SECTION P
PUMP STATUS

Revision Date: 4-30-24

PUMP CALL TO RUN STATUS

Pump 1-4 Call To Run Status provides status of when the Controller is calling the pumps to run. However, external pump fault / enable logic, such as Motor Thermal, may prevent a pump from actually running. The status may be read from Modbus Coils 145 - 148 (Modbus Register 40010 Bits 0 - 3). See page P-3.

ELAPSED TIME METERS

Pump 1-4 Elapsed Time Meters keep track of how many hours the pumps have run since the last time the meters were reset. The values read from these registers are intended for use in comparing the pump run time of one pump with the run time of the other pumps at the station, for the purpose of checking for uneven run times. (Uneven run times is an indication of a maintenance problem with one of the pumps.) Periodically the comparison of run times should be made and the registers should be reset to zero. The data may be read from Modbus Registers 40003 - 40006. The ETM data is stored in non-volatile memory so that the data is not lost during a power outage. To reset the ETMs to zero, momentarily set from Modbus Coils 21 - 24 (Modbus Register 40002 Bits 4 - 7). See pages P-2 & P-3.

LAST RUN CYCLE TIME METERS

Pump 1-4 Last Run Cycle Time Meters keep track of how long a pump ran during its last run cycle. The data may be read from Modbus Registers 40100 - 40103. The data is stored in non-volatile memory so that the data is not lost during a power outage. To reset the meters to zero, momentarily set Modbus Coil 593 - 596 (Modbus Register 40038 Bits 0 - 3). See pages P-2 & P-3.

PUMP START COUNTERS

Pump 1-4 Start Counters keep track of how many pump starts have occurred since the last time the counters were reset. The data may be read from Modbus Registers 40104 - 40107. The data is stored in non-volatile memory so that it is not lost during a power outage. To reset the counters to zero, momentarily set Modbus Coil 597 - 600 (Modbus Register 40038 Bits 4 - 7). See pages P-2 & P-3.

PUMP AVAILABLE FOR SERVICE STATUS

Pump 1-4 Available For Service Status provides status of when the pumps are available for service, based on the status of the Pump Disable Discrete Inputs. See Section A for more details on Pump Disable Discrete Inputs. The status may be read from Modbus Coils 601 - 604 (Modbus Register 40038 Bits 8 - 11). See page P-3.

PUMP STATUS - SCADA REGISTERS

SCADA Register Address	Description of Data	
Elapsed Time Meter Data		
40003	Pump 1 - Elapsed Time Meter (hours and 1/10 hours)	Range: 0.0 - 6553.5 hours
40004	Pump 2 - Elapsed Time Meter (hours and 1/10 hours)	Range: 0.0 - 6553.5 hours
40005	Pump 3 - Elapsed Time Meter (hours and 1/10 hours)	Range: 0.0 - 6553.5 hours
40006	Pump 4 - Elapsed Time Meter (hours and 1/10 hours)	Range: 0.0 - 6553.5 hours
Elapsed Time Meter Reset - To Reset Elapsed Time Meters to zero momentarily set Modbus Coils 21 - 24 (Register 40002 Bits 4 - 7).		
Last Run Cycle Time Meter Data		
40100	Pump 1 Last Run Cycle Time Meter (minutes and 1/10 minutes)	Range: 0.0 - 6553.5 minutes
40101	Pump 2 Last Run Cycle Time Meter (minutes and 1/10 minutes)	Range: 0.0 - 6553.5 minutes
40102	Pump 3 Last Run Cycle Time Meter (minutes and 1/10 minutes)	Range: 0.0 - 6553.5 minutes
40103	Pump 4 Last Run Cycle Time Meter (minutes and 1/10 minutes)	Range: 0.0 - 6553.5 minutes
Last Run Cycle Meter Reset - To Reset Last Run Cycle Meters to zero momentarily set Modbus Coils 593 - 596 (Register 40038 Bits 0 - 3).		
Pump Start Counter Data		
40104	Pump 1 Start Counter (Number of Pump Starts)	Range: 0 - 65535 Starts
40105	Pump 2 Start Counter (Number of Pump Starts)	Range: 0 - 65535 Starts
40106	Pump 3 Start Counter (Number of Pump Starts)	Range: 0 - 65535 Starts
40107	Pump 4 Start Counter (Number of Pump Starts)	Range: 0 - 65535 Starts
Pump Start Counter Reset - To Reset Pump Start Counters to zero momentarily set Modbus Coils 597 - 600 (Register 40038 Bits 4 - 7).		

PUMP STATUS & CONTROL - SCADA REGISTERS

SCADA Register Address	Description of Register Contents (Where a Modbus Coil is represented by a Bit in a Register)																
40002	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	Coil
									Pump 4 ETM - Reset	Pump 3 ETM - Reset	Pump 2 ETM - Reset	Pump 1 ETM - Reset					
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Bit
40010	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146	145	Coil
													Pump 4 Called to Run Status	Pump 3 Called to Run Status	Pump 2 Called to Run Status	Pump 1 Called to Run Status	
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Bit
40038	608	607	606	605	604	603	602	601	600	599	598	597	596	595	594	593	Coil
					Pump 4 Available For Service Status	Pump 3 Available For Service Status	Pump 2 Available For Service Status	Pump 1 Available For Service Status	Pump 4 Start Counter Reset	Pump 3 Start Counter Reset	Pump 2 Start Counter Reset	Pump 1 Start Counter Reset	Pump 4 Last Run Cycle Time Reset	Pump 3 Last Run Cycle Time Reset	Pump 2 Last Run Cycle Time Reset	Pump 1 Last Run Cycle Time Reset	
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Bit