

**M-3311A 4 Winding
DNP 3.0
Communication Database
Rev. 1.0a**



M-3311A DNP3.0 COMMUNICATION DATABASE

DEVICE I.D. = 179

Specifications presented herein are thought to be accurate at the time of publication but are subject to change without notice.

No warranties of any kind are implied on the information contained in this document.

REV 1.0 10/06/2006

Preliminary release.

Added points 255 to 328 for Object 40.

Added W4 meterings onto analog inputs.

REV 1.0a 08/01/2024

Updating logos and removing "Co. Inc.". No updates to points.

Beckwith Electric DNP3.0 Points Grouping

Specifications

SCALE FACTOR: is the factor by which an integer value read from the control is divided to get the value of the variable in the indicated UNITS.

Points marked with a (U) appended to the scale factor field should be taken as unsigned value (0-65535) before scaling.

UNITS: unit of the described data point.

All points defined as "NOT USED" can be read and will return 0 for data.

The communication database profile in the M3311A with the DNPV3.0 protocol is grouped into five object types. These are:

- **Single Bit Binary Inputs (status)** (object 01, variation 01, 02): They are considered as class 0 data.
- **16 Bit Analog Output Block / Status** (object 40, variation 01, variation 02 / object 41, variation 01, variation 02): With these points, you can read and write all the setpoints & system setup.
- **Binary Outputs & Control Relay Output Block (Direct control)** (object 10, variation 02 / object 12, variation 02): With these points, you can write all the configuration points.
- **16 Bit Analog Inputs** (object 30, variation 01, 02, 03, 04): These points represent demand metering, voltage & currents.
- **Date & Time** (read and write time using object 50, variation 01): Represents the system time & date.
- **Static (Class 0)** data (object 60, variation 01): These points represent all the binary inputs, control information, demand metering, target information and counters.
- **Events (Class 2)** data (object 60, variation 03): These points represent the binary & analog inputs.

DNP Configuration Parameters:

M3311A relays support DNP through the Rear RS232 (COM2) & RS485 (COM3) communication ports.

These ports support baud rates 1200, 2400, 4800, 9600 and the default baud rate is set to 9600.

M3311A Slave address:

DNP3 Slave IED Address range is from 0 to 65519. Address 65535 (hex FFFF) is used to broadcast messages to all devices. The communication address can be set through the HMI (Front panel).

DNP V3.0 DEVICE PROFILE DOCUMENT																																																												
Vendor Name: Beckwith Electric Co., Inc. Device Name: Transformer (4 Winding) Protection System																																																												
Highest DNP Level Supported: For Requests: Level 2 For Responses: Level 2			Device Function: ☐ Master ☒ Slave																																																									
Notable objects, functions, and/or qualifiers supported in addition to the Highest DNP Levels Supported (the complete list is described in the attached table): The read function code for Object 50 (Time and Date), variation 1, is supported.																																																												
Maximum Data Link Frame Size (octets): Transmitted: 292 Received 64			Maximum Application Fragment Size (octets): Transmitted: 3K Received 3K																																																									
Maximum Data Link Re-tries: ☐ None ☒ Fixed at 2 ☐ Configurable from 0 to 255			Maximum Application Layer Re-tries: ☒ None ☐ Configurable																																																									
Requires Data Link Layer Confirmation: ☒ Never ☐ Always ☐ Sometimes ☐ Configurable as: Never, Only for multi frame messages																																																												
Requires Application Layer Confirmation: ☒ Never ☐ Always ☐ When reporting Event Data ☐ When sending multi-fragment responses ☐ Sometimes ☐ Configurable																																																												
Timeouts while waiting for: <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Data Link Confirm:</td> <td>☒ None</td> <td>☐ Fixed at 3 sec</td> <td>☐ Variable</td> <td>☐ Configurable</td> </tr> <tr> <td>Complete Appl. Fragment:</td> <td>☒ None</td> <td>☐ Fixed at _____</td> <td>☐ Variable</td> <td>☐ Configurable</td> </tr> <tr> <td>Application Confirm:</td> <td>☐ None</td> <td>☒ Fixed at 5 sec</td> <td>☐ Variable</td> <td>☐ Configurable</td> </tr> <tr> <td>Complete Appl. Response:</td> <td>☒ None</td> <td>☐ Fixed at _____</td> <td>☐ Variable</td> <td>☐ Configurable</td> </tr> </table>						Data Link Confirm:	☒ None	☐ Fixed at 3 sec	☐ Variable	☐ Configurable	Complete Appl. Fragment:	☒ None	☐ Fixed at _____	☐ Variable	☐ Configurable	Application Confirm:	☐ None	☒ Fixed at 5 sec	☐ Variable	☐ Configurable	Complete Appl. Response:	☒ None	☐ Fixed at _____	☐ Variable	☐ Configurable																																			
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Sends/Executes Control Operations: <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">WRITE Binary Outputs</td> <td>☒ Never</td> <td>☐ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>SELECT/OPERATE</td> <td>☐ Never</td> <td>☒ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>DIRECT OPERATE</td> <td>☐ Never</td> <td>☒ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>DIRECT OPERATE – NO ACK</td> <td>☐ Never</td> <td>☒ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>Count > 1</td> <td>☒ Never</td> <td>☐ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>Pulse On</td> <td>☒ Never</td> <td>☐ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>Pulse Off</td> <td>☒ Never</td> <td>☐ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>Latch On</td> <td>☐ Never</td> <td>☒ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>Latch Off</td> <td>☐ Never</td> <td>☒ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>Queue</td> <td>☒ Never</td> <td>☐ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> <tr> <td>Clear Queue</td> <td>☒ Never</td> <td>☐ Always</td> <td>☐ Sometimes</td> <td>☐ Configurable</td> </tr> </table>						WRITE Binary Outputs	☒ Never	☐ Always	☐ Sometimes	☐ Configurable	SELECT/OPERATE	☐ Never	☒ Always	☐ Sometimes	☐ Configurable	DIRECT OPERATE	☐ Never	☒ Always	☐ Sometimes	☐ Configurable	DIRECT OPERATE – NO ACK	☐ Never	☒ Always	☐ Sometimes	☐ Configurable	Count > 1	☒ Never	☐ Always	☐ Sometimes	☐ Configurable	Pulse On	☒ Never	☐ Always	☐ Sometimes	☐ Configurable	Pulse Off	☒ Never	☐ Always	☐ Sometimes	☐ Configurable	Latch On	☐ Never	☒ Always	☐ Sometimes	☐ Configurable	Latch Off	☐ Never	☒ Always	☐ Sometimes	☐ Configurable	Queue	☒ Never	☐ Always	☐ Sometimes	☐ Configurable	Clear Queue	☒ Never	☐ Always	☐ Sometimes	☐ Configurable
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Table 1 – Device Profile (1 of 2)

DNP V3.0 DEVICE PROFILE DOCUMENT																									
Vendor Name: Beckwith Electric Co., Inc. Device Name: Transformer (4 Winding) Protection System																									
Reports Binary Input Change Events when no specific variation requested: ☒ Never ☐ Only time-tagged ☐ Only non-time-tagged ☐ Configurable	Reports time-tagged Binary Input Change Events when no specific variation requested: ☒ Never ☐ Binary Input Change With Time ☐ Binary Input Change With Relative Time ☐ Configurable (attach explanation)																								
Sends Unsolicited Responses: ☒ Never ☐ Configurable ☐ Only certain objects ☐ Sometimes (attach explanation) ☐ ENABLE/DISABLE UNSOLICITED Function codes supported	Sends Static Data in Unsolicited Responses: ☒ Never ☐ When Device Restarts ☐ When Status Flags Change No other options are permitted.																								
Default Counter Object/Variation:	Counters Roll Over at: ☒ No Counters Reported ☐ Configurable (attach explanation) ☐ 16 Bits ☐ 32 Bits ☐ Other Value: ____ ☐ Point-by-point list attached																								
Sends Multi-Fragment Responses: ☒ Yes ☐ No																									
Sequential File Transfer Support: <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Append File Mode</td> <td style="width: 10%; text-align: center;">☐ Yes</td> <td style="width: 10%; text-align: center;">☒ No</td> </tr> <tr> <td>Custom Status Code Strings</td> <td style="text-align: center;">☐ Yes</td> <td style="text-align: center;">☒ No</td> </tr> <tr> <td>Permissions Field</td> <td style="text-align: center;">☐ Yes</td> <td style="text-align: center;">☒ No</td> </tr> <tr> <td>File Events Assigned to Class</td> <td style="text-align: center;">☐ Yes</td> <td style="text-align: center;">☒ No</td> </tr> <tr> <td>File Events Poll Specifically</td> <td style="text-align: center;">☐ Yes</td> <td style="text-align: center;">☒ No</td> </tr> <tr> <td>File Events Send Immediately</td> <td style="text-align: center;">☐ Yes</td> <td style="text-align: center;">☒ No</td> </tr> <tr> <td>Multiple Blocks in a Fragment</td> <td style="text-align: center;">☐ Yes</td> <td style="text-align: center;">☒ No</td> </tr> <tr> <td>Max Number of Files Open</td> <td style="text-align: center;">0</td> <td></td> </tr> </table>		Append File Mode	☐ Yes	☒ No	Custom Status Code Strings	☐ Yes	☒ No	Permissions Field	☐ Yes	☒ No	File Events Assigned to Class	☐ Yes	☒ No	File Events Poll Specifically	☐ Yes	☒ No	File Events Send Immediately	☐ Yes	☒ No	Multiple Blocks in a Fragment	☐ Yes	☒ No	Max Number of Files Open	0	
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Table 1 – Device Profile (2 of 2)

DNP V3.0 Implementation Table

OBJECT			REQUEST		RESPONSE	
Object Number	Variation Number	Description	Function Codes (dec)	Qualifier Codes (hex)	Function Codes (dec)	Qualifier Codes (hex)
1	1 (default – see note 1)	Binary Input	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
1	2	Binary Input with Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
10	2 (default – see note 1)	Binary Output Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
2	2 (default – see note 1)	Binary Input Change with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
12	1	Control Relay Output Block	5 (direct op) 6 (dir. op, noack)	00, 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)	129 (response)	echo of request
20	2	16-Bit Binary Counter	–	–	–	–
20	5	32-Bit Binary Counter without Flag	–	–	–	–
20	6 (default – see note 1)	16-Bit Binary Counter without Flag	–	–	–	–
30	1	32-Bit Analog Input	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
30	2 (default – see note 1)	16-Bit Analog Input	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
30	3	32-Bit Analog Input without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)

■ NOTES:

1. A Default variation refers to the variation responded when variation 0 is requested and/or in class 0, 1, 2, or 3 scans.
2. For static (non-change-event) objects, qualifiers 17 or 28 are only responded when a request is sent with qualifiers 17 or 28, respectively. Otherwise, static object requests sent with qualifiers 00, 01, 06, 07, or 08, will be responded with qualifiers 00 or 01. (For change-event objects, qualifiers 17 or 28 are always responded except for object 70 which responds with qualifier 1b or 5b.)
3. For a Cold, restart is implemented as a warm restart – the executable is not restarted, but the DNP process is restarted.
4. Writes of Internal Indications are only supported for index 7 (Restart IIN1-7), and indices 16 and beyond (user-defined indications) .

Table 2 – Implementation (1 of 3)

DNP V3.0 Implementation Table

OBJECT			REQUEST		RESPONSE	
Object Number	Variation Number	Description	Function Codes (dec)	Qualifier Codes (hex)	Function Codes (dec)	Qualifier Codes (hex)
30	4	16-Bit Analog Input without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
32	4	16-Bit Analog Change Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
40	1	32-Bit Analog Output Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
40	2 (default – see note 1)	16-Bit Analog Output Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
41	1	32-Bit Analog Output Block	5 (direct op) 6 (dir. op, noack)	00, 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)	129 (response)	echo of request
41	2	16-Bit Analog Output Block	5 (direct op) 6 (dir. op, noack)	00, 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)	129 (response)	echo of request
50	0	Time and Date			129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
50	1 (default – see note 1)	Time and Date	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07 (limited qty = 1) 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
			2 (write)	00, 01 (start-stop) 07 (limited qty = 1) 08 (limited qty) 17, 28 (index)	–	–
52	2	Time Delay Fine	–	–	129 (response)	07 (limited qty) (qty = 1)
60	0	Class 0, 1, 2, and 3 Data	–	–	–	–
60	1	Class 0 Data	1 (read)	06 (no range, or all)	–	–

■ NOTES:

1. A Default variation refers to the variation responded when variation 0 is requested and/or in class 0, 1, 2, or 3 scans.
2. For static (non-change-event) objects, qualifiers 17 or 28 are only responded when a request is sent with qualifiers 17 or 28, respectively. Otherwise, static object requests sent with qualifiers 00, 01, 06, 07, or 08, will be responded with qualifiers 00 or 01. (For change-event objects, qualifiers 17 or 28 are always responded except for object 70 which responds with qualifier 1b or 5b.)
3. For a Cold, restart is implemented as a warm restart – the executable is not restarted, but the DNP process is restarted.
4. Writes of Internal Indications are only supported for index 7 (Restart IIN1-7), and indices 16 and beyond (user-defined indications).

Table 2 – Implementation (2 of 3)

DNP V3.0 Implementation Table

OBJECT			REQUEST		RESPONSE	
Object Number	Variation Number	Description	Function Codes (dec)	Qualifier Codes (hex)	Function Codes (dec)	Qualifier Codes (hex)
60	2	Class 1 Data	–	–	–	–
60	3	Class 2 Data	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
60	4	Class 3 Data	–	–	–	–
70	1	File Identifier	–	–	–	–
70	3	File Command	–	–	–	–
70	4	File Command Status	–	–	–	–
70	5	File Transfer	–	–	–	–
70	6	File Transfer Status	–	–	–	–
70	7	File Descriptor	–	–	–	–
80	0	Internal Indications (Variation 0 is used to request default variation)	–	–	–	–
80	1	Internal Indications	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see note 2)
			2 (write) (see note 4)	00 (start-stop) 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)		
112	string length	Virtual Terminal Output Block	–	–	–	–
113	string length	Virtual Terminal Event Data	–	–	–	–
No Object (function code only) – See Note 3			13 (cold restart)	–	–	–
No Object (function code only)			14 (warm restart)	–	–	–
No Object (function code only)			23 (delay meas.)	–	–	–

■ NOTES:

1. A Default variation refers to the variation responded when variation 0 is requested and/or in class 0, 1, 2, or 3 scans.
2. For static (non-change-event) objects, qualifiers 17 or 28 are only responded when a request is sent with qualifiers 17 or 28, respectively. Otherwise, static object requests sent with qualifiers 00, 01, 06, 07, or 08, will be responded with qualifiers 00 or 01. (For change-event objects, qualifiers 17 or 28 are always responded except for object 70 which responds with qualifier 1b or 5b.)
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Table 2 – Implementation (3 of 3)

BINARY INPUT POINTS Static (Steady-State) Object Number: 1 Request Function Codes supported: 1 (read) Static Variation reported when variation 0 requested: 1 (Binary input without status)			
POINT INDEX	NAME /DESCRIPTION	OBJECT / VARIATION	STATIC CLASS
0	Input status bit 0 input 1(52b)	1 / 2	0
1	Input status bit 1	1 / 2	0
2	Input status bit 2	1 / 2	0
3	Input status bit 3	1 / 2	0
4	Input status bit 4	1 / 2	0
5	Input status bit 5	1 / 2	0
6	Bit 6 NA	1 / 2	0
7	Bit 7 NA	1 / 2	0
8	Input status Ext In 7	1 / 2	0
9	Input status Ext In 8	1 / 2	0
10	Input status Ext In 9	1 / 2	0
11	Input status Ext In 10	1 / 2	0
12	Input status Ext In 11	1 / 2	0
13	Input status Ext In 12	1 / 2	0
14	Input status Ext In 13	1 / 2	0
15	Input status Ext In 14	1 / 2	0
16	Input status Ext In 15	–	–
17	Input status Ext In 16	–	–
18	Input status Ext In 17	–	–
19	Input status Ext In 18	–	–
20	Not used	–	–
21	Not used	–	–
22	Not used	–	–
23	Not used	–	–
24-39	Output status Bit 0 Out 1 Bit 8 Out 9 Bit 1 Out 2 Bit 9 Out 10 Bit 2 Out 3 Bit 10 Out 11 Bit 3 Out 4 Bit 11 Out 12 Bit 4 Out 5 Bit 12 Out 13 Bit 5 Out 6 Bit 13 Out 14 Bit 6 Out 7 Bit 14 Out 15 Bit 7 Out 8 Bit 15 Out 16	–	–

Table 3 – Binary Input Points (1 of 4)

BINARY INPUT POINTS Static (Steady-State) Object Number: 1 Request Function Codes supported: 1 (read) Static Variation reported when variation 0 requested: 1 (Binary input without status)			
POINT INDEX	NAME /DESCRIPTION	OBJECT / VARIATION	STATIC CLASS
Front panel LED status			
40	Time sync	1 / 2	0
41	Breaker closed	1 / 2	0
42	Osc triggered	1 / 2	0
43	Target	1 / 2	0
44-47	Not used		
48-63	Function status (picked up) Least significant word [0] Bit 0 F24DT_1 Bit 8 F46DT_W4 Bit 1 F24DT_2 Bit 9 F46IT_W4 Bit 2 F24IT Bit 10 F49 Bit 3 F27 Bit 11 F50_W1_1 Bit 4 F46DT_W2 Bit 12 F50_W1_2 Bit 5 F46IT_W2 Bit 13 F50_W2_1 Bit 6 F46DT_W3 Bit 14 F50_W2_2 Bit 7 F46IT_W3 Bit 15 F50_W3_1	–	–
64-79	Function status (picked up) Next significant word [1] Bit 0 F50_W3_2 Bit 8 F50G_W2_2 Bit 1 F50_W4_1 Bit 9 F50G_W3_1 Bit 2 F50_W4_2 Bit 10 F50G_W3_2 Bit 3 F50BF_W1 Bit 11 F50G_W4_1 Bit 4 F50BF_W2 Bit 12 F50G_W4_2 Bit 5 F50BF_W3 Bit 13 F50N_W1_1 Bit 6 F50BF_W4 Bit 14 F50N_W1_2 Bit 7 F50G_W2_1 Bit 15 F50N_W2_1	1 / 2	0
80-95	Function status (picked up) Next significant word [2] Bit 0 F50N_W2_2 Bit 8 F51_W4 Bit 1 F50N_W3_1 Bit 9 F51G_W2 Bit 2 F50N_W3_2 Bit 10 F51G_W3 Bit 3 F50N_W4_1 Bit 11 F51G_W4 Bit 4 F50N_W4_2 Bit 12 F51N_W1 Bit 5 F51_W1 Bit 13 F51N_W2 Bit 6 F51_W2 Bit 14 F51N_W3 Bit 7 F51_W3 Bit 15 F51N_W4	1 / 2	0

Table 3 – Binary Input Points (2 of 4)

BINARY INPUT POINTS Static (Steady-State) Object Number: 1 Request Function Codes supported: 1 (read) Static Variation reported when variation 0 requested: 1 (Binary input without status)			
POINT INDEX	NAME /DESCRIPTION	OBJECT / VARIATION	STATIC CLASS
96-111	Function status (picked up) Next significant word [3] Bit 0 F59G_1 Bit 8 F87GD_W2_1 Bit 1 F59G_2 Bit 9 F87GD_W2_2 Bit 2 F81_1 Bit 10 F87GD_W3_1 Bit 3 F81_2 Bit 11 F87GD_W3_2 Bit 4 F81_3 Bit 12 F87GD_W4_1 Bit 5 F81_4 Bit 13 F87GD_W4_2 Bit 6 F87H Bit 14 FTHFLT Bit 7 F87T Bit 15 TCM	1 / 2	0
112-127	Function status (picked up) Most significant word [4] Bit 0 FEXT_1 Bit 1 FEXT_2 Bit 2 FEXT_3 Bit 3 FEXT_4 Bit 4 FEXT_5 Bit 5 FEXT_6 Bit 6 FBRKR_W1 Bit 7 FBRKR_W2 Bit 8 FBRKR_W3 Bit 9 FBRKR_W4 Bits 10-47 not used	1 / 2	0
128-143	Function status (timed out) Least significant word [0] Bit 0 F24DT_1 Bit 8 F46DT_W4 Bit 1 F24DT_2 Bit 9 F46IT_W4 Bit 2 F24IT Bit 10 F49 Bit 3 F27 Bit 11 F50_W1_1 Bit 4 F46DT_W2 Bit 12 F50_W1_2 Bit 5 F46IT_W2 Bit 13 F50_W2_1 Bit 6 F46DT_W3 Bit 14 F50_W2_2 Bit 7 F46IT_W3 Bit 15 F50_W3_1	1 / 2	0
144-159	Function status (timed out) Next significant word [1] Bit 0 F50_W3_2 Bit 8 F50G_W2_2 Bit 1 F50_W4_1 Bit 9 F50G_W3_1 Bit 2 F50_W4_2 Bit 10 F50G_W3_2 Bit 3 F50BF_W1 Bit 11 F50G_W4_1 Bit 4 F50BF_W2 Bit 12 F50G_W4_2 Bit 5 F50BF_W3 Bit 13 F50N_W1_1 Bit 6 F50BF_W4 Bit 14 F50N_W1_2 Bit 7 F50G_W2_1 Bit 15 F50N_W2_1	1 / 2	0

Table 3 – Binary Input Points (3 of 4)

BINARY INPUT POINTS Static (Steady-State) Object Number: 1 Request Function Codes supported: 1 (read) Static Variation reported when variation 0 requested: 1 (Binary input without status)			
POINT INDEX	NAME /DESCRIPTION	OBJECT / VARIATION	STATIC CLASS
160-175	Function status (timed out) Next significant word [2] Bit 0 F50N_W2_2 Bit 8 F51_W4 Bit 1 F50N_W3_1 Bit 9 F51G_W2 Bit 2 F50N_W3_2 Bit 10 F51G_W3 Bit 3 F50N_W4_1 Bit 11 F51G_W4 Bit 4 F50N_W4_2 Bit 12 F51N_W1 Bit 5 F51_W1 Bit 13 F51N_W2 Bit 6 F51_W2 Bit 14 F51N_W3 Bit 7 F51_W3 Bit 15 F51N_W4	1 / 2	0
176-191	Function status (timed out) Next significant word [3] Bit 0 F59G_1 Bit 8 F87GD_W2_1 Bit 1 F59G_2 Bit 9 F87GD_W2_2 Bit 2 F81_1 Bit 10 F87GD_W3_1 Bit 3 F81_2 Bit 11 F87GD_W3_2 Bit 4 F81_3 Bit 12 F87GD_W4_1 Bit 5 F81_4 Bit 13 F87GD_W4_2 Bit 6 F87H Bit 14 FTHFLT Bit 7 F87T Bit 15 TCM	1 / 2	0

Table 3 – Binary Input Points (4 of 4)

BINARY OUTPUT STATUS POINTS Object Number: 10 Request Function Codes supported: 1 (read) Default Variation reported when variation 0 requested: 2 (Binary Output Status)			
CONTROL RELAY OUTPUT BLOCKS Object Number: 12 Request Function Code supported: 3, 4, 5, 6			
POINT INDEX	NAME / DESCRIPTION	OBJECT / VARIATION (READ)	OBJECT / VARIATION (WRITE)
0-7	24DT #1 Volts Per Hertz Inputs/Blocking Bit 0 In 1 Bit 1 In 2 Bit 2 In 3 Bit 3 In 4 Bit 4 In 5 Bit 5 In 6 Bit 6 Not used Bit 7 Function Enable Writing 0 disables function, at least one OUT must be selected to enable function	10/2	12/1
0	In 1	10/2	12/1
1	In 2	10/2	12/1
2	In 3	10/2	12/1
3	In 4	10/2	12/1
4	In 5	10/2	12/1
5	In 6	10/2	12/1
6	Not used	10/2	12/1
7	Function Enable	10/2	12/1
8-23	24DT #1 Volts Per Hertz Ext. Inputs Bit 0 In 7 Bit 1 In 8 Bit 2 In 9 Bit 3 In 10 Bit 4 In 11 Bit 5 In 12 Bit 6 In 13 Bit 7 In 14 Bit 8 In 15 Bit 9 In 16 Bit 10 In 17 Bit 11 In 18 Bit 12 Not used Bit 13 Not used Bit 14 Not used Bit 15 Not used	10/2	12/1
8	In 7	10/2	12/1
9	In 8	10/2	12/1
10	In 9	10/2	12/1
11	In 10	10/2	12/1
12	In 11	10/2	12/1
13	In 12	—	—

Table 4 – Binary Output Status Points / Control Relay Output Blocks (1 of 5)

BINARY OUTPUT STATUS POINTS Object Number: 10 Request Function Codes supported: 1 (read) Default Variation reported when variation 0 requested: 2 (Binary Output Status)			
CONTROL RELAY OUTPUT BLOCKS Object Number: 12 Request Function Code supported: 3, 4, 5, 6			
POINT INDEX	NAME / DESCRIPTION	OBJECT / VARIATION (READ)	OBJECT / VARIATION (WRITE)
14	In 13	10/2	12/1
15	In 14	–	–
16	In 15	–	–
17	In 16	–	–
18	In 17	–	–
19	In 18	–	–
20-23	Not used	–	–
24-39	24DT #1 Volts Per Hertz Outputs Bit 0 Out 1 Bit 8 Out 9 Bit 1 Out 2 Bit 9 Out 10 Bit 2 Out 3 Bit 10 Out 11 Bit 3 Out 4 Bit 11 Out 12 Bit 4 Out 5 Bit 12 Out 13 Bit 5 Out 6 Bit 13 Out 14 Bit 6 Out 7 Bit 14 Out 15 Bit 7 Out 8 Bit 15 Out 16	–	–
40-79	24DT #2 Volts Per Hertz (See Points 0-39)	10/2	12/1
80-119	24IT Volts Per Hertz (See Points 0-39)	10/2	12/1
120-159	27 Phase Under voltage (See Points 0-39)	10/2	12/1
160-199	46 DTW2 Negative Sequence current (See Points 0-39)	10/2	12/1
200-239	46 ITW2 Negative Sequence current (See Points 0-39)	10/2	12/1
240-279	46 DTW3 Negative Sequence current (See Points 0-39)	10/2	12/1
280-319	46 ITW3 Negative Sequence current (See Points 0-39)	10/2	12/1
320-359	46 DTW4 Negative Sequence current (See Points 0-39)	10/2	12/1
360-399	46 ITW4 Negative Sequence current (See Points 0-39)	10/2	12/1
400-439	49 Thermal Overcurrent inputs	10/2	12/1
440-479	50W1 #1 Inst Phase Overcurrent (See Points 0-39)	10/2	12/1
480-519	50W1 #2 Inst Phase Overcurrent (See Points 0-39)	10/2	12/1
520-559	50W2 #1 Inst Phase Overcurrent (See Points 0-39)	10/2	12/1
560-599	50W2 #2 Inst Phase Overcurrent (See Points 0-39)	10/2	12/1

Table 4 – Binary Output Status Points / Control Relay Output Blocks (2 of 5)

BINARY OUTPUT STATUS POINTS Object Number: 10 Request Function Codes supported: 1 (read) Default Variation reported when variation 0 requested: 2 (Binary Output Status)			
CONTROL RELAY OUTPUT BLOCKS Object Number: 12 Request Function Code supported: 3, 4, 5, 6			
POINT INDEX	NAME / DESCRIPTION	OBJECT / VARIATION (READ)	OBJECT / VARIATION (WRITE)
600-639	50W3 #1 Inst Phase Overcurrent (See Points 0-39)	10/2	12/1
640-679	50W3 #2 Inst Phase Overcurrent (See Points 0-39)	10/2	12/1
680-719	50W4 #1 Inst Phase Overcurrent (See Points 0-39)	–	–
720-759	50W4 #2 Inst Phase Overcurrent (See Points 0-39)	–	–
760-799	50GW2 #1 Inst. Overcurrent (See Points 0-39)	10/2	12/1
800-839	50GW2 #2 Inst. Overcurrent (See Points 0-39)	10/2	12/1
840-879	50GW3 #1 Inst. Overcurrent (See Points 0-39)	10/2	12/1
880-919	50GW3 #2 Inst. Overcurrent (See Points 0-39)	10/2	12/1
920-959	50GW4 #1 Inst. Overcurrent (See Points 0-39)	10/2	12/1
960-999	50GW4 #2 Inst. Overcurrent (See Points 0-39)	10/2	12/1
1000-1039	50BFW1 Breaker Failure (See Points 0-39)	10/2	12/1
1040-1079	50BFW2 Breaker Failure (See Points 0-39)	10/2	12/1
1080-1119	50BFW3 Input Initiation (See Points 0-39)	10/2	12/1
1120-1159	50BFW4 Breaker Failure (See Points 0-39)	10/2	12/1
1160-1199	51W1 Inverse Time Overcurrent inputs (See Points 0-39)	10/2	12/1
1200-1239	51W2 Inverse Time Overcurrent inputs (See Points 0-39)	10/2	12/1
1240-1279	51W3 Inverse Time Overcurrent inputs (See Points 0-39)	10/2	12/1
1280-1319	51W4 Inverse Time Overcurrent inputs (See Points 0-39)	10/2	12/1
1320-1359	51NW1 Inverse Residual Time inputs (See Points 0-39)	10/2	12/1
1360-1399	51NW2 Inverse Residual Time inputs (See Points 0-39)	10/2	12/1
1400-1439	51NW3 Inverse Residual Time inputs (See Points 0-39)	10/2	12/1
1440-1479	51NW4 Inverse Residual Time inputs (See Points 0-39)	10/2	12/1
1480-1519	51GW2 Inverse Ground Time Overcurrent inputs (See Points 0-39)	10/2	12/1
1520-1559	51GW3 Inverse Ground Time Overcurrent inputs (See Points 0-39)	10/2	12/1
1560-1599	51GW4 Inverse Ground Time Overcurrent inputs (See Points 0-39)	10/2	12/1
1600-1639	59G#1 Neutral Overvoltage inputs (See Points 0-39)	10/2	12/1
1640-1679	59G#2 Neutral Overvoltage inputs (See Points 0-39)	10/2	12/1

Table 4 – Binary Output Status Points / Control Relay Output Blocks (3 of 5)

BINARY OUTPUT STATUS POINTS Object Number: 10 Request Function Codes supported: 1 (read) Default Variation reported when variation 0 requested: 2 (Binary Output Status)			
CONTROL RELAY OUTPUT BLOCKS Object Number: 12 Request Function Code supported: 3, 4, 5, 6			
POINT INDEX	NAME / DESCRIPTION	OBJECT / VARIATION (READ)	OBJECT / VARIATION (WRITE)
1680-1719	81 #1 Underfrequency inputs (See Points 0-39)	10/2	12/1
1720-1759	81 #2 Underfrequency inputs (See Points 0-39)	10/2	12/1
1760-1799	81 #3 Underfrequency inputs (See Points 0-39)	10/2	12/1
1800-1839	81 #4 Underfrequency inputs (See Points 0-39)	10/2	12/1
1840-1879	87H Phase differential (See Points 0-39)	10/2	12/1
1880-1919	87T High Set Phase differential (See Points 0-39)	10/2	12/1
1920-1959	87GDW2 #1 Ground differential (See Points 0-39)	10/2	12/1
1960-1999	87GDW2 #2 Ground differential (See Points 0-39)	10/2	12/1
2000-2039	87GDW3 #1 Ground differential (See Points 0-39)	10/2	12/1
2040-2079	87GDW3 #2 Ground differential (See Points 0-39)	10/2	12/1
2080-2119	87GDW4 #1 Ground differential (See Points 0-39)	10/2	12/1
2120-2159	87GDW4 #2 Ground differential (See Points 0-39)	10/2	12/1
2160-2199	EXT #1 External (See Points 0-39)	10/2	12/1
2200-2239	EXT #2 External (See Points 0-39)	10/2	12/1
2240-2279	EXT #3 External (See Points 0-39)	10/2	12/1
2280-2319	EXT #4 External (See Points 0-39)	10/2	12/1
2320-2359	EXT #5 External (See Points 0-39)	10/2	12/1
2360-2399	EXT #6 External (See Points 0-39)	10/2	12/1
2400-2439	50NW1 #1 Inst. Neutral overcurrent (See Points 0-39)	10/2	12/1
2440-2479	50NW1 #2 Inst. Neutral overcurrent (See Points 0-39)	10/2	12/1
2480-2519	50NW2 #1 Inst. Neutral overcurrent (See Points 0-39)	10/2	12/1
2520-2559	50NW2 #2 Inst. Neutral overcurrent (See Points 0-39)	10/2	12/1
2560-2599	50NW3 #1 Inst. Neutral overcurrent (See Points 0-39)	10/2	12/1
2600-2639	50NW3 #2 Inst. Neutral overcurrent (See Points 0-39)	10/2	12/1
2640-2679	50NW4 #1 Inst. Neutral overcurrent (See Points 0-39)	10/2	12/1
2680-2719	50NW4 #2 Inst. Neutral overcurrent (See Points 0-39)	10/2	12/1
2720-2759	BRKRW1 Breaker Monitoring (See Points 0-39)	10/2	12/1
2760-2799	BRKRW2 Breaker Monitoring (See Points 0-39)	10/2	12/1

Table 4 – Binary Output Status Points / Control Relay Output Blocks (4 of 5)

BINARY OUTPUT STATUS POINTS Object Number: 10 Request Function Codes supported: 1 (read) Default Variation reported when variation 0 requested: 2 (Binary Output Status)			
CONTROL RELAY OUTPUT BLOCKS Object Number: 12 Request Function Code supported: 3, 4, 5, 6			
POINT INDEX	NAME / DESCRIPTION	OBJECT / VARIATION (READ)	OBJECT / VARIATION (WRITE)
2800-2839	BRKRW3 Breaker Monitoring (See Points 0-39)	10/2	12/1
2840-2879	BRKRW4 Breaker Monitoring (See Points 0-39)	10/2	12/1
2880-2919	THFLT Through Fault Alarm (See Points 0-39)	10/2	12/1
2920-2959	TCM Trip Circuit Monitor (See Points 0-39)	10/2	12/1

Table 4 – Binary Output Status Points / Control Relay Output Blocks (5 of 5)

ANALOG INPUTS						
Static (Steady-State) Object Number: 30						
Request Function Codes supported: 1 (read)						
Static Variation reported when variation 0 requested: 2 (16-Bit Analog Input)						
POINT INDEX	DESCRIPTION	STATIC CLASS	OBJECT/ VARIATION	UNITS	SCALE FACTOR	DEADBAND
0	Voltage	0	30/02	VOLTS	10	0.1 V – 100 V
1	W1 Phase A current	0	30/02	AMPS	1000	0.1 A – 10 A
2	W1 Phase B current	0	30/02	AMPS	1000	0.1 A – 10 A
3	W1 Phase C current	0	30/02	AMPS	1000	0.1 A – 10 A
4	W2 Phase A current	0	30/02	AMPS	1000	0.1 A – 10 A
5	W2 Phase B current	0	30/02	AMPS	1000	0.1 A – 10 A
6	W2 Phase C current	0	30/02	AMPS	1000	0.1 A – 10 A
7	W2 Phase G current	0	30/02	AMPS	1000	0.1 A – 10 A
8	W3 Phase A current	0	30/02	AMPS	1000	0.1 A – 10 A
9	W3 Phase B current	0	30/02	AMPS	1000	0.1 A – 10 A
10	W3 Phase C current	0	30/02	AMPS	1000	0.1 A – 10 A
11	W3 Phase G current	0	30/02	AMPS	1000	0.1 A – 10 A
12	W4 Phase A current	0	30/02	AMPS	1000	0.1 A – 10 A
13	W4 Phase B current	0	30/02	AMPS	1000	0.1 A – 10 A
14	W4 Phase C current	0	30/02	AMPS	1000	0.1 A – 10 A
15	W4 Phase G current	0	30/02	AMPS	1000	0.1 A – 10 A
16	Frequency	0	30/02	AMPS	100	0.01 Hz – 5.00 Hz
17	W1 Phase A current demand	0	30/02	AMPS	1000	0.1 A – 10 A
18	W1 Phase B current demand	0	30/02	AMPS	1000	0.1 A – 10 A
19	W1 Phase C current demand	0	30/02	AMPS	1000	0.1 A – 10 A
20	W2 Phase A current demand	0	30/02	AMPS	1000	0.1 A – 10 A
21	W2 Phase B current demand	0	30/02	AMPS	1000	0.1 A – 10 A
22	W2 Phase C current demand	0	30/02	AMPS	1000	0.1 A – 10 A
23	W2 Phase G current demand	0	30/02	AMPS	1000	0.1 A – 10 A
24	W3 Phase A current	0	30/02	AMPS	1000	0.1 A – 10 A
25	W3 Phase B current demand	0	30/02	AMPS	1000	0.1 A – 10 A
26	W3 Phase C current demand	0	30/02	AMPS	1000	0.1 A – 10 A
27	W3 Phase G current demand	0	30/02	AMPS	1000	0.1 A – 10 A
28	W4 Phase A current demand	0	30/02	AMPS	1000	0.1 A – 10 A

Table 5 – Analog Inputs (1 of 2)

ANALOG INPUTS

Static (Steady-State) Object Number: 30

Request Function Codes supported: 1 (read)

Static Variation reported when variation 0 requested: 2 (16-Bit Analog Input)

POINT INDEX	DESCRIPTION	STATIC CLASS	OBJECT/ VARIATION	UNITS	SCALE FACTOR	DEADBAND
29	W4 Phase B current demand	0	30/02	AMPS	1000	0.1 A – 10 A
30	W4 Phase C current demand	0	30/02	AMPS	1000	0.1 A – 10 A
31	W4 Phase G current demand	0	30/02	AMPS	1000	0.1 A – 10 A

Table 5 – Analog Inputs (2 of 2)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
00	1	%	100-200 / 1	24DT #1 Pickup
01	1	CYCLES	30-8160 / 1	24DT #1 Delay
02	1	%	100-200 / 1	24DT #2 Pickup
03	1	CYCLES	30-8160 / 1	24DT #2 Delay
04	1	%	100-150 / 1	24IT Pickup
05	1		1-4 / 1	24IT Curve **
06	10		if curve = 1 10-1000 / 10 if curve = 2, 3, 4 0-90	24IT Time Dial **
07	1	SEC	1-999 / 1	24IT Reset Rate
08	1	VOLTS	5-140 / 1	27 Undervoltage Pickup
09	1		0-1 / 1	27 Undervoltage Inhibit 0 = Disable 1 = Enable
10	1	VOLTS	5-140 / 1	27 Undervoltage Inhibit
11	1	CYCLES	1-8160 / 1	27 Delay
12	100	AMPS	if C.T. secondary rating = 5 Amp 10-2000 / 1 if C.T. secondary rating = 1 Amp 2-400 / 1	46DTW2 Pickup
13	1	CYCLES	1-8160 / 1	46DTW2 Delay
14	100	AMPS	if C.T. secondary rating = 5 Amp 50-500 / 1 if C.T. secondary rating = 1 Amp 10-100 / 1	46ITW2 Pickup

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (1 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
15	1		1-11 / 1	46ITW2 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
16	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	46ITW2 Time Dial **
17	100	AMPS	if C.T. secondary rating = 5 Amp 10-2000 / 1 if C.T. secondary rating = 1 Amp 2-400 / 1	46DTW3 Pickup
18	1	CYCLES	1-8160 / 1	46DTW3 Delay
19	100	AMPS	if C.T. secondary rating = 5 Amp 50-500 / 1 if C.T. secondary rating = 1 Amp 10-100 / 1	46ITW3 Pickup
20	1		1-11 / 1	46ITW3 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (2 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
21	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	46ITW3 Time Dial **
22	100	AMPS	if C.T. secondary rating = 5 Amp 10-2000 / 1 if C.T. secondary rating = 1 Amp 2-400 / 1	46DTW4 Pickup
23	1	CYCLES	1-8160 / 1	46DTW4 Delay
24	100	AMPS	if C.T. secondary rating = 5 Amp 50-500 / 1 if C.T. secondary rating = 1 Amp 10-100 / 1	46ITW4 Pickup
25	1		1-11 / 1	46ITW4 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
26	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	46ITW4 Time Dial **
27	10	MINS	10-9999 / 1	49 Time Constant

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (3 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
28	100	AMPS	if C.T. secondary rating = 5 Amp 100-1000 / 1 if C.T. secondary rating = 1 Amp 20-200 / 1	49 Max Overload Current
29	1		0-3 / 1	49 Winding Select 0 = W1 1 = W2 2 = W3 3 = W4
30	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50W1 #1 Pickup
31	1	CYCLES	1-8160 / 1	50W1 #1 Delay
32	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50W1 #2 Pickup
33	1	CYCLES	1-8160 / 1	50W1 #2 Delay
34	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50W2 #1 Pickup
35	1	CYCLES	1-8160 / 1	50W2 #1 Delay
36	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50W2 #2 Pickup
37	1	CYCLES	1-8160 / 1	50W2 #2 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (4 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
38	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50W3 #1 Pickup
39	1	CYCLES	1-8160 / 1	50W3 #1 Delay
40	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50W3 #2 Pickup
41	1	CYCLES	1-8160 / 1	50W3 #2 Delay
42	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50W4 #1 Pickup
43	1	CYCLES	1-8160 / 1	50W4 #1 Delay
44	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50W4 #2 Pickup
45	1	CYCLES	1-8160 / 1	50W4 #2 Delay
46	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50GW2 #1 Pickup
47	1	CYCLES	1-8160 / 1	50GW2 #1 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (5 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
48	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50GW2 #2 Pickup
49	1	CYCLES	1-8160 / 1	50GW2 #2 Delay
50	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50GW3 #1 Pickup
51	1	CYCLES	1-8160 / 1	50GW3 #1 Delay
52	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50GW3 #2 Pickup
53	1	CYCLES	1-8160 / 1	50GW3 #2 Delay
54	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50GW4 #1 Pickup
55	1	CYCLES	1-8160 / 1	50GW4 #1 Delay
56	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50GW4 #2 Pickup
57	1	CYCLES	1-8160 / 1	50GW4 #2 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (6 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
58	100	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50BFW1 Phase Pickup
59	1U		0-255 / 1	50BFW1 Input Initiate Bit 0 Input 1 Bit 1 Input 2 Bit 2 Input 3 Bit 3 Input 4 Bit 4 Input 5 Bit 5 Input 6 Bit 6-15 Not used (0)
60	1U		0-65535 / 1	50BFW1 Input Initiate ext inputs Bit 0 Input 7 Bit 8 Input 15 Bit 1 Input 8 Bit 9 Input 16 Bit 2 Input 9 Bit 10 Input 17 Bit 3 Input 10 Bit 11 Input 18 Bit 4 Input 11 Bit 12 Not used Bit 5 Input 12 Bit 13 Not used Bit 6 Input 13 Bit 14 Not used Bit 7 Input 14 Bit 15 Not used
61	1U		0-65535 / 1	50BFW1 Output Initiate Bit 0 Out 1 Bit 8 Out 9 Bit 1 Out 2 Bit 9 Out 10 Bit 2 Out 3 Bit 10 Out 11 Bit 3 Out 4 Bit 11 Out 12 Bit 4 Out 5 Bit 12 Out 13 Bit 5 Out 6 Bit 13 Out 14 Bit 6 Out 7 Bit 14 Out 15 Bit 7 Out 8 Bit 15 Out 16
62	100	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50BFW1 Residual Pickup
63	1	CYCLES	1-8160 / 1	50BFW1 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (7 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
64	100	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50BFW2 Phase Pickup
65	1U		0-255 / 1	50BFW2 Input Initiate Bit 0 Input 1 Bit 1 Input 2 Bit 2 Input 3 Bit 3 Input 4 Bit 4 Input 5 Bit 5 Input 6 Bit 6-15 Not used (0)
66	1U		0-65535 / 1	50BFW2 Input Initiate ext inputs Bit 0 Input 7 Bit 8 Input 15 Bit 1 Input 8 Bit 9 Input 16 Bit 2 Input 9 Bit 10 Input 17 Bit 3 Input 10 Bit 11 Input 18 Bit 4 Input 11 Bit 12 Not used Bit 5 Input 12 Bit 13 Not used Bit 6 Input 13 Bit 14 Not used Bit 7 Input 14 Bit 15 Not used
67	1U		0-65535 / 1	50BFW2 Output Initiate Bit 0 Out 1 Bit 8 Out 9 Bit 1 Out 2 Bit 9 Out 10 Bit 2 Out 3 Bit 10 Out 11 Bit 3 Out 4 Bit 11 Out 12 Bit 4 Out 5 Bit 12 Out 13 Bit 5 Out 6 Bit 13 Out 14 Bit 6 Out 7 Bit 14 Out 15 Bit 7 Out 8 Bit 15 Out 16
68	100	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50BFW2 Residual Pickup
69	1	CYCLES	1-8160 / 1	50BFW2 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (8 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
70	100	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50BFW3 Phase Pickup
71	1U		0-255 / 1	50BFW3 Input Initiate Bit 0 Input 1 Bit 1 Input 2 Bit 2 Input 3 Bit 3 Input 4 Bit 4 Input 5 Bit 5 Input 6 Bit 6-15 Not used (0)
72	1U		0-65535 / 1	50BFW3 Input Initiate ext inputs Bit 0 Input 7 Bit 8 Input 15 Bit 1 Input 8 Bit 9 Input 16 Bit 2 Input 9 Bit 10 Input 17 Bit 3 Input 10 Bit 11 Input 18 Bit 4 Input 11 Bit 12 Not used Bit 5 Input 12 Bit 13 Not used Bit 6 Input 13 Bit 14 Not used Bit 7 Input 14 Bit 15 Not used
73	1U		0-65535 / 1	50BFW3 Output Initiate Bit 0 Out 1 Bit 8 Out 9 Bit 1 Out 2 Bit 9 Out 10 Bit 2 Out 3 Bit 10 Out 11 Bit 3 Out 4 Bit 11 Out 12 Bit 4 Out 5 Bit 12 Out 13 Bit 5 Out 6 Bit 13 Out 14 Bit 6 Out 7 Bit 14 Out 15 Bit 7 Out 8 Bit 15 Out 16
74	100	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50BFW3 Residual Pickup
75	1	CYCLES	1-8160 / 1	50BFW3 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (9 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
76	100	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50BFW4 Phase Pickup
77	1U		0-255 / 1	50BFW4 Input Initiate Bit 0 Input 1 Bit 1 Input 2 Bit 2 Input 3 Bit 3 Input 4 Bit 4 Input 5 Bit 5 Input 6 Bit 6-15 Not used (0)
78	1U		0-65535 / 1	50BFW4 Input Initiate ext inputs Bit 0 Input 7 Bit 8 Input 15 Bit 1 Input 8 Bit 9 Input 16 Bit 2 Input 9 Bit 10 Input 17 Bit 3 Input 10 Bit 11 Input 18 Bit 4 Input 11 Bit 12 Not used Bit 5 Input 12 Bit 13 Not used Bit 6 Input 13 Bit 14 Not used Bit 7 Input 14 Bit 15 Not used
79	1U		0-65535 / 1	50BFW4 Output Initiate Bit 0 Out 1 Bit 8 Out 9 Bit 1 Out 2 Bit 9 Out 10 Bit 2 Out 3 Bit 10 Out 11 Bit 3 Out 4 Bit 11 Out 12 Bit 4 Out 5 Bit 12 Out 13 Bit 5 Out 6 Bit 13 Out 14 Bit 6 Out 7 Bit 14 Out 15 Bit 7 Out 8 Bit 15 Out 16
80	100	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50BFW4 Residual Pickup
81	1	CYCLES	1-8160 / 1	50BFW4 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (10 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
82	100	AMPS	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51W1 Pickup
83	1		1-11 / 1	51W1 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
84	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51W1 Time Dial **
85	100	AMPS	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51W2 Pickup
86	1		1-11 / 1	51W2 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (11 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
87	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51W2 Time Dial **
88	100	AMPS	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51W3 Pickup
89	1		1-11 / 1	51W3 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
90	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51W3 Time Dial **
91	100	AMPS	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51W4 Pickup

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (12 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
92	1		1-11 / 1	51W4 Curve type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
93	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51W4 Time Dial **
94	100	AMPS	if C.T. secondary rating = 5 Amp 50-600 / 1 if C.T. secondary rating = 1 Amp 10-120 / 1	51NW1 Pickup
95	1		1-11 / 1	51NW1 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
96	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51NW1 Time Dial **

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (13 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
97	100	AMPS	if C.T. secondary rating = 5 Amp 50-600 / 1 if C.T. secondary rating = 1 Amp 10-120 / 1	51NW2 Pickup
98	1		1-11 / 1	51NW2 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
99	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51NW2 Time Dial **
100	100	AMPS	if C.T. secondary rating = 5 Amp 50-600 / 1 if C.T. secondary rating = 1 Amp 10-120 / 1	51NW3 Pickup
101	1		1-11 / 1	51NW3 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (14 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
102	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51NW3 Time Dial **
103	100	AMPS	if C.T. secondary rating = 5 Amp 50-600 / 1 if C.T. secondary rating = 1 Amp 10-120 / 1	51NW4 Pickup
104	1		1-11 / 1	51NW4 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
105	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51NW4 Time Dial **
106	100	AMPS	if C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51GW2 Pickup

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (15 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
107	1		1-11 / 1	51GW2 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
108	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51GW2 Time Dial **
109	100	AMPS	if C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51GW3 Pickup
110	1		1-11 / 1	51GW3 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
111	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51GW3 Time Dial **

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (16 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
112	100	AMPS	if C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51GW4 Pickup
113	1		1-11 / 1	51GW4 Curve Type ** 1 = Beco Definite Time 2 = Beco Inverse 3 = Beco Very Inverse 4 = Beco Extremely Inverse 5 = IEC Inverse 6 = IEC Very Inverse 7 = IEC Extremely Inverse 8 = IEC Long Time Inverse 9 = IEEE Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
114	100		if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 85-115 / 1	51GW4 Time Dial **
115	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50NW1 #1 Pickup
116	1	CYCLES	1-8160 / 1	50NW1 #1 Delay
117	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50NW1 #2 Pickup
118	1	CYCLES	1-8160 / 1	50NW1 #2 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (17 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
119	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50NW2 #1 Pickup
120	1	CYCLES	1-8160 / 1	50NW2 #1 Delay
121	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50NW2 #2 Pickup
122	1	CYCLES	1-8160 / 1	50NW2 #2 Delay
123	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50NW3 #1 Pickup
124	1	CYCLES	1-8160 / 1	50NW3 #1 Delay
125	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50NW3 #2 Pickup
126	1	CYCLES	1-8160 / 1	50NW3 #2 Delay
127	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50NW4 #1 Pickup
128	1	CYCLES	1-8160 / 1	50NW4 #1 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (18 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
129	10	AMPS	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating = 1 Amp 2-200 / 1	50NW4 #2 Pickup
130	1	CYCLES	1-8160 / 1	50NW4 #2 Delay
131	1	VOLTS	5-180 / 1	59G #1 Neutral Overvoltage Pickup
132	1	CYCLES	1-8160 / 1	59G #1 Delay
133	1	VOLTS	5-180 / 1	59G #2 Neutral Overvoltage Pickup
134	1	CYCLES	1-8160 / 1	59G #2 Delay
135	100	HZ	if nominal frequency = 60 Hz 5500-6500 / 1 if nominal frequency = 50 Hz 4500-5500 / 1	81 #1 Pickup For 60 Hz nominal frequency 6000 pickup value excluded. For 50 Hz nominal frequency 5000 pickup value excluded.
136	1	CYCLES	2-65500 / 1	81 #1 Delay
137	100	HZ	if nominal frequency = 60 Hz 5500-6500 / 1 if nominal frequency = 50 Hz 4500-5500 / 1	81 #2 Pickup For 60 Hz nominal frequency 6000 pickup value excluded. For 50 Hz nominal frequency 5000 pickup value excluded.
138	1	CYCLES	2-65500 / 1	81 #2 Delay
139	100	HZ	if nominal frequency = 60 Hz 5500-6500 / 1 if nominal frequency = 50 Hz 4500-5500 / 1	81 #3 Pickup For 60 Hz nominal frequency 6000 pickup value excluded. For 50 Hz nominal frequency 5000 pickup value excluded.
140	1	CYCLES	2-65500 / 1	81 #3 Delay
141	100	HZ	if nominal frequency = 60Hz 5500-6500 / 1 if nominal frequency = 50 Hz 4500-5500 / 1	81 #4 Pickup For 60 Hz nominal frequency 6000 pickup value excluded. For 50 Hz nominal frequency 5000 pickup value excluded.

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (19 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
142	1	CYCLES	2-65500 / 1	81 #4 Delay
143	10	PU	50-200 / 1	87H Pickup
144	1	CYCLES	1-8160 / 1	87H Delay
145	100	PU	10-100 / 1	87T Pickup
146	1	%	5-100 / 1	87T Slope #1
147	1	%	5-200 / 1	87T Slope #2
148	10	PU	10-40 / 1	87T Slope Break Point
149	1	%	5-50 / 1	87T Even Harmonic Restraint
150	1		0-2 / 1	87T Even Harmonic Restraint (2nd & 4th) 0 = Disable 1 = Enable 2 = Enable w/cross average
151	1	%	5-50 / 1	87T 5th Harmonic Restraint
152	1		0-2 / 1	87T 5th Harmonic Restraint 0 = Disable 1 = Enable 2 = Enable w/cross average
153	100	PU	10-200 / 1	87T Pickup at 5th Harmonic Restraint
154	100		if C.T. secondary rating = 5 Amp 100-1000 / 1 if C.T. secondary rating = 1 Amp 20-200 / 1	87 C.T. W1 Tap Correction
155	100		if C.T. secondary rating = 5 Amp 100-1000 / 1 if C.T. secondary rating = 1 Amp 20-200 / 1	87 C.T. W2 Tap Correction
156	100		if C.T. secondary rating = 5 Amp 100-1000 / 1 if C.T. secondary rating = 1 Amp 20-200 / 1	87 C.T. W3 Tap Correction

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (20 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
157	100		if C.T. secondary rating = 5 Amp 100-1000 / 1 if C.T. secondary rating = 1 Amp 20-200 / 1	87 C.T. W4 Tap Correction
158	100	AMPS	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW2 #1 Pickup
159	1	CYCLES	1-8160 / 1	87GDW2 #1 Delay
160	100	AMPS	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW2 #2 Pickup
161	1		0-1 / 1	87GDW2 Directional Enable 0 = Disabled 1 = Enabled
162	100		10-799 / 1	87GDW2 C.T. Ground Correction
163	1	CYCLES	1-8160 / 1	87GDW2 #2 Delay
164	100	AMPS	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW3 #1 Pickup
165	1	CYCLES	1-8160 / 1	87GDW3 #1 Delay
166	100	AMPS	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW3 #2 Pickup
167	1		0-1 / 1	87GDW3 Directional Enable 0 = Disabled 1 = Enabled

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (21 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
168	100		10-799 / 1	87GDW3 C.T. Ground Correction
169	1	CYCLES	1-8160 / 1	87GDW3 #2 Delay
170	100	AMPS	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW4 #1 Pickup
171	1	CYCLES	1-8160 / 1	87GDW4 #1 Delay
172	100	AMPS	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW4 #2 Pickup
173	1		0-1 / 1	87GDW4 Directional Enable 0 = Disabled 1 = Enabled
174	100		10-799 / 1	87GDW4 C.T. Ground Correction
175	1	CYCLES	1-8160 / 1	87GDW4 #2 Delay
176	1U		0-255 / 1	EXT #1 Input Initiate Bit 0 Input 1 Bit 1 Input 2 Bit 2 Input 3 Bit 3 Input 4 Bit 4 Input 5 Bit 5 Input 6 Bit 6-15 Not used (0)
177	1U		0-65535 / 1	EXT #1 Input Initiate ext. Bit 0 Input 7 Bit 8 Input 15 Bit 1 Input 8 Bit 9 Input 16 Bit 2 Input 9 Bit 10 Input 17 Bit 3 Input 10 Bit 11 Input 18 Bit 4 Input 11 Bit 12 Not used Bit 5 Input 12 Bit 13 Not used Bit 6 Input 13 Bit 14 Not used Bit 7 Input 14 Bit 15 Not used

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (22 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
178	1U		0-65535 / 1	EXT #1 Output Initiate Bit 0 Output 1 Bit 8 Output 9 Bit 1 Output 2 Bit 9 Output 10 Bit 2 Output 3 Bit 10 Output 11 Bit 3 Output 4 Bit 11 Output 12 Bit 4 Output 5 Bit 12 Output 13 Bit 5 Output 6 Bit 13 Output 14 Bit 6 Output 7 Bit 14 Output 15 Bit 7 Output 8 Bit 15 Output 16
179	1U		0-255 / 1	EXT #1 Gate Config Bit 0 Output initiate gate Bit 1 Picked up functions initiate gate Bit 2 Input initiate gate Bit 3 Blocking inputs gate Bit 4 Inputs main gate Bit 5-6 Not used (0) Bit 7 Picked up functions initiate gate NOT element enable/disable Bit 7 = 0 NOT disabled Bit 7 = 1 NOT enabled 0 = gate configured for "OR" 1 = gate configured for "AND"
180	1U		0-65535 / 1	EXT #1 Picked up functions initiate mask Least significant word [0] Bit 0 F24DT_1 Bit 8 F46DT_W4 Bit 1 F24DT_2 Bit 9 F46IT_W4 Bit 2 F24IT Bit 10 F49 Bit 3 F27 Bit 11 F50_W1_1 Bit 4 F46DT_W2 Bit 12 F50_W1_2 Bit 5 F46IT_W2 Bit 13 F50_W2_1 Bit 6 F46DT_W3 Bit 14 F50_W2_2 Bit 7 F46IT_W3 Bit 15 F50_W3_1
181	1U		0-65535 / 1	EXT #1 Picked up functions initiate mask Next significant word [1] Bit 0 F50_W3_2 Bit 8 F50G_W2_2 Bit 1 F50_W4_1 Bit 9 F50G_W3_1 Bit 2 F50_W4_2 Bit 10 F50G_W3_2 Bit 3 F50BF_W1 Bit 11 F50G_W4_1 Bit 4 F50BF_W2 Bit 12 F50G_W4_2 Bit 5 F50BF_W3 Bit 13 F50N_W1_1 Bit 6 F50BF_W4 Bit 14 F50N_W1_2 Bit 7 F50G_W2_1 Bit 15 F50N_W2_1

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (23 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
182	1U		0-65535 / 1	EXT #1 Picked up functions initiate mask Next significant word [2] Bit 0 F50N_W2_2 Bit 8 F51_W4 Bit 1 F50N_W3_1 Bit 9 F51G_W2 Bit 2 F50N_W3_2 Bit 10 F51G_W3 Bit 3 F50N_W4_1 Bit 11 F51G_W4 Bit 4 F50N_W4_2 Bit 12 F51N_W1 Bit 5 F51_W1 Bit 13 F51N_W2 Bit 6 F51_W2 Bit 14 F51N_W3 Bit 7 F51_W3 Bit 15 F51N_W4
183	1U		0-65535 / 1	EXT #1 Picked up functions initiate mask Next significant word [3] Bit 0 F59G_1 Bit 8 F87GD_W2_1 Bit 1 F59G_2 Bit 9 F87GD_W2_2 Bit 2 F81_1 Bit 10 F87GD_W3_1 Bit 3 F81_2 Bit 11 F87GD_W3_2 Bit 4 F81_3 Bit 12 F87GD_W4_1 Bit 5 F81_4 Bit 13 F87GD_W4_2 Bit 6 F87H Bit 14 FTHFLT Bit 7 F87T Bit 15 TCM
184	1U		0-65535 / 1	EXT #1 Picked up functions initiate mask Most significant word [4] Bit 0 FEXT_1 Bit 1 FEXT_2 Bit 2 FEXT_3 Bit 3 FEXT_4 Bit 4 FEXT_5 Bit 5 FEXT_6 Bit 6 FBRKR_W1 Bit 7 FBRKR_W2 Bit 8 FBRKR_W3 Bit 9 FBRKR_W4 Bits 10-15 not used
185	1U		0-4 / 1	EXT #1 Switch Profile 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
186	1U		0-1 / 1	EXT #1 Communication Initiate
187	1U		0-1 / 1	EXT #1 Communication Block
188	1	CYCLES	1-65500 / 1	EXT #1 Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (24 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
189	1U		0-255 / 1	EXT #2 Input Initiate See 176
190	1U		0-65535 / 1	EXT #2 Input Initiate ext. See 177
191	1U		0-65535 / 1	EXT #2 Output Initiate See 178
192	1U		0-255 / 1	EXT #2 Gate Config See 179
193	1U		0-65535 / 1	EXT #2 Picked up functions initiate mask Least significant word [0] See 180
194	1U		0-65535 / 1	EXT #2 Picked up functions initiate mask Next significant word [1] See 181
195	1U		0-65535 / 1	EXT #2 Picked up functions initiate mask Next significant word [2] See 182
196	1U		0-65535 / 1	EXT #2 Picked up functions initiate mask Next significant word [3] See 183
197	1U		0-65535 / 1	EXT #2 Picked up functions initiate mask Most significant word [4] See 184
198	1U		0-4 / 1	EXT #2 Switch Profile 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
199	1U		0-1 / 1	EXT #2 Communication Initiate
200	1U		0-1/1	EXT #2 Communication Block
201	1	CYCLES	1-65500 / 1	EXT #2 Delay
202	1U		0-255 / 1	EXT #3 Input Initiate See 176

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (25 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
203	1U		0-65535 / 1	EXT #3 Input Initiate ext. See 177
204	1U		0-65535 / 1	EXT #3 Output Initiate See 178
205	1U		0-255 / 1	EXT #3 Gate Config See 179
206	1U		0-65535 / 1	EXT #3 Picked up functions initiate mask Least significant word [0] See 180
207	1U		0-65535 / 1	EXT #3 Picked up functions initiate mask Next significant word [1] See 181
208	1U		0-65535 / 1	EXT #3 Picked up functions initiate mask Next significant word [2] See 182
209	1U		0-65535 / 1	EXT #3 Picked up functions initiate mask Next significant word [3] See 183
210	1U		0-65535 / 1	EXT #3 Picked up functions initiate mask Most significant word [4] See 184
211	1U		0-4 / 1	EXT #3 Switch Profile 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
212	1U		0-1 / 1	EXT #3 Communication Initiate
213	1U		0-1 / 1	EXT #3 Communication Block
214	1	CYCLES	1-65500 / 1	EXT #3 Delay
215	1U		0-255 / 1	EXT #4 Input Initiate See 176
216	1U		0-65535 / 1	EXT #4 Input Initiate ext. See 177

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (26 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
217	1U		0-65535 / 1	EXT #4 Output Initiate See 178
218	1U		0-255 / 1	EXT #4 Gate Config See 179
219	1U		0-65535 / 1	EXT #4 Picked up functions initiate mask Least significant word [0] See 180
220	1U		0-65535 / 1	EXT #4 Picked up functions initiate mask Next significant word [1] See 181
221	1U		0-65535 / 1	EXT #4 Picked up functions initiate mask Next significant word [2] See 182
222	1U		0-65535 / 1	EXT #4 Picked up functions initiate mask Next significant word [3] See 183
223	1U		0-65535 / 1	EXT #4 Picked up functions initiate mask Most significant word [4] See 184
224	1U		0-4 / 1	EXT #4 Switch Profile 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
225	1U		0-1 / 1	EXT #4 Communication Initiate
226	1U		0-1 / 1	EXT #4 Communication Block
227	1	CYCLES	1-65500 / 1	EXT #4 Delay
228	1U		0-255 / 1	EXT #5 Input Initiate See 176
229	1U		0-65535 / 1	EXT #5 Input Initiate ext See 177
230	1U		0-65535 / 1	EXT #5 Output Initiate See 178

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (27 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
231	1U		0-255 / 1	EXT #5 Gate Config See 179
232	1U		0-65535 / 1	EXT #5 Picked up functions initiate mask Least significant word [0] See 180
233	1U		0-65535 / 1	EXT #5 Picked up functions initiate mask Next significant word [1] See 181
234	1U		0-65535 / 1	EXT #5 Picked up functions initiate mask Next significant word [2] See 182
235	1U		0-65535 / 1	EXT #5 Picked up functions initiate mask Next significant word [3] See 183
236	1U		0-65535 / 1	EXT #5 Picked up functions initiate mask Most significant word [4] See 184
237	1U		0-4 / 1	EXT #5 Switch Profile 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
238	1U		0-1 / 1	EXT #5 Communication Initiate
239	1U		0-1 / 1	EXT #5 Communication Block
240	1	CYCLES	1-65500 / 1	EXT #5 Delay
241	1U		0-255 / 1	EXT #6 Input Initiate See 176
242	1U		0-65535 / 1	EXT #6 Input Initiate ext. See 177
243	1U		0-65535 / 1	EXT #6 Output Initiate See 178
244	1U		0-255 / 1	EXT #6 Gate Config See 179

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (28 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
245	1U		0-65535 / 1	EXT #6 Picked up functions initiate mask Least significant word [0] See 180
246	1U		0-65535 / 1	EXT #6 Picked up functions initiate mask Next significant word [1] See 181
247	1U		0-65535 / 1	EXT #6 Picked up functions initiate mask Next significant word [2] See 182
248	1U		0-65535 / 1	EXT #6 Picked up functions initiate mask Next significant word [3] See 183
249	1U		0-65535 / 1	EXT #6 Picked up functions initiate mask Most significant word [4] See 184
250	1U		0-4 / 1	EXT #6 Switch Profile 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
251	1U		0-1 / 1	EXT #6 Communication Initiate
252	1U		0-1 / 1	EXT #6 Communication Block
253	1	CYCLES	1-65500 / 1	EXT #6 Delay
254	1		0-31 / 1	IPS Logic Latch Reset Bit 0 = IPS #1 Bit 1 = IPS #2 Bit 2 = IPS #3 Bit 3 = IPS #4 Bit 4 = IPS #5 Bit 5 = IPS #6
255	1	KAMPS	0-50000 / 1	BRKRW1 Pickup

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (29 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
256	1U		0-255 / 1	BRKRW1 Input Initiate Bit 0 Input 1 Bit 1 Input 2 Bit 2 Input 3 Bit 3 Input 4 Bit 4 Input 5 Bit 5 Input 6 Bit 6-15 Not used (0)
257	1U		0-65535 / 1	BRKRW1 Input Initiate ext. Bit 0 Input 7 Bit 8 Input 15 Bit 1 Input 8 Bit 9 Input 16 Bit 2 Input 9 Bit 10 Input 17 Bit 3 Input 10 Bit 11 Input 18 Bit 4 Input 11 Bit 12 Not used Bit 5 Input 12 Bit 13 Not used Bit 6 Input 13 Bit 14 Not used Bit 7 Input 14 Bit 15 Not used
258	1U		0-65535 / 1	BRKRW1 Output Initiate Bit 0 Output 1 Bit 8 Output 9 Bit 1 Output 2 Bit 9 Output 10 Bit 2 Output 3 Bit 10 Output 11 Bit 3 Output 4 Bit 11 Output 12 Bit 4 Output 5 Bit 12 Output 13 Bit 5 Output 6 Bit 13 Output 14 Bit 6 Output 7 Bit 14 Output 15 Bit 7 Output 8 Bit 15 Output 16
259	10	CYCLES	1-40959 / 1	BRKRW1 Delay
260	1	KAMPS	0-50000 / 1	BRKRW2 Pickup
261	1U		0-255 / 1	BRKRW2 Input Initiate
262	1U		0-65535 / 1	BRKRW2 Input Initiate ext.
253	1U		0-65535 / 1	BRKRW2 Output Initiate
264	10	CYCLES	1-40959 / 1	BRKRW2 Delay
265	1	KAMPS	0-50000 / 1	BRKRW3 Pickup
266	1U		0-255 / 1	BRKRW3 Input Initiate
267	1U		0-65535 / 1	BRKRW3 Input Initiate ext.
268	1U		0-65535 / 1	BRKRW3 Output Initiate
269	10	CYCLES	1-40959 / 1	BRKRW3 Delay
270	1	KAMPS	0-50000 / 1	BRKRW4 Pickup

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (30 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
271	1U		0-255 / 1	BRKRW4 Input Initiate
272	1U		0-65535 / 1	BRKRW4 Input Initiate ext.
273	1U		0-65535 / 1	BRKRW4 Output Initiate
274	10	CYCLES	1-40959 / 1	BRKRW4 Delay
275	1U		0-15 / 1	Breaker Monitor timing method select Bit 0 = W1 Bit 1 = W2 Bit 2 = W3 Bit 3 = W4 Bit 4-7 Not used 0 = I*t method selected 1 = I ² *t method selected
276	1	KAMPS	0-50000 / 1	Phase A W1 Breaker Monitoring arc current acc.
277	1	KAMPS	0-50000 / 1	Phase B W1 Breaker Monitoring arc current acc.
278	1	KAMPS	0-50000 / 1	Phase C W1 Breaker Monitoring arc current acc.
279	1	KAMPS	0-50000 / 1	Phase A W2 Breaker Monitoring arc current acc.
280	1	KAMPS	0-50000 / 1	Phase B W2 Breaker Monitoring arc current acc.
281	1	KAMPS	0-50000 / 1	Phase C W2 Breaker Monitoring arc current acc.
282	1	KAMPS	0-50000 / 1	Phase A W3 Breaker Monitoring arc current acc.
283	1	KAMPS	0-50000 / 1	Phase B W3 Breaker Monitoring arc current acc.
284	1	KAMPS	0-50000 / 1	Phase C W3 Breaker Monitoring arc current acc.
285	1	KAMPS	0-50000 / 1	Phase A W4 Breaker Monitoring arc current acc.
286	1	KAMPS	0-50000 / 1	Phase B W4 Breaker Monitoring arc current acc.
287	1	KAMPS	0-50000 / 1	Phase C W4 Breaker Monitoring arc current acc.

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (31 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
288	10	AMPS	10-1000 / 1	Through Fault Current Threshold
289	1		0-3 / 1	Through Fault Winding Selection 0 = W1 1 = W2 2 = W3 3 = W4
290	1U	kA2 cycle	0-65535 / 1	Through Fault Cumulative I ² t Limit high word
291	1U	kA2 cycle	0-65535 / 1	Through Fault Cumulative I ² t Limit low word
292	1U		0-65535 / 1	Through Fault Pickup Operations Limit
293	1	CYCLES	1-8160 / 1	Through Fault Alarm Delay
294	1		0-4 / 1	F50 W1 #1 Winding Config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
295	1		0-4 / 1	F50 W1 #2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
296	1		0-4 / 1	F50 W2 #1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
297	1		0-4 / 1	F50 W2 #2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
298	1		0-4 / 1	F50 W3 #1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (32 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
299	1		0-4 / 1	F50 W3 #2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
300	1		0-4 / 1	F50 W4 #1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
301	1		0-4 / 1	F50 W4 #2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
302	1		0-4 / 1	F50N W1 #1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
303	1		0-4 / 1	F50N W1 #2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
304	1		0-4 / 1	F50N W2 #1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
305	1		0-4 / 1	F50N W2 #2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (33 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
306	1		0-4 / 1	F50N W3 #1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
307	1		0-4 / 1	F50N W3 #2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
308	1		0-4 / 1	F50N W4 #1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
309	1		0-4 / 1	F50N W4 #2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
310	1		0-4 / 1	F51 W1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
311	1		0-4 / 1	F51 W2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
312	1		0-4 / 1	F51 W3 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (34 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
313	1		0-4 / 1	F51 W4 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
314	1		0-4 / 1	F51N W1 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
315	1		0-4 / 1	F51N W2 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
316	1		0-4 / 1	F51N W3 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
317	1		0-4 / 1	F51N W4 Winding config 0 = summing current 1 = W1 2 = W2 3 = W3 4 = W4
318	1		0-1 / 1	F87GD W2 Winding config 0 = single winding phase current 1 = summing phase current
319	1		0-1 / 1	F87GD W3 Winding config 0 = single winding phase current 1 = summing phase current
320	1		0-1 / 1	F87GD W4 Winding config 0 = single winding phase current 1 = summing phase current
321	1	CYCLES	0-65500 / 1	IPS LOGIC #1 Dropout Delay
322	1	CYCLES	0-65500 / 1	IPS LOGIC #2 Dropout Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (35 of 36)

16BIT / 32 BIT ANALOG OUTPUT WITH STATUS (Obj 40, Var 02, Var 01)

Request Function Code supported: 1 (read)

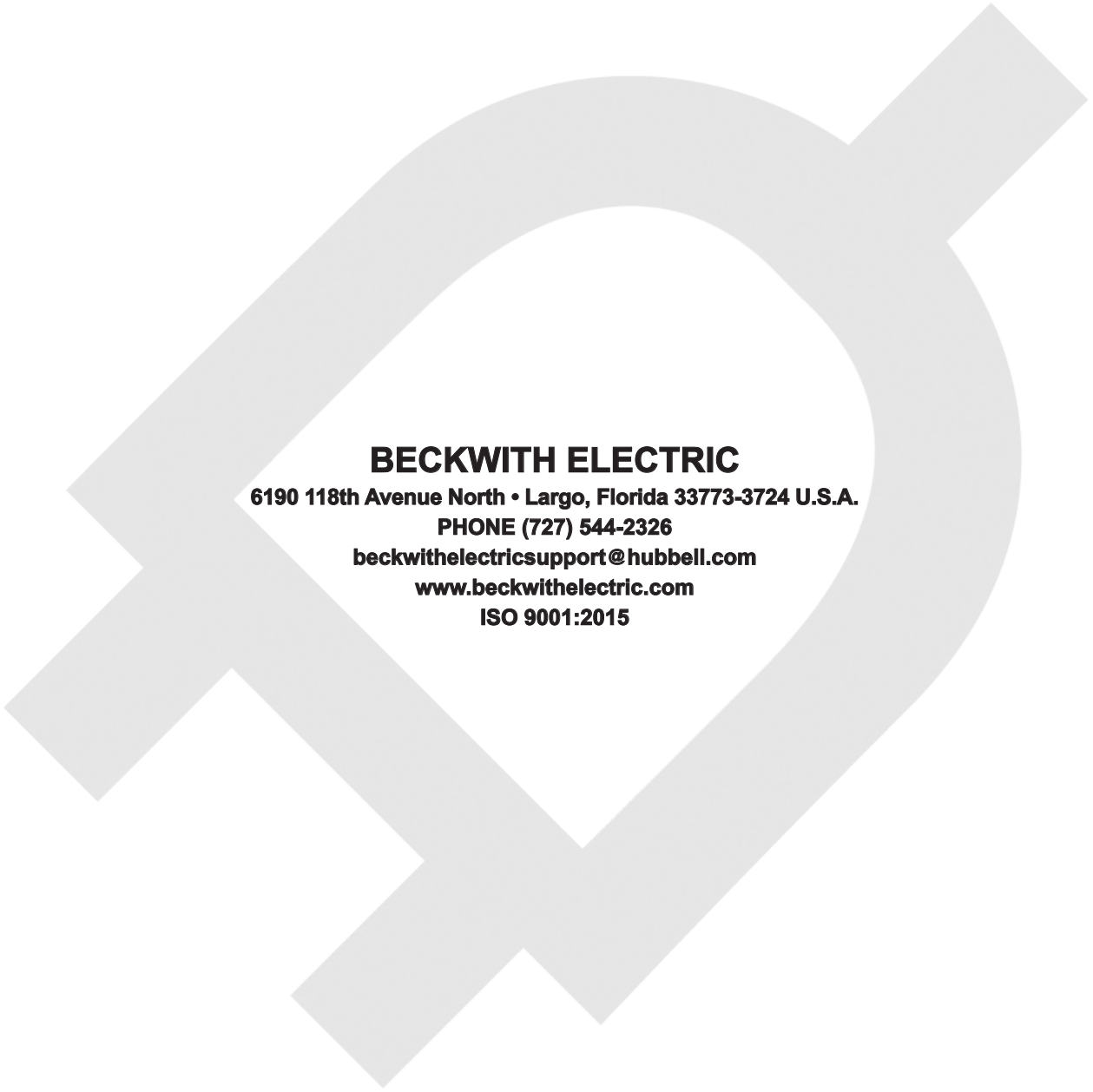
16 BIT / 32 BIT ANALOG OUTPUT BLOCK (Obj 41, Var 02, Var 01)

Request Function code supported: 3, 4, 5 (Selexe), 6

POINT INDEX	SCALE FACTOR	UNITS	RANGE/INCREMENT	DESCRIPTION
323	1	CYCLES	0-65500 / 1	IPS LOGIC #3 Dropout Delay
324	1	CYCLES	0-65500 / 1	IPS LOGIC #4 Dropout Delay
325	1	CYCLES	0-65500 / 1	IPS LOGIC #5 Dropout Delay
326	1	CYCLES	0-65500 / 1	IPS LOGIC #6 Dropout Delay
327	1		0-255 / 1	IPS LOGIC Reset/Dropout Timer Config Bit 0 = IPS LOGIC #1 Bit 1 = IPS LOGIC #2 Bit 2 = IPS LOGIC #3 Bit 3 = IPS LOGIC #4 Bit 4 = IPS LOGIC #5 Bit 5 = IPS LOGIC #6 Bit 6 = not used Bit 7 = not used 0 = Reset Timer 1 = Dropout Timer
328	1	CYCLES	1-8160 / 1	TCM Delay

■ **NOTE:** ** When writing these points, curve should always precede time dial. If a change is made in Inverse curve type of any function, the corresponding time dial should be written irrespective of a change.

Table 6 – Analog Outputs (36 of 36)



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