

Probe/Thermistor Interface Module

Installation Guide

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Introduction

This manual contains instructions for installing the Veeder-Root Probe/Thermistor Interface Module (P/N 847490-104) in TLS-350/ProMax/EMC Consoles.

This manual assumes field wiring has been run from the Mag Probe and/or Thermistor to the console following instructions in the appropriate console's site prep manual.

Related Manuals

576013-879	TLS-3XX/ProMax/EMC Consoles Site Prep Manual (Mag Probe)
576013-873	VLLD Site Prep and Installation Manual (Thermistor)
576013-623	TLS-3XX Series Consoles System Setup Manual

Contractor Certification Requirements

Veeder-Root requires the following minimum training certifications for contractors who will install and setup the equipment discussed in this manual:





Level 1 Contractors holding valid Level 1 Certification are approved to perform wiring and conduit routing, equipment mounting, probe and sensor installation, tank and line preparation, and line leak detector installation.


Level 2/3 Contractors holding valid Level 2 or 3 Certifications are approved to perform installation checkout, startup, programming and operations training, troubleshooting and servicing for all Veeder-Root Tank Monitoring Systems, including Line Leak Detection and associated accessories.


Warranty Registrations may only be submitted by selected Distributors.

Safety Precautions

The following safety symbols may be used throughout this manual to alert you to important safety hazards and precautions

 <p>EXPLOSIVE Fuels and their vapors are extremely explosive if ignited.</p>	 <p>FLAMMABLE Fuels and their vapors are extremely flammable.</p>
 <p>TURN POWER OFF Live power to a device creates a potential shock hazard. Turn Off power to the device and associated accessories when servicing the unit.</p>	 <p>READ ALL RELATED MANUALS Knowledge of all related procedures before you begin work is important. Read and understand all manuals thoroughly. If you do not understand a procedure, ask someone who does.</p>



 **WARNING**

The equipment is used in location where lethal voltages and explosive vapors or flammable fuels may be present.

Care must be taken when installing, servicing or replacing parts in the system or serious injury or death from explosion, fire or shock may occur.

For this system:

1. Comply with the latest National Electric Code, federal, state, and local codes, and any other applicable safety codes. In addition, take necessary precautions during installation, service, and repair to prevent personal injury, property loss and equipment damage.
2. Refer servicing to trained and qualified personnel only.
3. Substitution of components may impair intrinsic safety.
4. Be sure AC power to the console is “OFF” before opening the console panel covers, plugging in the module, and connecting probe and thermistor wires. Do not short any voltage across any barrier terminal including sensors or probes.

Module Positions and Labeling

1. Modular consoles have three bays in which interface modules can be installed; Comm bay (left door), Power bay, and Intrinsically Safe (I.S.) bay (right door). The Probe/Thermistor Interface Module is installed in the I.S. bay.

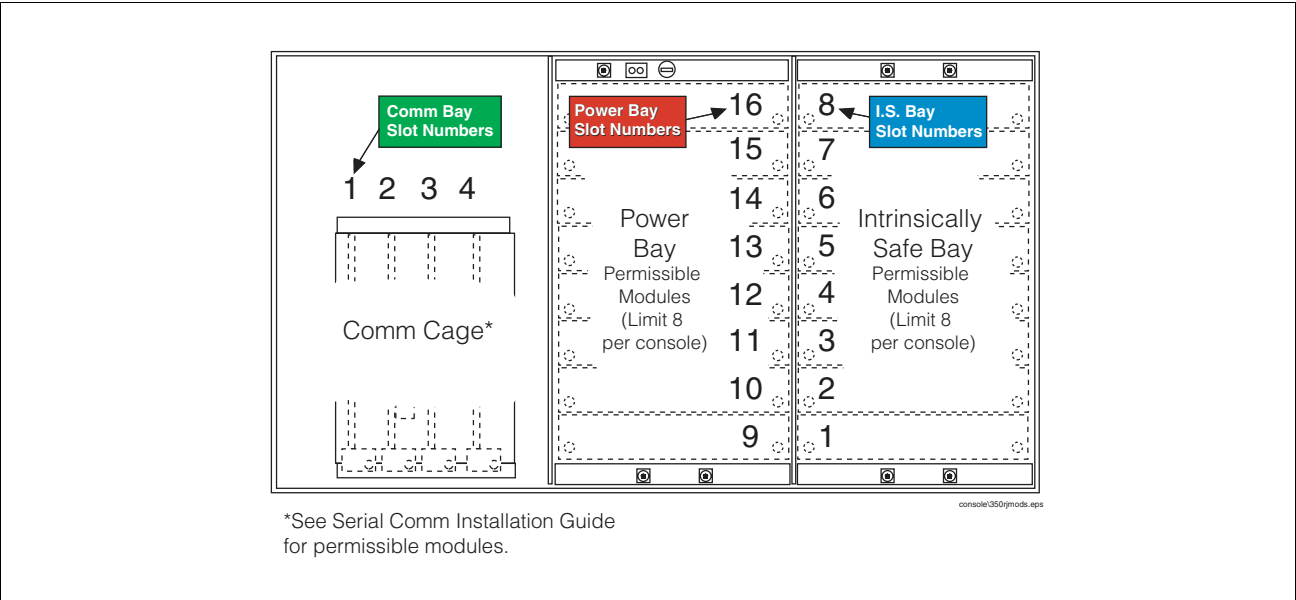


Figure 1. Console Interface Module Bays

In all cases, the position of all modules, their respective connectors, and the devices wired to the connectors must be recorded to prevent improper replacement during installation or service. A circuit directory for Power and I.S. bay Interface Modules is adhered to the back of the right-hand door for this purpose.

During programming, module positions and the devices wired to each module are identified and stored in memory. If a connector is removed and reinstalled on a different module after programming, or if an entire module with its connector is removed and reinstalled in a different module slot, the system will not properly recognize the data being received.

2. If a system contains multiple modules of a single type (i.e., two Probe/Thermistor Interface Modules), they may be swapped between their respective slot locations, however, the connectors must remain with their original locations, not with the original modules.

3. Once a device has been wired to certain terminals on a connector and the system has been programmed, the wires from that device may not be relocated to other terminals without reprogramming the system.

Grounding Probe and Sensor Shields

Probe and sensor cable shields are grounded at the console only. Do not ground the shield in the field junction box.

CIRCUIT DIRECTORY

A circuit directory is adhered to the inside of the right-hand door. It should be filled out as the module's connectors are being wired.

The following information should be recorded for each module installed:

- Module Type: record what type of module has been installed in the slot, e.g., Probe/Thermistor Interface Module.
- Position Record: record the physical location and/or type of device wired to each terminal of the module connector in the slot, e.g., Tank 1.

In the example directory shown in Figure 2, slot 4 contains a Probe/Thermistor Interface Module. Position 1 on the connector receives the + and – wires from the probe in Tank 1, position 2 from the probe in Tank 2, etc. Since this system has five tanks, a second Probe/Thermistor Interface Module is installed in slot 5 and its connector position 1 receives the wires from the probe in Tank 5.

Positions on each module are numbered and each connector terminal is identified with the acceptable input. There are eight positions for each slot even though some modules accept fewer devices.

Power Bay Slots		Intrinsically Safe (IS) Bay Slots	
16	MODULE TYPE:		
	POSITION RECORD:		
	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
15	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
14	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
13	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
12	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
11	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
10	1	METER 1	5
	2	METER 2	6
	3	METER 3	7
	4		8
	MODULE TYPE: I/O COMBO		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
9	1	LINE LEAK INP.	5
	2		6
	3	OVERFILL ALM OUT	7
	4		8
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
8	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
7	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
6	1	5	
	2	6	
	3	7	
	4	8	
	MODULE TYPE:		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		
5	1	TANK 5	5
	2		6
	3		7
	4		8
	MODULE TYPE: PROBE		
	POSITION RECORD:		
	MODULE TYPE: PROBE		
	POSITION RECORD:		
4	1	TANK 1	5
	2	TANK 2	6
	3	TANK 3	7
	4	TANK 4	8
	MODULE TYPE: INTERSTITIAL		
	POSITION RECORD:		
	MODULE TYPE: INTERSTITIAL		
	POSITION RECORD:		
3	1	TANK 5 - INT	5
	2	TANK 5 - SUMP	6
	3		7
	4		8
	MODULE TYPE: INTERSTITIAL		
	POSITION RECORD:		
	MODULE TYPE: INTERSTITIAL		
	POSITION RECORD:		
2	1	TANK 1 - INT	5
	2	TANK 1 - SUMP	6
	3	TANK 2 - INT	7
	4	TANK 2 - SUMP	8
	5	TANK 3 - INT	
	6	TANK 3 - SUMP	
	7	TANK 4 - INT	
	8	TANK 4 - SUMP	
1	1	WELL #1	5
	2	WELL #2	6
	3	WELL #3	7
	4		8
	MODULE TYPE: VAPOR		
	POSITION RECORD:		
	MODULE TYPE:		
	POSITION RECORD:		

Figure 2. Modular Console System Circuit Directory

Installing Probe/Thermistor Interface Module - I.S. Bay

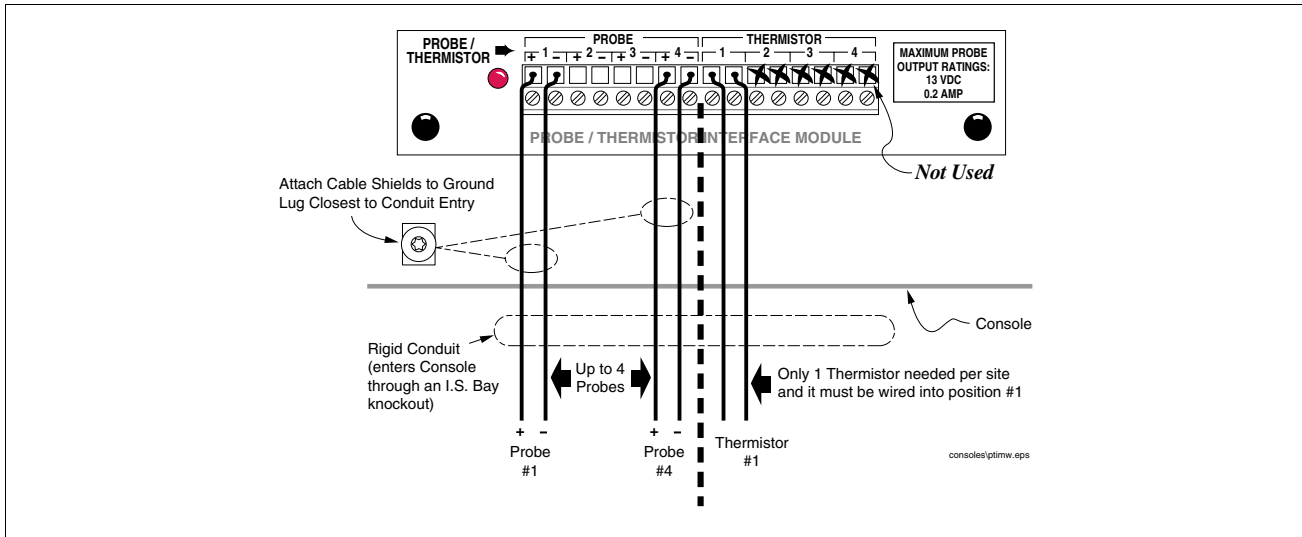


Figure 3. Probe/Thermistor Interface Module Wiring



1. Turn Off power to the console. Open the right-hand door of the console. If you are replacing an existing Probe/Thermistor Interface module, tag the probe wires with their positions, as you remove them from the old module. Remove the old module.

If you are adding a new module, remove the blank plate from one of the unused I.S. slots.

2. Hold the new module with its snap-in fasteners positioned in the lower right and left corners and carefully slide the module into its I.S. bay slot until its connector engages with the connector on the board.
3. Press down on the snap-in fasteners to secure the module. BE SURE ALL UNUSED SLOTS are covered with blank snap-in plates.
4. Connectors are supplied with each module. They provide screw terminations for up to four Mag probes and up to four Thermistors.
5. If replacing an old module, reconnect the tagged wires in exactly the same connector position on the new module as they were in on the old module.

If adding a new module, connect two marked or color-coded wires from each Mag Probe (or Thermistor) to the appropriate terminals on the module as shown in Figure 3. See the table below about device polarity.

Device	Wires	Observe Polarity
Mag Probe (up to 4)	2	Yes
Ground temperature thermistor - When using volumetric line leak detection (VLLD), only one ground temperature thermistor is needed per site and the thermistor must be wired to thermistor position number 1 (positions 2 - 4 are not used).	2	No

6. Ground the shields of each probe wiring pair to one of the console's ground terminals.
7. Reapply power to the console.
8. Refer to the TLS-3XX Setup Manual to program the Probe/Thermistor Interface Module.

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