This worksheet is being provided to ensure that the AccuLoad III-Q hardware contains enough I/O for the application. This sheet should be filled out for every application. The AccuLoad III-Q hardware is capable of controlling up to six arms in straight arm loading applications, and up to six products per arm in sequential blending and/or ratio blending applications. When configured for ratio blending, the AccuLoad III-Q is capable of controlling six product streams. Contact your local Smith Meter representative if you have any questions about this worksheet.

Pulse Inputs	**Circle Number Required**												
Product Meter Pulses (Maximum six meters)	1	2	3	4	5	6	7	8	9	10	11	12	(For dual pulse meters, 2 per meter)
Density	1	2	3	4	5	6							
Additive Meter	1	2	3	4									
Flow Controlled Additive Meter	1	2	3	4	5	6	7	8					For dual pulse meters, 2 per meter)
Total	12 or less												

Note: *AICB boards can be added to provide additional pulse inputs for additive meters. One AICB board adds 10 additional additive meter inputs. A second AICB board adds 10 more additive meter inputs, for a total of 20 additional additive meters. Flow Controlled Additives must be wired to the PIB board.*

Analog Inputs	**Circle Number Required**					
RTD (Temperature)	1	2	3	4	5	6
4-20 mA (Temperature, Density, Pressure, General)	1	2	3	4	5	6
1-5 Vdc (Temperature, Density, Pressure, General)	1	2	3	4	5	6
Analog Outputs						
4-20 mA (Valve Control, Flow Rate, General)	1	2	3	4	5	6
1-5 Vdc (Valve Control, Flow Rate, General)	1	2	3	4	5	6
Total Analog Inputs and Outputs	6 or less					

AC Digital Inputs	**Circle Number Required**								
Security	1	2							
Arm Permissive (Maximum 2 per arm)	1	2	3	4	5	6	7	8	9
Second High Flow Rate (1 per arm)	1	2	3	4	5	6			
Remote Start Arm	1	2	3	4	5	6			
Remote Stop	1								
Remote Stop Arm	1	2	3	4	5	6			
Transaction Reset (1 per arm)	1	2	3	4	5	6			
General Purpose	1	2	3	4	5	6	7	8	9
Print Tray Switch	1	2	3	4	5	6			
Block Valve Feedback	1	2	3	4	5	6	7	8	9
Piston Injector Feedback	1	2	3	4	5	6	7	8	9
System Permissive	1	2	3						
Swing Arm Side A	1	2	3	4	5	6			
Swing Arm Side B	1	2	3	4	5	6			
DE Head Stop Flow	1	2	3	4	5	6			
DE Head Low Flow	1	2	3	4	5	6			
DE Head High Flow	1	2	3	4	5	6			
Bay A Permissive	1	2							
Bay B Permissive	1	2							
Meter Injector Prove	1								
Total	9 or less								

DC Digital Inputs	**Circle Number Required**
Security	1 2
Arm Permissive (Maximum 2 per arm)	1 2 3 4 5 6 7 8 9 10 11 12
Second High Flow Rate (1 per arm)	1 2 3 4 5 6
Remote Start Arm	1 2 3 4 5 6
Remote Stop	1
Remote Stop Arm	1 2 3 4 5 6
Transaction Reset (1 per arm)	1 2 3 4 5 6
General Purpose	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 → 34
Print Tray Switch	1 2 3 4 5 6
Block Valve Feedback	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 → 34
Piston Injector Feedback	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
System Permissive	1 2 3
Swing Arm Side A	1 2 3 4 5 6
Swing Arm Side B	1 2 3 4 5 6
DE Head Stop Flow	1 2 3 4 5 6
DE Head Low Flow	1 2 3 4 5 6
DE Head High Flow	1 2 3 4 5 6
Bay A Permissive	1 2
Bay B Permissive	1 2
Meter Injector Prove	1
Total	14 or less Standard 24 or less with one optional AICB board 34 or less with two optional AICB boards

Note: *Eight shared digital I/O points are programmable between DC digital inputs and DC digital outputs. The number indicated here is the maximum if all programmed as inputs or all programmed as outputs.*

AC Digital Outputs	**Circle Number Required**
Product Pumps (Sequential Blending, 1 per arm)	1 2 3 4 5 6
Upstream Solenoids[2]	1 2 3 4 5 6
Downstream Solenoids[2]	1 2 3 4 5 6
Alarm Relay	1 2
General Purpose	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 → 67
Block Valve	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 → 36
Stop Relay (1 per arm)	1 2 3 4 5 6
Additive Pumps[1]	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Piston Injectors	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Metered Injectors (Solenoids)[1]	1 2 3 4 5
Shared Additive Solenoids	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
Shared Additive Flush	1 2 3 4
Flow Controlled Additive Upstream Solenoid [2]	1 2 3 4
Flow Controlled Additive Down-stream Solenoid [2]	1 2 3 4
Total	27 or less Standard 47 or less with one optional AICB board 67 or less with two optional AICB boards

1 *Additive pumps and solenoid outputs are fixed on the AICB when more than 4 metered additives are programmed. It is recommended that if the AICB board is required for additional metered additives, that all additives be connected to the AICB board.*

2 *Upstream and downstream solenoids should be programmed and wired on EAAI/BSE AccuLoad board sets.*

DC Digital Outputs [4]	**Circle Number Required**
Product Pumps (Sequential Blending, 1 per arm)	1 2 3 4 5 6
Upstream Solenoids [2]	1 2 3 4 5 6
Downstream Solenoids [2]	1 2 3 4 5 6
Alarm Relay	1 2
General Purpose	1 2 3 4 5 6 7 8 9 10 11
Block Valve	1 2 3 4 5 6 7 8 9 10 11
Stop Relay (1 per arm)	1 2 3 4 5 6
Additive Pumps [3]	1 2 3 4 5 6 7 8 9 10 11
Piston Injectors	1 2 3 4 5 6 7 8 9 10 11
Metered Injectors (Solenoids) [4]	1 2 3 4
Shared Additive Solenoids	1 2 3 4 5 6 7 8 9 10 11
Shared Additive Flush	1 2 3 4
Flow Controlled Additive Upstream Solenoid [2]	1 2 3 4
Flow Controlled Additive Downstream Solenoid [2]	1 2 3 4
Total	11 or less

2 *Upstream and downstream solenoids should be programmed and wired on EAAI/BSE AccuLoad board sets.*

3 *Additive pumps and solenoid outputs are fixed on the AICB when more than 4 metered additives are programmed.*

4 *Eight shared digital I/O points are programmable between DC digital inputs and DC digital outputs. The number indicated here is the maximum if all programmed as inputs or all programmed as outputs.*

AccuLoad III-Q Model Number (Refer to Specification Sheet SS06036)

ALIII-Q-XP - _____ - A XXXXX _____ - _____

ALX1	Digit 1: # of RTDs	A – AICB Board
ALX2	Digit 2: # of 4-20 mA inputs	AA – 2 AIBC Boards
ALX3	Digit 3: # of 4-20 mA outputs	
ALX4	Digit 4: # of 1-5 Vdc inputs	
ALX5	Digit 5: # of 1-5 Vdc outputs	
ALX6		

The AccuLoad III-Q hardware is capable of having either local or remote AICB board(s). When using the AICB board, it is recommended that it be mounted at or near the additive injector panel to save on wiring costs. All that is needed back to the AccuLoad III is +24 Vdc power and a communication cable. Consideration should be given to mounting the AICB in the remote housing any time the additive panel is a considerable distance away from the AccuLoad. The cost of running +24 Vdc power and one communication wire versus the remote housing and all the additive wiring should be considered.

If your application exceeds the number of I/O points available on the AccuLoad III-Q hardware, refer to the work-sheet for the AccuLoad III-SA hardware (AB06048). It may be a better fit for your application.

Revisions included in AB06049 Issue/Rev. 0.1 (9/07):

Page 1: Changed first chart to pulse inputs
Page 2: Added through 6 on print tray switch, omitted 2-6 on meter injector prove, added through 34 on general purpose, added through 6 on print tray switch (on second chart), added through 34 on block valve feedback
Page 3: Omitted 2-6 on meter injector prove
Page 4: Added through 67 on general purpose, added through 36 on block valve, omitted 5- 24 on metered injectors (solenoids), omitted 22- 24 in shared solenoids, omitted 5 and 6 in shared additive flush
Page 5: Omitted 5 and 6 in shared additive flush
Page 6: Omitted C and AC, edited opening paragraph

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