



FieldServer Driver - Serial FS8700-74 Veeder-Root

Description:

The Veeder-Root Serial driver is a client only driver. It is not capable of acting as a slave. I.e. It cannot emulate a Veeder-Root device.

The Veeder-Root Serial driver supports a limited set of functions defined by the Veeder-Root protocol specification (576013-635 Revision J).

The driver is capable of exposing communication statistics so that they can be monitored by a downstream device.

Only one Veeder-Root device may be connected to each port of the FieldServer. This limitation arises because the protocol is nodeless. (Messages do not identify the source/dest node.)

Alarms may be polled using two methods. The first method is to poll for the active alarm table or the system status and have the driver store alarm states for all the tanks/sensors reporting alarms. The second method is to poll for the alarm state or specific tanks/sensors.

Connection Information:

Physical Interface: EIA232 or EIA-485 (Half-Duplex)
Baud Rates: Std Baud Rates up to 9600 (V-R limitation)
Data Bits: 7,8
Stop Bits: 1,2
Parity: Odd, Even, None
Handshaking: None

The following table indicates the Veeder-Root functions / queries supported by the driver.

Protocol Version: (576013-635 Revision J)
Devices Supported: TLS-300 TLS-350 TLS-350R

Device	Tested
TLS-350	SITE



Supported Functions

SYSTEM REPORTS (7.2.1)

- 101 1 System Status Report
- 102 1 System Configuration Report

- 113 14 Active Alarm Report
- 114 19 Cleared Alarm Report

IN-TANK REPORTS (7.2.2)

- 201 1 In-Tank Inventory Report
- 205 1 In-Tank Status Report
- 20C 15 In-Tank Most Recent Delivery Report
- 20D 15 In-Tank Stick Height Report

SENSOR REPORTS (7.2.3)

- 301 1 Liquid Sensor Status Report
- 306 1 Vapor Sensor Status Report
- 311 1 Groundwater Sensor Status Report
- 341 2 Type A (2 Wire CL) Sensor Status Report
- 346 2 Type B (3 Wire CL) Sensor Status Report
- 34B 4 Universal Sensor Status Report

LINE LEAK REPORTS (7.2.4)

- 381 7 Pressure Line Leak Status
- 386 10 WPLLD Line Leak Status

I/O DEVICE REPORTS (7.2.6)

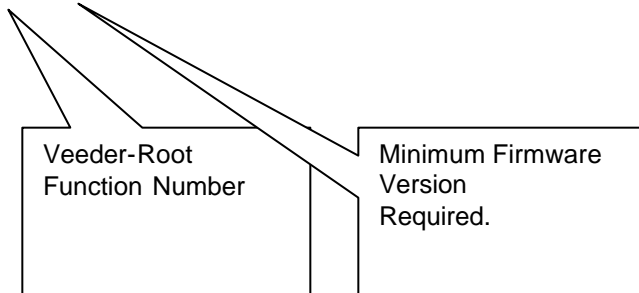
- 401 1 Input Status Report
- 406 1 Relay Status Report

SYSTEM DIAGNOSTIC REPORTS (7.4.1)

- 901 1 Self Test Results Report
- 902 1 System Revision Level Report
- 905 15 System Revision Level Report II

CONTROL FUNCTIONS (7.1)

- 1 1 System Reset
- 2 1 Clear Power Reset Flag
- 3 1 Remote Alarm Reset
- 31 10 Confirm Clear Function
- 51 1 Clear In-Tank Delivery Reports
- 52 1 Start In-Tank Leak Detect Test
- 53 1 Stop In-Tank Leak Detect Test
- 54 5 Delete CSLD Rate Table
- 81 7 Start Pressure Line Leak Test (3.0 GPH only in V18)
- 82 7 Stop Pressure Line Leak Test
- 83 10 Start WPLLD Line Leak Test (3.0 GPH only in V18)
- 84 10 Stop WPLLD Line Leak Test





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Known Exclusions

CONTROL FUNCTIONS (7.1)

87	18 Start Pressure Line Leak Test by Type
88	18 Start WPLLD Line Leak Test by Type
89	19 Pressure Line Leak Pressure Offset Reset
90	19 WPLLD Line Leak Pressure Offset Reset
91	15 Close Current Shift

OPERATIONAL REPORTS (7.2)

SYSTEM REPORTS (7.2.1)

111	2 Priority Alarm History Report
112	2 Non-Priority Alarm History Report

116	119 Service Report History
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IN-TANK REPORTS (7.2.2)

202	1 In-Tank Delivery Report
203	1 In-Tank Leak Detect Report
204	1 In-Tank Shift Inventory Report
206	1 In-Tank Alarm History Report

SENSOR SETUP (7.3.5) (Continued)

711	1 Set Groundwater Sensor Configuration
712	1 Set Groundwater Sensor Location Label
713	2 Set Groundwater Sensor Category
741	2 Set Type A (2 Wire CL) Sensor Configuration Set Type A (2 Wire CL) Sensor Location
742	2 Label
743	2 Set Type A (2 Wire CL) Sensor Type
744	2 Set Type A (2 Wire CL) Sensor Category
746	2 Set Type B (3 Wire CL) Sensor Configuration Set Type B (3 Wire CL) Sensor Location
747	2 Label
748	5 Set Type B (3 Wire CL) Sensor Type
749	2 Set Type B (3 Wire CL) Sensor Category
74B	4 Set Universal Sensor Configuration
74C	4 Set Universal Sensor Location Label
74D	4 Set Universal Sensor Type
74E	4 Set Universal Sensor Category

VOLUMETRIC LINE LEAK SETUP (7.3.6)

751	1 Set Volumetric Line Leak Configuration
752	1 Set Volumetric Line Leak Tank Number
753	1 Set Volumetric Line Leak 2 Inch Pipe Length
754	1 Set Volumetric Line Leak 3 Inch Pipe Length
755	1 Set Volumetric Line Leak Pump PSI
756	1 Set Volumetric Line Leak Piping Material
757	1 Set Volumetric Line Leak Shutdown Rate
758	1 Set Volumetric Line Leak Pump Side Test Set Volumetric Line Leak Test Type & Start
759	1 Time
75A	1 Set Line Leak Lockout Schedule (All Types)
75B	2 Set Line Disable Alarm Assignments

VOLUMETRIC LINE LEAK SETUP (7.3.6) (Continued)

75C	2 Set Volumetric Line Leak Last Annual Test
75D	4 Set Volumetric Line Leak Dispense Mode
75E	4 Set Volumetric Line Leak Fuel Type
75F	5 Set Volumetric Line Leak Wait Method
760	6 Set Volumetric Line Leak Location Label

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207	2 In-Tank Leak Test History Report	761	7 Set Volumetric Line Leak Blend Partner
208	2 In-Tank Leak Test Results Report		PUMP SENSOR SETUP (7.3.7)
20A	110HRM Adjusted Delivery Report		
20B	110BIR Adjusted Delivery Report	771	2 Set Pump Sensor Configuration
		772	2 Set Pump Sensor Tank Number
		773	4 Set Pump Sensor Dispense Mode
211	14 Tank Chart Report		PRESSURE LINE LEAK SETUP (7.3.8)
221	116 Ticketed Delivery Report		
			Set Pressure Line Leak Low Pressure
225	116 Periodic Delivery Variance Report	77C	19 Shutoff
			Set Pressure Line Leak Altitude Pressure
226	116 Weekly Delivery Variance Report	77D	19 Offset
			Set Pressure Line Leak Secondary Pipe
227	116 Daily Delivery Variance Report	77F	17 Length
		780	7 Pressure Line Leak General Setup Inquiry
IN-TANK REPORTS (7.2.2) (Continued)		781	7 Set Pressure Line Leak Configuration
		782	7 Set Pressure Line Leak Label
			Set Pressure Line Leak 0.10 GPH Test
251	3 CSLD Results Report	783	7 Schedule
281	3 Fuel Management Report	784	7 Set Pressure Line Leak Shutdown Rate
282	119 FLS Diagnostic: Volume History Table	785	7 Set Pressure Line Leak Tank Number
200	14 In-Tank Stored Inventory Report	786	7 Set Pressure Line Leak Dispense Mode
			Set Pressure Line Leak Disable Alarm
SENSOR REPORTS (7.2.3)		787	7 Assignments
		788	9 Set Pressure Line Leak Piping Material
		789	9 Set Pressure Line Leak Primary Pipe Length
302	1 Liquid Sensor Alarm History Report	78A	11 Set Pressure Line Leak Sensor Type
			Set Pressure Line Leak 0.10 GPH Test
		78B	16 Schedule
			Set Pressure Line Leak 0.20 GPH Test
307	1 Vapor Sensor Alarm History Report	78C	12 Schedule
			Set Pressure Line Leak 0.1 GPH Auto Test
		78E	17 Enable
312	1 Groundwater Sensor Alarm History Report	78F	17 Set Pressure Line Leak Dispense Threshold
	Type A (2 Wire CL) Sensor Alarm History		
342	2 Report		RECONCILIATION SETUP (7.3.9)
	Type B (3 Wire CL) Sensor Alarm History		
347	2 Report	791	106 Set Mechanical Dispenser Interface String
		792	106 Set Electronic Dispenser Interface String
34C	4 Universal Sensor Alarm History Report	793	106 Set Reconciliation Auto Daily Closing Time
		794	106 Set Auto Shift Closing Time 1
LINE LEAK REPORTS (7.2.4)		795	106 Set Periodic Reconciliation Mode
		796	106 Set Periodic Reconciliation Report Length
351	1 Volumetric Line Leak Result Report	797	106 Set Periodic Reconciliation Alarm Flag

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352	1 Volumetric Line Leak Alarm History Report	798	106 Set Periodic Reconciliation Alarm Threshold
353	2 Volumetric Line Leak Pump Status	799	106 Set Periodic Reconciliation Alarm Offset
	Pressure Line Leak Test Results (with 0.20		Set Remote Printer Reconciliation Report
373	14 test data)	79A	106 Format
	Pressure Line Leak Test History (with 0.20		
374	14 test data)	79B	106 Set Shift Manual Adjustment Value
		79C	106 Set Daily Manual Adjustment Value
382	7 Pressure Line Leak Alarm History Report	79D	106 Close Current Reconciliation Shift
	Pressure Line Leak Test Results (0.10 test		
383	7 data only)	79E	106 Clear Tank Map Table
	Pressure Line Leak Test History (0.10 test		
384	7 data only)	79F	108 Set BIR Temperature Compensation Flag
387	10 WPLLD Line Leak Alarm History Report		WIRELESS PLLD SETUP (7.3.10)
388	10 WPLLD Line Leak Test Results		
389	12 WPLLD Line Leak Test History	7A0	10 WPLLD Line Leak General Setup
	MISCELLANEOUS REPORTS (7.2.5)	7A1	10 Set WPLLD Line Leak Configuration
		7A2	10 Set WPLLD Line Leak Label
			Set WPLLD Line Leak 0.20 GPH Test
391	10 Tanker Load Report	7A3	10 Schedule
	I/O DEVICE REPORTS (7.2.6)	7A4	10 Set WPLLD Line Leak Shutdown Rate
		7A5	10 Set WPLLD Line Leak Tank Number
		7A6	10 Set WPLLD Line Leak Dispense Mode
402	1 Input Alarm History Report	7A7	10 Set WPLLD Line Disable Alarm Assignments
403	5 Input/Generator Alarm History Report	7A8	10 Set WPLLD Line Leak Pipe Type
		7A9	10 Set WPLLD Line Leak Pipe Length
		7AA	11 Set WPLLD 0.10 GPH Test Schedule
			Set WPLLD Line Leak 0.10 GPH Test
		7AC	17 Schedule
			Set WPLLD Line Leak Altitude Pressure
		7AF	19 Offset
	SETUP FUNCTIONS & REPORTS (7.3)		METER MAP & DELIVERY TICKET SETUP (7.3.11)
	SYSTEM SETUP (7.3.1)		
501	1 Set Time of day	7B1	110 Set BIR Meter/Tank mapping
502	1 Set Shift Start Time 1	7B5	116 Set Ticketed Delivery
503	1 Set Print Header Line 1		
504	1 Set System RS-232 Security Code		I/O DEVICE SETUP (7.3.12)
505	1 Set System Type & Language Flags		
506	2 Set Periodic Test Needed Warning		
	Set Days Before Periodic Test Needed		
507	4 Warning	7BC	19 Set Line Disable Alarm Assignments II
	Set Days Before Periodic Test Needed		Set Pressure Line Disable Alarm
508	4 Alarm	7BD	19 Assignments II
			Set WPLLD Line Disable Alarm Assignments
509	4 Set Annual Test Needed Warning	7BE	19 II
	Set Days Before Annual Test Needed		
50A	4 Warning	801	1 Set Input Configuration
50B	4 Set Days Before Annual Test Needed	802	1 Set Input Location Label

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Alarm

50C	5 Set Remote Printer Page Eject Flag	803	1 Set Input Type
50D	8 Set Print Temperature Compensation Flag	804	4 Set Input Dispense Mode
50E	8 Set Temperature Compensation Value	806	1 Set Relay Configuration
50F	10 Set System Date/Time Display Format	807	1 Set Relay Location Label
511	110 Set BIR Shift Printouts Flag	808	1 Set Relay Alarm Assignments
512	110 Set BIR Daily Printouts Flag	809	2 Set Relay Orientation
513	10 Set Tanker Load Report Flag	80A	4 Set Relay Type
514	10 Set H-Protocol Height/Volume format	80B	4 Set Relay Tank Assignment
515	110 Set HRM - QPLD Monthly Printout	EEPROM SETUP (7.3.13)	
516	14 Set Re-direct Local Printout Flag		
517	15 Set System Type & Language Flags Set Secondary Language Code Page	851	107 Restore All Setup Data from EEPROM
518	15 Output Set PLLD & WPLLD Duration Before	852	107 Save All Setup Data to EEPROM
519	15 Precision Retest	853	107 Clear All Setup Data from EEPROM

SYSTEM SETUP (7.3.1) (Continued)

	Set Enable/Disable Auto Daylight Saving	881	9 Set Communication Port Data
51A	15 Time Set Start/End Daylight Saving Date and	882	9 Initialize Communication Port Data
51B	15 Time	885	19 Set SiteLink Modem Type
51C	116 Set Ticketed Delivery Flag Enable Set Ticketed Delivery Temperature	888	19 Communication Status Information
51D	116 Compensation Flag	891	108 Set AccuChart Calibration Restart
51E	116 Set Ticketed Delivery Close Day of Week	8BC	19 Set Relay Alarm Assignments II

COMMUNICATIONS SETUP (7.3.2)

		SYSTEM DIAGNOSTIC REPORTS (7.4.1)	
521	2 Set Receiver Configuration Flag		
522	2 Set Receiver Location Label		
523	2 Set Receiver Telephone Number		
524	2 Set Receiver Dialing Destination Type	903	106 PC Diagnostic Report
525	2 Set Receiver Port Number to Dial		
526	2 Set Receiver Retry Number	IN-TANK DIAGNOSTIC REPORTS (7.4.2)	
527	2 Set Receiver Retry Delay Time		
528	2 Set Receiver Confirmation Report Flag	A01	1 Probe Type and Serial Number
529	19 Set Fax Auto Dial Method	A02	1 Probe Factory Dry Calibration Values
52A	3 Set Receiver Report List	A03	1 Probe Factory Wet Calibration Values
52B	3 Set Receiver Auto Dial Type and Start Time	A04	1 Probe Updated Dry Calibration Values
52C	3 Set Receiver Auto Dial On Alarms	A05	1 Probe Updated Wet Calibration Values
52D	17 Autodial Alarm Status	A06	1 Probe Segment Sensitivity Ratios
52E	19 Set Delay for Autodial on Alarm Clear	A10	1 Probe Last Sample Buffers
52F	19 Set Receiver Alarm Status	A11	1 Probe Fast Average Buffers
531	8 Set RS-232 End of Message	A12	1 Probe Standard Average Buffers



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- 630 3 Set Tank Leak Test Notify
 - 631 5 Set Tank Leak Test Averaging
 - 632 5 Set Tank Test Siphon Break
 - 633 9 Set Leak Test Report Type
 - 634 110 Set Tank HRM Reconciliation Warning Limit
 - 635 110 Set Tank HRM Reconciliation Alarm Limit
 - Set Tank Periodic Leak Test Minimum
 - 636 14 Volume
 - Set Tank AccuChart End Shape Type and
 - 639 115 Factor
 - 680 6 Fuel Management General Setup Inquiry
 - Set Fuel Management Delivery Needed
 - 681 6 Warning
 - Set Fuel Management Automatic Report
 - 682 6 Print Time
 - 683 6 Set Fuel Management Average Daily Sales
- SENSOR SETUP (7.3.5)

- VARIANCE ANALYSIS REPORTS (7.6)
- C10 116 Periodic Book Variance
 - C11 116 Weekly Book Variance
 - C12 116 Daily Book Variance
 - C20 116 Periodic Variance Analysis Report
 - C21 116 Weekly Variance Analysis Report
 - C22 116 Daily Variance Analysis Report
 - C25 119 Periodic Variance Analysis Daily Report

- 701 1 Set Liquid Sensor Configuration
- 702 1 Set Liquid Sensor Location Label
- 703 1 Set Liquid Sensor Type
- 704 2 Set Liquid Sensor Category
- 706 1 Set Vapor Sensor Configuration
- 707 1 Set Vapor Sensor Location Label
- 708 1 Set Vapor Sensor Alarm Threshold
- 709 2 Set Vapor Sensor Category

Revision History

Date	Driver Version	Document Revision	Resp	Comment
6/19/02	1.00a	0		Releasing