MODBUS REGISTER	Parameter	Operation	Notes
2 (0x0001)	Process Value	Read Only	Actual Input Value
3 (0x0002)	Unit Status	Read Only	Binary value, details below
		[High Byte]	bit7 Auto/Manual mode, 0=Auto 1=Man
			bit6 Comm. mode 0=Local 1=Remote
			bit5 Not used
			bit4 1=Error present, read register 0x0003
			bit3 Alarm 1 output 0=Off 1=On
			bit2 Not used
			bit1 Not used
			bit0 Not used
		[Low Byte]	bit7 1=NAT error (no activity timer)
			bit6,5,4 **Decimal point for Process Value**
			000=0 001=0.0 010=0.00 011=0.000
			100=.0000
			bit3 Not used
			bit2,bit1 Engineering units
			00=None 01=Deg. F 10=Deg. C
			bit0 Input value sign 0= Pos. 1= Neg.
4 (0x0003)	Unit Error Status	Read Only	Binary value, details below
		[High Byte]	bit7 Unit Failed Self-test
			bit6 Not used
			bit5 Unit Calibration bad
			bit4 Input overflow
			bit3 Input underflow
			bit2 Bad input
			bit1 Open input
			bit0 Unit Ambient Temp. beyond spec.
		[Low Byte]	bit7 Control Loop break
			bit6 Sensor rate of change exceeds limit
			bit5,bit4,bit3,bit2,bit1,bit0 Not used
7 (0x0006)	Active Segment	Read Only	Programmer segment 1 to 16
8 (0x0007)	TBAS	Read Only	0 = 1 second 1 = 60 seconds
257 (0x0100)	Active Set Value	Read Only	**** See note
258 (0x0101)	1SP1	R/W	**** See note
262 (0x0105)	SP2	R/W	**** See note

MODBUS REGISTER	Parameter	Operation	Notes
263 (0x0106)	A1LO	R/W	**** See note
264 (0x0107)	A1HI	R/W	**** See note
267 (0x010A)	SP1D	R/W	
268 (0x010B)	SP2D	R/W	
269 (0x010C)	1PB1	R/W	!! See note
273 (0x0110)	PB2	R/W	!! See note
274 (0x0111)	1RES	R/W	- # = reset + # = offset (-1=.1sec 1=.1%)
278 (0x0115)	1RTE	R/W	WR 1 for 00.01 minutes WR 0 = OFF
282 (0x0119)	ARTE	R/W	WR 1 for 00.01 minutes WR 0 = OFF
283 (0x011A)	FINT	R/W	WR 1 for 1% WR 0 = OFF
284 (0x011B)	FBND	R/W	
285 (0x011C)	FRTE	R/W	WR 1 for 00.01 counts/second
286 (0x011D)	PEA	Read Only	!! See note
287 (0x011E)	VAL	Read Only	!! See note
288 (0x011F)	Ti	Read Only	Time remaining in segment
289 (0x0120)	1Ti	R/W	Time for segment
290 (0x0121)	1SP	R/W	**** See note
291 (0x0122)	2Ti	R/W	Time for segment
292 (0x0123)	2SP	R/W	**** See note
293 (0x0124)	3Ti	R/W	Time for segment
294 (0x0125)	3SP	R/W	**** See note
295 (0x0126)	4Ti	R/W	Time for segment
296 (0x0127)	4SP	R/W	**** See note
297 (0x0128)	5Ti	R/W	Time for segment
298 (0x0129)	5SP	R/W	**** See note
299 (0x012A)	6Ti	R/W	Time for segment
300 (0x012B)	6SP	R/W	**** See note
301 (0x012C)	7Ti	R/W	Time for segment
302 (0x012D)	7SP	R/W	**** See note
303 (0x012E)	8Ti	R/W	Time for segment
304 (0x012F)	8SP	R/W	**** See note

MODBUS REGISTER	Parameter	Operation	Notes
305 (0x0130)	9Ti	R/W	Time for segment
306 (0x0131)	9SP	R/W	**** See note
307 (0x0132)	10Ti	R/W	Time for segment
308 (0x0133)	10SP	R/W	**** See note
309 (0x0134)	11Ti	R/W	Time for segment
310 (0x0135)	11SP	R/W	**** See note
311 (0x0136)	12Ti	R/W	Time for segment
312 (0x0137)	12SP	R/W	**** See note
313 (0x0138)	13Ti	R/W	Time for segment
314 (0x0139)	13SP	R/W	**** See note
315 (0x013A)	14Ti	R/W	Time for segment
316 (0x013B)	14SP	R/W	**** See note
317 (0x013C)	15Ti	R/W	Time for segment
318 (0x013D)	15SP	R/W	**** See note
319 (0x013E)	16Ti	R/W	Time for segment
320 (0x013F)	16SP	R/W	**** See note
321 (0x0140)	INPC	R/W	RD / WR in counts **** See note
			Other parameters can reset to 0
322 (0x0141)	LPBR	R/W	WR 1 = 1 second 0 = OFF
323 (0x0142)	SECR	R/W	1 to 4
324 (0x0143)	INPT	R/W	WR 1 = 0.1 minutes
325 (0x0144)	SENC	R/W	CAN pwr cycle to clr error
326 (0x0145)	SCAL	R/W	Read Only for **INP** 1 to 14 !! See note
327 (0x0146)	SCAH	R/W	Read Only for **INP** 1 to 14 !! See note
328 (0x0147)	SPL	R/W	!! See note
329 (0x0148)	SPH	R/W	!! See note
330 (0x0149)	S1OL	R/W	WRITE 50 for 50%
331 (0x014A)	S1OH	R/W	WRITE 50 for 50%
332 (0x014B)	S2OL	R/W	WRITE 50 for 50%
333 (0x014C)	S2OH	R/W	WRITE 50 for 50%
340 (0x0153)	MANUALSP1	R/W	WRITE 500 for 50.0% (auto must be off)
341 (0x0154)	MANUALSP2	R/W	WRITE 500 for 50.0% (auto must be off)
344 (0x0157)	PRE1	R/W	WRITE 50 for 50%
345 (0x0158)	PRE2	R/W	WRITE 50 for 50%

MODBUS REGISTER	Parameter	Operation	Notes
350 (0x015D)	ALEVNT1_8	R/W	bit=1=On bit=0=Off
		[High Byte]	bit7 Segment 1 A1 msb
			bit6 reserved
			bit5 Segment 2 A1
			bit4 reserved
			bit3 Segment 3 A1
			bit2 reserved
			bit1 Segment 4 A1
			bit0 reserved lsb
		[Low Byte]	bit7 Segment 5 A1 msb
			bit6 reserved
			bit5 Segment 6 A1
			bit4 reserved
			bit3 Segment 7 A1
			bit2 reserved
			bit1 Segment 8 A1
			bit0 reserved lsb
351 (0x015E)	ALEVNT9_16	R/W	bit=1=On bit=0=Off
		[High Byte]	bit7 Segment 9 A1 msb
			bit6 reserved
			bit5 Segment 10 A1
			bit4 reserved
			bit3 Segment 11 A1
			bit2 reserved
			bit1 Segment 12 A1
			bit0 reserved lsb
		[Low Byte]	bit7 Segment 13 A1 msb
			bit6 reserved
			bit5 Segment 14 A1
			bit4 reserved
			bit3 Segment 15 A1
			bit2 reserved
			bit1 Segment 16 A1
			bit0 reserved lsb
352 (0x015F)	PCTOUT1	Read Only	READ 50 for 50% SP1 Output
353 (0x0160)	PCTOUT2	Read Only	READ 50 for 50% SP2 Output

MODBUS REGISTER	Parameter	Operation	Notes
769 (0x0300)	OUT1	Read Only	[A write to SP1D sets to ON/OFF]
			00 or 01 = Time Proportioning
			06 = Current or Voltage Output
			08 = Pulse
			16 = On/Off
770 (0x0301)	OUT1_TP	R/W	1 to 80
771 (0x0302)	OUT1_PUL	R/W	1 to 7
772 (0x0303)	OUT2	Read Only	[A write to SP2D sets to ON/OFF]
			00 or 01 = Time Proportioning
			06 = Current or Voltage Output
			08 = Pulse
			16 = On/Off
773 (0x0304)	OUT2_TP	R/W	1 to 80
774 (0x0305)	OUT2_PUL	R/W	1 to 7
775 (0x0306)	1TUN	R/W	Rd 0,4,16,32,48,64 Wr 0 to 4 * see note
			Rd 0 = Self Tune / Learn No
			Rd 4 = Self Tune / Learn Yes
			Rd 16 = PID
			Rd 32 = Slow
			Rd 48 = Normal
			Rd 64 = Fast
			Wr 0 = Self Tune
			Wr 1 = PID
			Wr 2 = Slow
			Wr 3 = Normal
			Wr 4 = Fast
779 (0x030A)	1DFAC	R/W	0 to 7
783 (0x030E)	PID2	R/W	0 = Off # = On
784 (0x030F)	ARUP	R/W	0 = Off # = On
785 (0x0310)	PCTO	R/W	0 = Off # = On
786 (0x0311)	PROG	R/W	0 = Off # = On
787 (0x0312)	PSET	R/W	0 = Off # = On
788 (0x0313)	STAT	R/W	0 = Off # = On
789 (0x0314)	RUNHOLD	R/W	0 = RUN # = HOLD

MODBUS REGISTER	Parameter	Operation	Notes
790 (0x0315)	PEND	R/W	0 = Hold
			1 = Ooff
			2 = Loop
			3 = SP1
791 (0x0316)	FILT	R/W	0 to 99
792 (0x0317)	INP	R/W	1 = J-IC
			2 = CA
			3 = E
			4 = T
			5 = L
			6 = N
			7 = R-13
			8 = S-10
			9 = B
			10 = C
			11 = P392
			12 = N120
			13 = P385
			14 = 1P38
			15 = CURRENT
			16 = VOLTAGE
			17 = DIFFERENTIAL
793 (0x0318)	OSUP	R/W	0 = Off # = On
794 (0x0319)	UNIT	R/W	0 = NONE
			1 = DEG. F
			2 = DEG. C
795 (0x031A)	DPT	R/W	0 = 0
			1 = 0.0
			2 = 0.00
			3 = 0.000
			4 = .0000

MODBUS REGISTER	Parameter	Operation	Notes
796 (0x031B)	SP1SETUP	R/W	[High Byte] Not used
		[Low Byte]	bit 7 Not used
			bit6 Not used
			bit5 S1iH 1 = On 0 = Off
			bit4 S1Pi 1 = On 0 = Off
			bit3 S1rE 1 = On/Off 0 = Hold
			bit2 S1LP 1 = Oon 0 = Ooff
			bit1 S1St 1 = dir 0 = rE
			bit0 Not used
797 (0x031C)	SP2SETUP	R/W	[High byte] Not used
		[Low Byte]	bit 7 Not used
			bit6 Not used
			bit5 S2iH 1 = On 0 = Off
			bit4 S2Pi 1 = On 0 = Off
			bit3 S2rE 1 = On/Off 0 = Hold
			bit2 S2LP 1 = Oon 0 = OoFF
			bit1 S2St 1 = dir 0 = rE
			bit0 S2t 1 = AbS 0 = dE
798 (0x031D)	AL1	R/W	0 = Off
			1 = Lo
			2 = Hi
			3 = HiLo
			4 = Evnt
799 (0x031E)	AL1SETUP	R/W	[High byte] Not used
		[Low Byte]	bit7 Not used
			bit6 A1Lb 1 = On 0 = Off
			bit5 A1iH 1 = On 0 = Off
			bit4 A1Pi 1 = On 0 = Off
			bit3 A1rE 1 = OnOF 0 = Hold
			bit2 A1LP 1 = Oon 0 = OoFF
			bit1 A1St 1 = OPEn 0 = CLOS
			bit0 A1t 1 = AbS 0 = dE
805 (0x0324)	LOrE	R/W	0 = LOC # = rE
806 (0x0325)	nAt	Read Only	0 to 99

MODBUS REGISTER	Parameter	Operation	Notes
809 (0x0328)	SP1O	R/W	0 = OutA # = OutB
810 (0x0329)	InPB	R/W	0 = FAIL
			1 = AVE
			2 = PRE
811 (0x032A)	APCT	R/W	0 = Real # = Adj
813 (0x032C)	STOR	R/W	0 = No (WR to RAM) # = Yes (EEPROM)
1025 0x0400)	LOrE_rE	Write Only	
1026 (0x0401)	LOrE_LOC	Write Only	
1028 (0x0403)	ACK_AL1	Write Only	
1030 (0x0405)	ACK_AL12	Write Only	
1031 (0x0406)	ACK_SP1	Write Only	
1032 (0x0407)	ACK_SP2	Write Only	
1033 (0x0408)	AUTO_ON	Write Only	
1034 (0x0409)	AUTO_OFF	Write Only	
1035 (0x040A)	RESET_PEA	Write Only	
1036 (0x040B)	RESET_VAL	Write Only	
1037 (0x040C)	PCTO_ON	Write Only	
1038 (0x040D)	PCTO_OFF	Write Only	
1045 (0x0414)	PID2_ON	Write Only	
1046 (0x0415)	PID2_OFF	Write Only	
1047 (0x0416)	ARUP_ON	Write Only	
1048 (0x0417)	ARUP_OFF	Write Only	
1049 (0x0418)	PROG_ON	Write Only	
1050 (0x0419)	PROG_OFF	Write Only	
1051 (0x041A)	PSET_ON	Write Only	
1052 (0x041B)	PSET_OFF	Write Only	
1053 (0x041C)	STAT_ON	Write Only	
1054 (0x041D)	STAT_OFF	Write Only	

MODBUS REGISTER	Parameter	Operation	Notes
1055 (0x041E)	TBAS_1	Write Only	
1056 (0x041F)	TBAS_60	Write Only	
1057 (0x0420)	RunHold_RUN	Write Only	
1058 (0x0421)	RunHold_HOLD	Write Only	
1059 (0x0422)	OSUP_ON	Write Only	
1060 (0x0423)	OSUP_OFF	Write Only	
1067 (0X042A)	1LEARN_YES	Write Only	
1068 (0X042B)	1LEARN_NO	Write Only	
1075 (0x0432)	SP1O_OUTA	Write Only	
1076 (0x0433)	SP1O_OUTB	Write Only	
1077 (0x0434)	APCT_REAL	Write Only	pcto is real% of control output
1078 (0x0435)	APCT_ADJ	Write Only	pcto is adjusted% based on S1OL/S1OH
1089 (0x0440)	STOR_YES	Write Only	write commands are to EEPROM
1090 (0x0441)	STOR_NO	Write Only	write commands are to RAM
1091 (0x0442)	STORE_ALL	Write Only	copy RAM data to EEPROM
1793 (0x0700)	COMM VER #	Read Only	Week/Year in HEX. (ex. 18 01)
1794 (0x0701)	MODEL I.D. #	Read Only	ASCII Char. (ex. 36 33 = 6 3)
1795 (0x0702)	SOFT VER #	Read Only	Week/Year in HEX. (ex. 21 01)
		*NOTE:	To write the low nibble (learn yes/no)
			you must use the corresponding
			write only command. For example to
			write the 1TUN yes/no bit use the
			1067 1learnyes or 1068 1learnno cmds.
		***NOTE:	Writes to registers above #1024 do not
			recognize specific values, any data value
			can be used.
		****NOTE:	Apply the DPT (0x031A) setting
			to the register value.
		!! NOTE	For **INP** 15,16,17 apply the DPT setting

BIT REGISTER	Parameter	Operation	Notes
1 (0x0000)	Reserved	Read Only	
2 (0x0001)	CHEC LORE	Read Only	No Activity Timer timeout 0=FALSE 1=TRUE
3 (0x0002)	Not used	Read Only	
4 (0x0003)	AL1	Read Only	Alarm 1 output state 0=OFF 1=ON
5 (0x0004)	ERROR PRESENT	Read Only	0=FALSE 1=TRUE
6 (0x0005)	LOC/REM	Read Only	0=LOCAL 1=REMOTE
7 (0x0006)	SENC BAD	Read Only	RATE OF CHANGE > LIMIT 0=FALSE 1=TRUE
8 (0x0007)	AREA	Read Only	AMBIENT BEYOND SPEC 0=FALSE 1=TRUE
9 (0x0008)	OPEN INP	Read Only	0=FALSE 1=TRUE
10 (0x0009)	BAD INP	Read Only	0=FALSE 1=TRUE
11 (0x000A)	UFL	Read Only	0=FALSE 1=TRUE
12 (0x000B)	OFL	Read Only	0=FALSE 1=TRUE
13 (0x000C)	CHEC CAL	Read Only	0=FALSE 1=TRUE
14 (0x000D)	FAIL TEST	Read Only	0=FALSE 1=TRUE
15 (0x000E)	LOOP BAD	Read Only	0=FALSE 1=TRUE
16 (0x000F)	AUTO/MANUAL	Read Only	0=AUTO 1=MANUAL