Modbus Reg	Bit # 1=lsb 16=msb	Tag	Explanation

Command/Interaction area. This is a Read/Write area.		
40001	Commands from the MView (Port 1)	Commands from the MView (Port 1)
40002	Command1 Parameter 1	Command1 Parameter 1
40003	Command1 Parameter 2	Command1 Parameter 2
40004	Last command completed (Port 1)	Last command completed (Port 1)
40005	Commands from Port 2.	Commands from Port 2.
40006	Command2 Parameter 1	Command2 Parameter 1
40007	Command2 Parameter 2	Command2 Parameter 2
40008	Last command completed (Port 2)	Last command completed (Port 2)

Configuration information
The Version number and date/time information are inserted by the configuration application. It can be displayed on MView and/or used to verify that the correct configuration is in use.
An optional 16 byte string initialized by configuration is present right after the version number and date/time.
This is a Read Only area.

40009	VERSION_XX	Version of MConfigPro software
40010	VERSION_YY	that created the configuration.
40011	VERSION_ZZ	
40012	DATE_YEAR	Date and time the configuration
40013	DATE_MONTH	was saved. Note that when
40014	DATE_DAY	a configuration is downloaded
40015	DATE_HOUR	with MConfigPro, the Date and
40016	DATE_MINUTE	Time is updated to that moment.
40017	DATE_SECOND	
40018	CFG_STRING1	Bytes 1,2 of string
40019	CFG_STRING2	Bytes 3,4 of string
40020	CFG_STRING3	Bytes 5,6 of string
40021	CFG_STRING4	Bytes 7,8 of string
40022	CFG_STRING5	Bytes 9,10 of string
40023	CFG_STRING6	Bytes 11,12 of string
40024	CFG_STRING7	Bytes 13,14 of string
40025	CFG_STRING8	Bytes 15,16 of string
40026	CTL_VER	Version of Centurion Core
40027	Not used	firmware.
40028	LIFE_SECONDS_UPPER_16BITS	Lifetimer upper 16bits seconds
40029	LIFE_SECONDS_LOWER_16BITS	Lifetimer lower 16bits seconds
40030	Not used	
40031	Not used	
40032	CFG_CHECKSUM	Overall Checksum (End of CTL)
40033	BOOTLOADER_VER	Core bootloader version number
40034	JOB_NUMBER	Core job number
40035	COM_BOOTLOADER_VER	Expansion flash version number
40036	COM_JOB_NUMBER	Expansion software job number
40037	COM_CTL_VER	Expansion software version number

Commands	Explanation
1	Requires a parameter of Fault #.
	Fault 0xFFFF (-1) Acks ALL faults.
2	Keypad start (Disable remote)
3	Keypad stop (Disable remote)
4	Keypad reset (Disable remote)
5	
6	
7	
8	
9	
10	Put controller into Local mode.
11	Put controller into Remote mode.
12	Restore Factory Defaults
13	Keypad start plus FN key (Enable remote)
14	Keypad stop plus FN key (Enable remote)
15	Keypad reset plus FN key (Enable remote)
16	Requires Parameter of Maint Timer (1-10)
17	Parm 1 == 0 turns on timer, 1 to 16 for output #
	Parm 2 has on (1) or off (0) for the output.
18	Turns off force mode. No parameters.

C4 Modbus Map

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40101		STATE ENUMERATION VALUE	1 = PANEL READY 2 = START DELAY 3 = PREHEAT 4 = PRELUBE 5 = START VALVE 6 = CRANK STOP 7 = CRANK 8 = CRANK REST 9 = MOTOR ON 10 = WARMUP 11 = LOAD SEQ1 12 = LOAD SEQ2 13 = LOAD SEQ3 14 = LOAD SEQ4 15 = WAIT TO LOAD 16 = RUN LOADED 17 = COOLDOWN 18 = STOP ENGINE 19 = MOTOR OFF 20 = STOP VALVE 21 = POSTLUBE 22 = RESTART DELAY 23 = SHUTDOWN
40107	1-16	System Status Bitmap	System Status Bitmap
	1	STATUS_FLT_SHTDWN	Fault Shutdown in progress.
	2	STATUS_ESD	Emergency Shutdown in progress.
	3	STATUS_ALARM	Have Active alarms
	4	STATUS_START	Start/Stop indicator. 1=Start
	5	STATUS_LCL_RMT	1=Remote, 0=Local.
	6	STATUS_TEST_TMR	1=TEST timer is running.
	7	STATUS_B1_TMR	1=B1 timer is running.
	8	STATUS_B2_TMR	1=B2 timer is running.
	9	STATUS_C1_TMR	1=C1 timer is running.
	10	STATUS_C2_TMR	1=C2 timer is running.
	11	STATUS_S1_TMR	1=S1 timer is running
	12	STATUS_S2_TMR	1=S2 timer is running.
	13	STATUS_S3_TMR	1=S4 timer is running.
	14	STATUS_S4_TMR	1=S5 timer is running.
	15	STATUS_NF_TMR	1=NF timer is running.
	16	STATUS_BAD_CONFIG	1=Configuration is bad.
40108		STATE_TIMER	Timer for the current state
40109		TEST_TIMER	TEST timer.
40110		B1	Timer
40111		B2	Timer
40112		C1	Timer
40113		C2	Timer
40114		S1	Timer
40115		S2	Timer
40116		S3	Timer
40117		S4	Timer
40118		NF	Timer

Hour Meter Timer has the hours kept as an unsigned 32bit seconds counter.

40119	Hourmeter seconds upper 16bits.	Hourmeter seconds MSW
40120	Hourmeter seconds lower 16bits.	Hourmeter seconds LSW

Hour Meter Timer has the hours kept as two 16 bit registers

40121	Hourmeter--1000 hours	Hourmeter counts in 1000 hour increments
40122	Hourmeter--1/10 hours to 999.9 hours	Hourmeter counts in 1/10 second increments

System Related Values and Status Values

40181	SYSTEM VOLTAGE	Volts x 10
40191	SHUTDOWN ENUMERATION	0=No Shutdown, 1-128 = fault code
40192	NUMBER OF ACTIVE ALARMS	
40194	CRANK ATTEMPTS REMAINING	

System Related Status BITS

40205	VIP_PID_AUTO	Bitmapped For PID's1-6
40206	VIP_PID_ENABLED	Bitmapped For PID's1-6
40207	VIP_PID_OVERRIDE	Bitmapped For PID's1-6
40208	VIP_ARMED_ALARM_CLASSES	Bitmapped For PID's1-6

Manual Percent Change to Control Outputs. R/W locations.

40217	CTL_CHG_1	Manual value for Control Output
40218	CTL_CHG_2	Manual value for Control Output
40219	CTL_CHG_3	Manual value for Control Output
40220	CTL_CHG_4	Manual value for Control Output
40221	CTL_CHG_5	Manual value for Control Output
40222	CTL_CHG_6	Manual value for Control Output

Digital Output Force Mode Timer. Fixed duration 5 minutes.
Zero means not in force mode, non-zero means in force mode.

40229	DIG_FORCE_TIMER	In seconds. 5 minutes fixed.

Current computed PID setpoint. (May have changed because of overrides.)
(See also PIDx_ADJUST at 40597-40600.)

40242	PID_TARGET_1	Current computed target.
40243	PID_TARGET_2	Current computed target.
40244	PID_TARGET_3	Current computed target.
40245	PID_TARGET_4	Current computed target.
40246	PID_TARGET_5	Current computed target.
40247	PID_TARGET_6	Current computed target.

PID setpoint.
(See also PIDx_ADJUST at 40597-40600.)

40249	PID_SETPOINT_1	Current PID setpoint.
40250	PID_SETPOINT_2	Current PID setpoint.
40251	PID_SETPOINT_3	Current PID setpoint.
40252	PID_SETPOINT_4	Current PID setpoint.
40253	PID_SETPOINT_5	Current PID setpoint.
40254	PID_SETPOINT_6	Current PID setpoint.

Active Alarms. NUM_ALARMS has # of entries.
Use Bits 0-14. Bit 15 (MSB) is set on entries that have not been Acked.

40255	ALARM1	Enumeration, zero = none
40256	ALARM2	Enumeration, zero = none
40257	ALARM3	Enumeration, zero = none
40258	ALARM4	Enumeration, zero = none
40259	ALARM5	Enumeration, zero = none
40260	ALARM6	Enumeration, zero = none
40261	ALARM7	Enumeration, zero = none
40262	ALARM8	Enumeration, zero = none
40263	ALARM9	Enumeration, zero = none
40264	ALARM10	Enumeration, zero = none
40265	ALARM11	Enumeration, zero = none
40266	ALARM12	Enumeration, zero = none
40267	ALARM13	Enumeration, zero = none
40268	ALARM14	Enumeration, zero = none
40269	ALARM15	Enumeration, zero = none
40270	ALARM16	Enumeration, zero = none
40271	ALARM17	Enumeration, zero = none
40272	ALARM18	Enumeration, zero = none
40273	ALARM19	Enumeration, zero = none
40274	ALARM20	Enumeration, zero = none
40275	ALARM21	Enumeration, zero = none
40276	ALARM22	Enumeration, zero = none
40277	ALARM23	Enumeration, zero = none
40278	ALARM24	Enumeration, zero = none
40279	ALARM25	Enumeration, zero = none
40280	ALARM26	Enumeration, zero = none
40281	ALARM27	Enumeration, zero = none
40282	ALARM28	Enumeration, zero = none
40283	ALARM29	Enumeration, zero = none
40284	ALARM30	Enumeration, zero = none
40285	ALARM31	Enumeration, zero = none
40286	ALARM32	Enumeration, zero = none

Maintenance Timers, time remaining.

Modbus Address		Tag	Description
40301		MAINT1_HOURS	Hours
40302			
40303		MAINT2_HOURS	Hours
40304			
40305		MAINT3_HOURS	Hours
40306			
40307		MAINT4_HOURS	Hours
40308			
40309		MAINT5_HOURS	Hours
40310			
40311		MAINT6_HOURS	Hours
40312			
40313		MAINT7_HOURS	Hours

40314		
40315	MAINT8_HOURS	Hours
40316		
40317	MAINT9_HOURS	Hours
40318		
40319	MAINT10_HOURS	Hours
40320		

Current Active Alarms and Messages, A zero enumeration ends the list.
Note the list is sorted in numerical order according to the event list.

40328	ALARM ACK_16BITS (Reg. 40330-40345)	Least Significant bit corresponding to the ack state of first alarm in array
40329	ALARM ACK_14BITS (Reg. 40346-40359)	Least Significant bit corresponding to the ack state of first alarm in array
40330	ALARM 1_ENUM	Alarm enumeration
40331	ALARM 2_ENUM	Alarm enumeration
40332	ALARM 3_ENUM	Alarm enumeration
40333	ALARM 4_ENUM	Alarm enumeration
40334	ALARM 5_ENUM	Alarm enumeration
40335	ALARM 6_ENUM	Alarm enumeration
40336	ALARM 7_ENUM	Alarm enumeration
40337	ALARM 8_ENUM	Alarm enumeration
40338	ALARM 9_ENUM	Alarm enumeration
40339	ALARM 10_ENUM	Alarm enumeration
40340	ALARM 11_ENUM	Alarm enumeration
40341	ALARM 12_ENUM	Alarm enumeration
40342	ALARM 13_ENUM	Alarm enumeration
40343	ALARM 14_ENUM	Alarm enumeration
40344	ALARM 15_ENUM	Alarm enumeration
40345	ALARM 16_ENUM	Alarm enumeration
40346	ALARM 17_ENUM	Alarm enumeration
40347	ALARM 18_ENUM	Alarm enumeration
40348	ALARM 19_ENUM	Alarm enumeration
40349	ALARM 20_ENUM	Alarm enumeration
40350	ALARM 21_ENUM	Alarm enumeration
40351	ALARM 22_ENUM	Alarm enumeration
40352	ALARM 23_ENUM	Alarm enumeration
40353	ALARM 24_ENUM	Alarm enumeration
40354	ALARM 25_ENUM	Alarm enumeration
40355	ALARM 26_ENUM	Alarm enumeration
40356	ALARM 27_ENUM	Alarm enumeration
40357	ALARM 28_ENUM	Alarm enumeration
40358	ALARM 29_ENUM	Alarm enumeration
40359	ALARM 30_ENUM	Alarm enumeration

Shutdown History Log, 6 bytes per entry including Hour Meter
and Shutdown enumeration. A zero enumeration ends the list. Note the
list is sorted in descending order from most recent to oldest.

40401	SHUTDOWN1_UPPER_16BITS	Seconds upper 16bits
40402	SHUTDOWN1_LOWER_16BITS	Seconds lower 16bits
40403	SHUTDOWN1_ENUM	Shutdown enumeration
40404	SHUTDOWN2_UPPER_16BITS	Seconds upper 16bits

40405	SHUTDOWN2_LOWER_16BITS	Seconds lower 16bits
40406	SHUTDOWN2_ENUM	Shutdown enumeration
40407	SHUTDOWN3_UPPER_16BITS	Seconds upper 16bits
40408	SHUTDOWN3_LOWER_16BITS	Seconds lower 16bits
40409	SHUTDOWN3_ENUM	Shutdown enumeration
40410	SHUTDOWN4_UPPER_16BITS	Seconds upper 16bits
40411	SHUTDOWN4_LOWER_16BITS	Seconds lower 16bits
40412	SHUTDOWN4_ENUM	Shutdown enumeration
40413	SHUTDOWN5_UPPER_16BITS	Seconds upper 16bits
40414	SHUTDOWN5_LOWER_16BITS	Seconds lower 16bits
40415	SHUTDOWN5_ENUM	Shutdown enumeration
40416	SHUTDOWN6_UPPER_16BITS	Seconds upper 16bits
40417	SHUTDOWN6_LOWER_16BITS	Seconds lower 16bits
40418	SHUTDOWN6_ENUM	Shutdown enumeration
40419	SHUTDOWN7_UPPER_16BITS	Seconds upper 16bits
40420	SHUTDOWN7_LOWER_16BITS	Seconds lower 16bits
40421	SHUTDOWN7_ENUM	Shutdown enumeration
40422	SHUTDOWN8_UPPER_16BITS	Seconds upper 16bits
40423	SHUTDOWN8_LOWER_16BITS	Seconds lower 16bits
40424	SHUTDOWN8_ENUM	Shutdown enumeration
40425	SHUTDOWN9_UPPER_16BITS	Seconds upper 16bits
40426	SHUTDOWN9_LOWER_16BITS	Seconds lower 16bits
40427	SHUTDOWN9_ENUM	Shutdown enumeration
40428	SHUTDOWN10_UPPER_16BITS	Seconds upper 16bits
40429	SHUTDOWN10_LOWER_16BITS	Seconds lower 16bits
40430	SHUTDOWN10_ENUM	Shutdown enumeration
40431	SHUTDOWN11_UPPER_16BITS	Seconds upper 16bits
40432	SHUTDOWN11_LOWER_16BITS	Seconds lower 16bits
40433	SHUTDOWN11_ENUM	Shutdown enumeration
40434	SHUTDOWN12_UPPER_16BITS	Seconds upper 16bits
40435	SHUTDOWN12_LOWER_16BITS	Seconds lower 16bits
40436	SHUTDOWN12_ENUM	Shutdown enumeration
40437	SHUTDOWN13_UPPER_16BITS	Seconds upper 16bits
40438	SHUTDOWN13_LOWER_16BITS	Seconds lower 16bits
40439	SHUTDOWN13_ENUM	Shutdown enumeration
40440	SHUTDOWN14_UPPER_16BITS	Seconds upper 16bits
40441	SHUTDOWN14_LOWER_16BITS	Seconds lower 16bits
40442	SHUTDOWN14_ENUM	Shutdown enumeration
40443	SHUTDOWN15_UPPER_16BITS	Seconds upper 16bits
40444	SHUTDOWN15_LOWER_16BITS	Seconds lower 16bits
40445	SHUTDOWN15_ENUM	Shutdown enumeration
40446	SHUTDOWN16_UPPER_16BITS	Seconds upper 16bits
40447	SHUTDOWN16_LOWER_16BITS	Seconds lower 16bits
40448	SHUTDOWN16_ENUM	Shutdown enumeration
40449	SHUTDOWN17_UPPER_16BITS	Seconds upper 16bits
40450	SHUTDOWN17_LOWER_16BITS	Seconds lower 16bits
40451	SHUTDOWN17_ENUM	Shutdown enumeration
40452	SHUTDOWN18_UPPER_16BITS	Seconds upper 16bits
40453	SHUTDOWN18_LOWER_16BITS	Seconds lower 16bits
40454	SHUTDOWN18_ENUM	Shutdown enumeration
40455	SHUTDOWN19_UPPER_16BITS	Seconds upper 16bits
40456	SHUTDOWN19_LOWER_16BITS	Seconds lower 16bits

40457	SHUTDOWN19_ENUM	Shutdown enumeration
40458	SHUTDOWN20_UPPER_16BITS	Seconds upper 16bits
40459	SHUTDOWN20_LOWER_16BITS	Seconds lower 16bits
40460	SHUTDOWN20_ENUM	Shutdown enumeration

Event History Log, 6 bytes per entry including Hour Meter and Event enumeration. A zero enumeration ends the list. Note the list is sorted in descending order from most recent to oldest.

40501	EVENT1_UPPER_16BITS	Seconds upper 16bits
40502	EVENT1_LOWER_16BITS	Seconds lower 16bits
40503	EVENT1_ENUM	Event enumeration
40504	EVENT2_UPPER_16BITS	Seconds upper 16bits
40505	EVENT2_LOWER_16BITS	Seconds lower 16bits
40506	EVENT2_ENUM	Event enumeration
40507	EVENT3_UPPER_16BITS	Seconds upper 16bits
40508	EVENT3_LOWER_16BITS	Seconds lower 16bits
40509	EVENT3_ENUM	Event enumeration
40510	EVENT4_UPPER_16BITS	Seconds upper 16bits
40511	EVENT4_LOWER_16BITS	Seconds lower 16bits
40512	EVENT4_ENUM	Event enumeration
40513	EVENT5_UPPER_16BITS	Seconds upper 16bits
40514	EVENT5_LOWER_16BITS	Seconds lower 16bits
40515	EVENT5_ENUM	Event enumeration
40516	EVENT6_UPPER_16BITS	Seconds upper 16bits
40517	EVENT6_LOWER_16BITS	Seconds lower 16bits
40518	EVENT6_ENUM	Event enumeration
40519	EVENT7_UPPER_16BITS	Seconds upper 16bits
40520	EVENT7_LOWER_16BITS	Seconds lower 16bits
40521	EVENT7_ENUM	Event enumeration
40522	EVENT8_UPPER_16BITS	Seconds upper 16bits
40523	EVENT8_LOWER_16BITS	Seconds lower 16bits
40524	EVENT8_ENUM	Event enumeration
40525	EVENT9_UPPER_16BITS	Seconds upper 16bits
40526	EVENT9_LOWER_16BITS	Seconds lower 16bits
40527	EVENT9_ENUM	Event enumeration
40528	EVENT10_UPPER_16BITS	Seconds upper 16bits
40529	EVENT10_LOWER_16BITS	Seconds lower 16bits
40530	EVENT10_ENUM	Event enumeration
40531	EVENT11_UPPER_16BITS	Seconds upper 16bits
40532	EVENT11_LOWER_16BITS	Seconds lower 16bits
40533	EVENT11_ENUM	Event enumeration
40534	EVENT12_UPPER_16BITS	Seconds upper 16bits
40535	EVENT12_LOWER_16BITS	Seconds lower 16bits
40536	EVENT12_ENUM	Event enumeration
40537	EVENT13_UPPER_16BITS	Seconds upper 16bits
40538	EVENT13_LOWER_16BITS	Seconds lower 16bits
40539	EVENT13_ENUM	Event enumeration
40540	EVENT14_UPPER_16BITS	Seconds upper 16bits
40541	EVENT14_LOWER_16BITS	Seconds lower 16bits
40542	EVENT14_ENUM	Event enumeration

40543	EVENT15_UPPER_16BITS	Seconds upper 16bits
40544	EVENT15_LOWER_16BITS	Seconds lower 16bits
40545	EVENT15_ENUM	Event enumeration
40546	EVENT16_UPPER_16BITS	Seconds upper 16bits
40547	EVENT16_LOWER_16BITS	Seconds lower 16bits
40548	EVENT16_ENUM	Event enumeration
40549	EVENT17_UPPER_16BITS	Seconds upper 16bits
40550	EVENT17_LOWER_16BITS	Seconds lower 16bits
40551	EVENT17_ENUM	Event enumeration
40552	EVENT18_UPPER_16BITS	Seconds upper 16bits
40553	EVENT18_LOWER_16BITS	Seconds lower 16bits
40554	EVENT18_ENUM	Event enumeration
40555	EVENT19_UPPER_16BITS	Seconds upper 16bits
40556	EVENT19_LOWER_16BITS	Seconds lower 16bits
40557	EVENT19_ENUM	Event enumeration
40558	EVENT20_UPPER_16BITS	Seconds upper 16bits
40559	EVENT20_LOWER_16BITS	Seconds lower 16bits
40560	EVENT20_ENUM	Event enumeration
40561	EVENT21_UPPER_16BITS	Seconds upper 16bits
40562	EVENT21_LOWER_16BITS	Seconds lower 16bits
40563	EVENT21_ENUM	Event enumeration
40564	EVENT22_UPPER_16BITS	Seconds upper 16bits
40565	EVENT22_LOWER_16BITS	Seconds lower 16bits
40566	EVENT22_ENUM	Event enumeration
40567	EVENT23_UPPER_16BITS	Seconds upper 16bits
40568	EVENT23_LOWER_16BITS	Seconds lower 16bits
40569	EVENT23_ENUM	Event enumeration
40570	EVENT24_UPPER_16BITS	Seconds upper 16bits
40571	EVENT24_LOWER_16BITS	Seconds lower 16bits
40572	EVENT24_ENUM	Event enumeration
40573	EVENT25_UPPER_16BITS	Seconds upper 16bits
40574	EVENT25_LOWER_16BITS	Seconds lower 16bits
40575	EVENT25_ENUM	Event enumeration
40576	EVENT26_UPPER_16BITS	Seconds upper 16bits
40577	EVENT26_LOWER_16BITS	Seconds lower 16bits
40578	EVENT26_ENUM	Event enumeration
40579	EVENT27_UPPER_16BITS	Seconds upper 16bits
40580	EVENT27_LOWER_16BITS	Seconds lower 16bits
40581	EVENT27_ENUM	Event enumeration
40582	EVENT28_UPPER_16BITS	Seconds upper 16bits
40583	EVENT28_LOWER_16BITS	Seconds lower 16bits
40584	EVENT28_ENUM	Event enumeration
40585	EVENT29_UPPER_16BITS	Seconds upper 16bits
40586	EVENT29_LOWER_16BITS	Seconds lower 16bits
40587	EVENT29_ENUM	Event enumeration
40588	EVENT30_UPPER_16BITS	Seconds upper 16bits
40589	EVENT30_LOWER_16BITS	Seconds lower 16bits
40590	EVENT30_ENUM	Event enumeration
40591	EVENT31_UPPER_16BITS	Seconds upper 16bits
40592	EVENT31_LOWER_16BITS	Seconds lower 16bits
40593	EVENT31_ENUM	Event enumeration
40594	EVENT32_UPPER_16BITS	Seconds upper 16bits

40595	EVENT32_LOWER_16BITS	Seconds lower 16bits
40596	EVENT32_ENUM	Event enumeration

Modbus Register	Bit # 1=lsb		Modbus Register	Bit # 1=lsb		Description
Raw Value		*Units*	*Scaled Value*		*Units*	
41001	1-16	Bitmap	42001	1-16	Bitmap	Core Digital Inputs
41001	1		42001	1		
41001	2		42001	2		
41001	3		42001	3		
41001	4		42001	4		
41001	5		42001	5		
41001	6		42001	6		
41001	7		42001	7		
41001	8		42001	8		
41001	9		42001	9		
41001	10		42001	10		
41001	11		42001	11		
41001	12		42001	12		
41001	13		42001	13		
41001	14		42001	14		
41001	15		42001	15		
41001	16		42001	16		
41002	17-32	Bitmap	42002	17-32	Bitmap	Core Digital Inputs
41002	1		42002	1		
41002	2		42002	2		
41002	3		42002	3		
41002	4		42002	4		
41002	5		42002	5		
41002	6		42002	6		
41002	7		42002	7		
41002	8		42002	8		
41002	9		42002	9		
41002	10		42002	10		
41002	11		42002	11		
41002	12		42002	12		
41002	13		42002	13		
41002	14		42002	14		
41002	15		42002	15		
41002	16		42002	16		
41003		Counts	42003		Engineering Unit	Core Analog Input 1
41004		Counts	42004		Engineering Unit	Core Analog Input 2
41005		Counts	42005		Engineering Unit	Core Analog Input 3
41006		Counts	42006		Engineering Unit	Core Analog Input 4
41007		Counts	42007		Engineering Unit	Core Analog Input 5

41008	Counts	42008	Engineering Unit	Core Analog Input 6
41009	Counts	42009	Engineering Unit	Core Analog Input 7
41010	Counts	42010	Engineering Unit	Core Analog Input 8
41011	Counts	42011	Engineering Unit	Core Analog Input 9
41012	Counts	42012	Engineering Unit	Core Analog Input 10
41013	Counts	42013	Engineering Unit	Core Analog Input 11
41014	Counts	42014	Engineering Unit	Core Analog Input 12
41015	Counts	42015	Engineering Unit	MX5-A Analog Input 1
41016	Counts	42016	Engineering Unit	MX5-A Analog Input 2
41017	Counts	42017	Engineering Unit	MX5-A Analog Input 3
41018	Counts	42018	Engineering Unit	MX5-A Analog Input 4
41019	Counts	42019	Engineering Unit	MX5-A Analog Input 5
41020	Counts	42020	Engineering Unit	MX5-A Analog Input 6
41021	Counts	42021	Engineering Unit	MX5-A Analog Input 7
41022	Counts	42022	Engineering Unit	MX5-A Analog Input 8
41023	Counts	42023	Engineering Unit	PID Output Scaled as Analog 1
41024	Counts	42024	Engineering Unit	PID Output Scaled as Analog 2
41025	Counts	42025	Engineering Unit	PID Output Scaled as Analog 3
41026	Counts	42026	Engineering Unit	PID Output Scaled as Analog 4
41027	Counts	42027	Engineering Unit	PID Output Scaled as Analog 5
41028	Counts	42028	Engineering Unit	PID Output Scaled as Analog 6
41029	Counts	42029	Degrees	Core Thermocouple Input 1
41030	Counts	42030	Degrees	Core Thermocouple Input 2
41031	Counts	42031	Degrees	Core Thermocouple Input 3
41032	Counts	42032	Degrees	Core Thermocouple Input 4
41033	Counts	42033	Degrees	Core Thermocouple Input 5
41034	Counts	42034	Degrees	Core Thermocouple Input 6
41035	Counts	42035	Degrees	Core Thermocouple Input 7
41036	Counts	42036	Degrees	Core Thermocouple Input 8
41037	Counts	42037	Degrees	MX4 Expansion Thermocouple Input 1
41038	Counts	42038	Degrees	MX4 Expansion Thermocouple Input 2
41039	Counts	42039	Degrees	MX4 Expansion Thermocouple Input 3
41040	Counts	42040	Degrees	MX4 Expansion Thermocouple Input 4
41041	Counts	42041	Degrees	MX4 Expansion Thermocouple Input 5
41042	Counts	42042	Degrees	MX4 Expansion Thermocouple Input 6
41043	Counts	42043	Degrees	MX4 Expansion Thermocouple Input 7
41044	Counts	42044	Degrees	MX4 Expansion Thermocouple Input 8
41045	Counts	42045	Degrees	MX4 Expansion Thermocouple Input 9
41046	Counts	42046	Degrees	MX4 Expansion Thermocouple Input 10
41047	Counts	42047	Degrees	MX4 Expansion Thermocouple Input 11
41048	Counts	42048	Degrees	MX4 Expansion Thermocouple Input 12
41049	Counts	42049	Degrees	MX4 Expansion Thermocouple Input 13

41050		Counts	42050		Degrees	MX4 Expansion Thermocouple Input 14
41051		Counts	42051		Degrees	MX4 Expansion Thermocouple Input 15
41052		Counts	42052		Degrees	MX4 Expansion Thermocouple Input 16
41053		Counts	42053		Degrees	MX4 Expansion Thermocouple Input 17
41054		Counts	42054		Degrees	MX4 Expansion Thermocouple Input 18
41055			42055			
41056		Hz	42056		RPM	Core Magnetic Pickup Reading
41057			42057			
41058		Hz	42058		RPM	Expansion Module Magnetic Pickup Reading
41059			42059			
41060	1-10	Bitmap	42060	1-10	Bitmap	Core Digital Outputs
	1			1		Relay Output 1
	2			2		Relay Output 2
	3			3		Relay Output 3
	4			4		Relay Output 4
	5			5		FET Output 1
	6			6		FET Output 2
	7			7		FET Output 3
	8			8		FET Output 4
	9			9		FET Output 5
	10			10		FET Output 6
41061	1-16	Bitmap	42061	1-16	Bitmap	MX5-A Digital Outputs
	1			1		Digital Output 1
	2			2		Digital Output 2
	3			3		Digital Output 3
	4			4		Digital Output 4
	5			5		Digital Output 5
	6			6		Digital Output 6
41062		Counts	42062		% x100	Core Analog Output 1
41063		Counts	42063		% x100	Core Analog Output 2
41064		Counts	42064		% x100	MX5-A Analog Output 1
41065		Counts	42065		% x100	MX5-A Analog Output 2
41066		Counts	42066		% x100	MX5-A Analog Output 3
41067		Counts	42067		% x100	MX5-A Analog Output 4

Modbus Register	Bit #	Tag	Example
40101		State Enumeration. Not all states may be used, and may be renamed for a specific application…refer to the Configuration Report for state descriptions. 1 = PANEL READY 2 = START DELAY 3 = PRE-HEAT 4 = PRE-LUBE 5 = START VALVE 6 = CRANK STOP 7 = CRANK 8 = CRANK REST 9 = MOTOR ON 10 = WARMUP 11 = LOADING SEQ STATE 1 12 = LOADING SEQ STATE 2 13 = LOADING SEQ STATE 3 14 = LOADING SEQ STATE 4 15 = WAIT FOR LOAD 16 = RUN LOADED 17 = COOLDOWN 18= STOP ENGINE 19 = MOTOR OFF 20 = STOP VALVE 21 = POST-LUBE	***16 means that the engine/motor is running and loaded***

Digital Input NO/NC	Bits	Digital Input Tag	*Default NO/NC 0=NO 1=NC*
43001	1-16	D_IN_01_16_NC	***0***
43002	17-32	D_IN_17_32_NC	***0***
43003		NO_FLOW_01	***0***
43004		NO_FLOW_02	***0***
43005		NO_FLOW_03	***0***
43006		NO_FLOW_04	***0***

43007	NO_FLOW_05	***0***
43008	NO_FLOW_06	***0***
43009	NO_FLOW_07	***0***
43010	NO_FLOW_08	***0***
43011	NO_FLOW_09	***0***
43012	NO_FLOW_10	***0***
43013	NO_FLOW_11	***0***
43014	NO_FLOW_12	***0***
43015	NO_FLOW_13	***0***
43016	NO_FLOW_14	***0***
43017	NO_FLOW_15	***0***
43018	NO_FLOW_16	***0***
43019	NO_FLOW_17	***0***
43020	NO_FLOW_18	***0***
43021	NO_FLOW_19	***0***
43022	NO_FLOW_20	***0***
43023	NO_FLOW_21	***0***
43024	NO_FLOW_22	***0***
43025	NO_FLOW_23	***0***
43026	NO_FLOW_24	***0***
43027	NO_FLOW_25	***0***
43028	NO_FLOW_26	***0***
43029	NO_FLOW_27	***0***
43030	NO_FLOW_28	***0***
43031	NO_FLOW_29	***0***
43032	NO_FLOW_30	***0***
43033	NO_FLOW_31	***0***
43034	NO_FLOW_32	***0***

Analog Input configuration.

Analog Input		**Tag**	***Value***
43035		A_IN_01_MAVG	***1***
43036		A_IN_01_OFFSET	***0***
43037		A_IN_01_SPAN	***5000***
43038		A_IN_01_MIN	***0***
43039		A_IN_01_MAX	***100***
43040		A_IN_02_MAVG	***1***
43041		A_IN_02_OFFSET	***0***
43042		A_IN_02_SPAN	***5000***

43043	A_IN_02_MIN	***0***
43044	A_IN_02_MAX	***100***
43045	A_IN_03_MAVG	***1***
43046	A_IN_03_OFFSET	***0***
43047	A_IN_03_SPAN	***5000***
43048	A_IN_03_MIN	***0***
43049	A_IN_03_MAX	***100***
43050	A_IN_04_MAVG	***1***
43051	A_IN_04_OFFSET	***0***
43052	A_IN_04_SPAN	***5000***
43053	A_IN_04_MIN	***0***
43054	A_IN_04_MAX	***100***
43055	A_IN_05_MAVG	***1***
43056	A_IN_05_OFFSET	***0***
43057	A_IN_05_SPAN	***5000***
43058	A_IN_05_MIN	***0***
43059	A_IN_05_MAX	***100***
43060	A_IN_06_MAVG	***1***
43061	A_IN_06_OFFSET	***0***
43062	A_IN_06_SPAN	***5000***
43063	A_IN_06_MIN	***0***
43064	A_IN_06_MAX	***100***
43065	A_IN_07_MAVG	***1***
43066	A_IN_07_OFFSET	***0***
43067	A_IN_07_SPAN	***5000***
43068	A_IN_07_MIN	***0***
43069	A_IN_07_MAX	***100***
43070	A_IN_08_MAVG	***1***
43071	A_IN_08_OFFSET	***0***
43072	A_IN_08_SPAN	***5000***
43073	A_IN_08_MIN	***0***
43074	A_IN_08_MAX	***100***
43075	A_IN_09_MAVG	***1***
43076	A_IN_09_OFFSET	***0***
43077	A_IN_09_SPAN	***5000***
43078	A_IN_09_MIN	***0***
43079	A_IN_09_MAX	***100***
43080	A_IN_10_MAVG	***1***
43081	A_IN_10_OFFSET	***0***
43082	A_IN_10_SPAN	***5000***
43083	A_IN_10_MIN	***0***
43084	A_IN_10_MAX	***100***

43085	A_IN_11_MAVG	***1***
43086	A_IN_11_OFFSET	***0***
43087	A_IN_11_SPAN	***5000***
43088	A_IN_11_MIN	***0***
43089	A_IN_11_MAX	***100***
43090	A_IN_12_MAVG	***1***
43091	A_IN_12_OFFSET	***0***
43092	A_IN_12_SPAN	***5000***
43093	A_IN_12_MIN	***0***
43094	A_IN_12_MAX	***100***
Expansion Board		
43095	A_IN_13_MAVG	***1***
43096	A_IN_13_OFFSET	***0***
43097	A_IN_13_SPAN	***5000***
43098	A_IN_13_MIN	***0***
43099	A_IN_13_MAX	***100***
43100	A_IN_14_MAVG	***1***
43101	A_IN_14_OFFSET	***0***
43102	A_IN_14_SPAN	***5000***
43103	A_IN_14_MIN	***0***
43104	A_IN_14_MAX	***100***
43105	A_IN_15_MAVG	***1***
43106	A_IN_15_OFFSET	***0***
43107	A_IN_15_SPAN	***5000***
43108	A_IN_15_MIN	***0***
43109	A_IN_15_MAX	***100***
43110	A_IN_16_MAVG	***1***
43111	A_IN_16_OFFSET	***0***
43112	A_IN_16_SPAN	***5000***
43113	A_IN_16_MIN	***0***
43114	A_IN_16_MAX	***100***
43115	A_IN_17_MAVG	***1***
43116	A_IN_17_OFFSET	***0***
43117	A_IN_17_SPAN	***5000***
43118	A_IN_17_MIN	***0***
43119	A_IN_17_MAX	***100***
43120	A_IN_18_MAVG	***1***
43121	A_IN_18_OFFSET	***0***
43122	A_IN_18_SPAN	***5000***
43123	A_IN_18_MIN	***0***
43124	A_IN_18_MAX	***100***
43125	A_IN_19_MAVG	***1***

43126	A_IN_19_OFFSET		***0***		
43127	A_IN_19_SPAN		***5000***		
43128	A_IN_19_MIN		***0***		
43129	A_IN_19_MAX		***100***		
43130	A_IN_20_MAVG		***1***		
43131	A_IN_20_OFFSET		***0***		
43132	A_IN_20_SPAN		***5000***		
43133	A_IN_20_MIN		***0***		
43134	A_IN_20_MAX		***100***		
43135	A_IN_21_MAVG		***1***	new	SCALE PID1
43136	A_IN_21_OFFSET	***xx***		new	Not used in calculation
43137	A_IN_21_SPAN	***xx***		new	Not used in calculation
43138	A_IN_21_MIN		***0***	new	
43139	A_IN_21_MAX		***100***	new	
43140	A_IN_22_MAVG		***1***	new	SCALE PID2
43141	A_IN_22_OFFSET	***xx***		new	Not used in calculation
43142	A_IN_22_SPAN	***xx***		new	Not used in calculation
43143	A_IN_22_MIN		***0***	new	
43144	A_IN_22_MAX		***100***	new	
43145	A_IN_23_MAVG		***1***	new	SCALE PID3
43146	A_IN_23_OFFSET	***xx***		new	Not used in calculation
43147	A_IN_23_SPAN	***xx***		new	Not used in calculation
43148	A_IN_23_MIN		***0***	new	
43149	A_IN_23_MAX		***100***	new	
43150	A_IN_24_MAVG		***1***	new	SCALE PID4
43151	A_IN_24_OFFSET	***xx***		new	Not used in calculation
43152	A_IN_24_SPAN	***xx***		new	Not used in calculation
43153	A_IN_24_MIN		***0***	new	
43154	A_IN_24_MAX		***100***	new	
43155	A_IN_25_MAVG		***1***	new	SCALE PID5
43156	A_IN_25_OFFSET	***xx***		new	Not used in calculation
43157	A_IN_25_SPAN	***xx***		new	Not used in calculation
43158	A_IN_25_MIN		***0***	new	
43159	A_IN_25_MAX		***100***	new	
43160	A_IN_26_MAVG		***1***	new	SCALE PID6
43161	A_IN_26_OFFSET	***xx***		new	Not used in calculation
43162	A_IN_26_SPAN	***xx***		new	Not used in calculation
43163	A_IN_26_MIN		***0***	new	
43164	A_IN_26_MAX		***100***	new	

Thermocouple inputs.

Thermo-		**Tag**	***J/K***

Couple			F/C Adjust-ment	
MLC Core				
43165		T_IN_01_JK	***J***	
43166		T_IN_01_ADJUST		***0***
43167		T_IN_02_JK	***J***	
43168		T_IN_02_ADJUST		***0***
43169		T_IN_03_JK	***J***	
43170		T_IN_03_ADJUST		***0***
43171		T_IN_04_JK	***J***	
43172		T_IN_04_ADJUST		***0***
43173		T_IN_05_JK	***J***	
43174		T_IN_05_ADJUST		***0***
43175		T_IN_06_JK	***J***	
43176		T_IN_06_ADJUST		***0***
43177		T_IN_07_JK	***J***	
43178		T_IN_07_ADJUST		***0***
43179		T_IN_08_JK	***J***	
43180		T_IN_08_ADJUST		***0***
Expansion Board				
43181		T_IN_09_JK	***J***	
43182		T_IN_09_ADJUST		***0***
43183		T_IN_10_JK	***J***	
43184		T_IN_10_ADJUST		***0***
43185		T_IN_11_JK	***J***	
43186		T_IN_11_ADJUST		***0***
43187		T_IN_12_JK	***J***	
43188		T_IN_12_ADJUST		***0***
43189		T_IN_13_JK	***J***	
43190		T_IN_13_ADJUST		***0***
43191		T_IN_14_JK	***J***	
43192		T_IN_14_ADJUST		***0***
43193		T_IN_15_JK	***J***	
43194		T_IN_15_ADJUST		***0***
43195		T_IN_16_JK	***J***	
43196		T_IN_16_ADJUST		***0***
43197		T_IN_17_JK	***J***	
43198		T_IN_17_ADJUST		***0***
43199		T_IN_18_JK	***J***	
43200		T_IN_18_ADJUST		***0***
43201		T_IN_19_JK	***J***	

43202	T_IN_19_ADJUST		***0***
43203	T_IN_20_JK	***J***	
43204	T_IN_20_ADJUST		***0***
43205	T_IN_21_JK	***J***	
43206	T_IN_21_ADJUST		***0***
43207	T_IN_22_JK	***J***	
43208	T_IN_22_ADJUST		***0***
43209	T_IN_23_JK	***J***	
43210	T_IN_23_ADJUST		***0***
43211	T_IN_24_JK	***J***	
43212	T_IN_24_ADJUST		***0***
43213	T_IN_25_JK	***J***	
43214	T_IN_25_ADJUST		***0***
43215	T_IN_26_JK	***J***	
43216	T_IN_26_ADJUST		***0***

Misc

Misc		**Tag**	***Value***
43217		NUM_CRANK_ATTEMPTS	***3***
43218		PORT1_RTU	***1***
43219		PORT1_RS232	***0***
43220		PORT1_REPLY_DELAY	***15***
43221		PORT1_BAUD_RATE	***2***
43222		PORT2_RS232	***0***
43223		PORT2_REPLY_DELAY	***15***
43224		PORT2_BAUD_RATE	***1***
43225		MAG_INPUT_TEETH	***153***
43226		MAG_INPUT_TEETH_2	***153***

Cold Junction Temperature Offsets in tenths.

43227	CORE_TEMP_OFFSET	***0***	Tenths of a degree.
43228	CORE_TEMP_OFFSET_2	***0***	Tenths of a degree.
43229	EXP_TEMP_OFFSET	***0***	Tenths of a degree.
43230	EXP_TEMP_OFFSET_2	***0***	Tenths of a degree.

Maintenance Timers (10 of them)
See DynMaintenanceTimer_t

Maint. Timers		Global Maintenance Timer Tag	*Default Hours*
43231		CFG_MAINT_TMR_01	***0***
43232		CFG_MAINT_TMR_02	***0***
43233		CFG_MAINT_TMR_03	***0***
43234		CFG_MAINT_TMR_04	***0***
43235		CFG_MAINT_TMR_05	***0***
43236		CFG_MAINT_TMR_06	***0***
43237		CFG_MAINT_TMR_07	***0***
43238		CFG_MAINT_TMR_08	***0***
43239		CFG_MAINT_TMR_09	***0***
43240		CFG_MAINT_TMR_10	***0***

Global Timers
See DynGlobalTimers_t

Global Timers		Global Timer Tag	*Default Seconds*
43241		CFG_B1_TMR	***60***
43242		CFG_B2_TMR	***120***
43243		Reserved	***0***
43244		CFG_C2_TMR	***1***
43245		CFG_S1_TMR	***2***
43246		CFG_S2_TMR	***3***
43247		CFG_S3_TMR	***4***
43248		CFG_S4_TMR	***5***
43249		CFG_NF_TMR	***6***
43250		CFG_TEST_TMR	***5***
43251		CFG_IGN_ON_DELAY_TMR	***2***
43252		CFG_FUEL_ON_DELAY_TMR	***2***
43253		CFG_IGN_OFF_DELAY_TMR	***2***
43254		Reserved	***0***

STATE TIMERS
There are 23 States. These settings are the State Timers and the initial Control Output settings for each state.

Engine State Timers		**Engine State Tag**	***State Timer Seconds***
43255		PANEL_READY_TIMEOUT	***0xFFFF***
43256		PANEL_READY_O1_02	***-1***
43257		PANEL_READY_O3_04	***-1***
43258		PANEL_READY_O5_06	***-1***
43259		PANEL_READY_O7_08	***-1***
43260		PANEL_READY_O9_10	***-1***
43261		PANEL_READY_11_12	***-1***
43262		PANEL_READY_13_14	***-1***
43263		PANEL_READY_15_16	***-1***
43264		START_DELAY_TIMEOUT	***20***
43265		START_DELAY_O1_02	***-1***
43266		START_DELAY_O3_04	***-1***
43267		START_DELAY_O5_06	***-1***
43268		START_DELAY_O7_08	***-1***
43269		START_DELAY_O9_10	***-1***
43270		START_DELAY_11_12	***-1***
43271		START_DELAY_13_14	***-1***
43272		START_DELAY_15_16	***-1***
43273		PREHEAT_TIMEOUT	***60***
43274		PREHEAT_O1_02	***-1***
43275		PREHEAT_O3_04	***-1***
43276		PREHEAT_O5_06	***-1***
43277		PREHEAT_O7_08	***-1***
43278		PREHEAT_O9_10	***-1***
43279		PREHEAT_11_12	***-1***
43280		PREHEAT_13_14	***-1***
43281		PREHEAT_15_15	***-1***
43282		PRELUBE_TIMEOUT	***60***
43283		PRELUBE_O1	***-1***
43284		PRELUBE_O2	***-1***
43285		PRELUBE_O3	***-1***
43286		PRELUBE_O4	***-1***
43287		PRELUBE_O5	***-1***
43288		PRELUBE_O6	***-1***
43289		PRELUBE_O7	***-1***
43290		PRELUBE_O8	***-1***
43291		START_VALVE_TIMEOUT	***5***
43292		START_VALVE_O1	***-1***

43293	START_VALVE_O2	***-1***
43294	START_VALVE_O3	***-1***
43295	START_VALVE_O4	***-1***
43296	START_VALVE_O5	***-1***
43297	START_VALVE_O6	***-1***
43298	START_VALVE_O7	***-1***
43299	START_VALVE_O8	***-1***
43300	CRANK_STOP_TIMEOUT	***10***
43301	CRANK_STOP_O1	***-1***
43302	CRANK_STOP_O2	***-1***
43303	CRANK_STOP_O3	***-1***
43304	CRANK_STOP_O4	***-1***
43305	CRANK_STOP_O5	***-1***
43306	CRANK_STOP_O6	***-1***
43307	CRANK_STOP_O7	***-1***
43308	CRANK_STOP_O8	***-1***
43309	CRANK_TIMEOUT	***10***
43310	CRANK_O1	***-1***
43311	CRANK_O2	***-1***
43312	CRANK_O3	***-1***
43313	CRANK_O4	***-1***
43314	CRANK_O5	***-1***
43315	CRANK_O6	***-1***
43316	CRANK_O7	***-1***
43317	CRANK_O8	***-1***
43318	CRANK_REST_TIMEOUT	***10***
43319	CRANK_REST_O1	***-1***
43320	CRANK_REST_O2	***-1***
43321	CRANK_REST_O3	***-1***
43322	CRANK_REST_O4	***-1***
43323	CRANK_REST_O5	***-1***
43324	CRANK_REST_O6	***-1***
43325	CRANK_REST_O7	***-1***
43326	CRANK_REST_O8	***-1***
43327	MOTOR_ON_TIMEOUT	***2***
43328	MOTOR_ON_O1	***-1***
43329	MOTOR_ON_O2	***-1***
43330	MOTOR_ON_O3	***-1***
43331	MOTOR_ON_O4	***-1***
43332	MOTOR_ON_O5	***-1***
43333	MOTOR_ON_O6	***-1***
43334	MOTOR_ON_O7	***-1***

43335	MOTOR_ON_O8	***-1***
43336	WARMUP_TIMEOUT	***60***
43337	WARMUP_O1	***-1***
43338	WARMUP_O2	***-1***
43339	WARMUP_O3	***-1***
43340	WARMUP_O4	***-1***
43341	WARMUP_O5	***-1***
43342	WARMUP_O6	***-1***
43343	WARMUP_O7	***-1***
43344	WARMUP_O8	***-1***
43345	LOAD_SEQ_1_TIMEOUT	***60***
43346	LOAD_SEQ_1_01	***-1***
43347	LOAD_SEQ_1_02	***-1***
43348	LOAD_SEQ_1_03	***-1***
43349	LOAD_SEQ_1_04	***-1***
43350	LOAD_SEQ_1_05	***-1***
43351	LOAD_SEQ_1_06	***-1***
43352	LOAD_SEQ_1_07	***-1***
43353	LOAD_SEQ_1_08	***-1***
43354	LOAD_SEQ_2_TIMEOUT	***60***
43355	LOAD_SEQ_2_01	***-1***
43356	LOAD_SEQ_2_02	***-1***
43357	LOAD_SEQ_2_03	***-1***
43358	LOAD_SEQ_2_04	***-1***
43359	LOAD_SEQ_2_05	***-1***
43360	LOAD_SEQ_2_06	***-1***
43361	LOAD_SEQ_2_07	***-1***
43362	LOAD_SEQ_2_08	***-1***
43363	LOAD_SEQ_3_TIMEOUT	***60***
43364	LOAD_SEQ_3_01	***-1***
43365	LOAD_SEQ_3_02	***-1***
43366	LOAD_SEQ_3_03	***-1***
43367	LOAD_SEQ_3_04	***-1***
43368	LOAD_SEQ_3_05	***-1***
43369	LOAD_SEQ_3_06	***-1***
43370	LOAD_SEQ_3_07	***-1***
43371	LOAD_SEQ_3_08	***-1***
43372	LOAD_SEQ_4_TIMEOUT	***60***
43373	LOAD_SEQ_4_01	***-1***
43374	LOAD_SEQ_4_02	***-1***
43375	LOAD_SEQ_4_03	***-1***
43376	LOAD_SEQ_4_04	***-1***

43377	LOAD_SEQ_4_05	***-1***
43378	LOAD_SEQ_4_06	***-1***
43379	LOAD_SEQ_4_07	***-1***
43380	LOAD_SEQ_4_08	***-1***
43381	WAIT_FOR_LOAD_TIMEOUT	***60***
43382	WAIT_FOR_LOAD_O1	***-1***
43383	WAIT_FOR_LOAD_O2	***-1***
43384	WAIT_FOR_LOAD_O3	***-1***
43385	WAIT_FOR_LOAD_O4	***-1***
43386	WAIT_FOR_LOAD_O5	***-1***
43387	WAIT_FOR_LOAD_O6	***-1***
43388	WAIT_FOR_LOAD_O7	***-1***
43389	WAIT_FOR_LOAD_O8	***-1***
43390	RUN_LOADED_TIMEOUT	***0xFFFF***
43391	RUN_LOADED_O1	***-1***
43392	RUN_LOADED_O2	***-1***
43393	RUN_LOADED_O3	***-1***
43394	RUN_LOADED_O4	***-1***
43395	RUN_LOADED_O5	***-1***
43396	RUN_LOADED_O6	***-1***
43397	RUN_LOADED_O7	***-1***
43398	RUN_LOADED_O8	***-1***
43399	COOLDOWN_TIMEOUT	***60***
43400	COOLDOWN_O1	***-1***
43401	COOLDOWN_O2	***-1***
43402	COOLDOWN_O3	***-1***
43403	COOLDOWN_O4	***-1***
43404	COOLDOWN_O5	***-1***
43405	COOLDOWN_O6	***-1***
43406	COOLDOWN_O7	***-1***
43407	COOLDOWN_O8	***-1***
43408	STOP_ENGINE_TIMEOUT	***60***
43409	STOP_ENGINE_O1	***-1***
43410	STOP_ENGINE_O2	***-1***
43411	STOP_ENGINE_O3	***-1***
43412	STOP_ENGINE_O4	***-1***
43413	STOP_ENGINE_O5	***-1***
43414	STOP_ENGINE_O6	***-1***
43415	STOP_ENGINE_O7	***-1***
43416	STOP_ENGINE_O8	***-1***
43417	MOTOR_OFF_TIMEOUT	***2***
43418	MOTOR_OFF_O1	***-1***

43419	MOTOR_OFF_O2	***-1***
43420	MOTOR_OFF_O3	***-1***
43421	MOTOR_OFF_O4	***-1***
43422	MOTOR_OFF_O5	***-1***
43423	MOTOR_OFF_O6	***-1***
43424	MOTOR_OFF_O7	***-1***
43425	MOTOR_OFF_O8	***-1***
43426	STOP_VALVE_TIMEOUT	***60***
43427	STOP_VALVE_O1	***-1***
43428	STOP_VALVE_O2	***-1***
43429	STOP_VALVE_O3	***-1***
43430	STOP_VALVE_O4	***-1***
43431	STOP_VALVE_O5	***-1***
43432	STOP_VALVE_O6	***-1***
43433	STOP_VALVE_O7	***-1***
43434	STOP_VALVE_O8	***-1***
43435	POSTLUBE_TIMEOUT	***60***
43436	POSTLUBE_O1	***-1***
43437	POSTLUBE_O2	***-1***
43438	POSTLUBE_O3	***-1***
43439	POSTLUBE_O4	***-1***
43440	POSTLUBE_O5	***-1***
43441	POSTLUBE_O6	***-1***
43442	POSTLUBE_O7	***-1***
43443	POSTLUBE_O8	***-1***
43444	RESTART_DELAY_TIMEOUT	***20***
43445	RESTART_DELAY_O1	***-1***
43446	RESTART_DELAY_O2	***-1***
43447	RESTART_DELAY_O3	***-1***
43448	RESTART_DELAY_O4	***-1***
43449	RESTART_DELAY_O5	***-1***
43450	RESTART_DELAY_O6	***-1***
43451	RESTART_DELAY_O7	***-1***
43452	RESTART_DELAY_O8	***-1***
43453	SHUTDOWN_TIMEOUT	***0xFFFF***
43454	SHUTDOWN_O1	***-1***
43455	SHUTDOWN_O2	***-1***
43456	SHUTDOWN_O3	***-1***
43457	SHUTDOWN_O4	***-1***
43458	SHUTDOWN_O5	***-1***
43459	SHUTDOWN_O6	***-1***
43460	SHUTDOWN_O7	***-1***

43461	SHUTDOWN_O8	***-1***

	Control Output Setup	***Value***
43462	CTL_O1_INC_MAX_ON	***1000***
43463	CTL_O1_INC_OFF	***1000***
43464	CTL_O1_INC_ON_DEC_TO_INC	***5***
43465	CTL_O1_INC_OFF_DEC_TO_INC	***5***
43466	CTL_O1_DEC_MAX_ON	***1000***
43467	CTL_O1_DEC_OFF	***1000***
43468	CTL_O1_DEC_ON_INC_TO_DEC	***5***
43469	CTL_O1_DEC_OFF_INC_TO_DEC	***5***
43470	CTL_O1_TRANS_RATE_OF_INC	***5***
43471	CTL_O1_TRANS_RATE_OF_DEC	***5***
43472	CTL_O2_INC_MAX_ON	***1000***
43473	CTL_O2_INC_OFF	***1000***
43474	CTL_O2_INC_ON_DEC_TO_INC	***5***
43475	CTL_O2_INC_OFF_DEC_TO_INC	***100***
43476	CTL_O2_DEC_MAX_ON	***1000***
43477	CTL_O2_DEC_OFF	***1000***
43478	CTL_O2_DEC_ON_INC_TO_DEC	***5***
43479	CTL_O2_DEC_OFF_INC_TO_DEC	***100***
43480	CTL_O2_TRANS_RATE_OF_INC	***5***
43481	CTL_O2_TRANS_RATE_OF_DEC	***5***
43482	CTL_O3_INC_MAX_ON	***1000***
43483	CTL_O3_INC_OFF	***1000***
43484	CTL_O3_INC_ON_DEC_TO_INC	***5***
43485	CTL_O3_INC_OFF_DEC_TO_INC	***100***
43486	CTL_O3_DEC_MAX_ON	***1000***
43487	CTL_O3_DEC_OFF	***1000***
43488	CTL_O3_DEC_ON_INC_TO_DEC	***5***
43489	CTL_O3_DEC_OFF_INC_TO_DEC	***100***
43490	CTL_O3_TRANS_RATE_OF_INC	***5***
43491	CTL_O3_TRANS_RATE_OF_DEC	***5***
43492	CTL_O4_INC_MAX_ON	***1000***
43493	CTL_O4_INC_OFF	***1000***
43494	CTL_O4_INC_ON_DEC_TO_INC	***5***
43495	CTL_O4_INC_OFF_DEC_TO_INC	***100***
43496	CTL_O4_DEC_MAX_ON	***1000***

43497	CTL_O4_DEC_OFF	***1000***
43498	CTL_O4_DEC_ON_INC_TO_DEC	***5***
43499	CTL_O4_DEC_OFF_INC_TO_DEC	***100***
43500	CTL_O4_TRANS_RATE_OF_INC	***5***
43501	CTL_O4_TRANS_RATE_OF_DEC	***5***
43502	CTL_O5_INC_MAX_ON	***1000***
43503	CTL_O5_INC_OFF	***1000***
43504	CTL_O5_INC_ON_DEC_TO_INC	***5***
43505	CTL_O5_INC_OFF_DEC_TO_INC	***100***
43506	CTL_O5_DEC_MAX_ON	***1000***
43507	CTL_O5_DEC_OFF	***1000***
43508	CTL_O5_DEC_ON_INC_TO_DEC	***5***
43509	CTL_O5_DEC_OFF_INC_TO_DEC	***100***
43510	CTL_O5_TRANS_RATE_OF_INC	***5***
43511	CTL_O5_TRANS_RATE_OF_DEC	***5***
43512	CTL_O6_INC_MAX_ON	***1000***
43513	CTL_O6_INC_OFF	***1000***
43514	CTL_O6_INC_ON_DEC_TO_INC	***5***
43515	CTL_O6_INC_OFF_DEC_TO_INC	***100***
43516	CTL_O6_DEC_MAX_ON	***1000***
43517	CTL_O6_DEC_OFF	***1000***
43518	CTL_O6_DEC_ON_INC_TO_DEC	***5***
43519	CTL_O6_DEC_OFF_INC_TO_DEC	***100***
43520	CTL_O6_TRANS_RATE_OF_INC	***5***
43521	CTL_O6_TRANS_RATE_OF_DEC	***5***

	Control Loop Setup	***Value***
43522	PID_1_OVR_RAMP_TIME_1	***4***
43523	PID_1_OVR_RAMP_TIME_2	***4***
43524	PID_1_OVR_RAMP_TIME_3	***4***
43525	PID_1_OVR_RAMP_AMOUNT_1	***1***
43526	PID_1_OVR_RAMP_AMOUNT_2	***1***
43527	PID_1_OVR_RAMP_AMOUNT_3	***1***
43528	PID_1_RAMP_TIME	***4***
43529	NOT_USED_PLACE_HOLDER	***0***
43530	PID_1_SETPOINT	***0***
43531	PID_1_DEADBAND	***1***
43532	PID_1_MIN_OUT	***0***

43533	PID_1_MAX_OUT	***1***
43534	PID_1_PROPORTIONAL	***1***
43535	PID_1_INTEGRAL	***0***
43536	PID_1_DERIVATIVE	***0***
43537	PID_2_OVR_RAMP_TIME_1	***4***
43538	PID_2_OVR_RAMP_TIME_2	***4***
43539	PID_2_OVR_RAMP_TIME_3	***4***
43540	PID_2_OVR_RAMP_AMOUNT_1	***1***
43541	PID_2_OVR_RAMP_AMOUNT_2	***1***
43542	PID_2_OVR_RAMP_AMOUNT_3	***1***
43543	PID_2_RAMP_TIME	***4***
43544	NOT_USED_PLACE_HOLDER	***0***
43545	PID_2_SETPOINT	***0***
43546	PID_2_DEADBAND	***1***
43547	PID_2_MIN_OUT	***0***
43548	PID_2_MAX_OUT	***1***
43549	PID_2_PROPORTIONAL	***1***
43550	PID_2_INTEGRAL	***0***
43551	PID_2_DERIVATIVE	***0***
43552	PID_3_OVR_RAMP_TIME_1	***4***
43553	PID_3_OVR_RAMP_TIME_2	***4***
43554	PID_3_OVR_RAMP_TIME_3	***4***
43555	PID_3_OVR_RAMP_AMOUNT_1	***1***
43556	PID_3_OVR_RAMP_AMOUNT_2	***1***
43557	PID_3_OVR_RAMP_AMOUNT_3	***1***
43558	PID_3_RAMP_TIME	***4***
43559	NOT_USED_PLACE_HOLDER	***0***
43560	PID_3_SETPOINT	***0***
43561	PID_3_DEADBAND	***1***
43562	PID_3_MIN_OUT	***0***
43563	PID_3_MAX_OUT	***1***
43564	PID_3_PROPORTIONAL	***1***
43565	PID_3_INTEGRAL	***0***
43566	PID_3_DERIVATIVE	***0***
43567	PID_4_OVR_RAMP_TIME_1	***4***
43568	PID_4_OVR_RAMP_TIME_2	***4***
43569	PID_4_OVR_RAMP_TIME_3	***4***
43570	PID_4_OVR_RAMP_AMOUNT_1	***1***
43571	PID_4_OVR_RAMP_AMOUNT_2	***1***
43572	PID_4_OVR_RAMP_AMOUNT_3	***1***
43573	PID_4_RAMP_TIME	***4***
43574	NOT_USED_PLACE_HOLDER	***0***

43575	PID_4_SETPOINT	***0***
43576	PID_4_DEADBAND	***1***
43577	PID_4_MIN_OUT	***0***
43578	PID_4_MAX_OUT	***1***
43579	PID_4_PROPORTIONAL	***1***
43580	PID_4_INTEGRAL	***0***
43581	PID_4_DERIVATIVE	***0***
43582	PID_5_OVR_RAMP_TIME_1	***4***
43583	PID_5_OVR_RAMP_TIME_2	***4***
43584	PID_5_OVR_RAMP_TIME_3	***4***
43585	PID_5_OVR_RAMP_AMOUNT_1	***1***
43586	PID_5_OVR_RAMP_AMOUNT_2	***1***
43587	PID_5_OVR_RAMP_AMOUNT_3	***1***
43588	PID_5_RAMP_TIME	***4***
43589	NOT_USED_PLACE_HOLDER	***0***
43590	PID_5_SETPOINT	***0***
43591	PID_5_DEADBAND	***1***
43592	PID_5_MIN_OUT	***0***
43593	PID_5_MAX_OUT	***1***
43594	PID_5_PROPORTIONAL	***1***
43595	PID_5_INTEGRAL	***0***
43596	PID_5_DERIVATIVE	***0***
43597	PID_6_OVR_RAMP_TIME_1	***4***
43598	PID_6_OVR_RAMP_TIME_2	***4***
43599	PID_6_OVR_RAMP_TIME_3	***4***
43600	PID_6_OVR_RAMP_AMOUNT_1	***1***
43601	PID_6_OVR_RAMP_AMOUNT_2	***1***
43602	PID_6_OVR_RAMP_AMOUNT_3	***1***
43603	PID_6_RAMP_TIME	***4***
43604	NOT_USED_PLACE_HOLDER	***0***
43605	PID_6_SETPOINT	***0***
43606	PID_6_DEADBAND	***1***
43607	PID_6_MIN_OUT	***0***
43608	PID_6_MAX_OUT	***1***
43609	PID_6_PROPORTIONAL	***1***
43610	PID_6_INTEGRAL	***0***
43611	PID_6_DERIVATIVE	***0***
43612	I_OUT_01_16_NC	***0x0000***

	Analog Output Calibration	***Value***

43613	A_OUT_01_OFFSET	***0***
43614	A_OUT_01_SPAN	***5000***
43615	A_OUT_02_OFFSET	***0***
43616	A_OUT_02_SPAN	***5000***
43617	A_OUT_03_OFFSET	***0***
43618	A_OUT_03_SPAN	***5000***
43619	A_OUT_04_OFFSET	***0***
43620	A_OUT_04_SPAN	***5000***
43621	A_OUT_05_OFFSET	***0***
43622	A_OUT_05_SPAN	***5000***
43623	A_OUT_06_OFFSET	***0***
43624	A_OUT_06_SPAN	***5000***

	RPM Control Loop Values	***Target RPM***
43625	COOLDOWN_RPM	***1000***
43626	WARMUP_RPM	***1400***
43627	WAIT_FOR_LOAD_RPM	***1800***
43628	RUN_LOADED_RPM	***1000***
43756		

	Setpoint Values	***Signed Value***
43757	SETPOINT_001	***0***
43758	SETPOINT_002	***0***
43759	SETPOINT_003	***0***
43760	SETPOINT_004	***0***
43761	SETPOINT_005	***0***
43762	SETPOINT_006	***0***
43763	SETPOINT_007	***0***
43764	SETPOINT_008	***0***
43765	SETPOINT_009	***0***
43766	SETPOINT_010	***0***
43767	SETPOINT_011	***0***

43768	SETPOINT_012	***0***
43769	SETPOINT_013	***0***
43770	SETPOINT_014	***0***
43771	SETPOINT_015	***0***
43772	SETPOINT_016	***0***
43773	SETPOINT_017	***0***
43774	SETPOINT_018	***0***
43775	SETPOINT_019	***0***
43776	SETPOINT_020	***0***
43777	SETPOINT_021	***0***
43778	SETPOINT_022	***0***
43779	SETPOINT_023	***0***
43780	SETPOINT_024	***0***
43781	SETPOINT_025	***0***
43782	SETPOINT_026	***0***
43783	SETPOINT_027	***0***
43784	SETPOINT_028	***0***
43785	SETPOINT_029	***0***
43786	SETPOINT_030	***0***
43787	SETPOINT_031	***0***
43788	SETPOINT_032	***0***
43789	SETPOINT_033	***0***
43790	SETPOINT_034	***0***
43791	SETPOINT_035	***0***
43792	SETPOINT_036	***0***
43793	SETPOINT_037	***0***
43794	SETPOINT_038	***0***
43795	SETPOINT_039	***0***
43796	SETPOINT_040	***0***
43797	SETPOINT_041	***0***
43798	SETPOINT_042	***0***
43799	SETPOINT_043	***0***
43800	SETPOINT_044	***0***
43801	SETPOINT_045	***0***
43802	SETPOINT_046	***0***
43803	SETPOINT_047	***0***
43804	SETPOINT_048	***0***
43805	SETPOINT_049	***0***
43806	SETPOINT_050	***0***
43807	SETPOINT_051	***0***
43808	SETPOINT_052	***0***
43809	SETPOINT_053	***0***

43810	SETPOINT_054	***0***
43811	SETPOINT_055	***0***
43812	SETPOINT_056	***0***
43813	SETPOINT_057	***0***
43814	SETPOINT_058	***0***
43815	SETPOINT_059	***0***
43816	SETPOINT_060	***0***
43817	SETPOINT_061	***0***
43818	SETPOINT_062	***0***
43819	SETPOINT_063	***0***
43820	SETPOINT_064	***0***
43821	SETPOINT_065	***0***
43822	SETPOINT_066	***0***
43823	SETPOINT_067	***0***
43824	SETPOINT_068	***0***
43825	SETPOINT_069	***0***
43826	SETPOINT_070	***0***
43827	SETPOINT_071	***0***
43828	SETPOINT_072	***0***
43829	SETPOINT_073	***0***
43830	SETPOINT_074	***0***
43831	SETPOINT_075	***0***
43832	SETPOINT_076	***0***
43833	SETPOINT_077	***0***
43834	SETPOINT_078	***0***
43835	SETPOINT_079	***0***
43836	SETPOINT_080	***0***
43837	SETPOINT_081	***0***
43838	SETPOINT_082	***0***
43839	SETPOINT_083	***0***
43840	SETPOINT_084	***0***
43841	SETPOINT_085	***0***
43842	SETPOINT_086	***0***
43843	SETPOINT_087	***0***
43844	SETPOINT_088	***0***
43845	SETPOINT_089	***0***
43846	SETPOINT_090	***0***
43847	SETPOINT_091	***0***
43848	SETPOINT_092	***0***
43849	SETPOINT_093	***0***
43850	SETPOINT_094	***0***
43851	SETPOINT_095	***0***

43852	SETPOINT_096	***0***
43853	SETPOINT_097	***0***
43854	SETPOINT_098	***0***
43855	SETPOINT_099	***0***
43856	SETPOINT_100	***0***
43857	SETPOINT_101	***0***
43858	SETPOINT_102	***0***
43859	SETPOINT_103	***0***
43860	SETPOINT_104	***0***
43861	SETPOINT_105	***0***
43862	SETPOINT_106	***0***
43863	SETPOINT_107	***0***
43864	SETPOINT_108	***0***
43865	SETPOINT_109	***0***
43866	SETPOINT_110	***0***
43867	SETPOINT_111	***0***
43868	SETPOINT_112	***0***
43869	SETPOINT_113	***0***
43870	SETPOINT_114	***0***
43871	SETPOINT_115	***0***
43872	SETPOINT_116	***0***
43873	SETPOINT_117	***0***
43874	SETPOINT_118	***0***
43875	SETPOINT_119	***0***
43876	SETPOINT_120	***0***
43877	SETPOINT_121	***0***
43878	SETPOINT_122	***0***
43879	SETPOINT_123	***0***
43880	SETPOINT_124	***0***
43881	SETPOINT_125	***0***
43882	SETPOINT_126	***0***
43883	SETPOINT_127	***0***
43884	SETPOINT_128	***0***
43885	SETPOINT_TIMER_1 seconds	***0***
43886	SETPOINT_TIMER_2 seconds	***0***
43887	SETPOINT_TIMER_3 seconds	***0***
43888	SETPOINT_TIMER_4 seconds	***0***
43889	SETPOINT_TIMER_5 seconds	***0***
43890	SETPOINT_TIMER_6 seconds	***0***
43891	SETPOINT_TIMER_7 seconds	***0***
43892	SETPOINT_TIMER_8 seconds	***0***
43893	SETPOINT_TIMER_9 seconds	***0***

43894	SETPOINT_TIMER_10 seconds	***0***
43895	SETPOINT_TIMER_11 seconds	***0***
43896	SETPOINT_TIMER_12 seconds	***0***
43897	SETPOINT_TIMER_13 seconds	***0***
43898	SETPOINT_TIMER_14 seconds	***0***
43899	SETPOINT_TIMER_15 seconds	***0***
43900	SETPOINT_TIMER_16 seconds	***0***
43901	SETPOINT_TIMER_17 seconds	***0***
43902	SETPOINT_TIMER_18 seconds	***0***
43903	SETPOINT_TIMER_19 seconds	***0***
43904	SETPOINT_TIMER_20 seconds	***0***
43905	SETPOINT_TIMER_21 seconds	***0***
43906	SETPOINT_TIMER_22 seconds	***0***
43907	SETPOINT_TIMER_23 seconds	***0***
43908	SETPOINT_TIMER_24 seconds	***0***
43909	SETPOINT_TIMER_25 seconds	***0***
43910	SETPOINT_TIMER_26 seconds	***0***
43911	SETPOINT_TIMER_27 seconds	***0***
43912	SETPOINT_TIMER_28 seconds	***0***
43913	SETPOINT_TIMER_29 seconds	***0***
43914	SETPOINT_TIMER_30 seconds	***0***
43915	SETPOINT_TIMER_31 seconds	***0***
43916	SETPOINT_TIMER_32 seconds	***0***