

This update applies to the Operator Reference Manual (Bulletin MN06103L Issue/Rev. 0.0 (8/96)) for all AccuLoad II's that are operating with AccuLoad II - SQR revision 01 and above firmware.

The version 01 firmware provides the capability for the user to program Permissive Sense 1 and 2 to not only shut down the system if the permissive is lost but to also generate an alarm. An option (6) has been added to each of the program codes 806 (Permissive 1) and 810 (Permissive 2) to shut down the system and alarm on the loss of the permissive input.

Also provided with this version of the SQR firmware is the capability for the operator to set up an alarm to be generated if the AccuLoad II under delivers either the first stage trip or the additive stop volume. Program Code 815 "Clean Line Additive Alarm Limit" has been added to allow the operator to program the amount of under delivery that will be tolerated before alarming. Sections 2 (System Directory) and 7 (Related Publications) are affected by this change.

Section II - System Directory

100 - General Purpose Directory

101 - Alarm Check and Reset

This program code is used to check the alarm(s) related to the system that have been triggered and to clear the alarm (after the fault has been corrected) to allow continued operation.

The following faults will cause the AccuLoad II to alarm and signal the valve(s) to close:

Code : Fault

CA: Clean Line Additive - Indicates that the clean line additive stop volume or first stage trip volume was under delivered by at least the programmed amount.

101 CA: Clean Add Alarm

Note: This alarm applies to SQR-01 and above firmware.

1P: Permissive 1 - Indicates that permissive number 1 became disconnected during the loading process.

101 1P: Perm 1 Alarm

Note: This alarm applies to SQR-01 and above firmware.

2P: Permissive 2 - Indicates that permissive number 2 became disconnected during the loading process.

101 2P: Perm 2 Alarm

Note: This alarm applies to SQR-01 and above firmware.

145 - Ready/Run Mode Clearable Alarms Selection

This code allows the operator to program the alarms that are allowed to be cleared in the Ready/Run Mode of operation. Each alarm has an entry number that has to be entered to display the alarm (see the following table). Once the alarm entry number has been entered and the alarm displayed, a 0 or a 1 can be entered to indicate if the alarm can be cleared or not cleared (0 = clearable, 1 = not clearable).

- Note:*
1. Diagnostic alarms are never clearable in the Ready/Run Mode.
 2. If program code 141 is programmed 0 indicating that no alarms can be cleared in the Ready/Run Mode, then "No Alarm Clearing" will be displayed in this code and no entries will be allowed.
 3. All alarms are initialized at the factory to 0 (clearable).

Programming the clearable alarms is accomplished by the following procedure:

1. The display will appear as follows:

145 Run Clearable Alarms

2. Enter the table number of the alarm that is to be changed (i.e., 40 Zero Flow).

145 Run Clearable Alar40

3. Press 'ENTER' to display the alarm.

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0 ZF: Zero Flow Alarm

4. To change the alarm from clearable to not clearable, enter a "1".

0 ZF: Zero Flow Alarm 1

5. Press 'ENTER'.

1 ZF: Zero Flow Alarm

After the alarms have been programmed to fit the application the settings should be recorded in the Appendix of the Programming Workbook (AB06044) for future reference.

Help Message

Select which alarms may be cleared in the Run and Ready Modes.

Alarm Table

Entry	Alarm
1	CM: Communications
2	TK: Ticket
3	TP: Temperature Probe
4	OA: Overrun
5	PT: Pulse Transmission
6	VF: Valve Fault
7	PR: Pressure Transducer
8	PC: Pulse Collision
9	PS: Pulse Security
10	DP: Down Pulse Error
11	DR: Density Transducer
12	TT: Temperature Transducer
13	SP: Set at Entry 751
14	SF: Local Storage Full
15	F1: Additive Feedback 1
16	F2: Additive Feedback 2
17	F3: Additive Feedback 3
18	F4: Additive Feedback 4

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19	F5: Additive Feedback 5
20	F6: Additive Feedback 6
21	F7: Additive Feedback 7
22	H2: Set at Entry 755 (232 Printer Hardware)
23	O2: Set at Entry 755 (232 Printer Paper Out)
24	A2: Set at Entry 755 (232 Printer Cover Open)
25	P2: Set at Entry 755 (232 Printer Buffer Overflow)
26	B2: Set at Entry 755 (232 Printer Buffer Overflow)
27	D2: Set at Entry 755 (232 Printer Deselected)
28	E2: Set at Entry 755 (232 General Printer Error)
29	I2: Set at Entry 755 (232 Printer Not Responding)
30	H4: Set at Entry 755 (475 Printer Hardware)
31	O4: Set at Entry 755 (485 Printer Paper Out)
32	A4: Set at Entry 755 (485 Printer Cover Open)
33	D4: Set at Entry 755 (485 Printer Deselected)
34	B4: Set at Entry 755 (485 Printer Buffer Overflow)
35	P4: Set at Entry 755 (485 Printer Comm)
36	E4: Set at Entry 755 (485 Printer General)
37	I4: Set at Entry 755 (485 Printer Not Responding)
38	CL: Clean Line
39	PA: Power-fail
40	ZF: Zero Flow
*41	CA: Clean Additive
*42	1P: Permissive 1
*43	2P: Permissive 2
44	HT: High Temperature
45	LT: Low Temperature
46	HP: High Pressure
47	LP: Low Pressure
48	HD: High Density
49	LD: Low Density
50	BP: Back Pressure
51	LF: Low Flow

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52	HF: Excess High Flow
53	BV: Block Valve
54	BH: Blend High
55	BL: Blend Low
56	AC: Additive Communications
57	IA: Injector Alarm
58	R1: Additive 1 Frequency
59	R2: Additive 2 Frequency
60	R3: Additive 3 Frequency
61	R4: Additive 4 Frequency
62	R5: Additive 5 Frequency
63	R6: Additive 6 Frequency
64	R7: Additive 7 Frequency
65	L1: Additive 1 Pulse
66	L2: Additive 2 Pulse
67	L3: Additive 3 Pulse
68	L4: Additive 4 Pulse
69	L5: Additive 5 Pulse
70	L6: Additive 6 Pulse
71	L7: Additive 7 Pulse
72	N1: No Pulses Detected Additive 1
73	N2: No Pulses Detected Additive 2
74	N3: No Pulses Detected Additive 3
75	N4: No Pulses Detected Additive 4
76	N5: No Pulses Detected Additive 5
77	N6: No Pulses Detected Additive 6
78	N7: No Pulses Detected Additive 7
79	M1: Too Many Pulses Additive 1
80	M2: Too Many Pulses Additive 2
81	M3: Too Many Pulses Additive 3
82	M4: Too Many Pulses Additive 4
83	M5: Too Many Pulses Additive 5
84	M6: Too Many Pulses Additive 6

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85	M7: Too Many Pulses Additive 7
86	K1: Low Additive 1
87	K2: Low Additive 2
88	K3: Low Additive 3
89	K4: Low Additive 4
90	K5: Low Additive 5
91	K6: Low Additive 6
92	K7: Low Additive 7
93	U1: Unauthorized Failed Additive 1
94	U2: Unauthorized Failed Additive 2
95	U3: Unauthorized Failed Additive 3
96	U4: Unauthorized Failed Additive 4
97	U5: Unauthorized Failed Additive 5
98	U6: Unauthorized Failed Additive 6
99	U7: Unauthorized Failed Additive 7

- Note:**
1. Alarms that have the statement "Set at Entry ????" are programmable in their respective program codes as to whether they are clearable or not clearable in the Run and Ready Mode of operation.
 2. Entry numbers 1 through 43 are system alarms and entry numbers 44 through 55 are product alarms.
 3. Entry numbers 56 through 99 are System Alarms and apply to the Smart Additive Injector Systems.
 4. * Entries 41, 42 and 43 apply to SQR-01 and above firmware.

806, 810 - Permissive Sense 1 & 2 Select

These codes will select how the AC inputs that are configured as permissive inputs are to be used during any loading operation. Four possible selections are available that are dependent on the needs of the operation:

0 - No Permissive Sense.

1 - Permissive Sense at Transaction Start Only. With the Transaction Start Only selection, the AccuLoad II will monitor the AC contact during the preset operation only, displaying the associated message when required.

2 - Permissive Sense Continuously. With the Continuous Selection, the AccuLoad II will monitor the AC contact continuously during the transaction and shut down the flow if the contact loses AC for three seconds. This will not generate an alarm and flow can resume when the AC has been restored. If this occurs while flow was in progress the AccuLoad II, after shutting down the flow, will flash between the current batches, preset and delivery totals, and the associated permissive sense message selected.

3 - Start Permissive Sense. Monitors the AC contact each time the "START" key is pressed.

4 - Batch Permissive Sense. Monitors the AC contact during the preset of each batch.

5 - Remote Start (For AC Spare input #4 only program code 806). With the Remote Start Selection, the hardware jumpers must be in the proper position for correct operation. When AC is supplied, the AccuLoad II will respond as though a "START" key had been pressed.

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5 - Remote Stop (For AC Spare input #5 only program code 810). With the Remote Stop Selection, the hardware jumpers must be in the proper position for correct operation. When AC is applied, the AccuLoad II will respond as though a "STOP" key had been pressed.

Note: For option 5 hardware board jumpers are required.

6 - Permissive Sense Continuously and Alarm. With the Continuous and alarm selection, the AccuLoad II will monitor the AC contact continuously during the transaction, shut down the flow and alarm if the contact loses AC power for three seconds. After AC has been lost for the three seconds the permissive message will be displayed. If this occurs after a batch has been started and the valve opened, an alarm will be set. If the alarm is programmed to be allowed to be cleared in the run mode (code 145) the operator can clear the alarm after the permissive has been restored and continue the batch.

Note: Option 6 applies to SQR-01 and above firmware..

806 0 No Permissive 1

Help Message

Program Code 806.

Select AC input #1 as: Permissive (Yes/No) or Remote Start.

Program Code 810.

Select AC input #2 as: Permissive (Yes/No) or Remote Stop.

Warning

Critical: Conflict in use of contacts.

Note: This critical message will be displayed if the programmed input contact is being used or programmed to be used for additive injector feedback. (code 806 - Input #4, code 810 - Input #5).

Fatal Warning

Fatal: Entry is out of specified range.

815 - Clean Line Additive Alarm Limit

Note: This program code applies to SQR-01 and above firmware.

This three digit entry defines the volume of the product that the first stage trip or additive stop volume can be short and not cause an alarm. For example, if the Clean Line Additive Alarm Limit is programmed for 5 gallons and the first stage trip point or additive stop volume is set for 50 gallons a delivered volume of between 45.1 and 50 gallons will not set an alarm. The range of this entry is 01 to 999 units.

815 Clean Add Limit	5
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Help Message

Set the tolerance allowed for underrun of additive stop volume.

Section III - Related Publications

The following literature can be obtained from the Smith Meter Literature Department. Please reference the appropriate bulletin number and title when ordering.

Smith Meter Inc.
1602 Wagner Avenue
P.O. Box 10428
Erie, Pennsylvania 16514

AccuLoad II - SQR

Specifications	Bulletin SS06026
Installation	Bulletin MN06105
Operator Guide.....	Bulletin MN06101
Operator Guide Update Revision 1 Firmware	Bulletin MN06101U1
Operator Reference	Bulletin MN06103L
Operator Reference Update Revision 1 Firmware	Bulletin MN06103LU1
Programming Workbook	Bulletin AB06044
Programming Workbook Update Revision 1 Firmware.....	Bulletin AB06044U1
Communications	Bulletin MN06104L
Communications Uddate Revision 1 Firmware	Bulletin MN06104LU1

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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E. Hemisphere Oper.	Smith Meter GmbH, Regentstrasse, P.O. Box 1164, 25470 Ellerbek, Germany, Phone: (49) 4101-3040, Fax: (49) 4101-304133, Telex: 17410134
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