

This worksheet applies to AccuLoad II operating with GRK-04 and above firmware. Refer to Operator Reference Manual MN06050L to complete program entry descriptions.

Security Access Code: _____
 Company Name: _____
 Prepared By: _____
 Date: _____
 Unit/Meter No.: _____
 Location: _____

Program Code	Function	Code Description	Entry	Program Code
100		General Purpose Directory		100
101	Alarm Check Reset	Read only, Press E to clear	None	101

Available Alarms

AC: Additive Communications*	12: Print Not Responding
A2: Print Cover Open	14: Print Not Responding
A4: Print Cover Open	K1: Low Additive 1*
BP: Back Pressure	K2: Low Additive 2*
B2: Buffer Overflow	K3: Low Additive 3*
B4: Buffer Overflow	K4: Low Additive 4*
CM: Communication	LD: Low Density
DA: EEPROM Bad	LP: Low Pressure
DA: RAM Bad	LT: Low Temperature
DA: ROM Uxx Bad	L1: Additive 1 Pulse*
DA: Watchdog Alarm	L2: Additive 2 Pulse*
DA: Display Error	L3: Additive 3 Pulse*
DA: Data Retention	L4: Additive 4 Pulse*
DA: Display Boot Required	MD: Micro-Pak Drive*
DA: Control Module	LF: Low Flow
DA: Security Code	MH: M-Pak High-Temp*
DA: Software Version	ML: M-Pak Low Temp*
DA: Internal Temperature	MM: M-Pak Magnitude*
DA: Program Code	MS: Mass Meter Communications*
DP: Down Pulse Error	M1: Too Many Pulses Additive 1*
DR: Density Transducer	M2: Too Many Pulses Additive 2*
D2: Printer Deselected	M3: Too Many Pulses Additive 3*
D4: Printer Deselected	M4: Too Many Pulses Additive 4*
E2: Printer Error	N1: No Pulses Detected Additive 1*
E4: Printer Error	N2: No Pulses Detected Additive 2*
F1: Add 1 Feedback	N3: No Pulses Detected Additive 3*
F2: Add 2 Feedback	N4: No Pulses Detected Additive 4*
F3: Add 3 Feedback	OA: Overrun
F4: Add 4 Feedback	O2: Printer Paper Out
HD: High Density	O4: Printer Paper Out
HF: Excess High Flow	PA: Power-fail

Program Code	Function	Code Description	Entry	Program Code
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Available Alarms				
HP: High Pressure			PC: Pulse Collision	
HT: High Temperature			PR: Pressure Transducer	
H2: Printer Hardware			PS: Pulse Security	
H4: Printer Hardware			PT: Pulse Transmission Alarm	
IA: Injector Alarm*			P2: Printer Communication	
P4: Printer Communication			TP: Temperature Probe	
R1: Additive 1 Frequency*			TT: Temperature Transducer	
R2: Additive 2 Frequency*			U1: Unauthorize Command Failed Additive #1*	
R3: Additive 3 Frequency*			U2: Unauthorize Command Failed Additive #2*	
R4: Additive 4 Frequency*			U3: Unauthorize Command Failed Additive #3*	
SF: Storage Full			U4: Unauthorize Command Failed Additive #4*	
SP: Shared Printer			VF: Valve Fault	
TK: Ticket Alarm				

Note: *These alarms apply to GRK-04 and above firmware.

102	Run Mode Alarms		To be read only	None	102
103	Ready Mode Alarms		To be read only	None	103
104	Set Time	Enter:	Five digits. Two digits for hours, two digits for minutes and one to indicate military time, AM or PM. The last digit will be "0" = AM, "1" = PM and "2" = Military (e.g., 01:130)	___	104
105	Set Date	Enter:	Two digits for month followed by two digits for day, followed by two digits for year (e.g., 011288)	___	105
106	Dynamic Display Time-out	Enter:	Two digits in seconds of time-out (e.g., 15) "00" display will remain till the "CLEAR" key is pressed	___	106
107	Flashing Totals Display	Enter:	"0" for No Flashing Totals "1" for Flashing All Totals "2" for Flashing Used Totals	___	107
108-139			Unassigned at Present		108-139
140	Protection of Program Codes 180-189	Enter:	"0" for Weights and Measures Mode "1" for Program Mode	___	140
141	Local Mode Alarm Clearing	Enter:	One digit from one to nine indicates the number of alarms that can be cleared during a transaction when in both the Run and Ready Modes. (e.g., 3)	___	141
142	Decimal or Comma Selection	Enter:	"0" Decimal "1" Comma	___	142
143	Alarm Relay	Enter:	"0" Alarm Relay on Valve Fault "1" Alarm Relay on Any Fault "2" No Alarm Relay	___	143

Program Code	Function	Code Description	Entry	Program Code
144	Run & Ready Mode Initialization	Enter: "0" Greek "1" English	—	144
<i>Note: This code applies to GRK-04 and above firmware.</i>				
145	Ready/Run Mode Clearable Alarms Selection	Enter: The number of the alarm that is to be changed. (See Appendix for the alarms, associated numbers and recording entries.) When the alarm is displayed enter a "0" if the alarm is allowed to be cleared in the Ready/Run Mode. Enter a "1" if the alarm is not allowed to be cleared in the Ready/Run Mode.	—	145
<i>Note: 1. If code 141 is set to "0" the message "No Alarm Clearing" will be displayed and no entries will be allowed. 2. This code applies to GRK-04 and above firmware.</i>				
146	Second Alarm Output	Enter: The number of the alarm that is to be changed. See Appendix II for the alarms, associated numbers and recording entries.) When the alarm is displayed enter a "0" if the alarm will not activate the second alarm relay or a "1" if the alarm is to trigger the second alarm relay.	—	146
<i>Note: The AC output for additive injector 3 is used for the second alarm output. Note: This code applies to GRK-04 and above firmware.</i>				
147-179	Unassigned at Present			147-179
180	Programming Access Code	Enter: Four digit number permits entry to the Program or Weights and Measures Mode (e.g., 1234)	— — — —	180
181	Product Message Select	Enter: Up to nine characters for meter or product identifier	_____	181
182	Auto Reset Time	Enter: Two digit number in minutes that the AccuLoad II will remain in the program mode after last keystroke is made (e.g., 05)	— —	182
183	Run & Ready Mode Customized Display	Enter: The number of the display that you want to change. Press "ENTER". The default display will appear for that number. The display can be changed using the character set resident in the AccuLoad II. (See Appendix for entry numbers and to record translation.)	—	183
<i>Note: This code applies to GRK-04 and above firmware.</i>				
184	Power-fail Alarm	Enter: "0" No Power-fail Alarm "1" Power-fail Alarm - No Local Clearing "2" Power-fail Alarm - Local Clearing Permitted	—	184
<i>Note: This code applies to GRK-04 and above firmware.</i>				

Program Code	Function		Code Description	Entry	Program Code
185-189			Unassigned at Present		185-189
190	Meter Position Disable	Enter:	"0" Meter Enabled "1" Meter Disabled		190
191-199			Unassigned at Present		191-199
200			Flow Control Directory		200
201	Excess Flow Rate	Enter:	Two digits as a percentage (e.g., 10) "00" disables the High Flow Alarm		201
202	Minimum Flow Rate	Enter:	Three digits in whole units (e.g., 080)		202
203	Valve Type	Enter:	"0" for a Digital Valve "1" for a Two-stage Valve		203
204	Low Flow Start Volume	Enter:	Four digits in whole units (e.g., 0100)		204
205	Low Flow Start Rate	Enter:	Four digits in whole units per minute (e.g., 0150) "0000" entry will not allow the valve to open		205
206	Zero Flow Timer	Enter:	Two digits in seconds (e.g., 15) "00" disables this option		206
207	First High Flow Rate	Enter:	Four digits in whole units (e.g., 0600) "0000" entry will not allow the valve to open		207
208	Flow Tolerance	Enter:	One digit as a percentage of First High Flow Rate (e.g., 7)		208
209	Second High Flow Rate	Enter:	Four digits in whole units (e.g., 0300) "0000" entry will not allow the valve to open		209
210	First Trip Volume	Enter:	Four digits in whole units (e.g., 0050)		210
211	Final (Second) Trip Volume	Enter:	Three digits in tenth units (e.g., 3)		211
212	Final (Second) Trip Auto	Enter:	One digit which defines the number of runs to average. (e.g., 01.0)		212
213	Overrun Alarm Limit	Enter:	Two digits in whole units (e.g., 15) "00" disables the alarm		213
214	Low Flow Rate Alarm Limit	Enter:	Three digits in whole units per minute (e.g., 050) "000" disables the alarm		214
215	Start Delay After Stop	Enter:	Three digits in whole seconds of delay time (e.g., 020)		215
216	Pump Relay Time Delay	Enter:	Two digits in seconds of delay time (e.g., 09)		216
217	Valve Delay To Open	Enter:	Two digits in seconds of delay time. (e.g., 07) "00" disables option		217

Program Code	Function	Code Description	Entry	Program Code
218	PT/VF Time Delay	Enter: Two digits in seconds of time delay (e.g., 15) Entry must not be "00"	__ __	218
219	Zero Flow Alarm	Enter: "0" Zero Flow Alarm Disabled "1" Zero Flow Alarm Enabled	__	219
<i>Note: This code applies to GRK-04 and above firmware.</i>				
220-239	Unassigned at Present			220-239
240	Protection of Program Codes 280-289	Enter: "0" for Weights and Measures Mode "1" for Program Mode	__	240
241	Valve Security	Enter: "0" for No Security "1" for Security	__	241
242-299	Unassigned at Present			242-299
300	Volume Accuracy Directory			300
301	Transaction Control	Enter: "0" Local Tray Switch "1" Print Key "2" Remote "3" Master Reset CT "4" Master Reset No CT	__	301
302	Maximum Preset Volume	Enter: Five digits in whole units (e.g., up to 99,999 units) "00000" disables option	__ __ __ __ __	302
303	Minimum Preset Volume	Enter: Five digits in whole units (e.g., up to 99,999 units) "00000" disables option	__ __ __ __ __	303
304	Auto Preset	Enter: "0" for No Auto Preset "1" for Auto Preset	__	304
305	Blank Downcounter	Enter: "0" Downcounter to be Displayed "1" No Downcounter Displayed	__	305
306-339	Unassigned at Present			306-339
340	Protection of Program Codes 380-389	Enter: "0" for Weights and Measures Mode "1" for Program Mode	__	340
341	Dual Pulse Error Count	Enter: Three digits indicating the number of error counts from the dual pulse Comparator prior to alarming. (e.g., 050)	__ __ __	341
342	Dual Pulse Error Reset	Enter: "0" No DPC Error Reset "1" Reset at the End of Transaction Only "2" Reset Upon Power-up Only "3" Reset Upon Power-up and at the End of Each Transaction	__	342
343	Dual Pulse Flow Rate Cutoff	Enter: Three digits defining the flow rate that the Dual Pulse errors will begin to be counted.	__ __ __	343
344	Display Units	Enter: Three character message identifying the display units (e.g., GAL)	__ __ __	344

Program Code	Function	Code Description	Entry	Program Code
345	Preset Display	Enter: "0" Raw Preset (Raw) "1" Gross Preset (Grs) "2" Gross Preset at Standard Temperature (Gst) "3" Gross Preset at Standard Temperature and Pressure (Net) "4" Mass Preset	—	345
346	Delivery Display	Enter: "0" Raw Delivery (Raw) "1" Gross Delivery (Grs) "2" Gross at Standard Temperature Delivery (Gst) "3" Gross Delivery at Standard Temperature and Pressure (Net) "4" Mass Delivery (Whole Units)	—	346
347	Corrected Display	Enter: "0" No Correction "1" Correct Delivery Display "2" Correct Preset Display "3" Correct Delivery and Preset Display	—	347
348	Pulse 1 Output	Enter: "0" Raw Pulse Out 1 "1" Gross Pulse Out 1 "2" Gst Pulse Out 1 "3" Net Pulse Out 1 "4" Mass Pulse Out 1	—	348
349	Pulse 1 Output Resolution	Enter: Four digits defining the pulse output resolution (units/pulse) in tenth units, "0000" disables this feature (e.g., 010.0)	— — — —	349
350	Pulse 2 Output	Enter: "0" Raw Pulse Out 2 "1" Gross Pulse Out 2 "2" Gst Pulse Out 2 "3" Net Pulse Out 2 "4" Mass Pulse Out 2	—	350
351	Pulse 2 Output Resolution	Enter: Four digits defining the pulse output resolution (units/pulse) in tenth units, "0000" disables this feature (e.g., 010.0)	— — — —	351
352	Display Resolution	Enter: "0" Whole Unit Display "1" Tenth Unit Display "2" Hundredth Unit Display "3" Tens Unit Display	—	352
353	Input Resolution	Enter: Four digit number representing the number of pulses per unit of registration (e.g., 0100) Entry must be between 0025 and 9999	— — — —	353

Program Code	Function		Code Description	Entry	Program Code
354	Flow Rate for Meter Factor #1	Enter:	Four digits in whole units per minute (e.g., 0600)	____	354
355	Meter Factor #1	Enter:	Five digits as one whole number followed by four decimals (e.g., 1.0033)	___.____	355
356	Flow Rate for Meter Factor #2	Enter:	Four digits in whole units per minute (e.g., 0400)	____	356
357	Meter Factor #2	Enter:	Five digits as one whole number followed by four decimals (e.g., 1.0040)	___.____	357
358	Flow Rate for Meter Factor #3	Enter:	Four digits in whole units per minute (e.g., 0150)	____	358
359	Meter Factor #3	Enter:	Five digits as one whole number followed by four decimals (e.g., 1.0048)	___.____	359
360	Flow Rate for Meter Factor #4	Enter:	Four digits in whole units per minute (e.g., 0080)	____	360
361	Meter Factor #4	Enter:	Five digits as one whole number followed by four decimals (e.g., 1.0058)	___.____	361
362	Meter Factor % Change/Deg.	Enter:	Five digits representing the meter factor percent change per degree of unit temperature in percentage (e.g., 0.0012)	____.	362
363	Meter Factor Reference Temperature	Enter:	Four digits representing the temperature that the percent meter factor variation was determined. Three whole units and one decimal in degrees (i.e., 120.1).	____.	363
364	Proving Modes	Enter:	"0" Not Proving "1" Weights and Measures Proving "2" High-speed Proving	___	364
365	Proving Output	Enter:	"0" No Prover Output "1" Meter #1 Prover Output "2" Meter #2 Prover Output	___	365
366	Proving Output Units	Enter:	"0" Raw Prover Output (Raw) "1" Gross Prover (Grs) "2" Gross Prover at Standard Temperature (Gst) "3" Gross Prover at Standard Temperature and Pressure (Net) "4" Mass Preset (Whole Units)	___	366

Program Code	Function		Code Description	Entry	Program Code
367	Dual Pulse Inverted Timer	Enter:	Three digits indicating the time in seconds that the pulse stream and the inverted pulse stream can be at the same level prior to alarming.	___	367
<i>Note: This code applies to GRK-04 and above firmware.</i>					
368-389		Unassigned at Present			368-389
390	Master Meter Factor	Enter:	Five digits as one whole number followed by four decimals (e.g., 1.0040) restricts meter factors 1 through 4, program codes 353, 355, 357, and 359 to +/-2% of this entry. Enter 0.0000 to disable this feature.	_____	390
391	Linearized Factor Deviation	Enter:	Three digits in a percentage, one whole number followed by two decimals (e.g., 3.40) restricts deviation between adjacent meter factors. Enter 0.00 to disable this feature.	___	391
392	Meter Factor Variation	Enter:	"0" No Meter Factor Variation "1" Yes Meter Factor Variation	___	392
393	Input Pulse Type	Enter:	"0" Active Pulse Input "1" Contact Type Input	___	393
394	Input Pulse Doubler	Enter:	"0" Pulses Times One "1" Pulses Times Two	___	394
395	Transmitter Type	Enter:	"0" Single Channel "1" Single and Inverted "2" Dual Channel "3" Dual and Inverted	___	395
396-399		Unassigned at Present			396-399
400		Temperature & Density Directory			400
401-439		Unassigned at Present			401-439
440	Protection of Program Program Codes 480-489	Enter:	"0" for Weights and Measures Mode "1" for Program Mode	___	440
441	Temperature Units	Enter:	"0" No Temperature Probe "1" Fahrenheit "2" Celsius	___	441
442	Reference Temperature	Enter:	Four digit reference temperature in tenth degrees (e.g., 060.0)	____	442
443	Temperature Offset	Enter:	Three digits. First digit must be a "0" or "1" (0 = positive, 1 = negative). Second and third digits represent the offset temperature in tenth degrees, 10.5 entered will display as -0.5 degrees offset	___	443

Program Code	Function		Code Description	Entry	Program Code
444	API Table & Product	Enter:	"00" No API Table "01" API Table 5A "02" API Table 5B "03" API Table 5D "04" API Table 6A "05" API Table 6B "06" API Table 6C "07" API Table 6D "08" API Table 23A "09" API Table 23B "10" API Table 23D "11" API Table 24	"12" API Table 24A "13" API Table 24B "14" API Table 24D "15" API Table 53A "16" API Table 53B "17" API Table 53D "18" API Table 54 "19" API Table 54A "20" API Table 54B "21" API Table 54C "22" API Table 54D	444
445	Reference Density	Enter:	Five digit density with floating decimal. (e.g., 0999.9 to 0.9999), depending on selection in code 444.	_____	445
Note: If live density input is used and valid entries are in codes 451 and 452 any entry in code 445 will be ignored.					
446	Low Temperature Alarm	Enter:	Four digits. The first digit indicates polarity. First digit "0" = positive, first digit "1" = negative. The last three digits indicate temperature in whole degrees. (e.g., 0020 = + 020) Temperature units are dependent on entry made in code 441. An entry of -999 will disable this feature.	_____	446
447	High Temperature Alarm	Enter:	Four digits. The first digit indicates polarity. First digit "0" = positive, first digit "1" = negative. The last three digits indicate temperature in whole degrees. (e.g., 0250 = + 250) Temperature units are dependent on entry made in code 441. An entry of 0999 (+999) will disable this feature.	_____	447
448	Maintenance Temperature	Enter:	Five digits. The first digit indicates polarity. First digit "0" = positive, first digit "1" = negative. The last four digits indicate temperature in tenths of degrees. An entry of -999.9 will disable this feature. (e.g., 0085.0 = +85.0)	_____	448
Note: A temperature entered here will override the RTD or 4-20 input.					
449	Density or Temperature Input	Enter:	"0" Density Input "1" Temperature Input Note: If Temperature is selected, AccuLoad II will ignore the RTD channel. To accept readings from the RTD channel this entry must be selected for density input.	_____	449
450	Density Units	Enter:	"0" No Density Used "1" Lbs/Ft ³ "2" Kgs/M ³	_____	450

Program Code	Function	Code Description	Entry	Program Code
451	Minimum Density OR Minimum Temperature as selected in Code 449	Enter: Five digits. For minimum density at 4 mA in tenth units (e.g., 0100.0). For minimum temperature at 4 mA the first digit indicates the polarity. First digit "0" = positive, first digit "1" = negative. The last four digits indicate the temperature in tenth degrees. (e.g., 0030.0 = +030.0) Temperature units as selected in code 441.	_____	451
452	Maximum Density OR Maximum Temperature as selected in Code 449	Enter: Five digits. For maximum density at 20 mA in tenth units (e.g., 1600.0). For maximum temperature at 4 mA the first digit indicates the polarity. First digit "0" = positive, first digit "1" = negative. The last four digits indicate the temperature in tenth degrees. (e.g., 0100.0 = +100.0) Temperature units as selected in code 441.	_____	452
453	Low Density Alarm	Enter: Four digits. The range is from 0000 to 9999. Density units are dependent on entry made in code 450. An entry of 0000 will disable this feature.	_____	453
454	High Density Alarm	Enter: Four digits. The range is from 0000 to 9999. Density units are dependent on entry made in code 450. An entry of 0000 will disable this feature.	_____	454
455	Volume/Mass Conversion	Enter: "0" Gallons per Pound (or Kilograms)* "1" Dekaliters per Pound (or Kilograms)* "2" Liters per Pound (or Kilograms)* "3" Barrels per Pound (or Kilograms)* "4" Cubic Meters per Pound (or Kilograms)*	_____	455
<i>Note: "Pound" or "Kilogram" is dependent on the density unit entered. If lb/ft³ is entered, then "Pounds" will appear; if Kg/m³ is entered, then "Kilograms" will appear.</i>				
456	Mass Units	Enter: Three character message identifying the mass units (e.g., Lbs).	_____	456
457	Micro-Pak Sequence Number	Enter: Five digits used to set the address of the Micro-Pak for further communications. The sequence number is the last five digits of the Micro-Pak serial number. The range of this entry is 1 - 99999. An entry of zero will disable Micro-Pak Communications.	_____	457
<i>Note: This code applies to GRK-04 and above firmware.</i>				
458	Density Transducer Constant A	Enter: Six digits for constant A. This constant can be found on the S mass meter nameplate. The range will be from 0-63.9999.	_____	458
<i>Note: This code applies to GRK-04 and above firmware.</i>				

Program Code	Function		Code Description	Entry	Program Code
459	Density Transducer Constant B	Enter:	Seven digits for constant B. The first digit represents the polarity of the base number and must be "0" or "1" (0 = positive, 1 = negative). The range of this entry is -31.9999 to +31.9999.	_____	459
<i>Note: This code applies to GRK-04 and above firmware.</i>					
460	Density Transducer Constant C	Enter:	Seven digits for constant C. The first digit represents the polarity of the base number and must be "0" or "1" (0 = positive, 1 = negative). The range of this entry is -31.9999 to +31.9999.	_____	460
<i>Note: This code applies to GRK-04 and above firmware.</i>					
461	Micro-Pak DCF Value	Enter:	Three digits in whole units to set the Density Correction Factor (DCF) value. The DCF value can be found on the nameplate of the Micro-Pak. The range of this entry is 1 - 255.	_____	461
<i>Note: This code applies to GRK-04 and above firmware.</i>					
462	Pulse Output Multiplier	Enter:	"0" Multiplier = 1 "1" Multiplier = 2 "2" Multiplier = 4 "3" Multiplier = 8 "4" Multiplier = 16	___	462
<i>Note: This code applies to GRK-04 and above firmware.</i>					
463	Micro-Pak Low Flow Pulse Output Cutoff	Enter:	Two digit entry used to set the low flow cutoff point for the Micro-Pak pulse output. The range of this entry is 0-99. A zero entry will specify that the pulse output should continue for the lowest of flow rates.	___	463
<i>Note: This code applies to GRK-04 and above firmware.</i>					
464	Flow Sensor Tube Material	Enter:	"0" 316SS (Stainless) "1" Hast C (Hastelloy)	___	464
<i>Note: This code applies to GRK-04 and above firmware.</i>					
465	Flow Sensor Model	Enter:	"0" S25 "1" S50 "2" S100 "3" S200	___	465
<i>Note: This code applies to GRK-04 and above firmware.</i>					
466	Mass Compensation Factor	Enter:	Five (5) digits as one whole number followed by four decimal places (e.g., 1.100)	____.	466
<i>Note: If this entry is not zero, the factor will be used to compensate the density for the buoyancy of air.</i>					
<i>Note: This code applies to GRK-04 and above firmware.</i>					

Program Code	Function		Code Description	Entry	Program Code
467	Micro-Pak Drive Alarm Time	Enter:	Three digits in seconds to ignore the MD or MM alarms from the S-Mass Meter (e.g. 240)	___	467
<i>Note: This code applies to GRK-04 and above firmware.</i>					
468-499	Unassigned at Present		468-499		
500	Pressure Directory				500
501	Minimum Back Pressure Flow Rate Setting	Enter:	Four digits to select the minimum back pressure flow rate that will alarm in whole units per minute. (e.g., 0100) "0000" disables the alarm	___	501
502	Differential Pressure	Enter:	Three digits of differential pressure in units of psia, bars, or kg/cm ² that is to be maintained above the vapor pressure or back pressure (e.g., 060). Unit selection is made in code 541.	___	502
503	Minimum Back Pressure Flow Rate Timer Setting	Enter:	Two digits in seconds to achieve a desired flow rate (e.g., 20). "00" disables this minimum flow rate timer and the back pressure reduction in code 504.	__	503
504	BP Reduction	Enter:	Two digits in % reduction of flow rate for back pressure flow control and AFO (e.g., 90).	__	504
505	Low Pressure Alarm	Enter:	Four digits indicating the lowest pressure reading that the alarm will be generated. The range is from 0000 to 9999. Pressure units are dependent on entry made in code 541. An entry of 0000 will disable this feature.	____	505
506	High Pressure Alarm	Enter:	Four digits indicating the highest pressure reading that the alarm will be generated. The range is from 0000 to 9999. Pressure units are dependent on entry made in code 541. An entry of 0000 will disable this feature.	____	506
507-539	Unassigned at Present				507-539
540	Protection of Program Codes 580-589	Enter:	"0" for Weights and Measures Mode "1" for Program Mode	__	540
541	Pressure Units	Enter:	"0" No Pressure Transducer Installed "1" Psi "2" Bar "3" Kgcm	__	541
542	Minimum Pressure Units	Enter:	Four digits in tenth units for minimum pressure at 4 mA. (e.g., 1600 = 160.0). Units dependent on selection in code 541.	____	542
543	Maximum Pressure Units	Enter:	Four digits in tenth units for maximum pressure at 20 mA. (e.g., 4500 = 450.0) Units dependent on selection in code 541. "0000" indicates no pressure transducer installed.	____	543

Program Code	Function		Code Description	Entry	Program Code
544	Compressibility Factor	Enter:	Five digit compressibility factor used in calculating the CPL (e.g., 39600 entered represents 0.000039600).	_____	544
545	Maintenance Pressure	Enter:	Four digit maintenance pressure to be used when a pressure transducer is not installed, in tenth of units (e.g., 150.0). Pressure units dependent on selection made in code 541. "0000" disables this feature.	_____	545
546	Low Vapor (P1) Pressure	Enter:	Four digits indicating the low vapor pressure in PSIA, Bars or kg/cm ² in tenths of pressure units, (e.g., 006.0). Pressure units are dependent on entry made in code 541.	_____	546
547	Low Product Vapor Pressure (P1) Temperature	Enter:	Four digits in Degrees C or Degrees F that correspond to the low vapor pressure in code 546. First digit "0" = Plus Degrees, first digit "1" = Minus Degrees, (e.g., 1150 = -150). Temperature units are dependent on entry made in code 441.	_____	547
548	Middle Vapor (P2) Pressure	Enter:	Four digits indicating the middle vapor pressure in PSIA, Bars, or kg/cm ² in tenths of pressure units, (e.g., 020.0). Pressure units are dependent on entry made in code 541).	_____	548
549	Middle Product Vapor Pressure (P2) Temperature	Enter:	Four digits in Degrees C or Degrees F that correspond to the middle vapor pressure in code 548. First digit "0" = Plus Degrees, first digit "1" = Minus Degrees (e.g., 0030 = +030). Temperature units are dependent on entry made in code 441.	_____	549
550	High Vapor (P3) Pressure	Enter:	Four digits indicating the high vapor pressure in PSIA, Bars or kg/cm ² in tenths of pressure units, (e.g., 100.0). Pressure units are dependent on entry made in code 541.	_____	550
551	High Product Vapor Pressure (P3) Temperature	Enter:	Four digits in Degrees C or Degrees F that correspond to the high vapor pressure in code 550. First digit "0" = Plus Degrees, first digit "1" = Minus Degrees, e.g., 0600 = +060). Temperature units are dependent on entry made in code 441.	_____	551
552	Vapor Pressure Calculation	Enter:	"0" Straight Line Approximation "1" GPA Table TP-15	___	552
Note: GRK-04 and above firmware.					
553-599			Unassigned at Present		553-599

Program Code	Function	Code Description	Entry	Program Code
600	Read Only Directory			600
601	Raw Non-resettable Totals	To be read only	None	601
602	Gross Non-resettable Totals	To be read only	None	602
603	Gross at Standard Temp. Non-resettable Totals	To be read only	None	603
604	Net Non-resettable Totals	To be read only	None	604
605	Mass Non-resettable Totals	To be read only	None	605
606	Load Average Temperature	To be read only	None	606
607	Load Average Pressure	To be read only	None	607
608	Load Average Density	To be read only	None	608
609	Load Average Meter Factor	To be read only	None	609
610	Local Storage Transactions	To be read only	None	610
611	Injector 1 Non-resettable Totals	To be read only	None	611
612	Injector 2 Non-resettable Totals	To be read only	None	612
613	Injector 3 Non-resettable Totals	To be read only	None	613
614	Injector 4 Non-resettable Totals	To be read only	None	614
615-639	Unassigned at Present			615-639
640	Protection of Program Codes 680-689	Enter: "0" for Weights and Measures Mode "1" for Program Mode	—	640
641-699	Unassigned at Present			641-699

Program Code	Function	Code Description	Entry	Program Code
700		Communications Directory		700
701	EIA-232 Communication Type	Enter: "0" for No Communications "1" for EIA Type Terminal "2" for EIA Type Minicomputer "3" for Gate City Additive System	—	701
702	EIA-232 Communication Control	Enter: "0" for Poll Only "1" for Poll and Authorize "2" for Remote Control "3" for Auto Out "4" for Shared Auto Out "5" for Smart Additives "6" for Micro-Pak Interface	—	702
<i>Note: Options 5 and 6 apply to GRK-04 and above firmware.</i>				
703	EIA-232 Baud Rate	Enter: "0" for 110 Baud "1" for 150 Baud "2" for 300 Baud "3" for 600 Baud "4" for 1200 Baud "5" for 2400 Baud "6" for 3600 Baud "7" for 4800 Baud "8" for 7200 Baud "9" for 9600 Baud	—	703
704	EIA-232 Data Format	Enter: "0" EIA-232 7 Bits Even "1" EIA-232 7 Bits Odd "2" EIA-232 7 Bits None "3" EIA-232 8 Bits Even "4" EIA-232 8 Bits Odd "5" EIA-232 8 Bits None	—	704
705	EIA-485 Communication Type	Enter: "0" No Communications "1" EIA Type Terminal "2" EIA Type Minicomputer "3" Gate City Additive System*	—	705
<i>Note: * Option 3 applies to GRK-04 and above firmware.</i>				
706	EIA-485 Communication Control	Enter: "0" for Polling Only "1" for Poll and Authorize "2" for Remote Control "3" for Auto Out "4" for Shared Auto Out "5" Smart Additives*	—	706
<i>Note: * Option 5 applies to GRK-04 and above firmware.</i>				

Program Code	Function	Code Description	Entry	Program Code
707	EIA-485 Baud Rate	Enter: "0" for 110 Baud "1" for 150 Baud "2" for 300 Baud "3" for 600 Baud "4" for 1200 Baud "5" for 2400 Baud "6" for 3600 Baud "7" for 4800 Baud "8" for 7200 Baud "9" for 9600 Baud		707
708	EIA-485 Data Format	Enter: "0" EIA-485 7 Bits Even "1" EIA-485 7 Bits Odd "2" EIA-485 7 Bits None "3" EIA-485 8 Bits Even "4" EIA-485 8 Bits Odd "5" EIA-485 8 Bits None		708
709	Communication Address	Enter: Two digit number to identify the unit location for communications, range 01 to 99. (e.g., 25)		709
710	Printer Output Message #1	Enter: Up to 20 characters for printer message. (e.g., Smith Meter Inc.)		710
711	Printer Output Message #2	Enter: Up to 20 characters for printer message. (e.g., P.O. Box 10428)		711
712	Printer Output Message #3	Enter: Up to 20 characters for printer message. (e.g., 1602 Wagner Ave.)		712
713	Printer Output Message #4	Enter: Up to 20 characters for printer message. (e.g., Erie, Pa.)		713
714	Printer Output Message #5	Enter: Up to 20 characters for printer message. (e.g., Erie Terminal)		714
715	Prompt Message #1	Enter: Up to 20 characters for prompt message. (e.g., Enter Driver ID)		715
716	Prompt Message #2	Enter: Up to 20 characters for prompt message. (e.g., Enter Company ID)		716
717	Prompt Message #3	Enter: Up to 20 characters for prompt message. (e.g., Enter Trailer No)		717
718	Prompt Message #4	Enter: Up to 20 characters for prompt message. (e.g., Enter Carrier ID)		718
719	Prompt Message #5	Enter: Up to 20 characters for prompt message. (e.g., Connect Ground)		719

Program Code	Function		Code Description	Entry	Program Code
720	Meter ID	Enter:	Up to 20 characters for meter identification. (e.g., Meter XX12)		720
721	Product Description	Enter:	Up to 20 characters for product identification. (e.g., Unleaded Gasoline)		721
722	HM Classification	Enter:	First 20 characters of the classification.		722
723	HM Classification	Enter:	Second (20) characters of the classification.		723
724	HM Classification	Enter:	Last (20) characters of the classification.		724
725	Delivery Report	Enter:	"0" Standard Formatted Report "1" User Configurable Report	__	725
Note: This selection applies to GRK-04 and above firmware.					
726	Delivery Report Display	To be read only.	Displays the current set-up of the Delivery Report.	__	726
Note: This code applies to GRK-04 and above firmware.					
727-739	Unassigned at Present				727-739
740	Protection of Program Codes 780-789	Enter:	"0" for Weights and Measures Mode "1" for Program Mode	__	740
741	Communication Link Programming	Enter:	"0" for No Program Code Values "1" for Program Values Only "2" for Program and Weights and Measures Values "3" for Alarm Reset Only	__	741
742	Communications Time-out	Enter:	Three digits in seconds that communication polling may be absent (e.g., 060). "000" disables the Communications Alarm Mode.	__ __ __	742
743	Communications Alarm Mode	Enter:	"0" Standby Mode "1" Communications Alarm Mode "2" Standby and Communications Alarm Mode	__	743
744	Prompt Time-out	Enter:	Three digits in seconds of time-out allowed with each prompt. (e.g., 015) Note: Minimum time-out is 10 seconds.	__ __ __	744
745	Prompt Data Entry #1	Enter:	Two digits representing the prompt data response. First digit "0" = displayed, first digit "1" = hidden display, second digit "0 - 9" = digits for prompt entry. (e.g., 04)	__ __	745
746	Prompt Data Entry #2	Enter:	Two digits representing the prompt data response. First digit "0" = displayed, first digit "1" = hidden display, second digit "0 - 9" = digits for prompt entry. (e.g., 15)	__ __	746

Program Code	Function	Code Description	Entry	Program Code
747	Prompt Data Entry #3	Enter: Two digits representing the prompt data response. First digit "0" = displayed, first digit "1" = hidden display, second digit "0 - 9" = digits for prompt entry. (e.g., 15)	__ __	747
748	Prompt Data Entry #4	Enter: Two digits representing the prompt data response. First digit "0" = displayed, first digit "1" = hidden display, second digit "0 - 9" = digits for prompt entry. (e.g., 16)	__ __	748
749	Prompt Data Entry #5	Enter: Two digits representing the prompt data response. First digit "0" = displayed, first digit "1" = hidden display, second digit "0 - 9" = digits for prompt entry (e.g., 16).	__ __	749
750	Start Key Enable/Disable	Enter: "0" Start Key Enabled "1" Start Key Disabled	__	750
751	Shared Printer Out Alarm	Enter: "0" for No SP Alarm "1" for Local SP Alarm "2" for Program SP Alarm	__	751
752	Shared Printer Out Timer	Enter: Two digits in minutes of time that the AccuLoad II will wait before alarming.	__ __	752
753	EIA-232 Printer Security	Enter: "0" No 232 Security "1" XON/XOFF "2" DEC Protocol "3" PTB - FX Protocol "4" PTB - LQ Protocol	__	753
<i>Note: Options 3 and 4 of this code apply to GRK-04 and above firmware.</i>				
754	EIA-485 Printer Security	Enter: "0" No 485 Security "1" XON/XOFF "2" DEC Protocol "3" PTB - FX Protocol "4" PTB - LQ Protocol	__	754
<i>Note: Options 3 and 4 of this code apply to GRK-04 and above firmware.</i>				
755	Shared Printer Security Alarm	Enter: "0" No Security Alarm "1" Local Security Alarm "2" Prg Security Alarm	__	755
756	Select Totals to Print	Enter: This five digit number indicates the totals that will be printed on the Product Receipt Ticket. 1st digit - Raw Totals 2nd digit - Gross Totals 3rd digit - Gross Totals at Standard Temperature 4th digit - Gross Totals at Standard Temperature and Pressure 5th digit - Mass Totals A zero in the digit indicates the total will not be printed, a one indicates the total will be printed. (e.g., 01100 indicates that the gross totals and the gross totals at standard temperature will be printed on the Product Receipt Ticket.)	__ _ _ _ _	756

Program Code	Function	Code Description	Entry	Program Code
757	Select Load Averages to Print	Enter: This four digit number indicates the load averages that will be printed on the Product Receipt Ticket. 1st digit - Load Average Temperature 2nd digit - Load Average Pressure 3rd digit - Load Average Density 4th digit - Load Average Meter Factor A zero in the digit indicates the average will not be printed, a one indicates the average will be printed. (e.g., 1001 indicates that load average temperature and the load average meter factor will be printed on the Product Receipt Ticket.)	____	757
758	Select Additive Volumes to Print	Enter: This four digit number indicates the additive volumes that will be printed on the Product Receipt Ticket. 1st digit - Additive Volume #1 2nd digit - Additive Volume #2 3rd digit - Additive Volume #3 4th digit - Additive Volume #4 A zero in the digit indicates the additive will not be printed, a one indicates the additive will be printed. (e.g., 1001 indicates that first and fourth additive volumes will be printed on the Product Receipt Ticket.)	____	758
759	Define Delivery Report	Enter: Ten digits in the form of four digits for the current line (0000), three digits for the column number that the data will start at (000), and the item that will be printed (000) on the delivery report. (e.g., 134, 16, 135)	____,____,____	759
Note: To delete information from the delivery report move to the entry number field by pressing "ENTER" and enter a zero and press "ENTER" again.				
Note: This code applies to GRK-04 and above firmware.				
760	Programmable Output Message #1	Enter: Up to 20 characters for programmable message	_____	760
Note: This code applies to GRK-04 and above firmware.				
761	Programmable Output Message #2	Enter: Up to 20 characters for programmable message	_____	761
Note: This code applies to GRK-04 and above firmware.				
762	Volumetric Totals Printed Resolution	Enter: "0" - Whole Units "1" - Tenth Units "2" - Hundredth Units	___	762
Note: This code applies to GRK-04 and above firmware.				
763-779	Unassigned at Present			762-779

Program Code	Function		Code Description	Entry	Program Code
780	Number of Prompts	Enter:	One digit between 0 and 5 representing the number of prompts used in the Standby Mode (e.g., 4). "0" disables prompts in the Standby Mode.	___	780
781	Print Transaction	Enter:	Three digit Transaction Number to print the transaction data desired. (e.g., 010 will print the tenth transaction back from the current transaction.)	___	781
782	Prompts Printed	Enter:	"0" Standby Blank "1" Standby Print "2" Always Print	___	782
783-799			Unassigned at Present		783-799
800			Inputs & Outputs Directory		800
801	Permissive #1	Enter:	"0" No Permissive 1 "1" Permissive 1 Transaction Start Only "2" Permissive 1 Continuously "3" Start Permissive 1 "4" Batch Permissive 1 "5" Remote Start	___	801
802	Restart After Permissive Met	Enter:	"0" Man Perm. 1 Start "1" Auto Perm. 1 Start	___	802
803	Permissive #1 Message	Enter:	Up to 20 characters for prompt message (e.g., Connect Ground)	_____	803
804	Permissive #2	Enter:	"0" No Permissive 2 "1" Permissive 2 Transaction Start Only "2" Permissive 2 Continuously "3" Start Permissive 2 "4" Batch Permissive 2 "5" Remote Stop	___	804
805	Restart After Permissive Met	Enter:	"0" Man Perm. 2 Start "1" Auto Perm. 2 Start	___	805
806	Permissive #2 Message	Enter:	Up to 20 characters for prompt message (e.g., Connect Vapor)	_____	806
807	Restart After Valve Power Restored	Enter:	"0" Manual Valve Start "1" Auto Valve Start	___	807
808	Valve Power Sense Permissive Message	Enter:	Up to 20 characters for prompt message. (e.g., Permissive Not Met)	_____	808
809	Prompt Message	Enter:	Up to 20 characters for prompt message. (e.g., Please Insert Ticket)	_____	809
810-839			Unassigned at Present		810-839

Program Code	Function		Code Description	Entry	Program Code
840	Protection of Program Codes 880-889	Enter:	"0" for Weights and Measures Mode "1" for Program Mode	__	840
841	Additive Injector #1 Feedback	Enter:	"0" No Injector 1 Feedback "1" Injector 1 Feedback/Control "2" INJ1 Feedback Only	__	841
842	Additive Injector #1 Volume	Enter:	Six digits defining the volume of product to be injected for each Additive Injector cycle. (e.g., 001.000)	__ _ __ _ __ _ __	842
843	Additive Injector #2 Feedback	Enter:	"0" No Injector 2 Feedback "1" Injector 2 Feedback/Control "2" Injector 2 Feedback Only	__	843
844	Additive Injector #2 Volume	Enter:	Six digits defining the volume of product to be injected for each Additive Injector cycle. (e.g., 001.000)	__ _ __ _ __ _ __	844
845	Additive Injector #3 Feedback	Enter:	"0" No Injector 3 Feedback "1" Injector 3 Feedback/Control "2" Injector 3 Feedback Only	__	845
846	Additive Injector #3 Volume	Enter:	Six digits defining the volume of product to be injected for each Additive Injector cycle. (e.g., 001.000)	__ _ __ _ __ _ __	846
847	Additive Injector #4 Feedback	Enter:	"0" No Injector 4 Feedback "1" Injector 4 Feedback/Control "2" Injector 4 Feedback Only	__	847
848	Additive Injector #4 Volume	Enter:	Six digits defining the volume of product to be injected for each Additive Injector cycle. (e.g., 010.000)	__ _ __ _ . __ _ __ _	848
849	Additive Injector Units	Enter:	Three character message identifying the injector units (e.g., Ozs)	__ _ __ _	849
850	Additive Injector Feedback Errors	Enter:	Two digits defining the number or errors before alarming.	__ _	850
851	Additive Injector #1 Feedback Delay	Enter:	Three digits in seconds before an alarm is triggered. (e.g., 015) "000" disables the alarm	__ _ __ _	851
852	Additive Injector #2 Feedback Delay	Enter:	Three digits in seconds before an alarm is triggered. (e.g., 015) "000" disables the alarm	__ _ __ _	852
853	Additive Injector #3 Feedback Delay	Enter:	Three digits in seconds before an alarm is triggered. (e.g., 015) "000" disables the alarm	__ _ __ _	853
854	Additive Injector #4 Feedback Delay	Enter:	Three digits in seconds before an alarm is triggered. (e.g., 015) "000" disables the alarm	__ _ __ _	854
855	Additive 1 Address	Enter:	Three digit communication address to identify this additive if a Smart Additive System is being used. (e.g., 001)	__ _ __ _	855

Note: This code applies to GRK-04 and above firmware.

Program Code	Function		Code Description	Entry	Program Code
856	Additive 2 Address	Enter:	Three digit communication address to identify this additive if a Smart Additive System is being used. (e.g., 002)	___	856
<i>Note: This code applies to GRK-04 and above firmware.</i>					
857	Additive 3 Address	Enter:	Three digit communication address to identify this additive if a Smart Additive System is being used. (e.g., 003)	___	857
<i>Note: This code applies to GRK-04 and above firmware.</i>					
858	Additive 4 Address	Enter:	Three digit communication address to identify this additive if a Smart Additive System is being used. (e.g., 004)	___	858
<i>Note: This code applies to GRK-04 and above firmware.</i>					
859	Additive Alarm Action	Enter:	"0" Additive Alarm with Shut-down "1" Additive Alarm Message at End of Batch with No Shut-down	__	859
<i>Note: This code applies to GRK-04 and above firmware.</i>					
860	Additive Alarm Message	Enter:	Twenty characters for the additive alarm message (e.g., Hand Bomb Truck)	_____	860
<i>Note: This code applies to GRK-04 and above firmware.</i>					
861	Additive Totals Units	Enter:	"0" Gallons "1" Liters	__	861
<i>Note: 1. This code applies to GRK-04 and above firmware. 2. If a Smart Additive Subsystem is selected, this code will be used rather than 849.</i>					
862-879	Unassigned at Present				862-879
880	Additive Injector Pulsar No. 1	Enter:	Three digits in whole units of delivered liquid per injector pulse (e.g., 040).	___	880
881	Additive Injector Pulsar No. 2	Enter:	Three digits in whole units of delivered liquid per injector pulse (e.g., 040).	___	881
882	Additive Injector Pulsar No. 3	Enter:	Three digits in whole units of delivered liquid per injector pulse (e.g., 040).	___	882
883	Additive Injector Pulsar No. 4	Enter:	Three digits in whole units of delivered liquid per injector pulse (e.g., 040).	___	883
<i>Note: When code 884 is programmed three, four, five, eight or nine this relay will function as a relay that is commanded to close when the first trip point is reached in a batch and will remain closed until the second trip point is reached or the valve is commanded to close. In this case this relay can not be used as an additive injector pulsar or as a general relay through communications.</i>					
<i>This note applies to GRK-04 and above firmware.</i>					

Program Code	Function		Code Description	Entry	Program Code
884	Additive Injector Stop	Enter:	"0" Additive Stop at End of Batch (Injector Option 1) "1" Additive Stop at First Trip Point with No Recalculation of Additive (Injector Option 2) "2" Additive Stop at First Trip Point with Recalculation of Additive (Injector Option 3) "3" Additive Stop at End of Batch and Use the Fourth Additive Injector Output as a First Trip Indicator (Injector Option 4) "4" Additive Stop at First Trip Point with No Recalculation of Additive and Use the Fourth Additive Injector Output as a First Trip Indicator (Injector Option 5) "5" Additive Stop at First Trip Point with Recalculation of Additive and Use the Fourth Additive Injector Output as a First Trip Indicator (Injector Option 6) "6" Additive Stop at Programmed Stop Volume with No Recalculation of Additive (Option 7) "7" Additive Stop at Programmed Stop Volume with Recalculation of Additive (Option 8) "8" Additive Stop at Programmed Stop Volume with No Recalculation of Additive and Use the Fourth Additive Injector Output as an Additive Stop Indicator (Option 9) "9" Additive Stop at Programmed Stop Volume with Recalculation of Additive and Use the Fourth Additive Injector Output as an Additive Stop Indicator (Option 10)	—	884

Note: Options 3 to 10 apply to GRK-04 and above firmware.

885	Manual/Auto Additive Injector	Enter:	"0" for Auto Injectors "1" for Manual Injectors (Automation Standby) "2" for Manual Injectors Per Transaction (Stand-alone) "3" for Manual Injectors Per Batch (Stand-alone)	—	885
886	Additive Injector Output	Enter:	"0" for Raw Output "1" for Gross Output "2" for Gst Output "3" for Net Output	—	886
887	Additive Injector Stop Volume	Enter:	Three digits in whole units of remaining system volume to be loaded when the additive injectors will be stopped (e.g., 75)	— — —	887

Note: 1. This code is used in conjunction with options 6, 7, 8, and 9 of Code 884.
2. This code applies to GRK-04 and above firmware.

Program Code	Function	Code Description	Entry	Program Code
888-889		Unassigned at Present		888-889
890	Additive System and Pacing Control Selection	Enter: "0" Piston Injectors "1" Titan w/Pulse "2" Titan w/Comm "3" Gate City w/Pulse "4" Gate City w/Comm "5" Gate City Mini-Pak w/Pulse "6" Gate City Mini-Pak w/Comm		890
<i>Note: This code applies to GRK-04 and above firmware.</i>				
891-899		Unassigned at Present		891-899
900		Diagnostics Directory		900
901	Diagnostic	Display Test	None	901
902	Diagnostic	Keypad Test	None	902
903	Diagnostic	RTD Test	None	903
904	Diagnostic	4-20 mA Channel 1	None	904
905	Diagnostic	4-20 mA Channel 2	None	905
906	Diagnostic	Internal Temperature	None	906
907	Diagnostic	Power Supply Test	None	907
908	Diagnostic	Firmware Version	None	908
909	Diagnostic	AccuLoad II - Model Number	Read Only	909
910	Diagnostic	ACM Model Number	Read Only	910
911	Diagnostic	System Messages	None	911
912	Diagnostic	Micro-Pak Revision Number Display		912
<i>Note: This code applies to GRK-04 and above firmware.</i>				
913	Diagnostic	Micro-Pak Magnitude Display		913
<i>Note: This code applies to GRK-04 and above firmware.</i>				
914	Diagnostic	Micro-Pak Drive Display		914
<i>Note: This code applies to GRK-04 and above firmware.</i>				
915	Diagnostic	Micro-Pak Tube Clock Period Display		915
<i>Note: This code applies to GRK-04 and above firmware.</i>				
916	Diagnostic	Calibration Event Counter	None	916
<i>Note: This code applies to GRK-04 and above firmware.</i>				
917	Diagnostic	Configuration Event Counter	None	917
<i>Note: This code applies to GRK-04 and above firmware.</i>				
918-939		Unassigned at Present		918-939
940	Protection of Program Codes 980-989	Enter: "0" for Weights and Measures Mode "1" for Program Mode	None	940
941	Diagnostic	Communication Test - EIA-232 No Echo Back	None	941
942	Diagnostic	Communication Test - EIA-232 With Echo	None	942
943	Diagnostic	Communication Test - EIA-485 No Echo Back	None	943

Program Code	Function	Code Description	Entry	Program Code
944	Diagnostic	Communication Test - EIA-485 With Echo	None	944
945	Diagnostic	Meter Pulse Test	None	945
946	Diagnostic	Meter Pulse Test	None	946
947	Diagnostic	Meter Pulse Test	None	947
948	Diagnostic	Meter Pulse Test	None	948
949	Diagnostic	Meter Pulse Test	None	949
950	Diagnostic	Meter Pulse Test	None	950
951	Diagnostic	Meter Pulse Test	None	951
952	Diagnostic	Contact Input Test	None	952
953	Diagnostic	High-speed Prover	None	953
954	Diagnostic	Ticket Print 1 Test	None	954
955	Diagnostic	Ticket Print 2 Test	None	955
956	Diagnostic	Clear Local Storage	None	956
957	Diagnostic	Contact Output Test	None	957
<i>Note: This code applies to GRK-04 and above firmware.</i>				
958	Diagnostic	Clear Configurable Report	None	958
<i>Note: This code applies to GRK-04 and above firmware.</i>				
959	Diagnostic	Zero the Micro-Pak		959
<i>Note: This code applies to GRK-04 and above firmware.</i>				
960	Diagnostic	Set Tare for the Micro-Pak		960
<i>Note: This code applies to GRK-04 and above firmware.</i>				
961-990		Unassigned at Present	None	961-990
991	Diagnostic	Relay Test	None	991
992	Diagnostic	Ram Test	None	992
993	Diagnostic	Power-up Diagnostics	None	993
994	Diagnostic	See Service Manual	None	994
995	Diagnostic	See Service Manual	None	995
996	Diagnostic	Watchdog	None	996
997	Diagnostic	Relay Select Test	None	997
998-999		Unassigned at Present		998-999

Appendix I

GRK Display Customization Entry Table

Entry Number	Entry Description	Translation	Output Length
* 001	Alarm - See Manager		22
* 002	Alarm Press "CLEAR"		22
* 003	Alarm Press "PRINT"		22
* 004	Alarm - Remove Ticket		22
005	** Remove Ticket **		24
006	Please Wait		24
007	Report Pending to Print		24
008	No Local Start Allowed		24
009	Meter Position Not Used		24
010	Press Clear to Continue.		24
011	Press Start to Continue.		24
012	** Error Press Clear **		24
**013	Ready		6
**014	Restart In		11
**015	Valve Delay =		14
016	** Not Authorized **		24
017	Flow =		7
018	Flow* =		7
019	/Min		4
020	/Hr		3
**021	Temperature =		15
**022	Ref Density		12
**023	Rel Density =		18
**024	Meter Factor =		18
025	Raw Transaction		15
026	Grs Transaction		15
027	GST Transaction		15
028	Net Transaction		15

029	Mas Transaction		15
**030	Inj1 Trans		14
**031	Inj2 Trans		14
**032	Inj3 Trans		14
**033	Inj4 Trans		14
034	Inj1 Total		10
035	Inj2 Total		10
036	Inj3 Total		10
037	Inj4 Total		10
038	Density		7
039	Totals		6
**040	Valve Requested		17
041	Open		4
042	Closed		6
043	Lock		4
**044	Load Avg Tmp =		15
**045	Load Avg MFAC =		18
**046	Load Avg Pres =		19
**047	Load Avg Dens =		18
048	Off		3
049	On		3
050	Secs.		5
051	Select Injector#		16
052	Injectors On = #		16
053	No Injectors Selected		24
054	Inj		3
055	Prog		4
056	Cal		3
057	Raw		3
058	GRS		3
059	GST		3
060	Net		3
061	Mass		4

062	Temp		7
063	Gross		5
064,065,066	Preset Batch Volume exceeds the maximum permitted.		3 * 24
067,068,069	Preset Batch Volume is below the minimum required.		3 * 24
070,071,072	The Preset Volume will cause the Max Transaction Volume to be exceeded.		3 * 24

Note: * An entry number flagged with an asterisk (*), designates that the entry description should have a leading space in the message. This will allow for display concatenation without running words together.

Note: ** An entry number flagged with two asterisks (**), designates that the entry description should have a trailing space in the message. This will allow for display concatenation without running words together.

Note: The output length of each table entry signifies the maximum number of characters allowable for that particular message even though the default message may not take up all spaces allowed.

Note: The entry numbers 064, 065, and 066 are 24 character messages each. They are concatenated together to form a 72 character scrolling message. This is also true of the table entry group of 067, 068 and 069, and also the group of 070, 071, and 072.

Appendix II

Ready/Run Mode Clearable Alarms

Note: This table applies to GRK-04 and above firmware.

Entry	Alarm	Selection 0=clearable, 1=not clearable	
1	CM: Communications		
2	TK: Ticket Alarm		
3	HT: High Temperature		
4	LT: Low Temperature		
5	TP: Temperature Probe		
6	HF: Excess High Flow		
7	OA: Overrun		
8	LF: Low Flow		
9	PT: Pulse Transmission Alarm		
10	VF: Valve Fault		
11	BP: Back Pressure		
12	HP: High Pressure		
13	LP: Low Pressure		
14	PR: Pressure Transducer		
15	PC: Pulse Collision		
16	PS: Pulse Security		
17	DP: Down Pulse Error Alarm		
18	HD: High Density Alarm		
19	LD: Low Density Alarm		
20	DR: Density Transducer Alarm		
21	TT: Temperature Transducer Alarm		
22	SP: Set at Entry 751 (Shared Printed)		
23	SF: Local Storage Full Alarm		
24	F1: Additive Feedback 1 Alarm		
25	F2: Additive Feedback 2 Alarm		
26	F3: Additive Feedback 3 Alarm		
27	F4: Additive Feedback 4 Alarm		
28	H2: Set at Entry 755 (232 Printer Hardware Alarm)		

29	O2: Set at Entry 755 (232 Printer Paper Out		
30	A2: Set at Entry 755 (232 Printer Cover Open Alarm)		
31	P2: Set at Entry 755 (232 Printer Comm Alarm)		
32	B2: Set at Entry 755 (232 Printer Buffer Overflow)		
33	D2: Set at Entry 755 (232 Printer Deselected Alarm)		
34	E2: Set at Entry 755 (232 General Printer Error)		
35	I2: Set at Entry 755 (232 Printer Not Responding)		
36	H4: Set at Entry 755 (485 Printer Hardware Alarm)		
37	O4: Set at Entry 755 (485 Printer Paper Out Alarm)		
38	A4: Set at Entry 755 (485 Printer Cover Open Alarm)		
39	D4: Set at Entry 755 (485 Printer Deselected Alarm)		
40	B4: Set at Entry 755 (485 Printer Buffer Overflow)		
41	P4: Set at Entry 755 (485 Printer Comm Alarm).		
42	E4: Set at Entry 755 (485 Printer General Alarm)		
43	I4: Set at Entry 755 (485 Printer Not Responding)		
44	PA: Set at entry 184 (Power-fail Alarm)		
45	ZF: Zero Flow Alarm		
46	MS: Communications		
47	MD: Micro-Pak Drive		
48	MM: M-Pak Magnitude		
49	ML: M-Pak Low Temp		
50	MH: M-Pak High Temp		
51	AC: Additive Communications		
52	IA: Injector Alarm		
53	R1: Additive 1 Frequency		
54	R2: Additive 2 Frequency		
55	R3: Additive 3 Frequency		
56	R4: Additive 4 Frequency		
57	L1: Additive 1 Pulse		
58	L2: Additive 2 Pulse		
59	L3: Additive 3 Pulse		
60	L4: Additive 4 Pulse		
61	N1: No Pulses Detected Additive 1		

62	N2: No Pulses Detected Additive 2		
63	N3: No Pulses Detected Additive 3		
64	N4: No Pulses Detected Additive 4		
65	M1: Too Many Pulses Additive 1		
66	M2: Too Many Pulses Additive 2		
67	M3: Too Many Pulses Additive 3		
68	M4: Too Many Pulses Additive 4		
69	K1: Low Additive 1		
70	K2: Low Additive 2		
71	K3: Low Additive 3		
72	K4: Low Additive 4		
73	U1: Unauthorize Command Failed, Additive 1		
74	U2: Unauthorize Command Failed, Additive 2		
75	U3: Unauthorize Command Failed, Additive 3		
76	U4: Unauthorize Command Failed, Additive 4		

The following literature can be obtained from FMC Technologies Measurement Solutions Literature Fulfillment at johno@gohrs.com or at www.fmctechnologies.com/measurementsolutions. When requesting literature from Literature Fulfillment, please reference the appropriate bulletin number and title.

AccuLoad II

Specifications	Bulletin SS06012
Programming Workbook (Release 1)	Bulletin AB06023
Programming Workbook (Release 2)	Bulletin AB06029
Installation	Bulletin MN06037
Operator Reference (Release 1)	Bulletin MN06038
Operator Reference (Release 2)	Bulletin MN06050L
Communications	Bulletin MN06040L
Operator Guide	Bulletin MN06041

Load Printer

Specifications	Bulletin SS06004
Installation/Operation	Bulletin MN06010
Service	Bulletin MN06009

Valves

Model 210 - Specifications	Bulletin SS03009
Model 210 - Installation/Operation	Bulletin MN03010
Model 215 - Specifications	Bulletin SS03010
Model 215 - Installation/Operation	Bulletin MN03006
Model 215 - Service	Bulletin MN03007

Revisions included in AB06033L Issue/Rev. 1.0 (11/98):

- Eliminated Greek language entries
- Added Alarms AC, K1, K2, K3, K4, L1, L2, L3, L4, MH, ML, MM, MS, M1, M2, M3, M4, N1, N2, N3, N4, IA, R1, R2, R3, and R4
- Added Program Codes (or options within Program Codes, as indicated) 144-146, 183, 184, 219, 367, 445, 457-467, 702, 705, 706, 725, 726, 753, 754, 759-762, 855-861, 883, 884, 887, 890, 912-917, 957-960
- Added Appendix I, GRK Display Customization Entry Table
- Added Appendix II, Ready/Run Mode Clearable Alarms
- Converted document from WordPerfect to Microsoft Word

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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