TEK-COR 1100A

Coriolis Flow Meter

BIT REGISTER--1

1100A Coriolis Serial Port Communication Protocol Ver3.04					
Coil				Function: Read 01; Write 05	
NO.	Register Type	Register Address	RW	Description	
1	Coil registers	2	RW	Start/stop totalizers	
				0	Stop totalizers
				1	Start totalizers
2	Coil registers	3	RW	Reset all totals	
				0	Abort
				1	Reset all totals
3	Coil registers	4	RW	Reset all inventories totals (need hardware password)	
				0	Abort
				1	Reset all inventories totals
4	Coil registers	5	RW	Perform flowmeter zeroing	
				0	Abort
				1	Start zeroing
5	Coil registers	56	RW	Reset mass total	
				0	Abort
				1	Reset all totals
6	Coil registers	57	RW	Reset volume total	
				0	Abort
				1	Reset all totals
7	Coil registers	72	RW	Unknown	
				0	
				1	
8	Coil registers	73	RW	Unknown	
				0	
				1	
9	Coil registers	82	RW	Enable/disable pressure compensation	
				0	Disable
				1	Enable

ASCII REGISTER--1

ASCII Register				Function: Read 03, 04; Write 06
NO.	Register Type	Register Address	RW	Description
1	Holding registers	68	RO	HART tag (software tag) -- 'H'
		69	RO	HART tag (software tag) -- 'A'
		70	RO	HART tag (software tag) -- 'R'
		71	RO	HART tag (software tag) -- 'T'
2	Holding registers	72	RW	Flow calibration factor
		73	RW	Flow calibration factor
		74	RW	Flow calibration factor
		75	RW	Flow temperature coefficient
		76	RW	Flow temperature coefficient
3	Holding registers	80	RW	Temperature calibration slope
		81	RW	Temperature calibration slope
		82	RW	Temperature calibration slope
		83	RW	Temperature calibration slope
		84	RW	Temperature calibration offset
		85	RW	Temperature calibration offset
		86	RW	Temperature calibration offset
		87	RW	Space character (optional)

16-BIT INTEGER REGISTER--1---> Continue

16-bit Integer Register				Function: Read 03, 04; Write 06, 16	
NO.	Register Type	Register Address	RW	Description	
1	Holding registers	0016	RO	Transmitter software revision	
				(xxxx.x format; 141 = rev14.1)	
2	Holding registers	0017	RW	Flow direction	
				0	Forward flow only
				1	Reverse flow only
				2	Bidirectional flow
				3	Absolute forward/reverse
				4	Negate/Forward only
				5	Negate/Bidirectional
3	Holding registers	0039	RW	Mass flow rate unit	
				0 -- 81	lb/m -- Pounds/minute
				1 -- 82	lb/h -- Pounds/hour
				2 -- 74	Kg/m -- Kilograms/minute
				3 -- 79	t/D -- Metric tons/Day
				4 -- 75	Kg/h -- Kilograms/hour
				5 -- 78	t/h -- Metric tons/hour
4	Holding registers	0040	RW	Density unit	
				0 -- 95	g/mL -- Grams/milliliter
				1 -- 96	Kg/L -- Kilograms/liter
				2 -- 92	Kg/m^3 -- Kilograms/cubic centimeter
				3 -- 93	bl/gl -- Pounds/U.S. gallon
				4 -- 91	g/cm^3 -- Grams/cubic centimeter
				5 -- 94	Lb/f -- Pounds/cubic foot
5	Holding registers	0041	RW	Temperature unit	
				0 -- 32	°C -- Degrees Celsius
				1 -- 33	F -- Degrees Fahrenheit

16-BIT INTEGER REGISTER--1 ---> Continue

16-bit Integer Register				Function: Read 03, 04; Write 06, 16	
NO.	Register Type	Register Address	RW	Description	
6	Holding registers	0042	RW	Volume flow rate unit	
				0 -- 16	gl/m -- U.S. gallons/minute
				1 -- 136	gl/h -- U.S. gallons/hour
				2 -- 135	bl/D -- Barrels/day (42 U.S. gallons)
				3 -- 19	m^3/D -- Cubic meters/Day
				4-- 131	m^3/m -- Cubic meters/minute
				5 -- 19	m^3/h -- Cubic meters/hour
7	Holding registers	0044	RW	Pressure unit	
				0	MPa
				1 -- 7 (Default)	Bar -- Bar
				2 -- 12	KPa -- Kilopascals
8	Holding registers	0045	RW	Mass total or inventory unit	
				0 -- 63	lb -- Pounds
				1 -- 61	Kg -- Kilograms
				2 -- 62	T -- Metric tons
9	Holding registers	0046	RW	Volume total or inventory unit	
				0 -- 40	gal -- U.S. gallons
				1 -- 46	bbl -- Barrels (42 U.S. gallons)
				2 -- 43	m^3 -- Cubic meters
10	Holding registers	0120	RO	Device type code	
				40	Core Processor
				21/41/42	RFT9739/1700A/2700A
11	Input registers	0125	RO	Alarms Code	
12	Input registers	0126	RO	Alarms Code	
		0136	RO	Maximum zeroing time (seconds for Core Processor)	
13	Holding registers	0313	RW	MODBUS-- Modbus polling address	
14	Input registers	0419	RO	Alarms Code	
15	Input registers	0420	RO	Alarms Code	
16	Input registers	0421	RO	Alarms Code	
17	Input registers	0422	RO	Alarms Code	
18	Input registers	0423	RO	Alarms Code	
19	Input registers	0424	RO	Alarms Code	

16-BIT INTEGER REGISTER--1

16-bit Integer Register				Function: Read 03, 04; Write 06, 16	
NO.	Register Type	Register Address	RW	Description	
20	Holding registers	0521	RW	Floating-point byte order	
				0 (Default)	0-1-2-3
				1	2-3-0-1
				2	1-0-3-2
				3	3-2-1-0
21	Input registers	1138	RO	Output option board	
				0	None
				1 (Default)	Analog I/O (mA/Frequency/RS-485)
				2	Fieldbus (H1) or Profibus-PA
				3	Intrinsically safe output
				4	Configurable input/output
22	Holding registers	1166	RO	Output channel A type assignment	
23	Holding registers	1167	RO	Output channel B type assignment	
24	Holding registers	1168	RO	Output channel C type assignment	
				0 (1166 Default)	Milliamp (primary) output
				1 (1167 Default)	Frequency output
				2 (1168 Default)	Digital communications
				3	Milliamp (secondary) output
				4	Discrete output
				5	Discrete input
25	Holding registers	5003	RO	Custody transfer security switch	
				7070 (Default)	Secured
				All other values	Unsecured

FLOATING POINT REGISTERS--1

Floating Point Registers				Function:Read 03, 04; Write 16
NO.	Register Type	Register Address	RW	Description
1	Holding registers	0141 0142	RO	Slug duration (seconds)
2	Holding registers	0149 0150	RW	Cutoff for density
3	Holding registers	0155 0156	RW	D1-Low-density calibration (g/cc)
4	Holding registers	0157 0158	RW	D2 -- high-density calibration (g/cc)
5	Holding registers	0159 0160	RW	K1 -- Density calibration constant 1 (µsec)
6	Holding registers	0161 0162	RW	K2 -- Density calibration constant 2 (µsec)
7	Holding registers	0163 0164	RW	Density temperature coefficient
8	Holding registers	0189 0190	RW	Flow rate internal damping (seconds)
9	Holding registers	0191 0192	RO	Temperature internal damping (seconds)
10	Holding registers	0193 0194	RW	Density internal damping (seconds)
11	Holding registers	0195 0196	RW	Mass flow cutoff
12	Holding registers	0197 0198	RW	Volume flow cutoff
13	Holding registers	0199 0200	RW	Slug flow high-density limit (g/cc)
14	Holding registers	0201 0202	RW	Slug flow low-density limit (g/cc)
15	Holding registers	0231 0232	RO	Flowmeter zeroing standard deviation (µsec)
16	Holding registers	0233 0234	RO	Present flow signal offset at zero flow (µsec)
17	Holding registers	0247 0248	RO	Mass flow rate
18	Holding registers	0249 0250	RO	Density
19	Holding registers	0251 0252	RO	Temperature
20	Holding registers	0253 0254	RO	Volume flow rate
21	Holding registers	0257 0258	RO	Pressure (internally derived) (Kgf/cm2)
22	Holding registers	0259 0260	RO	Mass total
23	Holding registers	0261 0262	RO	Volume total
24	Holding registers	0263 0264	RO	Mass inventory
25	Holding registers	0265 0266	RO	Volume inventory
26	Holding registers	0267 0268	RW	Pressure correction factor for flow (%/PSI)
27	Holding registers	0269 0270	RW	Pressure correction factor for density (%/PSI)
28	Holding registers	0271 0272	RW	Flow calibration pressure (Kgf/cm^2)
29	Holding registers	0273 0274	RW	Pressure input at 4 mA (Kgf/cm^2)
30	Holding registers	0275 0276	RW	Pressure input at 20 mA (Kgf/cm^2)
31	Holding registers	0285 0286	RO	Raw tube frequency (Hz)
32	Holding registers	0287 0288	RO	Left pickoff voltage (millivolts)
33	Holding registers	0289 0290	RO	Right pickoff voltage (millivolts)
34	Holding registers	0291 0292	RO	Drive gain (%)
35	Holding registers	0293 0294	RO	Mass flow live zero flow (kg/h)
36	Holding registers	0303 0304	RW	Flowing-density calibration constant
37	Holding registers	0451 0452	RW	External pressure input value

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