.0 (B), leaving a minimum of ¼-inch of thread exposed.
2. Mount the base onto the top two flange screws, then tighten and secure.
3. Fasten the two bottom flange screws, to the base mounting holes and secure.
4. See TERMINAL BLOCK AND POWER SUPPLY WIRING section for power input details (Figures 7.0).

WARNING

FAILURE TO COMPLY CAN CREATE AN ELECTRIC SHOCK OR EXPLOSION HAZARD CAUSING DEATH, PERSONAL INJURY, OR PROPERTY DAMAGE.

TERMINAL BLOCK AND POWER SUPPLY WIRING

Input power must be 100-240 VAC, 50/60 Hz. Make the following connections inside the controller (Figure 7.0).

1. Connect the line voltage wire to the **L** terminal.
2. Connect the neutral wire to the **N** terminal.
3. Connect the ground wire to the **ground terminal block** mounted on the DIN rail next to the power supply.

The cover must be able to open and close freely.

WARNING

ELECTRIC SHOCK HAZARD

MAKE CERTAIN THAT THE CIRCUIT BREAKER IS IN THE OFF POSITION. AVOID TOUCHING OTHER LINES. FAILURE TO COMPLY CAN RESULT IN AN ELECTRIC SHOCK CAUSING DEATH OR PERSONAL INJURY.

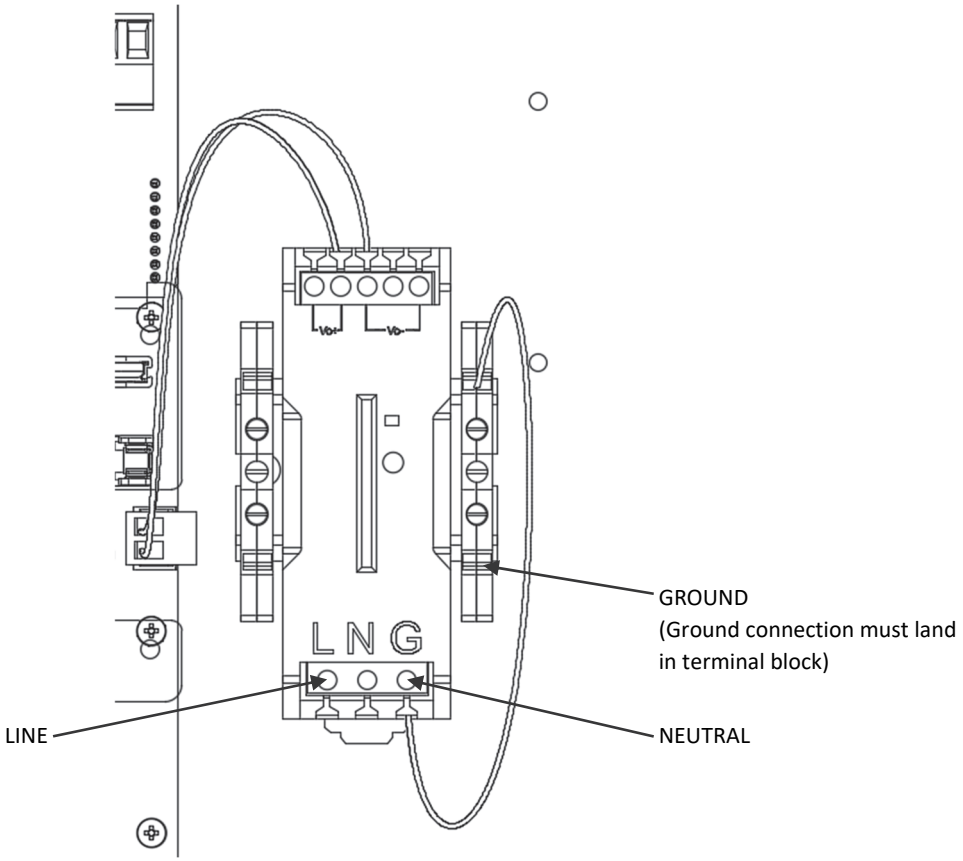


Figure 7.0

BOARD CONNECTOR LOCATIONS

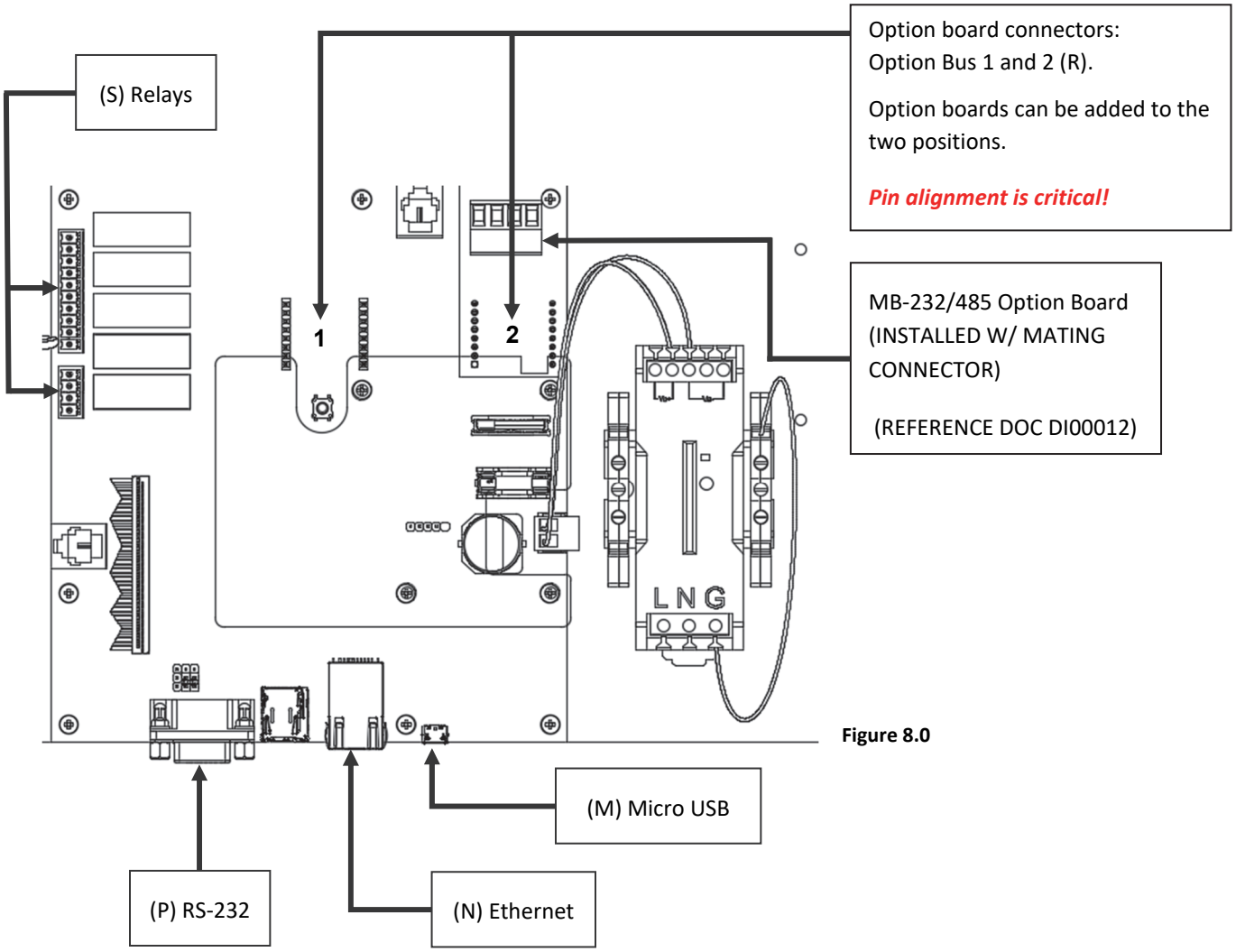


Figure 8.0

RS-232 PIN-OUTS FROM ATG

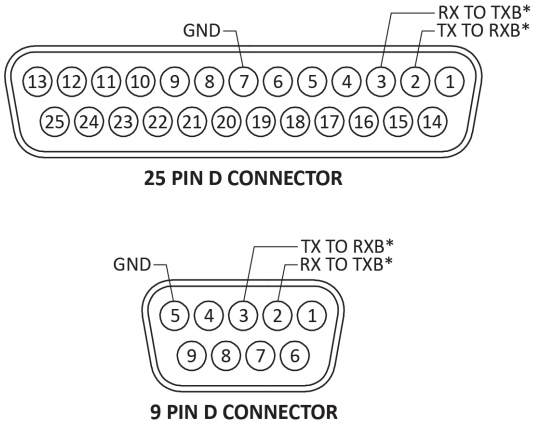


Figure 9.0

MB-232/485 CONNECTOR

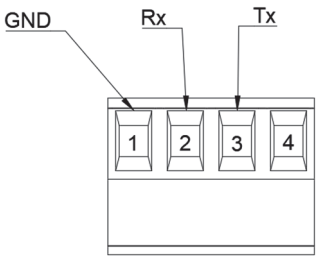


Figure 10.0