

PL μ SNet II Upload/Download Program (Must use version 2.57 or higher)

Description	<p>PLμSNet II is a DOS program that will run on most IBM-PC compatible computers. When the serial port of the PC is connected to a PLμS Programmable Limit Switch, PLμSNet II can transfer programming values between the computer and the controller in either direction. PLμSNet II includes its own communications software with selection of baud rate, PLμS controller address, and the computer's COM port. No other communication software is needed.</p>
Functions	<p>PLμSNet II provides two main functions: Uploading a controller's complete set of programming values from the controller to an ASCII file on the PC; and downloading the contents of an ASCII from a computer to the PLμS controller. PLμSNet II also provides a text editor to view and change the contents of an ASCII file.</p>
Applications	<p>Hard Copy Reference—Using PLμSNet II, a PLμS controller's programming can be saved as an ASCII file and printed out for reference. The printout can be used to study line operation or to program other PLμS controllers in the plant.</p> <p>Archival Storage—The ASCII file containing a PLμS controller's programming can be stored on a hard drive or floppy disk. In the event of accidental alteration or erasure of the controller's programming, PLμSNet II can be used to download the ASCII file to the controller to restore normal operation.</p> <p>Programming Multiple Units—If several PLμS controllers will have the same values, one controller can be programmed correctly and its setpoints uploaded to a PC using PLμSNet II. The programming can then be downloaded to the other PLμS controllers, eliminating the need to manually re-enter setpoints for each controller.</p> <p>Modify Programming—Once a program has been saved as an ASCII file, it can be studied and edited to create other versions of the program.</p>
Contents	<p>The PLμSNet II Communications Software Program includes these materials:</p> <ul style="list-style-type: none">(1) Introduction sheet.(1) One disk containing the PLUSNET.EXE file.
Cable	<p>To use PLμSNet II, a serial communications cable is required to connect the PLμS controller to an IBM compatible personal computer. This cable can be purchased from Electro Cam Corp., or it can be built by the customer using the wiring information shown in the PLμS Programming and Installation Manual.</p>
Installation	<p>Copy the PLUSNET.EXE file to the desired directory on the PC.</p>
Operation	<p>Connect the PC and the PLμS controller with a communications cable and turn both units ON.</p> <p>Start PLUSNET.EXE from the DOS command line, or from a DOS window within Microsoft Windows. The menus in the program are self-explanatory.</p>

PLuSNET II Program (cont'd)

Figure 39—Sample ASCII Program Copied from PS-6344 Using PLuSNET II

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Electro Cam Corp.
PLuSnet II Communications Software v2.57
Upload Date: 3/10/1999

; Comments may be added to any line as long as they start with a ";" and do
; not contain a carriage return. However, these comments will not be
; retained when the file is uploaded from a controller.
; Be careful to save and name files accordingly to archive information.
; NOTE: Plusnet will not report invalid data errors.
; ALSO: Plusnet does not use decimal points in decimal numbers.
; Example: rate multiplier of 1000 is actually 1.000

; Communication settings : Type=RS-232, Baud=4800, Address=1

;Data      Line# Comments
-----
;          SYSTEM INFORMATION
2: 103      ; 1; Register map version
3: 6344     ; 2; Model
4: 136      ; 3; Firmware revision
5: 17       ; 4; Output quantity
6: 5,1      ; 5; Option: -H; High resolution
6: 6,1      ; 6; Option: -L; Leading/trailing speed comp
6: 7,1      ; 7; Option: -A; Analog output
-----
;          SETUP CONFIGURATION
9: 1        ; 8; Default Program
10: 0       ; 9; Analog quantity
12: 1,10,3000 ; 10; Motion detection: Resolver #, low rpm, high rpm
12: 2,10,3000 ; 11; Motion detection: Resolver #, low rpm, high rpm
16: 0       ; 12; Map limit
18: 2       ; 13; Keyboard quantity
21: 0       ; 14; Program select mode: 0=bin, 1=BCD, 2=Gray
25: 1       ; 15; Master/Slave of 1st resolver: 1=Master, 2=Slave
26: 1, 0    ; 16; Direction of rotation: Resolver #, 0=CCW/1=CW
26: 2, 0    ; 17; Direction of rotation: Resolver #, 0=CCW/1=CW
27: 1, 360  ; 18; Scale factor: Resolver #, Scale factor
27: 2, 360  ; 19; Scale factor: Resolver #, Scale factor
28: 1, 0    ; 20; Absolute offset: Resolver #, Offset
28: 2, 0    ; 21; Absolute offset: Resolver #, Offset
30: 1,1000,0,R ; 22; Rate setup: resolver, mult, Dec pt, units
30: 2,1000,0,R ; 23; Rate setup: resolver, mult, Dec pt, units
31: 0       ; 24; Rate mode: 0=RPM-POS, 1=RPM-RPM
32: 1,20    ; 25; Toggle rpm: Resolver #, RPM
32: 2,20    ; 26; Toggle rpm: Resolver #, RPM
33: 0       ; 27; Rpm update rate: 0=1/Sec, 1=2/Sec, 2=10/Sec
34: 1       ; 28; Speed comp mode: 0=Single, 1=L/T
35: 0       ; 29; Group pos display mode: 0=Each, 1=One
-----
;          USER ENABLE CODES
36: 1       ; 30; Operator ID number (P2)
37: 2       ; 31; Setup ID number (P1)
38: 3       ; 32; Master ID number
-----
;          OPERATOR ENABLE ACCESS
39: 1;1,1,1,1,1,1,1,1 ; 33; Per chn enable: chns 1-8; chn on/off
39: 2;1,1,1,1,1,1,1,1 ; 34; Per chn enable: chns 9-16; chn on/off
39: 3;1,0,0,0,0,0,0,0 ; 35; Per chn enable: chns 17-24; chn on/off
40: 1       ; 36; Operator enable: Setpoints
41: 1       ; 37; Operator enable: Default program
42: 1       ; 38; Operator enable: Speed comp
43: 1       ; 39; Operator enable: Timed outputs
44: 1       ; 40; Operator enable: Offsets
45: 1       ; 41; Operator enable: Motion detection
46: 1       ; 42; Operator enable: Analog values
-----
;          MOTION ANDING
47: 1;0,0,0,0,0,0,0,0 ; 43; Motion ANDing: chns 1-8; chn levels (0=none)
47: 2;0,0,0,0,0,0,0,0 ; 44; Motion ANDing: chns 9-16; chn levels (0=none)
47: 3;0,0,0,0,0,0,0,0 ; 45; Motion ANDing: chns 17-24; chn levels (0=none)
-----
;          OUTPUT ENABLE ANDING
48: 1;0,0,0,0,0,0,0,0 ; 46; Output enable ANDing: chns 1-8; chn on/off
48: 2;0,0,0,0,0,0,0,0 ; 47; Output enable ANDing: chns 9-16; chn on/off
48: 3;0,0,0,0,0,0,0,0 ; 48; Output enable ANDing: chns 17-24; chn on/off
-----
;          GROUP & MODE SETUP
49: 1       ; 49; Output group quantity
50: 1,0     ; 50; Offset: group#, offset
51: 1,1,17,0 ; 51; Group config: group, Xducer, #chns, mode
```

Serial Communications Using Modbus ASCII Protocol

Data Organization

This section describes the internal data structure of PLS controllers, and how this data may be accessed via serial communications. The data has been organized as a series of "Coils" and "Registers" compatible with PLC programming techniques. You access and/or change the data within a PLS controller by forcing coils ON or OFF, and by reading and writing register data.

A PLS Controller can be completely programmed via the serial interface. All controller data, such as pulses, speed compensation, timed output values, etc., are available as registers. Configuration data, such as the direction of rotation, number of keyboards, number of analog outputs, etc., is also available as register data. The controller is programmed by writing to these registers. Data is monitored within the controller by reading from these registers.

Mapping

In addition to accessing controller data via dedicated registers, specific indexed data items can be accessed through the 240 data display registers. This is done by "mapping" a specific indexed data element to a data display register; a data display register is assigned to represent a pulse, speed comp value, etc. Once an indexed data element is mapped it can be accessed either through the data display register or through the dedicated register.

Mapping is useful when displaying more than one instance of an indexed data element at once. For instance, speed compensation is accessed via three registers; 1) a channel index, 2) a leading edge value, and 3) a trailing edge value. This means that the values of speed compensation for all channels can be accessed, but only one at a time. To display more than one value of speed compensation at once, simply map the values to a series of data display registers.

You must define how many mappings are available through the Map Limit register.

Modbus

Modbus ASCII protocol is used for serial communications.

Set host controller communication parameters to 7 data bits, 2 stop bits, no parity.

Limit the number of consecutive registers or coils read to 32.

Quick Reference

Discrete Elements

Inputs

10001 - 10016 DC Inputs

Outputs

00001 - 00100 Channel Outputs

ORing and ANDing

00101 - 00200 Channel ORing
00201 - 00300 Channel ANDing

Special Purpose

00301 - 00400 Special Purpose

00301 Global Unforce
00302 Pulse Register Enable
00303 Create New Pulse
00304 Move Both Edges of Pulse
00305 Move All Pulses in Channel
00314 NAK Bad Address Reads
00315 Execute Special Function

Registers

Special Purpose & Data Display

40001 Message and Special Function (16 registers)
40017 Data Display (255 registers)

RPM

40295 RPM Mapping
40257 RPM Index
40258 RPM

Position

40296 Position Mapping
40259 Position Index
40260 Position

Pulse Programming

40297 Pulse Mapping
40261 Total Pulse Count
40262 Channel Pulse Count
40263 Program Index
40264 Channel Index
40265 Pulse Index
40266 Pulse On
40267 Pulse Off
40268 New On
40269 New Off

Active & Default Program

40270 Active Program
40271 Default Program

Speed Compensation

40298 Speed Comp Mapping
40272 Channel Index
40273 Leading Edge Comp
40274 Trailing Edge Comp

Timed Outputs

40299 Timed Outputs Mapping
40275 Time Outputs Index
40276 Time Outputs

Group Offset Values

40300 Group Offset Mapping
40277 Group Offset Index
40278 Group Offset

Motion Detection

40301 Motion Detection Mapping
40279 Channel Index
40280 Low Motion Detection RPM
40281 High Motion Detection RPM

Analog Output

40302 Analog Output Mapping
40282 Analog Channel Index
40283 Analog Offset
40284 Analog High RPM
40347 Analog_Resolver

Quick Reference

Gray Code Speed Comp

40285 Gray Comp

Mapping Registers

40291 Mapping Limit
40292 Mapping Quantity
40293 Mapping Store
40294 Mapping Recall

Model Information

40303 Model
40304 Revision
40305 Output Quantity

Transducer Setup

40308 Master/Slave
40309 Transducer Index
40310 Increment Direction
40311 Scale Factor
40312 Shaft Offset
40313 Shaft Position

Other Hardware Setup

40318 Keyboard Quantity
40319 Analog Quantity
40320 Program Select Mode
40321 Gray Level
40322 Time Base

Display Configuration

40323 Default Display
40314 Rate Multiplier
40315 Rate Decimal Point Position
40316 Rate Units
40317 Toggle RPM
40324 RPM Update Rate
40325 Speed Comp Display Mode
40326 Group Position Display Mode
40327 Rate Mode

Programming Enable Data

40328 Operator ID
40329 Setup ID
40330 Master ID
40331 Operator Program Enable Index
40332 Operator Program Enable
40333 Operator Function Enable

Motion Detection and Programming

40334 Motion Enable Level Index
40335 Motion Enable Level

Enable Input and Programming

40336 Enable ANDing Index
40337 Enable ANDing

Group Programming

40338 Group Quantity
40339 Group Index
40340 Group Channel Quantity
40341 Group Mode
40342 Group Transducer

Run Time Control

40343 Stop Control
40344 EEPROM Checksum
40345 EEPROM Changed

I/O Control

40350 - 40359 Input Status
40360 - 40369 Output Status
40370 - 40379 ORing Bits
40380 - 40389 ANDing Bits

Communications

40390 Type (RS485/RS232)
40391 Baud Rate
40392 Address

Discrete I/O

Inputs

10001 - 10016

DC Inputs

These points represent the status of the DC inputs.

Outputs

00001 - 00100

Channel Outputs

These coils represent the status of the channel outputs. Forcing these coils directly will set/clear the appropriate ORing and ANDing coils as required.

The Channel Output Coil status before OR/ANDing is determined by setpoints, group modes, speed compensation, motion ANDing, enable input ANDing, timed outputs, and resolver fault status.

ORing and ANDing

00101 - 00200

Channel ORing

Setting these coils to '1' will force the corresponding Channel Output Coil ON.

00201 - 00300

Channel ANDing

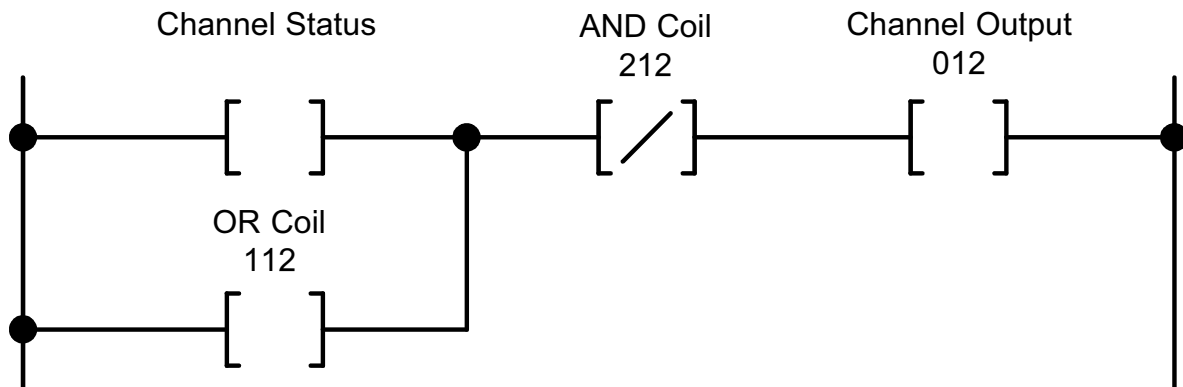
Setting these coils to '1' will force the corresponding Channel Output Coil OFF.

Special Purpose

00301 - 00400

Special Purpose

Ladder Diagram Example of ORing/ANDing Coils



- 301 Global Unforce**
Clears all OR and AND coils when set from '0' to '1' (edge active).
- 302 Pulse Register Enable**
When '1', this coil enables the creation of new pulses through writes to the New Off Register. When this coil is '0', writes to New Off Register do not create a new pulse.
- 303 Create New Pulse**
Creates a new pulse defined by the New On and New Off registers when set from '0' to '1' (edge active). This coil is ignored if coil 302 is '1'.
- 304 Move Both Edges of Pulse**
When '1', this coil will cause both edges of a pulse to move when either the leading or trailing edge is changed by '1' (incremented or decremented).
- 305 Move All Pulses in Channel**
When '1', this coil will cause all edges of all pulses in a channel to move when either the leading or trailing edge is changed by '1' (incremented or decremented).
- 314 NAK Bad Address Reads**
When '1', this coil will cause the controller to NAK attempted reads to non-existent registers. When this coil is '0', reads to non-existent registers return a value of zero.
- 315 Execute Special Function**
Executes the special function defined by the contents of the Special Purpose Registers (40001-40017) when set from '0' to '1'.

Registers

Special Purpose & Data Display

- | | |
|--------------|---|
| 40001 | Special Function (16 registers)
The first 16 registers (001 - 016) are used for entering data used by the special functions. |
| 40017 | Data Display (240 registers)
These registers (017 - 256) are used by the Mapping functions to display individual instances of indexed data. |

Continued

Registers

RPM

40295	RPM Mapping Read/write Values: 17 - 256 GP register mapping rpm.
40257	RPM Index Read/write Values: 1-2 (1 = resolver 1 and 2 = resolver 2) Specifies the transducer in multiple transducer controllers.
40258	RPM Read only Returns the current RPM.

Position

40296	Position Mapping Read/Write Values: 17 - 255 Specifies the general purpose register used to display the position for the output group specified by the Group Index Register.
40259	Position Index Read/Write Values: 1 - 8 Specifies the output group whose position is displayed in the Position Register.
40260	Position Read only Values: 0 - (Scale Factor - 1) Returns the current position for the output group specified by the Group Index Register.

Pulse Programming

40297	Pulse Mapping Read/Write Values: 17 - 255 General Purpose register used for mapping the On and Off values for the pulse specified by the index registers. Two registers will be used; the first will contain the On value, the second will contain the Off value.
40261	Total Pulse Count Read/Write Values: 0 - n Returns the total number of pulses for all channels. Writing a value of '0' to this register will erase all pulses. Only write to this register when the Stop register is '1'.
40262	Channel Pulse Count Read only Values: 0 - n Returns the number of pulses in the channel defined by the index registers below.

Registers

Pulse Programming (Cont'd)

40263	Program Index Read/Write Values: 0 - Max Program Number Contains the current program number for pulse access. Writing to this register resets the Channel Index Register and the Pulse Index Register to '1'. When this register is '0', the current active program is used for setpoint access and for mapping (setpoints mapped with a program index of '0' will automatically change when the active program changes).
40264	Channel Index Read/Write Values: 1 - Max Channel Number Contains the current channel number for pulse access. Writing to this register resets the Pulse Index Register to '1'. This register is reset to '1' when the Program Index Register is changed.
40265	Pulse Index Read/Write Values: 1 - n Contains the current pulse number for pulse access. This register is reset to '1' when the Program Index Register or Channel Index Registers are changed.
40266	Pulse On Read/Write Values: 0 - (Scale Factor - 1) Pulse On Value.
40267	Pulse Off Read/Write Values: 0 - (Scale Factor - 1) Pulse Off Value.
40268	New On Read/Write Values: 0 - (Scale Factor - 1) New Pulse On Value. Writing to this register loads the On setpoint of a new pulse for the program and channel specified by the index registers above.
40269	New Off Read/Write Values: 0 - (Scale Factor - 1) New Pulse Off Value. Writing to this register loads the Off setpoint of a new pulse for the program and channel specified by the index registers above. The pulse is stored when the Off value is written if the Pulse Register Enable Coil is set to '1'; otherwise the pulse is stored when the Create New Pulse Coil is changed from '0' to '1' (edge active).

Registers

Active Program and Default Program

40270	Active Program Read/Write. Values: 1 - Max program number Returns to program currently active; determined either by hardware inputs or by the value of the default program. If hardware inputs are active, writes to this register will change the default program, but the active program will not change.
40271	Default Program Read/Write. Values: 1 - Max program number Defines the program that will be active if no hardware program select inputs are active.

Speed Compensation

40298	Speed Comp Mapping Read/Write Values: 17 - 255 General purpose register used for mapping speed compensation values. Two registers will be used; the first will contain the leading edge value, the second will contain the trailing edge value.
40272	Channel Index Read/Write Values: 1 - Max Channel Number Channel index for speed comp values.
40273	Leading Edge Comp Read/Write Values: 0 - n (.1mS) Specifies the leading edge speed comp value.
40274	Trailing Edge Comp Read/Write Values: 0 - n (.1mS) Specifies the trailing edge speed comp value.

Timed Outputs

40299	Time Outputs Mapping Read/Write Values: 17 - 255 GP register mapping for timed output values.
40275	Time Outputs Index Read/Write (INDEX) Values: 1 - Max channel number. Channel index for time delay values.

Continued

Registers

Timed Outputs (Cont'd)

40276 **Time Outputs**
Read/Write (Indexed by REG_TIME_DELAY_IDX)
Values: 0 - n.
Timed output value in milliseconds.

Group Offset Values

40300 **Group Offset Map**
Read/Write
Values: 17 - 255
GP register mapping for group offset values.

40277 **Group Offset Index**
Read/Write (INDEX)
Values: 1 - 6
Group index for offset values.

40278 **Group Offset**
Read/Write (Indexed by REG_GROUP_OFFSET_IDX)
Values: 0 - (Scale Factor - 1).
This value is a PRESET value for groups in modes 1 and 2.
Note: Could also be indexed by REG_GEN_PGM_IDX if unit stores offsets by program.

Motion Detection

40301 **Motion Detection Mapping**
Read/Write
Values: 17 - 255
General purpose register used for mapping low and high motion detection values. The first register will contain the low motion detection rpm value, the second will contain the high motion detection rpm value.

40279 **Channel Index**
Read/Write
Values: 1, 2
Motion detection level index for high and low motion detection values.

40280 **Low Motion Detection RPM**
Read/Write
Values: 0 - n
Motion detection low limit for the level specified by the index register.

40281 **High Motion Detection RPM**
Read/Write
Values: 0 - n
Motion detection high limit for level specified by index register.

Registers

Analog Output

40302	Analog Output Mapping Read/Write Values: 17 - 255 General purpose register used for mapping analog setpoints. Four registers will be used: analog channel, index, analog offset, analog high rpm, analog resolver.
40282	Analog Channel Index Read/Write Values: 1, 2 Analog channel index for line speed and output percentage.
40283	Analog Offset Read/Write Values: 0 - 4095 Analog output value at 0 rpm.
40284	Analog High RPM Read/Write Values: 0 - n. RPM at which analog output is 4095.
40347	Analog_Resolver Read/Write Values: 1-2 1 = analog with 1st resolver 2 = analog with 2nd resolver

Gray Code Speed Comp

40285	Gray Comp Read/Write Values: 0 - n. Gray code speed comp value.
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Mapping Registers

40291	Map Limit Read/Write Values: 0 - 255 Sets the maximum number of data mappings.
40292	Map Quantity Read/Write Values: 0 - 255 Returns the number of data mappings active in the controller. NOTE: Writing a '0' to this register will delete all data mappings!
40293	Map Store This register is only for use by utility programs.
40294	Map Recall This register is only for use by utility programs.

Registers

Model Information

40303	Model Read only Returns the PLS model number (5144, 6144, etc.).
40304	Revision Read only Returns the major software revision.
40305	Output Quantity Read only Returns the number of output channels.

Transducer Setup

40308	Master/Slave Read/Write Values: 1-2: 1 = master, 2 = slave When 2, the first resolver is the slave.
40309	Transducer Index Read/Write Values: 1,2 Specifies the transducer in multiple transducer controllers. Affects INC_DIRECTION, SHAFT_POS, and SHAFT_OFFSET.
40310	Increment Direction Read/Write Values: 0 = CCW, 1 = CW. Specifies the direction of rotation of the resolver (viewed from the shaft end) that will result in an increasing numerical display of position.
40311	Scale Factor Read/Write Values: 2 -1024 (4096 with "-H" option) Scale factor used for setpoint, position, and offset programming.
40313	Shaft Position Read/Write Values: 0 - (Scale Factor - 1). Returns the current shaft position, including the shaft offset.

Registers

Other Hardware Setup

40318	Keyboard Quantity Read/Write Values: 1, 2. 6000 units only.
40319	Analog Quantity Read/Write Values: 0, 1, 2.
40320	Program Select Mode Read/Write Values: 0 = binary, 1 = BCD, 2 = gray code.
40321	Gray Level Read/Write Values: 0 = positive true, 1 = negative true.
40322	Time Base Read only Values: 0 = 1mSec, 1 = .5mSec, 2 = .2mSec.

Display Configuration

40323	Def Display Read/Write Values: 0 = RPM, 1 = Pos, 2 = Auto. Only applicable on 5XXX units.
40314	Rate Multiplier Read/Write Values: 1000 - 9999 RPM rate multiplier, assumed decimal point at X.XXX.
40315	Rate Decimal Point Position Read/Write Values: 0 - 3 Rate decimal point position
40316	Rate Units Read/Write Values: A - Z (decimal 65 - 90) Rate display units
40317	Toggle RPM Read/Write Values: 0 - n Specifies RPM which will cause position display to blank (6000 series), or to change to rpm (5000 series).
40324	RPM Update Rate Read/Write Values: 0 = 1/Sec, 1 = 2/Sec, 2 = 10/Sec Rate at which the RPM display is updated.

Continued

Registers

Display Configuration (Cont'd)

40325	Speed Comp Display Mode Read/Write Values: 0 = One, 1 = L/T Specifies whether speed comp values are displayed as one value for both leading and trailing edges, or as a value for each.
40326	Group Position Display Mode Read/Write Values: 0 = Each, 1 = One.
40327	Rate Mode Read/Write Values: 0-1, 0 = RPM-POS mode, 1 = RPM-RPM mode Display setup for main screen.

Programming Enable Data

40328	Operator ID Read/Write Values: Any integer Contains the Operator ID number used to enable the operator access level for programming.
40329	Setup ID Read/Write Values: Any integer. Contains the Setup ID number used to enable the setup access level for programming.
40330	Master ID Read/Write Values: Any integer. Contains the Master ID number used to enable the master access level for programming.
40331	Operator Program Enable Index Read/Write (INDEX) Values: 1 - Max Channel. Channel index for OPR_PGM_ENAB register.
40332	Operator Program Enable Read/write (Indexed by REG_OPR_PGM_ENAB_IDX) Values: 0/1 Value which specifies whether a channel can be modified under the Operator access level. Channel data such as speed comp and timed output values can be individually enabled per channel for operator access through this register.

Continued

Registers

Programming Enable Data (Cont.)

40333	Operator Function Enable Read/Write Values: 0 - OFFFHH Bit mask which specifies which programming functions the operator may perform. Bit 0: Pulse on/off values. Bit 1: Default program Bit 2: Speed compensation Bit 3: Timed outputs Bit 4: Offset Bit 5: Motion detection Bit 6: Analog offset and high rpm
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Motion Detection and Programming

40334	Motion Enable Level Index Read/Write (INDEX) Values: 1 - Max channel number.
40335	Motion Enable Level Read/Write Values: 0 = Off, n = Motion detection level. Specifies the motion detection level used for a channel.

Enable Input and Programming

40336	Enable Anding Index Read/Write (INDEX) Values: 1 - Max Channel. Channel index for ENAB_ANDING register.
40337	Enable Anding Read/Write (Indexed by REG_ENAB_ANDING_IDX) Values: 0/1. Value which specifies whether a channel is ANDed with the Enable Input.

Group Programming

40338	Group Quantity Read/Write Values: 1 - 6 Specifies the number of output groups.
40339	Group Index Read/Write (INDEX) Values: Group number 1 - 8. Contains the current output group number.

Continued

Registers

Group Programming

40340	Group Channel Quantity Read/Write (Indexed) Values: 0 - Max channel number.
40341	Group Mode Read/Write (Indexed) Values: 0 - 5. Groups in mode 0 don't need enable input.
40342	Group Transducer Read/Write (Indexed) Values: 0 - 5n. Specifies group transducer in multiple transducer controllers.

Run Time Control

40343	Stop Control Read/Write Values: 0 = Running, 1 = Stopped When PLS is STOPPED, changes written to registers do not update the checksum in EEPROM memory. Changes are faster when unit is stopped, but you must read from the Checksum Register when changes are complete to establish a valid checksum. Writing a '1' value to this register will place the PLS in STOPPED mode. Writing a '0' to this register will restart the PLS via a watchdog timer reset.
40344	EEPROM Checksum Read only Returns the current checksum of EEPROM memory. If computed checksum of EEPROM memory does not match the current value (i.e. if changes were made while unit STOPPED), a new value will be written to EEPROM memory.
40345	EEPROM Changed Read only Values: 0 = no change, 1 = changed. A value of '1' in this register means that the EEPROM has been changed (through the keyboard) since the last time this register was read. Reading this register sets it to '0'.