

Flow_Trak 3.0

Volume 8

Appendices

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Appendix A

Delivery Report Codes and Data

The following table give the code, type of data and the data points provided by that code. Any text entered before, between of after will presented without change. All data is by specific meter determined when the delivery ticket is generated. These data values will only have data if you have defined a modbus register for retrieval.

Code	Data Type	Description of data
1	Float	indicated flow rate
2	Float	gross flow rate
3	Float	net flow rate
4	Float	mass flow rate
5	Float	energy flow rate
6	Float	opening indicated total
7	Float	opening gross total
8	Float	opening net total
9	Float	opening mass total
10	Float	opening energy total
11	Float	current indicated volume
12	Float	current gross volume
13	Float	current net volume
14	Float	current mass volume
15	Float	current energy volume
16	Float	flowing temperature
17	Float	flowing pressure
18	Float	flowing density
19	Float	flowing density temperature
20	Float	flowing density pressure

Code	Data Type	Description of data
21	Float	BS&W
22	Float	batch opening indicated volume
23	Float	batch opening gross volume
24	Float	batch opening net volume
25	Float	batch opening mass volume
26	Float	batch opening energy
27	Float	batch closing indicated volume
28	Float	batch closing gross volume
29	Float	batch closing net volume
30	Float	batch closing mass volume
31	Float	batch closing energy volume
32	Float	batch flow weighted average temperature
33	Float	batch flow weighted average pressure
34	Float	batch flow weighted average density
35	Float	batch flow weighted average density temperature
36	Float	batch flow weighted average density pressure
37	Float	batch flow weighted average sg
38	Float	batch flow weighted average sg60
39	Float	batch ctm
40	Float	batch cplm
41	Float	batch flow weighted meter factor
42	Float	batch flow weighted equilibrium pressure
43	Float	batch flow weighted BS&W
44	Integer	batch end (write register, typically is always zero)
45	Integer	start hour (beginning hour for day)

Code	Data Type	Description of data
46	Integer	temperature resolution (Dynamic SFC332 only)
47	Integer	pressure resolution (Dynamic SFC332 only)
48	Integer	flow resolution (Dynamic SFC332 only)
49	Integer	BS&W fail code
50	Integer	temperature fail code
51	Integer	pressure fail code
52	Integer	density fail code
53	Integer	density temperature fail code
54	Integer	density pressure fail code
55	Float	K-factor
56	Float	BS&W override
57	Float	meter factor override
58	Float	specific gravity override
59	Float	temperature override
60	Float	pressure override
61	Integer	batch start date
62	Integer	batch start time
63	Integer	batch number
64	Integer	batch date start
65	Integer	batch time start
66	Integer	batch date end
67	Integer	batch time end
68	Integer	flow computer date
69	Integer	flow computer time
70	Float	flow set point

Code	Data Type	Description of data
71	Float	flow control valve per cent open
72	Integer	pid control indicator 0= false 1= true
73	Float	batch ccfm
74	Float	conversion of net total BBL to cubic meters
75	Float	conversion of net total cubic meters to BBL
76	Float	conversion of net total mass long tons to metric tons
77	Float	conversion of net total mass metric tons to long tons
78		reserved
79		reserved
80		reserved
81		reserved
82		reserved
83		reserved
84		reserved
85		reserved
86		reserved
87		reserved
88		reserved
89		reserved
90		reserved
91		reserved
92		reserved
93		reserved
94		reserved
95		reserved

Code	Data Type	Description of data
96		reserved
97		reserved
98		batch ccfm
99		reserved
100		reserved
101	String	meter tag name
102	String	temperature tag name
103	String	pressure tag name
104	String	differential pressure tag name
105	String	meter type
106	String	meter liquid or gas
107	String	inlet valve tag
108	String	outlet valve tag
109	String	diverter valve tag
110	String	flow control valve tag
111	String	strainer tag
112	String	meter manufacturer
113	String	meter model
114	String	meter serial number
115	String	meter size
116	String	meter product
117	String	meter location
118	String	deliver/receipt text
119	String	flow computer type
120	Integer	flow computer internal meter id (where multiple meters are in one flow computer)

Code	Data Type	Description of data
121	Integer	flow computer communications loop
122	Integer	flow computer modbus id
123	String	digital source ("PLC" or "FC")
124	String	PLC name
125	Integer	PLC communications loop
126	Integer	PLC modbus id
127		reserved
		reserved
149		reserved
150	Float	meter low flow alarm
151	Float	meter high flow alarm
152	Float	meter max flow
153	Float	meter temperature low alarm
154	Float	meter temperature high alarm
155	Float	meter pressure low alarm
156	Float	meter pressure high alarm
157	Float	meter differential pressure low alarm
158	Float	meter differential pressure high alarm
159	Integer	inlet valve transit time
160	Integer	outlet valve transit time
161	Integer	diverter valve transit time
162		reserved
		reserved
179		reserved
180	String	temperature units for meter

Code	Data Type	Description of data
181	String	pressure units for meter
182	String	volume units for meter
183	String	mass units for meter
184	String	energy units for meter
185	String	differential pressure units for meter
186	String	flow rate units
187	String	accumulation header 1 (current conditions and hourly reports and displays)
188	String	accumulation units 1 (current conditions and hourly reports and displays)
189	String	accumulation header 2 (current conditions and hourly reports and displays)
190	String	accumulation units 2 (current conditions and hourly reports and displays)
191	String	accumulation header 3 (batch summary reports and displays)
192	String	accumulation units 3 (batch summary reports and displays)
193	String	accumulation header 4 (batch summary reports and displays)
194	String	accumulation units 4 (batch summary reports and displays)
195	String	accumulation header 5 (batch summary reports and displays)
196	String	accumulation units 5 (batch summary reports and displays)
197		reserved
198		reserved
199		reserved
200	String	prover type
201	String	prover manufacturer
202	String	prover serial number
203	String	prover base volume
204	String	prover outside diameter
205	String	prover wall thickness

Code	Data Type	Description of data
206	String	prover coeff. Of expansion
207	String	modulus of elasticity
208	String	prover material
209		reserved
		reserved
249		reserved
250	String	batch number
251	String	batch official / unofficial
252	String	batch receipt / delivery
253	String	batch ship name
254	String	country
255	String	batch destination
256	String	batch status
257	String	batch number
258	String	batch start date
259	String	batch start time
260	String	batch end date
261	String	batch end time
262	String	batch load sequence
263	String	batch volume target
264	String	batch flow weighted average temperature
265	String	batch flow weighted average pressure
266	String	batch accumulator 3
267	String	batch accumulator 4
268	Integer	batch accumulator 4

Code	Data Type	Description of data
269	String	batch start rate or if not ship skid rate
270	String	batch loading rate
271	String	batch top off rate
272	String	batch ticket number
273	String	batch delivery time
274		reserved
		reserved
289		reserved
290	Float	delivery ticket edit misc data value 1
291	Float	delivery ticket edit misc data value 2
292	Float	delivery ticket edit misc data value 3
293	Float	delivery ticket edit misc data value 4
294	Float	delivery ticket edit misc data value 5
295	Float	delivery ticket edit misc data value 6
296	Float	delivery ticket edit misc data value 7
297	Float	delivery ticket edit misc data value 8
298	Float	delivery ticket edit misc data value 9
299	Float	delivery ticket edit misc data value 10
300	Float	delivery ticket edit misc data value 11
301	Float	delivery ticket edit misc data value 12
302	Float	delivery ticket edit misc data value 13
303	Float	delivery ticket edit misc data value 14
304	Float	delivery ticket edit misc data value 15
305	Float	delivery ticket edit misc data value 16
306	Float	delivery ticket edit misc data value 17

Code	Data Type	Description of data
307	Float	delivery ticket edit misc data value 18
308	Float	delivery ticket edit misc data value 19
309	Float	delivery ticket edit misc data value 20
310	String	delivery ticket edit misc text value 1
311	String	delivery ticket edit misc text value 2
312	String	delivery ticket edit misc text value 3
313	String	delivery ticket edit misc text value 4
314	String	delivery ticket edit misc text value 5
315	String	delivery ticket edit misc text value 6
316	String	delivery ticket edit misc text value 7
317	String	delivery ticket edit misc text value 8
318	String	delivery ticket edit misc text value 9
319	String	delivery ticket edit misc text value 10
320	String	delivery ticket edit misc text value 11
321	String	delivery ticket edit misc text value 12
322	String	delivery ticket edit misc text value 13
323	String	delivery ticket edit misc text value 14
324	String	delivery ticket edit misc text value 15
325	String	delivery ticket edit misc text value 16
326	String	delivery ticket edit misc text value 17
327	String	delivery ticket edit misc text value 18
328	String	delivery ticket edit misc text value 19
329	String	delivery ticket edit misc text value 20
330		reserved
		reserved

Code	Data Type	Description of data
349		reserved
350	Float	current date (mm-dd-yyyy)
351	Float	current time (hh:mm:ss)
352	String	current date and time (mm-dd-yyyy hh:mm:ss)
353	String	current date and time (mm-dd-yyyy/hhmm)
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Appendix B

Prover Report Codes and Data

The following table give the code and the data points provided by that code. In cases where there are more than one data point, the data will be presented in the order listed below. Any text entered before, between of after will presented without change.

<u>Code</u>	<u>Data Points</u>	<u>General Format</u>
01	Official/Unofficial/Abort Report	() "O" () "U" () "A"
02	Location	[AAAAAAAAAAAA]
	Print Date/Time	mm/dd/yy/hhmm
03	Meter Manufacturer	[AAAAAAAAAAAA]
	Prover Manufacturer	[AAAAAAAAAAAA]
04	Meter Model	[AAAAAAAAAAAA]
	Prover Serial Number	[AAAAAAAAAAAA]
05	Meter Serial Number	[AAAAAAAAAAAA]
	Prover Base Volume:(m3)	[###0.000]
06	Meter Size(in)	[##0.00]
	Prover Outside Diam(in)	[##0.000]
07	Nominal K Factor	[#####0]
	Prover Wall Thickness(in)	[0.000]
08	Meter Tag Number	[AAAAAAAAAAAA]
	Prover Material	[AAAAAAAAAAAA]
09	Coeff.Cubical Expan(1/C)	[0.0000000]
10	Modulus of Elast(kPa)	[XXX.XXX.XXX]
11	Liquid	[AAAAAAAAAAAA]
	Observed Density (kg/l)	[0.0000]
	at Temperature (C)	[#0.00]
	Corrected Density (kg/m3@15C)	[###0.0]
13	Trial 1	[#0]
	Left Right Pulses	[#####0]
	Right Left Pulses	[#####0]
	Total Pulses	[#####0]
	Time is msec	[###0.0]
	Prover Pressure	[#####0]
	Meter Pressure	[#####0]
	Prover Temperature	[##0.00]
	Meter Temperature	[##0.00]
	Trial Meter factor	[#0.0000]
14	Repeat of 13 for Trial 2	
15	Repeat of 13 for Trial 3	
16	Repeat of 13 for Trial 4	
17	Repeat of 13 for Trial 5	
23	Number of Trials	[#0]
	Average Total Counts	[#####0]
	Average Time	[###0.0]
	Average Prover Pressure	[#####0]
	Average Meter Pressure	[#####0]

	Average Prover Temperature	[##0.00]
	Average Meter Temperature	[##0.00]
	Average Trial Meter Factor	[#0.0000]
24	Repeatability for Last 4 Trials	{0.000}
25	Base Prover Volume at 15C	[#0.00000]
	Volume Units	[VU]
26	Temp. Correction Factor for Steel of Prover	[#0.00000]
27	Press. Correction Factor for Steel of Prover	[#0.00000]
28	Temp Correction Factor for Liquid in Prover	[#0.00000]
29	Press. Correction Factor for Liquid in Prover	[#0.00000]
30	Combined Correction Factor for Liquid in Prover	[#0.00000]
31	Gross Standard Volume for Prover	[#0.00000]
	Volume Units	[VU]
32	Indicated Meter Volume	[#0.00000]
	Volume Units	[VU]
33	Temp. Correction Factor for Liquid in Meter	[#0.00000]
34	Press. Correction Factor for Liquid in Meter	[#0.00000]
35	Combined Correction Factor for Liquid in Meter	[#0.00000]
36	Gross Standard Volume for Meter	[#0.00000]
	Volume Units	[VU]
37	Average Meter Flow Rate	[#####0.0]
	Flow Rate Units	[FU]
38	Meter Factor @ Proving Flow Rate	[0.0000]
39	Meter Factor @ Normal Meter Flow Rate of	[#####0.0]
	Flow Rate Units	[FU]
	Meter Factor	[0.0000]
40	Exceeds test1	[0.00]
	Exceeds test 2	[0.00]
41	Normal Meter Flow Rate	[#####0.0]
	Flow Rate Units	[FU]
42	Initial Base Meter Factor Date	mm/dd/yy
	Base Meter Factor	[0.0000]
43	History Dates(1-5)	mm/dd/yy mm/dd/yy mm/dd/yy mm/dd/yy mm/dd/yy
44	History Factors(1-5)	[0.0000] [0.0000] [0.0000] [0.0000] [0.0000]
45	History Deviations(1-5)	[0.00] [0.00] [0.00] [0.00] [0.00]
46	History Dates(6-10)	mm/dd/yy mm/dd/yy mm/dd/yy mm/dd/yy

47	History Factors(6-10)	mm/dd/yy
		[0.0000]
		[0.0000]
		[0.0000]
		[0.0000]
		[0.0000]
48	History Deviations	[0.00]
		[0.00]
		[0.00]
		[0.00]
		[0.00]