

# Probe/Thermistor Interface Module

## Installation Guide

# Notice

---

Veeder-Root makes no warranty of any kind with regard to this publication, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Veeder-Root shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this publication.

Veeder-Root reserves the right to change system options or features, or the information contained in this publication.

This publication contains proprietary information which is protected by copyright. All rights reserved. No part of this publication may be photocopied, reproduced, or translated to another language without the prior written consent of Veeder-Root.

## **DAMAGE CLAIMS**

1. Thoroughly examine all components and units as soon as they are received. If damaged, write a complete and detailed description of the damage on the face of the freight bill. The carrier's agent *must* verify the inspection and sign the description.
2. Immediately notify the delivering carrier of damage or loss. This notification may be given either in person or by telephone. Written confirmation must be mailed within 48 hours. Railroads and motor carriers are reluctant to make adjustments for damaged merchandise unless inspected and reported promptly.
3. Risk of loss, or damage to merchandise remains with the buyer. It is the buyer's responsibility to file a claim with the carrier involved.

## **RETURN SHIPPING**

For the parts return procedure, please follow the appropriate instructions in the "General Returned Goods Policy" and "Parts Return" pages in the "Policies and Literature" section of the Veeder-Root **North American Environmental Products** price list.

<b>Introduction</b> .....	<b>1</b>
<b>Related Manuals</b> .....	<b>1</b>
<b>Contractor Certification Requirements</b> .....	<b>1</b>
<b>Safety Precautions</b> .....	<b>1</b>
<b>Module Positions and Labeling</b> .....	<b>2</b>
Figure 1 - Console Interface Module Bays .....	2
<b>Circuit Directory</b> .....	<b>3</b>
Figure 2 - Modular Console System Circuit Directory .....	3
<b>Installing Probe/Thermistor Interface Module - I.S. Bay</b> .....	<b>4</b>
Figure 3 - Probe/Thermistor Interface Module Wiring .....	4



## 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><b>EXPLOSIVE</b> Fuels and their vapors are extremely explosive if ignited.</p>	 <p><b>FLAMMABLE</b> Fuels and their vapors are extremely flammable.</p>
 <p><b>TURN POWER OFF</b> 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><b>READ ALL RELATED MANUALS</b> 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.

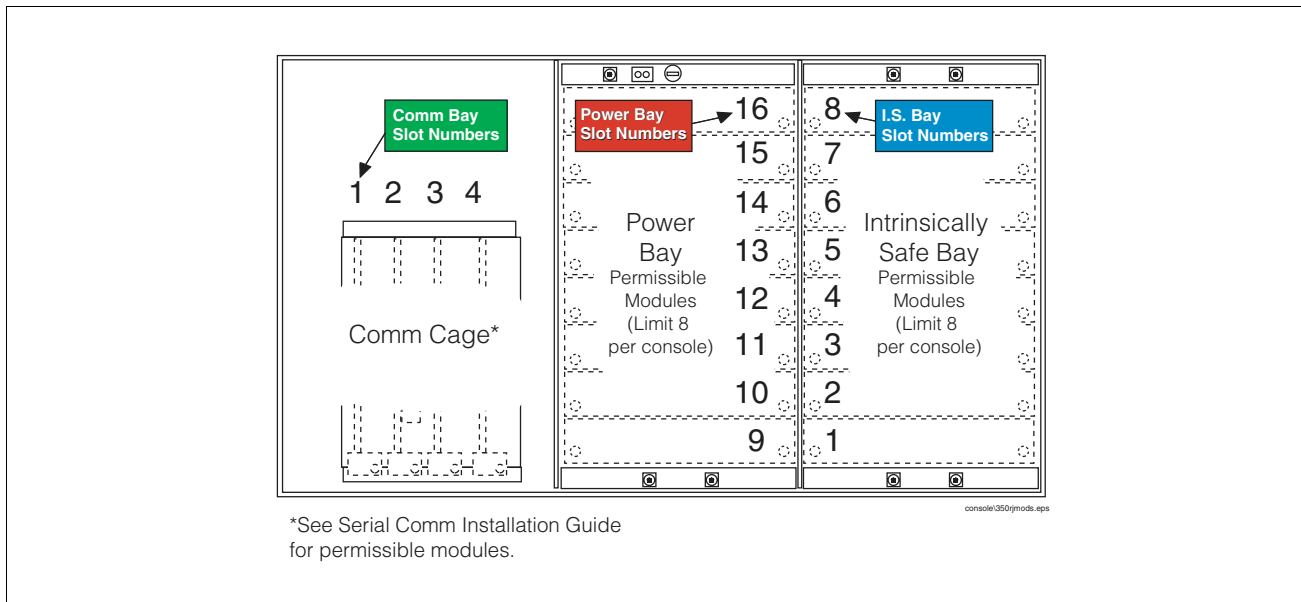


Figure 1. Console Interface Module Bays

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.

- 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.

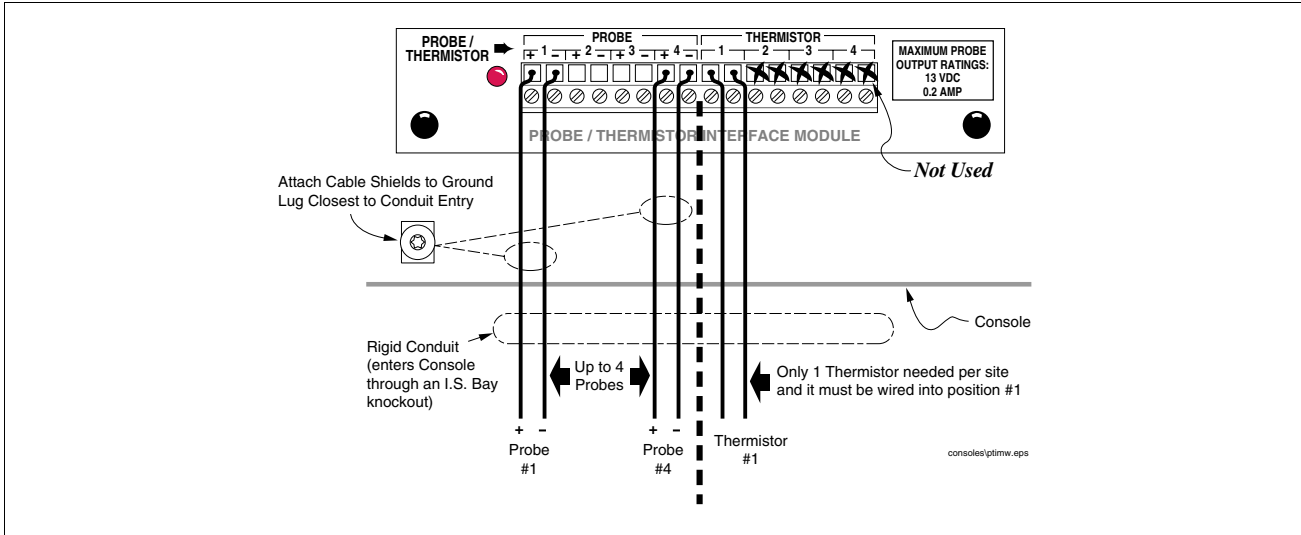
In the example directory shown in Figure 2, slot 4 contains a Probe/Thermistor Interface Module. Position 1 on the connector receives the + and – wires from the probe in Tank 1, position 2 from the probe in Tank 2, etc. Since this system has five tanks, a second Probe/Thermistor Interface Module is installed 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:	8	MODULE TYPE:				
	POSITION RECORD:		POSITION RECORD:				
	1		5	1	5		
	2		6	2	6		
	3		7	3	7		
	4		8	4	8		
	MODULE TYPE:		MODULE TYPE:				
	POSITION RECORD:		POSITION RECORD:				
15	1	5	7	1	5		
	2	6		2	6		
	3	7		3	7		
	4	8		4	8		
14	1	5	6	1	5		
	2	6		2	6		
	3	7		3	7		
	4	8		4	8		
13	1	5	5	1	TANK 5	5	
	2	6		2	6		
	3	7		3	7		
	4	8		4	8		
12	1	5	4	1	TANK 1	5	
	2	6		2	TANK 2	6	
	3	7		3	TANK 3	7	
	4	8		4	TANK 4	8	
11	1	5	3	1	TANK 5 - INT	5	
	2	6		2	TANK 5 - SUMP	6	
	3	7		3	7		
	4	8		4	8		
10	1	METER 1	5	1	TANK 1 - INT	5	TANK 3 - INT
	2	METER 2	6	2	TANK 1 - SUMP	6	TANK 3 - SUMP
	3	METER 3	7	3	TANK 2 - INT	7	TANK 4 - INT
	4	8	4	TANK 2 - SUMP	8	TANK 4 - SUMP	
9	1	LINE LEAK INP.	5	1	WELL #1	5	
	2	6	2	WELL #2	6		
	3	OVERFILL ALM OUT	7	3	WELL #3	7	
	4	8	4	8			

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.





## **Veeder-Root has sales offices around the world to serve you.**

---

### **Headquarters**

125 Powder Forest Drive  
Simsbury, CT 06070-7684  
Tel: (860) 651-2700  
Fax: (860) 651-2719  
Email: [marketing@veeder.com](mailto:marketing@veeder.com)

### **Australia**

Level 1 - 441 South Road  
Moorabbin 3189 Victoria  
Tel: +61 3 9556 5435  
Fax: +61 3 9556 5482  
Email: [rxdupuy@veeder-australia.com](mailto:rxdupuy@veeder-australia.com)

### **Brazil**

Rua ado Benatti, 92  
Sao Paulo - SP 05037-904  
Tel: +55 (0) 11 3611 2155  
Fax: +55 (0) 11 3611 1982  
Email: [clopez@veeder.com](mailto:clopez@veeder.com)

### **Canada**

Eastern Canada  
Tel: (519) 925-9899  
Western Canada  
Tel: (604) 576-4469  
Email: [marketing@veeder.com](mailto:marketing@veeder.com)

### **China**

Room 2202, Scitech Tower  
No. 22 Jian Guomen  
Wai DaJie  
Beijing 100004  
Tel: +86 10 6512 8081  
Fax: +86 10 6522 0887  
Email: [lu ying@veeder.com](mailto:lu ying@veeder.com)

### **England**

Hydrex House, Garden Road  
Richmond, Surrey TW9 4NR  
Tel: +44 (0) 20 8392 1355  
Fax: +44 (0) 20 8878 6642  
Email: [sales@veeder.co.uk](mailto:sales@veeder.co.uk)

### **France**

94-106 Rue Blaise Pascal  
93600 Aulnay Sous Bois  
Tel: +33 (0) 1 4879 5599  
Fax: +33 (0) 1 4868 3900  
Email: [sales@veeder.co.uk](mailto:sales@veeder.co.uk)

### **Germany**

Uhlandstrabe 49  
78554 Aldingen  
Tel: +49 (0) 7424 1400  
Fax: +49 (0) 7424 1410  
Email: [sales@veeder.co.uk](mailto:sales@veeder.co.uk)

### **Mexico**

Sagitario #4529-3  
Col. La Calma C.P. 45070  
Zapopan, Jalisco  
Tel: (523) 632 3482  
Fax: (523) 133 3219  
Email: [jmartinez@veeder.com](mailto:jmartinez@veeder.com)

### **Poland**

01-517 Warszawa ul. Mickiewicza 18/12  
Tel/Fax: +48 (0) 22 839 08 47  
Email: [sales@veeder.co.uk](mailto:sales@veeder.co.uk)

### **Singapore**

246 MacPherson Road  
#08-01 Betime Building  
348578  
Tel: +65 (0) 6745 9265  
Fax: +65 (0) 6745 1791  
Email: [francis yap@veeder.com](mailto:francis yap@veeder.com)

