BECKWITH ELECTRIC®

MODBUS/BECO2200 Communication Database

Rev. 1.16a

M-3311A 4 Winding

HUBBELL®

PROTOCOL

M-3311A MODBUS/BECO2200 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 1.00 01/22/07
Initial revision

Rev 1.01 01/25/07
Changed range in 3-254 point. New range is: 0-63

Rev 1.02 02/05/07
Changed range in 4-53, 4-58, 4-63 and 4-68. New range is: 1-50000

Rev 1.03 02/12/07
Changed Winding labels to elements in points: 4-209 to 4-232

Rev 1.04 03/12/07
Added trip circuit status bit to point (1-03), Changed range and bit definitions in points 4-209 to 4-235, 4-192, 3-29, Added winding summing #2 to setpoint 8-58

Rev 1.05 04/04/07
Added new points 5-153 to 5-164, 4-244

Rev 1.06 06/11/07
Removed points: 1-197 to 1-204, 5-157 to 5-164, 6-240 to 6-255

Rev 1.07 08/22/08
Modified 9-00 setpoint range

Rev 1.08 10/30/08
Modified range for setpoints: 16, 21, 26, 84, 87, 90, 93, 96, 99, 102, 105, 108, 111, 114
new range for IEEE curves is 0.5 to 15.0

Rev 1.09 11/11/08
Added separate ranges for 1 A and 5 A CT for setpoint 4-191

Rev 1.10 02/02/10
Fixed MODBUS addresses for point 2-222 to 2-230

Rev 1.11 02/17/10
Removed point 4-04

Rev 1.12 01/06/11
Added points 4-252, 4-253

Rev 1.13 06/05/15
Added point 4-254

Rev 1.14 07/24/17
Updated point 6-150

Rev 1.15 11/08/18
Added points: 0-45 – 0-54, 5-157

Rev 1.16 08/25/2020
Added points: 5-160 – 5-163

Rev 1.16a 08/01/2024
Updating logos and removing “Co. Inc.”. No updates to points.

MODBUS / BECO2200 COMMUNICATION PROTOCOL FOR M-3311A

This document along with BECO2200 and BECO2200-M3311A document describes the implementation of the MODBUS protocol as it relates to the M-3311A IPS control.

The M-3311A may be programmed to support a subset of the MODBUS protocol. The following restrictions apply:

1. MODBUS protocol is only supported on COM2 (rear RS232) and COM3 (rear RS485). COM1 (front RS232) is fixed BECO2200 protocol only.

2. Parity is supported on COM2 and COM3 only. Only RTU mode is implemented, ASCII mode is not supported.

3. Standard baud rates from 300-9600 are supported.

4. Only the following 4 MODBUS commands are supported:

   1) Read Holding Register (Function 03)
   2) Read Input Register (Function 04)
   3) Force Single Coil (Function 05)
   4) Preset Single Register (Function 06)

5. Oscillograph record downloading is not supported as MODBUS does not support large enough packets.

6. The control is always considered a MODBUS slave device.

The various communication points may be accessed by translating the BECO2200-M3311A data base Type and Point Number to an equivalent MODBUS address. For example: To read 24DT #2 Pickup pickup setpoint, (TYPE 3, POINT NUMBER 2) we would convert the two fields to hex then concatenate the type and point to get 0302(hex) and convert to decimal. Reading address 770 (base 10) would give us this point. According to MODBUS definition, this would be register 771.

No more than 45 contiguous points should be read with one request.

Read Input Register (04) may be used to retrieve any point defined as readable in BECO2200.

Read Holding Register (03) is identical to Read Input Register and returns the same data.

Preset Single Register is used to write any point defined as writeable in BECO2200.

Force Single Coil is used to simulate the RESET and MASTER RESET command as defined in BECO2200. Sending a force single coil with data equal ON (FF00) to a resettable point will simulate RESET. Sending a force single coil with data equal to ON (FF00) to a MASTER RESET point simulates a MASTER RESET.

The following exception codes are implemented:

ILLEGAL FUNCTION	01
ILLEGAL DATA ADDRESS	02
ILLEGAL DATA VALUE	03
SLAVE DEVICE BUSY	06
COMM PORT LOCKED	16 (10hex)

SLAVE DEVICE BUSY is returned if control is in the local mode.

COMM PORT LOCKED is a BECKWITH ELECTRIC extension code used to identify if the communication port is locked.

Care must be taken when choosing communication addresses if simultaneous use of BECO2200 and MODBUS protocol is desired. Addresses above 200 are reserved for group addressing when any port is configured for BECO2200. Consult the BECO2200 protocol document for further information on group addressing. If possible, communication addresses should be set only between 1-200 to avoid communication conflicts.

When the appropriate communication interface hardware is connected and the proper initialization of the communication options are complete, the data defined herein can be accessed and modified by remote communications.

THE FOLLOWING DEFINITIONS APPLY TO THE DATA TABLES IN THIS SPECIFICATION:

TYPE POINT are the “type” number and “point” numbers used in the protocol to refer to the variable listed.

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.

W/R/M is the read, Write, Reset and Master reset indicator.

All points defined as **NOT USED** can be read and will return 0 for data.
All points defined as Write can also be read.
If not listed otherwise, a point is READ-ONLY.
W indicates a point that may be altered by a WRITE command.
R indicates a point that may be altered by a RESET command.
M indicates a point that will be reset by a MASTER RESET command.

RANGE/INCREMENT indicates the valid range and increments of the integer data field variable for WRITE commands.

Consult the controls Specification Sheet for unscaled setpoint ranges and increments.

DESCRIPTION description of communication point.

Notes:

Multipoint writes are not supported.

Multipoint reads are supported.

Reading a NOT USED point which is within the defined range of a type will return 0 for data with no error.

Two byte data words are transmitted and must be received most significant (high-order) byte first.

Communication is effectively half duplex in that a request packet is transmitted and a response packet received. Further requests should not be sent until the previous packets response is received. Communication ports are fixed at 8 data bits, no parity and 2 stop bits unless otherwise noted.

If communication security is enabled, the communication channel is locked on power up and remains locked until commanded to unlock or until the communication access code is changed to 9999 (Disable communication security) locally. When locked only TYPE 0 points may be read and only TYPE 0 point 35 written (0-35). Attempts to read or write other points while the communication channel is locked will return a system error code 6, “Communication locked”. To open (unlocked) the communication channel, the correct communication access code must be written to 0-35.

A write response packet will always return OK (no error) if data is between 1 and 9999 even if the incorrect access code is given.

Writing an incorrect access code or writing 9999, with security enabled will unconditionally lock the communication channel.

The communication channel is also locked if security is enabled and no communication activity occurs for ~2.5 minutes.

Type 7 communication points are reserved for factory use and are are covered in an accompanying proprietary document. DO NOT attempt to write or read from these points, unexpected operations may result!

CONTROL INFORMATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
0-00	1	1	–	–	–	Control identification (Device type)
0-01	2	1U	–	–	–	Control serial number
0-02	3	1	–	–	–	Control communication address
0-03	4	100	–	–	–	Software version number (Major and minor) For example: V01.34.28 0-03 to 134
0-04	5	1	–	–	–	Software version number (Build) See 0-03. 0-04 to 28
0-05	6	1	–	–	–	User control number
0-06	7	–	–	–	–	User line 1 text Most significant 2 ASCII characters of 24 character user line 1 (Character position 1 & 2)
0-07	8	–	–	–	–	User line 1 text Next significant 2 ASCII characters of 24 character user line 1 (Character position 3 & 4)
0-08 to 0-17	9 to 18	–	–	–	–	User line 1 text Next significant 2 ASCII characters of 24 character user line 1 (Character position 5 & 24)
0-18	19	–	–	–	–	User line 2 text see 0-06
0-19	20	–	–	–	–	User line 2 text see 0-07
0-20 to 0-29	21 to 30	–	–	–	–	User line 2 text see 0-08 to 0-17
0-30	31	1	–	–	–	Communication channel lock status 0 = comm channel unlocked 1 = comm channel locked
0-31	32	–	–	–	–	Not used
0-32	33	1	–	–	–	Options software
0-33	34	1	–	–	–	Options hardware
0-34	35	–	–	–	–	Dip switch (Factory use)
0-35	36	1	–	W	0-9999 / 1	Unlock comm channel access code read returns 0
0-36	37	1	–	–	–	Checksum active profile setpoints
0-37	38	1	–	–	–	Checksum calibration

Table 1 – Control Information (1 of 2)

CONTROL INFORMATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
0-38	39	1U	–	–	–	Checksum ROM
0-39	40	–	–	–	–	Not used
0-40	41	–	–	–	–	Not used
0-41	42	1U	–	–	–	Checksum Profile 1
0-42	43	1U	–	–	–	Checksum Profile 2
0-43	44	1U	–	–	–	Checksum Profile 3
0-44	45	1U	–	–	–	Checksum Profile 4
0-45 to 0-54	46 to 55	1	–	W	0-65535/1	Unlock comm channel extended password. Enabled only if option in 0-40 is set. 20 ASCII characters total. Each register holds two characters. MSB byte is the left most character. Unused characters must be padded with 0. Always write all 10 registers regardless of password's string length. Read returns 0

Table 1 – Control Information (2 of 2)

STATUS / DEMAND						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
1-00	257	1U	–	–	–	Input status Bit 0 = Input 1 (52b) 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) 0 = OFF 1 = ON (Circuit closed)
1-01	258	–	–	–	–	Input status ext. Bit 0 = In 7 / Bit 8 = In 15 Bit 1 = In 8 / Bit 9 = In 16 Bit 2 = In 9 / Bit 10 = In 17 Bit 3 = In 10 / Bit 11 = In 18 Bit 4 = In 11 / Bit 12 = Not used Bit 5 = In 12 / Bit 13 = Not used Bit 6 = In 13 / Bit 14 = Not used Bit 7 = In 14 / Bit 15 = Not used
1-02	259	1U	–	–	–	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
1-03	260	1U	–	–	–	Front panel LED status 0 = OFF 1 = ON Bit 0 = TIME SYNC Bit 1 = BREAKER CLOSED Bit 2 = OSC. TRIGGERED Bit 3 = TARGET Bit 4 = TCM STATUS Bit 5-15 = Not used (0)
1-04	261	10	VOLTS	–	–	Vx Voltage
1-05	262	10	VOLTS	–	–	Vg Voltage
1-06	263	1000	AMPS	–	–	W1 Phase A Current
1-07	264	1000	AMPS	–	–	W1 Phase B Current

■ **NOTES:**

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (1 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
1-08	265	1000	AMPS	–	–	W1 Phase C Current
1-09	266	1000	AMPS	–	–	W1 Positive Sequence current
1-10	267	1000	AMPS	–	–	W1 Negative Sequence current
1-11	268	1000	AMPS	–	–	W1 Zero Sequence current
1-12	269	1000	AMPS	–	–	W2 Phase A current
1-13	270	1000	AMPS	–	–	W2 Phase B current
1-14	271	1000	AMPS	–	–	W2 Phase C current
1-15	272	1000	AMPS	–	–	W2 Phase G current
1-16	273	1000	AMPS	–	–	W2 Positive Sequence current
1-17	274	1000	AMPS	–	–	W2 Negative Sequence current
1-18	275	1000	AMPS	–	–	W2 Zero Sequence current
1-19	276	1000	AMPS	–	–	W3 Phase A current
1-20	277	1000	AMPS	–	–	W3 Phase B current
1-21	278	1000	AMPS	–	–	W3 Phase C current
1-22	279	1000	AMPS	–	–	W3 Phase G current
1-23	280	1000	AMPS	–	–	W3 Positive Sequence current
1-24	281	1000	AMPS	–	–	W3 Negative Sequence current
1-25	282	1000	AMPS	–	–	W3 Zero Sequence current
1-26	283	1000	AMPS	–	–	W4 Phase A current
1-27	284	1000	AMPS	–	–	W4 Phase B current
1-28	285	1000	AMPS	–	–	W4 Phase C current
1-29	286	1000	AMPS	–	–	W4 Phase G current
1-30	287	1000	AMPS	–	–	W4 Positive Sequence current
1-31	288	1000	AMPS	–	–	W4 Negative Sequence current
1-32	289	1000	AMPS	–	–	W4 Zero Sequence current
1-33	290	1000	PU	–	–	Phase A Differential current

■ **NOTES:**

1. ***** Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ****** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (2 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
1-34	291	1000	PU	–	–	Phase B Differential current
1-35	292	1000	PU	–	–	Phase C Differential current
1-36	293	100	AMPS	–	–	W2 Ground Differential current (signed)
1-37	294	100	AMPS	–	–	W3 Ground Differential current (signed)
1-38	295	100	AMPS	–	–	W4 Ground Differential current (signed)
1-39	296	100	HZ	–	–	Frequency 0 = Disabled (unmeasurable)
1-40	297	10	%	–	–	Volts Per Hertz
1-41	298	1000	PU	–	–	Phase A Restraint current
1-42	299	1000	PU	–	–	Phase B Restraint current
1-43	300	1000	PU	–	–	Phase C Restraint current
1-44	301	1000	PU	–	–	Phase A 2nd Harmonic Restraint current
1-45	302	1000	PU	–	–	Phase B 2nd Harmonic Restraint current
1-46	303	1000	PU	–	–	Phase C 2nd Harmonic Restraint current
1-47	304	1000	PU	–	–	Phase A 4th Harmonic Restraint current
1-48	305	1000	PU	–	–	Phase B 4th Harmonic Restraint current
1-49	306	1000	PU	–	–	Phase C 4th Harmonic Restraint current
1-50	307	1000	PU	–	–	Phase A 5th Harmonic Restraint current
1-51	308	1000	PU	–	–	Phase B 5th Harmonic Restraint current
1-52	309	1000	PU	–	–	Phase C 5th Harmonic Restraint current

■ **NOTES:**

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (3 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
1-53	310	1U	–	–	–	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_1 Bit 4 = F46DT_W2 Bit 12 = F50_2 Bit 5 = F46IT_W2 Bit 13 = F50_3 Bit 6 = F46DT_W3 Bit 14 = F50_4 Bit 7 = F46IT_W3 Bit 15 = F50_5
1-54	311	1U	–	–	–	Function status (picked up) Next significant word [1] Bit 0 = F50_6 Bit 8 = F50G_W2_2 Bit 1 = F50_7 Bit 9 = F50G_W3_1 Bit 2 = F50_8 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_1 Bit 6 = F50BF_W4 Bit 14 = F50N_2 Bit 7 = F50G_W2_1 Bit 15 = F50N_3
1-55	312	1U	–	–	–	Function status (picked up) Next significant word [2] Bit 0 = F50N_4 Bit 8 = F51_4 Bit 1 = F50N_5 Bit 9 = F51G_W2 Bit 2 = F50N_6 Bit 10 = F51G_W3 Bit 3 = F50N_7 Bit 11 = F51G_W4 Bit 4 = F50N_8 Bit 12 = F51N_1 Bit 5 = F51_1 Bit 13 = F51N_2 Bit 6 = F51_2 Bit 14 = F51N_3 Bit 7 = F51_3 Bit 15 = F51N_4
1-56	313	1U	–	–	–	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 = TF Bit 7 = F87T Bit 15 = TCM1

■ NOTES:

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (4 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
1-57	314	1U	–	–	–	Function status (picked up) Most significant word [4] Bit 0 = IPSLogic_1 Bit 7 = BM_W2 Bit 1 = IPSLogic_2 Bit 8 = BM_W3 Bit 2 = IPSLogic_3 Bit 9 = BM_W4 Bit 3 = IPSLogic_4 Bit 10 = TCM2 Bit 4 = IPSLogic_5 Bit 11 = CCM1 Bit 5 = IPSLogic_6 Bit 12 = CCM2 Bit 6 = BM_W1 Bits 13-15 = not used
1-58	315	1U	–	–	–	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_1 Bit 4 = F46DT_W2 Bit 12 = F50_2 Bit 5 = F46IT_W2 Bit 13 = F50_3 Bit 6 = F46DT_W3 Bit 14 = F50_4 Bit 7 = F46IT_W3 Bit 15 = F50_5
1-59	316	1U	–	–	–	Function status (timed out) Next significant word [1] Bit 0 = F50_6 Bit 8 = F50G_W2_2 Bit 1 = F50_7 Bit 9 = F50G_W3_1 Bit 2 = F50_8 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_1 Bit 6 = F50BF_W4 Bit 14 = F50N_2 Bit 7 = F50G_W2_1 Bit 15 = F50N_3
1-60	317	1U	–	–	–	Function status (timed out) Next significant word [2] Bit 0 = F50N_4 Bit 8 = F51_4 Bit 1 = F50N_5 Bit 9 = F51G_W2 Bit 2 = F50N_6 Bit 10 = F51G_W3 Bit 3 = F50N_7 Bit 11 = F51G_W4 Bit 4 = F50N_8 Bit 12 = F51N_1 Bit 5 = F51_1 Bit 13 = F51N_2 Bit 6 = F51_2 Bit 14 = F51N_3 Bit 7 = F51_3 Bit 15 = F51N_4

■ **NOTES:**

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (5 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
1-61	318	1U	–	–	–	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 = TF Bit 7 = F87T Bit 15 = TCM1
1-62	319	1U	–	–	–	Function status (timed out) Most significant word [4] Bit 0 = IPSLogic_1 Bit 7 = BM_W2 Bit 1 = IPSLogic_2 Bit 8 = BM_W3 Bit 2 = IPSLogic_3 Bit 9 = BM_W4 Bit 3 = IPSLogic_4 Bit 10 = TCM2 Bit 4 = IPSLogic_5 Bit 11 = CCM1 Bit 5 = IPSLogic_6 Bit 12 = CCM2 Bit 6 = BM_W1 Bits 13-15 = not used
1-63	320	1	–	–	–	Voltage phasor real Vx
1-64	321	1	–	–	–	Voltage phasor imaginary Vx
1-65	322	1	–	–	–	Voltage phasor real Vg
1-66	323	1	–	–	–	Voltage phasor imaginary Vg
1-67	324	1	–	–	–	Current phasor real IA W1 *
1-68	325	1	–	–	–	Current phasor imaginary IA W1 *
1-69	326	1	–	–	–	Current phasor real IB W1 *
1-70	327	1	–	–	–	Current phasor imaginary IB W1 *
1-71	328	1	–	–	–	Current phasor real IC W1 *
1-72	329	1	–	–	–	Current phasor imaginary IC W1 *
1-73	330	1	–	–	–	Current phasor real IA W2 *
1-74	331	1	–	–	–	Current phasor imaginary IA W2 *
1-75	332	1	–	–	–	Current phasor real IB W2 *
1-76	333	1	–	–	–	Current phasor imaginary IB W2 *
1-77	334	1	–	–	–	Current phasor real IC W2 *

■ NOTES:

1. ***** Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ****** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (6 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
1-78	335	1	–	–	–	Current phasor imaginary IC W2 *
1-79	336	1	–	–	–	Current phasor real IA W3 *
1-80	337	1	–	–	–	Current phasor imaginary IA W3 *
1-81	338	1	–	–	–	Current phasor real IB W3 *
1-82	339	1	–	–	–	Current phasor imaginary IB W3 *
1-83	340	1	–	–	–	Current phasor real IC W3 *
1-84	341	1	–	–	–	Current phasor imaginary IC W3 *
1-85	342	1	–	–	–	Current phasor real IA W4 *
1-86	343	1	–	–	–	Current phasor imaginary IA W4 *
1-87	344	1	–	–	–	Current phasor real IB W4 *
1-88	345	1	–	–	–	Current phasor imaginary IB W4 *
1-89	346	1	–	–	–	Current phasor real IC W4 *
1-90	347	1	–	–	–	Current phasor imaginary IC W4 *
1-91	348	1	–	–	–	Current phasor real IG W2 *
1-92	349	1	–	–	–	Current phasor imaginary IG W2 *
1-93	350	1	–	–	–	Current phasor real IG W3 *
1-94	351	1	–	–	–	Current phasor imaginary IG W3 *
1-95	352	1	–	–	–	Current phasor real IG W4 *
1-96	353	1	–	–	–	Current phasor imaginary IG W4 *
1-97	354	1000	AMPS	–	–	W1 Phase A current demand **
1-98	355	1000	AMPS	–	–	W1 Phase B current demand **
1-99	356	1000	AMPS	–	–	W1 Phase C current demand **
1-100	357	1000	AMPS	–	–	W2 Phase A current demand **
1-101	358	1000	AMPS	–	–	W2 Phase B current demand **
1-102	359	1000	AMPS	–	–	W2 Phase C current demand **
1-103	360	1000	AMPS	–	–	W2 Phase G current demand **
1-104	361	1000	AMPS	–	–	W3 Phase A current demand **

■ NOTES:

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (7 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
1-105	362	1000	AMPS	–	–	W3 Phase B current demand **
1-106	363	1000	AMPS	–	–	W3 Phase C current demand **
1-107	364	1000	AMPS	–	–	W3 Phase G current demand **
1-108	365	1000	AMPS	–	–	W4 Phase A current demand **
1-109	366	1000	AMPS	–	–	W4 Phase B current demand **
1-110	367	1000	AMPS	–	–	W4 Phase C current demand **
1-111	368	1000	AMPS	–	–	W4 Phase G current demand **
1-112	369	1U	–	–	–	Remote target LED status 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_1 Bit 4 = F46DT_W2 Bit 12 = F50_2 Bit 5 = F46IT_W2 Bit 13 = F50_3 Bit 6 = F46DT_W3 Bit 14 = F50_4 Bit 7 = F46IT_W3 Bit 15 = F50_5
1-113	370	1U	–	–	–	Remote target LED status Next significant word [1] Bit 0 = F50_6 Bit 8 = F50G_W2_2 Bit 1 = F50_7 Bit 9 = F50G_W3_1 Bit 2 = F50_8 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_1 Bit 6 = F50BF_W4 Bit 14 = F50N_2 Bit 7 = F50G_W2_1 Bit 15 = F50N_3
1-114	371	1U	–	–	–	Remote target LED status Least significant word [2] Bit 0 = F50N_4 Bit 8 = F51_4 Bit 1 = F50N_5 Bit 9 = F51G_W2 Bit 2 = F50N_6 Bit 10 = F51G_W3 Bit 3 = F50N_7 Bit 11 = F51G_W4 Bit 4 = F50N_8 Bit 12 = F51N_1 Bit 5 = F51_1 Bit 13 = F51N_2 Bit 6 = F51_2 Bit 14 = F51N_3 Bit 7 = F51_3 Bit 15 = F51N_4

■ **NOTES:**

1. ***** Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ****** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (8 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
1-115	372	1U	–	–	–	Remote target LED status 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 = TF Bit 7 = F87T Bit 15 = TCM1
1-116	373	1U	–	–	–	Remote target LED status Most significant word [4] Bit 0 = IPSLogic_1 Bit 7 = BM_W2 Bit 1 = IPSLogic_2 Bit 8 = BM_W3 Bit 2 = IPSLogic_3 Bit 9 = BM_W4 Bit 3 = IPSLogic_4 Bit 10 = TCM2 Bit 4 = IPSLogic_5 Bit 11 = CCM1 Bit 5 = IPSLogic_6 Bit 12 = CCM2 Bit 6 = BM_W1 Bits 13-15 = not used
1-117	374	1U	–	–	–	Precompensated phasor IA W1 real
1-118	375	1U	–	–	–	Precompensated phasor IA W1 imag.
1-119	376	1U	–	–	–	Precompensated phasor IB W1 real
1-120	377	1U	–	–	–	Precompensated phasor IB W1 imag.
1-121	378	1U	–	–	–	Precompensated phasor IC W1 real
1-122	379	1U	–	–	–	Precompensated phasor IC W1 imag.
1-123	380	1U	–	–	–	Precompensated phasor IA W2 real
1-124	381	1U	–	–	–	Precompensated phasor IA W2 imag.
1-125	382	1U	–	–	–	Precompensated phasor IB W2 real
1-126	383	1U	–	–	–	Precompensated phasor IB W2 imag.
1-127	384	1U	–	–	–	Precompensated phasor IC W2 real
1-128	385	1U	–	–	–	Precompensated phasor IC W2 imag.
1-129	386	1U	–	–	–	Precompensated phasor IA W3 real
1-130	387	1U	–	–	–	Precompensated phasor IA W3 imag.
1-131	388	1U	–	–	–	Precompensated phasor IB W3 real

■ **NOTES:**

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (9 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
1-132	389	1U	–	–	–	Precompensated phasor IB W3 imag.
1-133	390	1U	–	–	–	Precompensated phasor IC W3 real
1-134	391	1U	–	–	–	Precompensated phasor IC W3 imag.
1-135	392	1U	–	–	–	Precompensated phasor IA W4 real
1-136	393	1U	–	–	–	Precompensated phasor IA W4 imag.
1-137	394	1U	–	–	–	Precompensated phasor IB W4 real
1-138	395	1U	–	–	–	Precompensated phasor IB W4 imag.
1-139	396	1U	–	–	–	Precompensated phasor IC W4 real
1-140	397	1U	–	–	–	Precompensated phasor IC W4 imag.
1-141	398	1U	–	–	–	Postcompensated phasor IA W1 real
1-142	399	1U	–	–	–	Postcompensated phasor IA W1 imag.
1-143	400	1U	–	–	–	Postcompensated phasor IB W1 real
1-144	401	1U	–	–	–	Postcompensated phasor IB W1 imag.
1-145	402	1U	–	–	–	Postcompensated phasor IC W1 real
1-146	403	1U	–	–	–	Postcompensated phasor IC W1 imag.
1-147	404	1U	–	–	–	Postcompensated phasor IA W2 real
1-148	405	1U	–	–	–	Postcompensated phasor IA W2 imag.
1-149	406	1U	–	–	–	Postcompensated phasor IB W2 real
1-150	407	1U	–	–	–	Postcompensated phasor IB W2 imag.
1-151	408	1U	–	–	–	Postcompensated phasor IC W2 real
1-152	409	1U	–	–	–	Postcompensated phasor IC W2 imag.
1-153	410	1U	–	–	–	Postcompensated phasor IA W3 real
1-154	411	1U	–	–	–	Postcompensated phasor IA W3 imag.
1-155	412	1U	–	–	–	Postcompensated phasor IB W3 real
1-156	413	1U	–	–	–	Postcompensated phasor IB W3 imag.
1-157	414	1U	–	–	–	Postcompensated phasor IC W3 real
1-158	415	1U	–	–	–	Postcompensated phasor IC W3 imag.

■ **NOTES:**

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (10 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
1-159	416	1U	–	–	–	Postcompensated phasor IA W4 real
1-160	417	1U	–	–	–	Postcompensated phasor IA W4 imag.
1-161	418	1U	–	–	–	Postcompensated phasor IB W4 real
1-162	419	1U	–	–	–	Postcompensated phasor IB W4 imag.
1-163	420	1U	–	–	–	Postcompensated phasor IC W4 real
1-164	421	1U	–	–	–	Postcompensated phasor IC W4 imag.
1-165	422	1	AMPS	–	0-65535 / 1	Phase A W1 High word Breaker monitoring arc current acc.
1-166	423	1	AMPS	–	0-65535 / 1	Phase A W1 Low word Breaker monitoring arc current acc.
1-167	424	1	AMPS	–	0-65535 / 1	Phase B W1 High word Breaker monitoring arc current acc.
1-168	425	1	AMPS	–	0-65535 / 1	Phase B W1 Low word Breaker monitoring arc current acc.
1-169	426	1	AMPS	–	0-65535 / 1	Phase C W1 High word Breaker monitoring arc current acc.
1-170	427	1	AMPS	–	0-65535 / 1	Phase C W1 Low word Breaker monitoring arc current acc.
1-171	428	1	AMPS	–	0-65535 / 1	Phase A W2 High word Breaker monitoring arc current acc.
1-172	429	1	AMPS	–	0-65535 / 1	Phase A W2 Low word Breaker monitoring arc current acc.
1-173	430	1	AMPS	–	0-65535 / 1	Phase B W2 High word Breaker monitoring arc current acc.
1-174	431	1	AMPS	–	0-65535 / 1	Phase B W2 Low word Breaker monitoring arc current acc.
1-175	432	1	AMPS	–	0-65535 / 1	Phase C W2 High word Breaker monitoring arc current acc.
1-176	433	1	AMPS	–	0-65535 / 1	Phase C W2 Low word Breaker monitoring arc current acc.
1-177	434	1	AMPS	–	0-65535 / 1	Phase A W3 High word Breaker monitoring arc current acc.

■ **NOTES:**

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (11 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
1-178	435	1	AMPS	–	0-65535 / 1	Phase A W3 Low word Breaker monitoring arc current acc.
1-179	436	1	AMPS	–	0-65535 / 1	Phase B W3 High word Breaker monitoring arc current acc.
1-180	437	1	AMPS	–	0-65535 / 1	Phase B W3 Low word Breaker monitoring arc current acc.
1-181	438	1	AMPS	–	0-65535 / 1	Phase C W3 High word Breaker monitoring arc current acc.
1-182	439	1	AMPS	–	0-65535 / 1	Phase C W3 Low word Breaker monitoring arc current acc.
1-183	440	1	AMPS	–	0-65535 / 1	Phase A W4 High word Breaker monitoring arc current acc.
1-184	441	1	AMPS	–	0-65535 / 1	Phase A W4 Low word Breaker monitoring arc current acc.
1-185	442	1	AMPS	–	0-65535 / 1	Phase B W4 High word Breaker monitoring arc current acc.
1-186	443	1	AMPS	–	0-65535 / 1	Phase B W4 Low word Breaker monitoring arc current acc.
1-187	444	1	AMPS	–	0-65535 / 1	Phase C W4 High word Breaker monitoring arc current acc.
1-188	445	1	AMPS	–	0-65535 / 1	Phase C W4 Low word Breaker monitoring arc current acc.
1-189	446	100	AMPS	–	–	F49 Thermal Current Phase A
1-190	447	100	AMPS	–	–	F49 Thermal Current Phase B
1-191	448	100	AMPS	–	–	F49 Thermal Current Phase C
1-192	449	–	–	–	–	Through Fault events counter
1-193	450	–	–	–	–	Through Fault total i2t Most significant word [3]
1-194	451	–	–	–	–	Through Fault total i2t Next significant word [2]
1-195	452	–	–	–	–	Through Fault total i2t Next significant word [1]
1-196	453	–	–	–	–	Through Fault total i2t Least significant word [0]

■ **NOTES:**

1. ***** Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ****** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 2 – Status / Demand (12 of 13)

STATUS / DEMAND						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
1-197	454	–	–	–	–	Not Used

■ NOTES:

1. * Phasor information must be read as a set. Sending a RESET command to 4-09 will trigger an update of the phasor set.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Example: #1 W2 phase A demand current
Given:
W2 C.T. Ratio 240 : 1 (1200 A : 5 A) Communication point 8-24 returns 240
Secondary current 4.300 Amps Communication point 1-12 returns 4300
Primary current = C.T. ratio * W2 phase A current demand
1.032 = 240 * 4300 / 1000
1.032 kAmps = W2 phase A demand current

Table 2 – Status / Demand (13 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
2-00	513	1U	–	W	0-255 / 1	24DT #1 Volts Per Hertz Blocking inputs 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 Bit 8-14 = Not used (0) Writing 0 disables function
2-01	514	1U	–	W	0-65535 / 1	24DT #1 Volts Per Hertz Ext. Inputs Bit 0 = In 7 Bit 8 = In 15 Bit 1 = In 8 Bit 9 = In 16 Bit 2 = In 9 Bit 10 = In 17 Bit 3 = In 10 Bit 11 = In 18 Bit 4 = In 11 Bit 12 = Not used Bit 5 = In 12 Bit 13 = Not used Bit 6 = In 13 Bit 14 = Not used Bit 7 = In 14 Bit 15 = Not used
2-02	515	1U	–	W	0-65535 / 1	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
2-03	516	1U	–	W	0-255 / 1	24DT #2 Volts Per Hertz inputs see 2-00
2-04	517	1U	–	W	0-65535 / 1	24DT #2 Volts Per Hertz ext. inputs see 2-01
2-05	518	1U	–	W	0-65535 / 1	24DT #2 Volts Per Hertz outputs see 2-02
2-06	519	1U	–	W	0-255 / 1	24IT Volts Per Hertz inputs see 2-00
2-07	520	1U	–	W	0-65535 / 1	24IT Volts Per Hertz ext. inputs see 2-01
2-08	521	1U	–	W	0-65535 / 1	24IT Volts Per Hertz outputs see 2-02

Table 3 – Configuration (1 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-09	522	1U	–	W	0-255 / 1	27 Phase Under voltage inputs see 2-00
2-10	523	1U	–	W	0-65535 / 1	27 Phase Under voltage ext. inputs see 2-01
2-11	524	1U	–	W	0-65535 / 1	27 Phase Under voltage outputs see 2-02
2-12	525	1U	–	W	0-255 / 1	46DTW2 Negative Sequence current inputs see 2-00
2-13	526	1U	–	W	0-65535 / 1	46DTW2 Negative Sequence current ext. inputs see 2-01
2-14	527	1U	–	W	0-65535 / 1	46DTW2 Negative Sequence current outputs see 2-02
2-15	528	1U	–	W	0-255 / 1	46ITW2 Negative Sequence current inputs see 2-00
2-16	529	1U	–	W	0-65535 / 1	46ITW2 Negative Sequence current ext. inputs see 2-01
2-17	530	1U	–	W	0-65535 / 1	46ITW2 Negative Sequence current outputs see 2-02
2-18	531	1U	–	W	0-255 / 1	46DTW3 Negative Sequence current inputs see 2-00
2-19	532	1U	–	W	0-65535 / 1	46DTW3 Negative Sequence current ext. inputs see 2-01
2-20	533	1U	–	W	0-65535 / 1	46DTW3 Negative Sequence current outputs see 2-02
2-21	534	1U	–	W	0-255 / 1	46ITW3 Negative Sequence current inputs see 2-00
2-22	535	1U	–	W	0-65535 / 1	46ITW3 Negative Sequence current ext. inputs see 2-01
2-23	536	1U	–	W	0-65535 / 1	46ITW3 Negative Sequence current outputs see 2-02
2-24	537	1U	–	W	0-255 / 1	46DTW4 Negative Sequence current inputs see 2-00
2-25	538	1U	–	W	0-65535 / 1	46DTW4 Negative Sequence current ext. inputs see 2-01
2-26	539	1U	–	W	0-65535 / 1	46DTW4 Negative Sequence current outputs see 2-02
2-27	540	1U	–	W	0-255 / 1	46ITW4 Negative Sequence current inputs see 2-00

Table 3 – Configuration (2 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-28	541	1U	–	W	0-65535 / 1	46ITW4 Negative Sequence current ext. inputs see 2-01
2-29	542	1U	–	W	0-65535 / 1	46ITW4 Negative Sequence current outputs see 2-02
2-30	543	1U	–	W	0-255 / 1	49 Thermal Overcurrent inputs See 2-00
2-31	544	1U	–	W	0-65535 / 1	49 Thermal Overcurrent ext. inputs See 2-01
2-32	545	1U	–	W	0-65535 / 1	49 Thermal Overcurrent outputs See 2-02
2-33	546	1U	–	W	0-255 / 1	50 #1 Inst. Phase Overcurrent inputs see 2-00
2-34	547	1U	–	W	0-65535 / 1	50 #1 Inst. Phase Overcurrent ext. inputs see 2-01
2-35	548	1U	–	W	0-65535 / 1	50 #1 Inst. Phase Overcurrent outputs see 2-02
2-36	549	1U	–	W	0-255 / 1	50 #2 Inst. Phase Overcurrent inputs see 2-00
2-37	550	1U	–	W	0-65535 / 1	50 #2 Inst. Phase Overcurrent ext. inputs see 2-01
2-38	551	1U	–	W	0-65535 / 1	50 #2 Inst. Phase Overcurrent outputs see 2-02
2-39	552	1U	–	W	0-255 / 1	50 #3 Inst. Phase Overcurrent inputs See 2-00
2-40	553	1U	–	W	0-65535 / 1	50 #3 Inst. Phase Overcurrent ext. inputs See 2-01
2-41	554	1U	–	W	0-65535 / 1	50 #3 Inst. Phase Overcurrent outputs See 2-02
2-42	555	1U	–	W	0-255 / 1	50 #4 Inst. Phase Overcurrent inputs see 2-00
2-43	556	1U	–	W	0-65535 / 1	50 #4 Inst. Phase Overcurrent ext. inputs see 2-01
2-44	557	1U	–	W	0-65535 / 1	50 #4 Inst. Phase Overcurrent outputs see 2-02
2-45	558	1U	–	W	0-255 / 1	50 #5 Inst. Phase Overcurrent inputs see 2-00
2-46	559	1U	–	W	0-65535 / 1	50 #5 Inst. Phase Overcurrent ext. inputs see 2-01

Table 3 – Configuration (3 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-47	560	1U	–	W	0-65535 / 1	50 #5 Inst. Phase Overcurrent outputs see 2-02
2-48	561	1U	–	W	0-255 / 1	50 #6 Inst. Phase Overcurrent inputs see 2-00
2-49	562	1U	–	W	0-65535 / 1	50 #6 Inst. Phase Overcurrent ext. inputs see 2-01
2-50	563	1U	–	W	0-65535 / 1	50 #6 Inst. Phase Overcurrent outputs see 2-02
2-51	564	1U	–	W	0-255 / 1	50 #7 Inst. Phase Overcurrent inputs see 2-00
2-52	565	1U	–	W	0-65535 / 1	50 #7 Inst. Phase Overcurrent ext. inputs see 2-01
2-53	566	1U	–	W	0-65535 / 1	50 #7 Inst. Phase Overcurrent outputs see 2-02
2-54	567	1U	–	W	0-255 / 1	50 #8 Inst. Phase Overcurrent inputs see 2-00
2-55	568	1U	–	W	0-65535 / 1	50 #8 Inst. Phase Overcurrent ext. inputs see 2-01
2-56	569	1U	–	W	0-65535 / 1	50 #8 Inst. Phase Overcurrent outputs see 2-02
2-57	570	1U	–	W	0-255 / 1	50GW2 #1 Inst Ground Overcurrent inputs see 2-00
2-58	571	1U	–	W	0-65535 / 1	50GW2 #1 Inst Ground Overcurrent ext inputs see 2-01
2-59	572	1U	–	W	0-65535 / 1	50GW2 #1 Inst Ground Overcurrent outputs see 2-02
2-60	573	1U	–	W	0-255 / 1	50GW2 #2 Inst Ground Overcurrent inputs see 2-00
2-61	574	1U	–	W	0-65535 / 1	50GW2 #2 Inst Ground Overcurrent ext. inputs see 2-01
2-62	575	1U	–	W	0-65535 / 1	50GW2 #2 Inst Ground Overcurrent outputs see 2-02
2-63	576	1U	–	W	0-255 / 1	50GW3 #1 Inst Ground Overcurrent inputs see 2-00
2-64	577	1U	–	W	0-65535 / 1	50GW3 #1 Inst Ground Overcurrent ext. inputs see 2-01
2-65	578	1U	–	W	0-65535 / 1	50GW3 #1 Inst Ground Overcurrent outputs see 2-02

Table 3 – Configuration (4 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-66	579	1U	–	W	0-255 / 1	50GW3 #2 Inst Ground Overcurrent inputs see 2-00
2-67	580	1U	–	W	0-65535 / 1	50GW3 #2 Inst Ground Overcurrent ext. inputs see 2-01
2-68	581	1U	–	W	0-65535 / 1	50GW3 #2 Inst Ground Overcurrent outputs see 2-02
2-69	582	1U	–	W	0-255 / 1	50GW4 #1 Inst Ground Overcurrent inputs see 2-00
2-70	583	1U	–	W	0-65535 / 1	50GW4 #1 Inst Ground Overcurrent ext. inputs see 2-01
2-71	584	1U	–	W	0-65535 / 1	50GW4 #1 Inst Ground Overcurrent outputs see 2-02
2-72	585	1U	–	W	0-255 / 1	50GW4 #2 Inst Ground Overcurrent inputs see 2-00
2-73	586	1U	–	W	0-65535 / 1	50GW4 #2 Inst Ground Overcurrent ext. inputs see 2-01
2-74	587	1U	–	W	0-65535 / 1	50GW4 #2 Inst Ground Overcurrent outputs see 2-02
2-75	588	1U	–	W	0-255 / 1	50BFW1 Breaker Failure inputs see 2-00
2-76	589	1U	–	W	0-65535 / 1	50BFW1 Breaker Failure ext. inputs see 2-01
2-77	590	1U	–	W	0-65535 / 1	50BFW1 Breaker Failure outputs see 2-02
2-78	591	1U	–	W	0-255 / 1	50BFW2 Breaker Failure inputs see 2-00
2-79	592	1U	–	W	0-65535 / 1	50BFW2 Breaker Failure ext. inputs see 2-01
2-80	593	1U	–	W	0-65535 / 1	50BFW2 Breaker Failure outputs see 2-02
2-81	594	1U	–	W	0-255 / 1	50BFW3 Breaker Failure inputs see 2-00
2-82	595	1U	–	W	0-65535 / 1	50BFW3 Breaker Failure ext. inputs see 2-01
2-83	596	1U	–	W	0-65535 / 1	50BFW3 Breaker Failure outputs see 2-02
2-84	597	1U	–	W	0-255 / 1	50BFW4 Breaker Failure inputs see 2-00

Table 3 – Configuration (5 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-85	598	1U	–	W	0-65535 / 1	50BFW4 Breaker Failure ext. inputs see 2-01
2-86	599	1U	–	W	0-65535 / 1	50BFW4 Breaker Failure outputs see 2-02
2-87	600	1U	–	W	0-255 / 1	51 #1 Inverse Time Overcurrent inputs see 2-00
2-88	601	1U	–	W	0-65535 / 1	51#1 Inverse Time Overcurrent ext. inputs see 2-01
2-89	602	1U	–	W	0-65535 / 1	51#1 Inverse Time Overcurrent outputs see 2-02
2-90	603	1U	–	W	0-255 / 1	51#2 Inverse Time Overcurrent inputs see 2-00
2-91	604	1U	–	W	0-65535 / 1	51#2 Inverse Time Overcurrent ext. inputs see 2-01
2-92	605	1U	–	W	0-65535 / 1	51#2 Inverse Time Overcurrent outputs see 2-02
2-93	606	1U	–	W	0-255 / 1	51#3 Inverse Time Overcurrent inputs see 2-00
2-94	607	1U	–	W	0-65535 / 1	51#3 Inverse Time Overcurrent ext. inputs see 2-01
2-95	608	1U	–	W	0-65535 / 1	51#3 Inverse Time Overcurrent outputs see 2-02
2-96	609	1U	–	W	0-255 / 1	51#4 Inverse Time Overcurrent inputs see 2-00
2-97	610	1U	–	W	0-65535 / 1	51#4 Inverse Time Overcurrent ext. inputs see 2-01
2-98	611	1U	–	W	0-65535 / 1	51#4 Inverse Time Overcurrent outputs see 2-02
2-99	612	1U	–	W	0-255 / 1	51N #1 Inverse Residual Time inputs Overcurrent see 2-00
2-100	613	1U	–	W	0-65535 / 1	51N #1 Inverse Residual Time Overcurrent ext. inputs see 2-01
2-101	614	1U	–	W	0-65535 / 1	51N #1 Inverse Residual Time Overcurrent outputs see 2-02
2-102	615	1U	–	W	0-255 / 1	51N #2 Inverse Residual Time Overcurrent inputs see 2-00

Table 3 – Configuration (6 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-103	616	1U	–	W	0-65535 / 1	51N #2 Inverse Residual Time Overcurrent ext. inputs see 2-01
2-104	617	1U	–	W	0-65535 / 1	51N #2 Inverse Residual Time Overcurrent outputs see 2-02
2-105	618	1U	–	W	0-255 / 1	51N #3 Inverse Residual Time Overcurrent inputs see 2-00
2-106	619	1U	–	W	0-65535 / 1	51N #3 Inverse Residual Time Overcurrent ext. inputs see 2-01
2-107	620	1U	–	W	0-65535 / 1	51N #3 Inverse Residual Time Overcurrent outputs see 2-02
2-108	621	1U	–	W	0-255 / 1	51N #4 Inverse Residual Time Overcurrent inputs see 2-00
2-109	622	1U	–	W	0-65535 / 1	51N #4 Inverse Residual Time Overcurrent ext. inputs see 2-01
2-110	623	1U	–	W	0-65535 / 1	51N #4 Inverse Residual Time Overcurrent outputs see 2-02
2-111	624	1U	–	W	0-255 / 1	51GW2 Inverse Ground Time Overcurrent inputs see 2-00
2-112	625	1U	–	W	0-65535 / 1	51GW2 Inverse Ground Time Overcurrent ext. inputs see 2-01
2-113	626	1U	–	W	0-65535 / 1	51GW2 Inverse Ground Time Overcurrent outputs see 2-02
2-114	627	1U	–	W	0-255 / 1	51GW3 Inverse Ground Time Overcurrent inputs see 2-00
2-115	628	1U	–	W	0-65535 / 1	51GW3 Inverse Ground Time Overcurrent ext. inputs see 2-01
2-116	629	1U	–	W	0-65535 / 1	51GW3 Inverse Ground Time Overcurrent outputs see 2-02
2-117	630	1U	–	W	0-255 / 1	51GW4 Inverse Ground Time Overcurrent inputs see 2-00
2-118	631	1U	–	W	0-65535 / 1	51GW4 Inverse Ground Time Overcurrent ext. inputs see 2-01
2-119	632	1U	–	W	0-65535 / 1	51GW4 Inverse Ground Time Overcurrent outputs see 2-02

Table 3 – Configuration (7 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-120	633	1U	–	W	0-255 / 1	59G#1 Neutral Overvoltage inputs see 2-00
2-121	634	1U	–	W	0-65535 / 1	59G#1 Neutral Overvoltage ext. inputs see 2-01
2-122	635	1U	–	W	0-65535 / 1	59G#1 Neutral Overvoltage outputs see 2-02
2-123	636	1U	–	W	0-255 / 1	59G#2 Neutral Overvoltage inputs see 2-00
2-124	637	1U	–	W	0-65535 / 1	59G#2 Neutral Overvoltage ext. inputs see 2-01
2-125	638	1U	–	W	0-65535 / 1	59G#2 Neutral Overvoltage outputs see 2-02
2-126	639	1U	–	W	0-255 / 1	81 #1 Underfrequency inputs see 2-00
2-127	640	1U	–	W	0-65535 / 1	81 #1 Underfrequency ext. inputs see 2-01
2-128	641	1U	–	W	0-65535 / 1	81 #1 Underfrequency outputs see 2-02
2-129	642	1U	–	W	0-255 / 1	81 #2 Underfrequency inputs see 2-00
2-130	643	1U	–	W	0-65535 / 1	81 #2 Underfrequency ext. inputs see 2-01
2-131	644	1U	–	W	0-65535 / 1	81 #2 Underfrequency outputs see 2-02
2-132	645	1U	–	W	0-255 / 1	81 #3 Underfrequency inputs see 2-00
2-133	646	1U	–	W	0-65535 / 1	81 #3 Underfrequency ext. inputs see 2-01
2-134	647	1U	–	W	0-65535 / 1	81 #3 Underfrequency outputs see 2-02
2-135	648	1U	–	W	0-255 / 1	81 #4 Underfrequency inputs see 2-00
2-136	649	1U	–	W	0-65535 / 1	81 #4 Underfrequency ext. inputs see 2-01
2-137	650	1U	–	W	0-65535 / 1	81 #4 Underfrequency outputs see 2-02
2-138	651	1U	–	W	0-255 / 1	87H Phase Differential inputs see 2-00

Table 3 – Configuration (8 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-139	652	1U	–	W	0-65535 / 1	87H Phase Differential ext. inputs see 2-01
2-140	653	1U	–	W	0-65535 / 1	87H Phase Differential outputs see 2-02
2-141	654	1U	–	W	0-255 / 1	87T High Set Phase Differential inputs see 2-00
2-142	655	1U	–	W	0-65535 / 1	87T High Set Phase Differential ext. inputs see 2-01
2-143	656	1U	–	W	0-65535 / 1	87T High Set Phase Differential outputs see 2-02
2-144	657	1U	–	W	0-255 / 1	87GDW2 #1 Ground Differential inputs see 2-00
2-145	658	1U	–	W	0-65535 / 1	87GDW2 #1 Ground Differential ext. inputs see 2-01
2-146	659	1U	–	W	0-65535 / 1	87GDW2 #1 Ground Differential outputs see 2-02
2-147	660	1U	–	W	0-255 / 1	87GDW2 #2 Ground Differential inputs see 2-00
2-148	661	1U	–	W	0-65535 / 1	87GDW2 #2 Ground Differential ext. inputs see 2-01
2-149	662	1U	–	W	0-65535 / 1	87GDW2 #2 Ground Differential outputs see 2-02
2-150	663	1U	–	W	0-255 / 1	87GDW3 #1 Ground Differential inputs see 2-00
2-151	664	1U	–	W	0-65535 / 1	87GDW3 #1 Ground Differential ext. inputs see 2-01
2-152	665	1U	–	W	0-65535 / 1	87GDW3 #1 Ground Differential outputs see 2-02
2-153	666	1U	–	W	0-255 / 1	87GDW3 #2 Ground Differential inputs see 2-00
2-154	667	1U	–	W	0-65535 / 1	87GDW3 #2 Ground Differential ext. inputs see 2-01
2-155	668	1U	–	W	0-65535 / 1	87GDW3 #2 Ground Differential outputs see 2-02
2-156	669	1U	–	W	0-255 / 1	87GDW4 #1 Ground Differential inputs see 2-00
2-157	670	1U	–	W	0-65535 / 1	87GDW4 #1 Ground Differential ext. inputs see 2-01

Table 3 – Configuration (9 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-158	671	1U	–	W	0-65535 / 1	87GDW4 #1 Ground Differential outputs see 2-02
2-159	672	1U	–	W	0-255 / 1	87GDW4 #2 Ground Differential inputs see 2-00
2-160	673	1U	–	W	0-65535 / 1	87GDW4 #2 Ground Differential ext. inputs see 2-01
2-161	674	1U	–	W	0-65535 / 1	87GDW4 #2 Ground Differential outputs see 2-02
2-162	675	1U	–	W	0-255 / 1	IPS Logic #1 inputs see 2-00
2-163	676	1U	–	W	0-65535 / 1	IPS Logic #1 ext. inputs see 2-01
2-164	677	1U	–	W	0-65535 / 1	IPS Logic #1 outputs see 2-02
2-165	678	1U	–	W	0-255 / 1	IPS Logic #2 External inputs see 2-00
2-166	679	1U	–	W	0-65535 / 1	IPS Logic #2 ext. inputs see 2-01
2-167	680	1U	–	W	0-65535 / 1	IPS Logic #2 outputs see 2-02
2-168	681	1U	–	W	0-255 / 1	IPS Logic #3 inputs see 2-00
2-169	682	1U	–	W	0-65535 / 1	IPS Logic #3 ext. inputs see 2-01
2-170	683	1U	–	W	0-65535 / 1	IPS Logic #3 outputs see 2-02
2-171	684	1U	–	W	0-255 / 1	EXT #4 External inputs see 2-00
2-172	685	1U	–	W	0-65535 / 1	IPS Logic #4 ext. inputs see 2-01
2-173	686	1U	–	W	0-65535 / 1	IPS Logic #4 outputs see 2-02
2-174	687	1U	–	W	0-255 / 1	IPS Logic #5 inputs see 2-00
2-175	688	1U	–	W	0-65535 / 1	IPS Logic #5 ext. inputs see 2-01
2-176	689	1U	–	W	0-65535 / 1	IPS Logic #5 outputs see 2-02

Table 3 – Configuration (10 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-177	690	1U	–	W	0-255 / 1	IPS Logic #6 inputs see 2-00
2-178	691	1U	–	W	0-65535 / 1	IPS Logic #6 ext. inputs see 2-01
2-179	692	1U	–	W	0-65535 / 1	IPS Logic #6 outputs see 2-02
2-180	693	1U	–	W	0-255 / 1	50N #1 Inst. Neutral Overcurrent inputs see 2-00
2-181	694	1U	–	W	0-65535 / 1	50N #1 Inst. Neutral Overcurrent ext. inputs see 2-01
2-182	695	1U	–	W	0-65535 / 1	50N #1 Inst. Neutral Overcurrent outputs see 2-02
2-183	696	1U	–	W	0-255 / 1	50N #2 Inst. Neutral Overcurrent inputs see 2-00
2-184	697	1U	–	W	0-65535 / 1	50N #2 Inst. Neutral Overcurrent ext. inputs see 2-01
2-185	698	1U	–	W	0-65535 / 1	50N #2 Inst. Neutral Overcurrent outputs see 2-02
2-186	699	1U	–	W	0-255 / 1	50N #3 Inst. Neutral Overcurrent inputs see 2-00
2-187	700	1U	–	W	0-65535 / 1	50N #3 Inst. Neutral Overcurrent ext. inputs see 2-01
2-188	701	1U	–	W	0-65535 / 1	50N #3 Inst. Neutral Overcurrent outputs see 2-02
2-189	702	1U	–	W	0-255 / 1	50N #4 Inst. Neutral Overcurrent inputs see 2-00
2-190	703	1U	–	W	0-65535 / 1	50N #4 Inst. Neutral Overcurrent ext. inputs see 2-01
2-191	704	1U	–	W	0-65535 / 1	50N #4 Inst. Neutral Overcurrent outputs see 2-02
2-192	705	1U	–	W	0-255 / 1	50N #5 Inst. Neutral Overcurrent inputs see 2-00
2-193	706	1U	–	W	0-65535 / 1	50N #5 Inst. Neutral Overcurrent ext. inputs see 2-01
2-194	707	1U	–	W	0-65535 / 1	50N #5 Inst. Neutral Overcurrent outputs see 2-02
2-195	708	1U	–	W	0-255 / 1	50N #6 Inst. Neutral Overcurrent inputs see 2-00

Table 3 – Configuration (11 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-196	709	1U	–	W	0-65535 / 1	50N #6 Inst. Neutral Overcurrent ext. inputs see 2-01
2-197	710	1U	–	W	0-65535 / 1	50N #6 Inst. Neutral Overcurrent outputs see 2-02
2-198	711	1U	–	W	0-255 / 1	50N #7 Inst. Neutral Overcurrent inputs see 2-00
2-199	712	1U	–	W	0-65535 / 1	50N #7 Inst. Neutral Overcurrent ext. inputs see 2-01
2-200	713	1U	–	W	0-65535 / 1	50N #7 Inst. Neutral Overcurrent outputs see 2-02
2-201	714	1U	–	W	0-255 / 1	50N #8 Inst. Neutral Overcurrent inputs see 2-00
2-202	715	1U	–	W	0-65535 / 1	50N #8 Inst. Neutral Overcurrent ext. inputs see 2-01
2-203	716	1U	–	W	0-65535 / 1	50N #8 Inst. Neutral Overcurrent outputs see 2-02
2-204	717	1U	–	W	0-255 / 1	BM W1 Breaker Monitoring inputs see 2-00
2-205	718	1U	–	W	0-65535 / 1	BM W1 Breaker Monitoring ext. inputs see 2-01
2-206	719	1U	–	W	0-65535 / 1	BM W1 Breaker Monitoring outputs see 2-02
2-207	720	1U	–	W	0-255 / 1	BM W2 Breaker Monitoring inputs see 2-00
2-208	721	1U	–	W	0-65535 / 1	BM W2 Breaker Monitoring ext. inputs see 2-01
2-209	722	1U	–	W	0-65535 / 1	BM W2 Breaker Monitoring outputs see 2-02
2-210	723	1U	–	W	0-255 / 1	BM W3 Breaker Monitoring inputs see 2-00
2-211	724	1U	–	W	0-65535 / 1	BM W3 Breaker Monitoring ext. inputs see 2-01
2-212	725	1U	–	W	0-65535 / 1	BM W3 Breaker Monitoring outputs see 2-02
2-213	726	1U	–	W	0-255 / 1	BM W4 Breaker Monitoring inputs see 2-00
2-214	727	1U	–	W	0-65535 / 1	BM W4 Breaker Monitoring ext. inputs see 2-01

Table 3 – Configuration (12 of 13)

CONFIGURATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
2-215	728	1U	–	W	0-65535 / 1	BM W4 Breaker Monitoring outputs see 2-02
2-216	729	1U	–	W	0-255 / 1	TF Through Fault Alarm inputs See 2-00
2-217	730	1U	–	W	0-65535 / 1	TF Through Fault Alarm ext. inputs See 2-01
2-218	731	1U	–	W	0-65535 / 1	TF Through Fault Alarm outputs See 2-02
2-219	732	1U	–	W	0-255 / 1	TCM1 Trip Circuit Monitor inputs see 2-00
2-220	733	1U	–	W	0-65535 / 1	TCM1 Trip Circuit Monitor ext. inputs see 2-01
2-221	734	1U	–	W	0-65535 / 1	TCM1 Trip Circuit Monitor outputs see 2-02
2-222	735	1U	–	W	0-255 / 1	TCM2 Trip Circuit Monitor inputs see 2-00
2-223	736	1U	–	W	0-65535 / 1	TCM2 Trip Circuit Monitor ext. inputs see 2-01
2-224	737	1U	–	W	0-65535 / 1	TCM2 Trip Circuit Monitor outputs see 2-02
2-225	738	1U	–	W	0-255 / 1	CCM1 Close Circuit Monitor inputs see 2-00
2-226	739	1U	–	W	0-65535 / 1	CCM1 Close Circuit Monitor ext. inputs see 2-01
2-227	740	1U	–	W	0-65535 / 1	CCM1 Close Circuit Monitor outputs see 2-02
2-228	741	1U	–	W	0-255 / 1	CCM2 Close Circuit Monitor inputs see 2-00
2-229	742	1U	–	W	0-65535 / 1	CCM2 Close Circuit Monitor ext. inputs see 2-01
2-230	743	1U	–	W	0-65535 / 1	CCM2 Close Circuit Monitor outputs see 2-02

Table 3 – Configuration (13 of 13)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-00	769	1	%	W	100-200 / 1	24DT #1 Pickup
3-01	770	1	CYCLES	W	30-8160 / 1	24DT #1 Time Delay
3-02	771	1	%	W	100-200 / 1	24DT #2 Pickup
3-03	772	1	CYCLES	W	30-8160 / 1	24DT #2 Time Delay
3-04	773	1	%	W	100-150 / 1	24IT Pickup
3-05	774	1	–	W	1-4 / 1	24IT Curve **
3-06	775	10	–	W	if curve = 1 10-1000 / 10 --- if curve = 2, 3, 4 0-90 / 1	24IT Time dial **
3-07	776	1	SEC	W	1-999 / 1	24IT Reset Rate
3-08	777	1	VOLTS	W	5-140 / 1	27 Undervoltage Pickup
3-09	778	1	–	W	0-1 / 1	27 Undervoltage Inhibit 0 = Disable 1 = Enable
3-10	779	1	VOLTS	W	5-140 / 1	27 Undervoltage Inhibit
3-11	780	1	CYCLES	W	1-8160 / 1	27 Time Delay
3-12	781	100	AMPS	W	if C.T. secondary rating = 5 Amp 10-2000 / 1 --- if C.T. secondary rating = 1 Amp 2-400 / 1	46DTW2 Pickup
3-13	782	1	CYCLES	W	1-8160 / 1	46DTW2 Time Delay
3-14	783	100	AMPS	W	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 proceed time dial.

Table 4 – Setpoints (1 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-15	784	1	–	W	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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-16	785	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	46ITW2 Time dial **
3-17	786	100	AMPS	W	if C.T. secondary rating = 5 Amp 10-2000 / 1 if C.T. secondary rating = 1 Amp 2-400 / 1	46DTW3 Pickup
3-18	787	1	CYCLES	W	1-8160 / 1	46DTW3 Time Delay
3-19	788	100	AMPS	W	if C.T. secondary rating = 5 Amp 50-500 / 1 if C.T. secondary rating = 1 Amp 10-100 / 1	46ITW3 Pickup
3-20	789	1	–	W	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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (2 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-21	790	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	46ITW3 Time dial **
3-22	791	100	AMPS	W	if C.T. secondary rating = 5 Amp 10-2000 / 1 if C.T. secondary rating = 1 Amp 2-400 / 1	46DTW4 Pickup
3-23	792	1	CYCLES	W	1-8160 / 1	46DTW4 Time Delay
3-24	793	100	AMPS	W	if C.T. secondary rating = 5 Amp 50-500 / 1 if C.T. secondary rating = 1 Amp 10-100 / 1	46ITW4 Pickup
3-25	794	1	–	W	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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-26	795	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	46ITW4 Time dial **
3-27	796	10	MINS	W	10-9999 / 1	49 Time Constant
3-28	797	100	AMPS	W	if C.T. secondary rating = 5 Amp 100-1000 / 1 if C.T. secondary rating = 1 Amp 20-200 / 1	49 Max Overload current

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (3 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-29	798	1	–	W	0-5 / 1	49 Winding Select 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
3-30	799	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50 #1 Pickup
3-31	800	1	CYCLES	W	1-8160 / 1	50W1 #1 Time Delay
3-32	801	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50 #2 Pickup
3-33	802	1	CYCLES	W	1-8160 / 1	50 #2 Time Delay
3-34	803	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50 #3 Pickup
3-35	804	1	CYCLES	W	1-8160 / 1	50 #3 Time Delay
3-36	805	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50 #4 Pickup
3-37	806	1	CYCLES	W	1-8160 / 1	50 #4 Time Delay
3-38	807	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50 #5 Pickup
3-39	808	1	CYCLES	W	1-8160 / 1	50 #5 Time Delay

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (4 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-40	809	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50 #6 Pickup
3-41	810	1	CYCLES	W	1-8160 / 1	50 #6 Time Delay
3-42	811	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50 #7 Pickup
3-43	812	1	CYCLES	W	1-8160 / 1	50 #7 Time Delay
3-44	813	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50 #8 Pickup
3-45	814	1	CYCLES	W	1-8160 / 1	50 #8 Time Delay
3-46	815	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50GW2 #1 Pickup
3-47	816	1	CYCLES	W	1-8160 / 1	50GW2 #1 Time Delay
3-48	817	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50GW2 #2 Pickup
3-49	818	1	CYCLES	W	1-8160 / 1	50GW2 #2 Time Delay
3-50	819	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50GW3 #1 Pickup

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (5 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-51	820	1	CYCLES	W	1-8160 / 1	50GW3 #1 Time Delay
3-52	821	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50GW3#2 Pickup
3-53	822	1	CYCLES	W	1-8160 / 1	50GW3 #2 Time Delay
3-54	823	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50GW4#1 Pickup
3-55	824	1	CYCLES	W	1-8160 / 1	50GW4 #1 Time Delay
3-56	825	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50GW4 #2 Pickup
3-57	826	1	CYCLES	W	1-8160 / 1	50GW4 #2 Time Delay
3-58	827	100	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50BFW1 Phase pickup
3-59	828	1U	–	W	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)

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (6 of 30)

SETPOINTS						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
3-60	829	1U	–	W	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
3-61	830	1U	–	W	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
3-62	831	100	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50BFW1 Residual Pickup
3-63	832	1	CYCLES	W	1-8160 / 1	50BFW1 Time Delay
3-64	833	100	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50BFW2 Phase Pickup
3-65	834	1U	–	W	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)

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (7 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-66	835	1U	–	W	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
3-67	836	1U	–	W	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
3-68	837	100	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50BFW2 Residual Pickup
3-69	838	1	CYCLES	W	1-8160 / 1	50BFW2 Delay
3-70	839	100	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50BFW3 Phase Pickup
3-71	840	1U	–	W	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)

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (8 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-72	841	1U	–	W	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
3-73	842	1U	–	W	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
3-74	843	100	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50BFW3 Residual Pickup
3-75	844	1	CYCLES	W	1-8160 / 1	50BFW3 Delay
3-76	845	100	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50BFW4 Phase Pickup
3-77	846	1U	–	W	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)

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (9 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-78	847	1U	–	W	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
3-79	848	1U	–	W	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
3-80	849	100	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50BFW4 Residual Pickup
3-81	850	1	CYCLES	W	1-8160 / 1	50BFW4 Delay
3-82	851	100	AMPS	W	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51 #1 Pickup
3-83	852	1	–	W	1-11 / 1	51 #1 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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (10 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-84	853	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51 #1 Time Dial **
3-85	854	100	AMPS	W	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51 #2 Pickup
3-86	855	1	–	W	1-11 / 1	51 #2 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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-87	856	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51 #2 Time Dial **
3-88	857	100	AMPS	W	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51#3 Pickup

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (11 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-89	858	1	–	W	1-11 / 1	51#3 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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-90	859	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51#3 Time Dial **
3-91	860	100	AMPS	W	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51 #4 Pickup
3-92	861	1	–	W	1-11 / 1	51 #4 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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-93	862	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51 #4 Time Dial **

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (12 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-94	863	100	AMPS	W	if C.T. secondary rating = 5 Amp 50-600 / 1 if C.T. secondary rating = 1 Amp 10-120 / 1	51N #1 Pickup
3-95	864	1	–	W	1-11 / 1	51N #1 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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-96	865	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51N #1 Time Dial **
3-97	866	100	AMPS	W	if C.T. secondary rating = 5 Amp 50-600 / 1 if C.T. secondary rating = 1 Amp 10-120 / 1	51N #2 Pickup
3-98	867	1	–	W	1-11 / 1	51N #2 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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (13 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-99	868	100	–	W	if curve = 1 to 4 50-1100 / 10 --- if curve = 5 to 8 5-110 / 1 --- if curve = 9 to 11 50-1500 / 10	51N #2 Time Dial **
3-100	869	100	AMPS	W	if C.T. secondary rating = 5 Amp 50-600 / 1 --- if C.T. secondary rating = 1 Amp 10-120 / 1	51N #3 Pickup
3-101	870	1	–	W	1-11 / 1	51N #3 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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-102	871	100	–	W	if curve = 1 to 4 50-1100 / 10 --- if curve = 5 to 8 5-110 / 1 --- if curve = 9 to 11 50-1500 / 10	51N #3 Time Dial **
3-103	872	100	AMPS	W	if C.T. secondary rating = 5 Amp 50-600 / 1 --- if C.T. secondary rating = 1 Amp 10-120 / 1	51N #4 Pickup

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (14 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-104	873	1	–	W	1-11 / 1	51N #4 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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-105	874	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51N #4 Time Dial **
3-106	875	100	AMPS	W	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51GW2 Pickup
3-107	876	1	–	W	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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-108	877	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51GW2 Time Dial **

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (15 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-109	878	100	AMPS	W	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51GW3 Pickup
3-110	879	1	–	W	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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse
3-111	880	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51GW3 Time Dial **
3-112	881	100	AMPS	W	If C.T. secondary rating = 5 Amp 50-1200 / 1 if C.T. secondary rating = 1 Amp 10-240 / 1	51GW4 Pickup
3-113	882	1	–	W	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 Moderately Inverse 10 = IEEE Very Inverse 11 = IEEE Extremely Inverse

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (16 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-114	883	100	–	W	if curve = 1 to 4 50-1100 / 10 if curve = 5 to 8 5-110 / 1 if curve = 9 to 11 50-1500 / 10	51GW4 Time Dial **
3-115	884	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50N #1 Pickup
3-116	885	1	CYCLES	W	1-8160 / 1	50N #1 Time Delay
3-117	886	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50N #2 Pickup
3-118	887	1	CYCLES	W	1-8160 / 1	50N #2 Time Delay
3-119	888	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50N #3 Pickup
3-120	889	1	CYCLES	W	1-8160 / 1	50N #3 Time Delay
3-121	890	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50N #4 Pickup
3-122	891	1	CYCLES	W	1-8160 / 1	50N #4 Time Delay
3-123	892	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	50N #5 Pickup
3-124	893	1	CYCLES	W	1-8160 / 1	50N #5 Time Delay

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (17 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-125	894	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 --- if C.T. secondary rating =1 Amp 2-200 / 1	50N #6 Pickup
3-126	895	1	CYCLES	W	1-8160 / 1	50N #6 Time Delay
3-127	896	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 --- if C.T. secondary rating =1 Amp 2-200 / 1	50N #7 Pickup
3-128	897	1	CYCLES	W	1-8160 / 1	50N #7 Time Delay
3-129	898	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 --- if C.T. secondary rating =1 Amp 2-200 / 1	50N #8 Pickup
3-130	899	1	CYCLES	W	1-8160 / 1	50N #8 Time Delay
3-131	900	1	VOLTS	W	5-180 / 1	59G #1 Neutral Overvoltage pickup
3-132	901	1	CYCLES	W	1-8160 / 1	59G #1 Time Delay
3-133	902	1	VOLTS	W	5-180 / 1	59G #2 Neutral Overvoltage pickup
3-134	903	1	CYCLES	W	1-8160 / 1	59G #2 Time Delay
3-135	904	100	HZ	W	if nominal frequency = 60 Hz 5500-6500 / 1 --- if nominal frequency = 50 Hz 4500-5500 / 1	81 #1 Pickup For 60 Hz nominal freq. 6000 pickup value excluded. For 50 Hz nominal freq. 5000 pickup value excluded.
3-136	905	1	CYCLES	W	2-65500 / 1	81 #1 Time Delay
3-137	906	100	HZ	W	if nominal frequency = 60 Hz 5500-6500 / 1 --- if nominal frequency = 50 Hz 4500-5500 / 1	81 #2 Pickup For 60 Hz nominal freq. 6000 pickup value excluded. For 50 Hz nominal freq. 5000 pickup value excluded.
3-138	907	1	CYCLES	W	2-65500 / 1	81 #2 Time Delay

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (18 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-139	908	100	HZ	W	if nominal frequency = 60 Hz 5500-6500 / 1 --- if nominal frequency = 50 Hz 4500-5500 / 1	81 #3 Pickup For 60 Hz nominal freq. 6000 pickup value excluded. For 50 Hz nominal freq. 5000 pickup value excluded.
3-140	909	1	CYCLES	W	2-65500 / 1	81 #3 Time Delay
3-141	910	100	HZ	W	if nominal frequency = 60 Hz 5500-6500 / 1 --- if nominal frequency = 50 Hz 4500-5500 / 1	81 #4 Pickup For 60 Hz nominal freq. 6000 pickup value excluded. For 50 Hz nominal freq. 5000 pickup value excluded.
3-142	911	1	CYCLES	W	2-65500 / 1	81 #4 Time Delay
3-143	912	10	PU	W	50-200 / 1	87H Pickup
3-144	913	1	CYCLES	W	1-8160 / 1	87H Time Delay
3-145	914	100	PU	W	10-100 / 1	87T Pickup
3-146	915	1	%	W	5-100 / 1	87T Percent Slope #1
3-147	916	1	%	W	5-200 / 1	87T Percent Slope #2
3-148	917	10	PU	W	10-40 / 1	87T Slope break point
3-149	918	1	%	W	5-50 / 1	87T Even Harmonic Restraint (2nd & 4th)
3-150	919	1	–	W	0-2 / 1	87T Even Harmonic Restraint (2nd & 4th) 0 = Disable 1 = Enable 2 = Enable w/cross average
3-151	920	1	%	W	5-50 / 1	87T 5th Harmonic Restraint
3-152	921	1	–	W	0-2 / 1	87T 5th Harmonic Restraint 0 = Disable 1 = Enable 2 = Enable w/cross average
3-153	922	100	PU	W	10-200 / 1	87T Pickup at 5th Harmonic Restraint
3-154	923	100	–	W	if C.T. secondary rating = 5 Amp 100-10000 / 1 --- if C.T. secondary rating = 1 Amp 20-2000 / 1	87 W1 C.T. Tap

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (19 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-155	924	100	–	W	if C.T. secondary rating = 5 Amp 100-10000 / 1 if C.T. secondary rating = 1 Amp 20-2000 / 1	87 W2 C.T. Tap
3-156	925	100	–	W	if C.T. secondary rating = 5 Amp 100-10000 / 1 if C.T. secondary rating = 1 Amp 20-2000 / 1	87 W3 C.T. Tap
3-157	926	100	–	W	if C.T. secondary rating = 5 Amp 100-10000 / 1 if C.T. secondary rating = 1 Amp 20-2000 / 1	87 W4 C.T. Tap
3-158	927	100	AMPS	W	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW2 #1 Pickup
3-159	928	1	CYCLES	W	1-8160 / 1	87GDW2 #1 Time Delay
3-160	929	100	AMPS	W	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW2 #2 Pickup
3-161	930	1	–	W	0-1 / 1	87GDW2 Directional Element enable 0 = disabled 1 = enabled
3-162	931	100	–	W	10-799 / 1	87GDW2 C.T. Ratio correction
3-163	932	1	CYCLES	W	1-8160 / 1	87GDW2 #2 Time Delay
3-164	933	100	AMPS	W	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW3 #1 Pickup

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (20 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-165	934	1	CYCLES	W	1-8160 / 1	87GDW3 #1 Time Delay
3-166	935	100	AMPS	W	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW3 #2 Pickup
3-167	936	1	–	W	0-1 / 1	87GDW3 Directional Element enable 0 = disabled 1 = enabled
3-168	937	100	–	W	10-799 / 1	87GDW3 C.T. Ratio correction
3-169	938	1	CYCLES	W	1-8160 / 1	87GDW3 #2 Time Delay
3-170	939	100	AMPS	W	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW4 #1 Pickup
3-171	940	1	CYCLES	W	1-8160 / 1	87GDW4 #1 Time Delay
3-172	941	100	AMPS	W	If C.T. secondary rating = 5 Amp 20-1000 / 1 if C.T. secondary rating = 1 Amp 4-200 / 1	87GDW4 #2 Pickup
3-173	942	1	–	W	0-1 / 1	87GDW4 Directional Element enable 0 = disabled 1 = enabled
3-174	943	100	–	W	10-799 / 1	87GDW4 C.T. Ratio correction
3-175	944	1	CYCLES	W	1-8160 / 1	87GDW4 #2 Time Delay
3-176	945	1U	–	W	0-255 / 1	IPSLogic #1 Initiating Inputs 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)

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (21 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-177	946	1U	–	W	0-65535 / 1	IPSLogic #1 Initiating Inputs 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
3-178	947	1U	–	W	0-65535 / 1	IPSLogic #1 Initiating Outputs 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
3-179	948	1U	–	W	0-65535 / 1	IPSLogic #1 Gate Config Bit 0 = Initiating outputs gate Bit 1 = Initiating functions trip gate Bit 2 = Initiating inputs gate Bit 3 = Blocking inputs gate Bit 4 = Inputs main gate Bit 5-6 = Not used (0) Bit 7 = Initiating functions gate NOT element enable/disable Bit 8 = Blocking Inputs NOT element enable/disable Bits 9-15 = Not used Bits 7-8 = 0 NOT disabled Bits 7-8 = 1 NOT enabled 0 = gate configured for “OR” 1 = gate configured for “AND”

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (22 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-180	949	1U	–	W	0-65535 / 1	IPSLogic #1 Picked up functions initiate mask Least significant word [0] Bit 0 = F24DT_1 Bit 1 = F24DT_2 Bit 2 = F24IT Bit 3 = F27 Bit 4 = F46DT_W2 Bit 5 = F46IT_W2 Bit 6 = F46DT_W3 Bit 7 = F46IT_W3 Bit 8 = F46DT_W4 Bit 9 = F46IT_W4 Bit 10 = F49 Bit 11 = F50_1 Bit 12 = F50_2 Bit 13 = F50_3 Bit 14 = F50_4 Bit 15 = F50_5
3-181	950	1U	–	W	0-65535 / 1	IPSLogic #1 Picked up functions initiate mask Next significant word [1] Bit 0 = F50_6 Bit 1 = F50_7 Bit 2 = F50_8 Bit 3 = F50BF_W1 Bit 4 = F50BF_W2 Bit 5 = F50BF_W3 Bit 6 = F50BF_W4 Bit 7 = F50G_W2_1 Bit 8 = F50G_W2_2 Bit 9 = F50G_W3_1 Bit 10 = F50G_W3_2 Bit 11 = F50G_W4_1 Bit 12 = F50G_W4_2 Bit 13 = F50N_1 Bit 14 = F50N_2 Bit 15 = F50N_3

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (23 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-182	951	1U	–	W	0-65535 / 1	IPSLogic #1 Picked up functions initiate mask Next significant word [2] Bit 0 = F50N_4 Bit 1 = F50N_5 Bit 2 = F50N_6 Bit 3 = F50N_7 Bit 4 = F50N_8 Bit 5 = F51_1 Bit 6 = F51_2 Bit 7 = F51_3 Bit 8 = F51_4 Bit 9 = F51G_W2 Bit 10 = F51G_W3 Bit 11 = F51G_W4 Bit 12 = F51N_1 Bit 13 = F51N_2 Bit 14 = F51N_3 Bit 15 = F51N_4
3-183	952	1U	–	W	0-65535 / 1	IPSLogic #1 Picked up functions initiate mask Next significant word [3] Bit 0 = F59G_1 Bit 1 = F59G_2 Bit 2 = F81_1 Bit 3 = F81_2 Bit 4 = F81_3 Bit 5 = F81_4 Bit 6 = F87H Bit 7 = F87T Bit 8 = F87GD_W2_1 Bit 9 = F87GD_W2_2 Bit 10 = F87GD_W3_1 Bit 11 = F87GD_W3_2 Bit 12 = F87GD_W4_1 Bit 13 = F87GD_W4_2 Bit 14 = TF Bit 15 = TCM1

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (24 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-184	953	1U	–	W	0-65535 / 1	IPSLogic #1 Picked up functions initiate mask Most significant word [4] Bit 0 = IPSLogic_1 Bit 1 = IPSLogic_2 Bit 2 = IPSLogic_3 Bit 3 = IPSLogic_4 Bit 4 = IPSLogic_5 Bit 5 = IPSLogic_6 Bit 6 = BM_W1 Bit 7 = BM_W2 Bit 8 = BM_W3 Bit 9 = BM_W4 Bit 10 = TCM2 Bit 11 = CCM1 Bit 12 = CCM2 Bits 13-15 = not used
3-185	954	1U	–	W	0-4 / 1	IPSLogic #1 Profile Switch 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
3-186	955	1U	–	W	0-1 / 1	IPSLogic #1 Initiate via communication
3-187	956	1U	–	W	0-1 / 1	IPSLogic #1 Block via communication
3-188	957	1	CYCLES	W	1-65500 / 1	IPSLogic #1 Time Delay
3-189	958	1U	–	W	0-255 / 1	IPSLogic #2 Initiating inputs See 3-176
3-190	959	1U	–	W	0-65535 / 1	IPSLogic #2 Initiating inputs ext. See 3-177
3-191	960	1U	–	W	0-65535 / 1	IPSLogic #2 Initiating outputs See 3-178
3-192	961	1U	–	W	0-65535 / 1	IPSLogic #2 Gate Config See 3-179
3-193	962	1U	–	W	0-65535 / 1	IPSLogic #2 Picked up functions initiate mask Least significant word [0] See 3-180
3-194	963	1U	–	W	0-65535 / 1	IPSLogic #2 Picked up functions initiate mask Next significant word [1] See 3-181

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (25 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-195	964	1U	–	W	0-65535 / 1	IPSLogic #2 Picked up functions initiate mask Next significant word [2] See 3-182
3-196	965	1U	–	W	0-65535 / 1	IPSLogic #2 Picked up functions initiate mask Next significant word [3] See 3-183
3-197	966	1U	–	W	0-65535 / 1	IPSLogic #2 Picked up functions initiate mask Most significant word [4] See 3-184
3-198	967	1U	–	W	0-4 / 1	IPSLogic #2 Profile Switch 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
3-199	968	1U	–	W	0-1 / 1	IPSLogic #2 Initiate via communication
3-200	969	1U	–	W	0-1 / 1	IPSLogic #2 Block via communication
3-201	970	1	CYCLES	W	1-65500 / 1	IPSLogic #2 Time Delay
3-202	971	1U	–	W	0-255 / 1	IPSLogic #3 Initiating inputs See 3-176
3-203	972	1U	–	W	0-65535 / 1	IPSLogic #3 Initiating inputs ext. See 3-177
3-204	973	1U	–	W	0-65535 / 1	IPSLogic #3 Initiating outputs See 3-178
3-205	974	1U	–	W	0-65535 / 1	IPSLogic #3 Gate Config See 3-179
3-206	975	1U	–	W	0-65535 / 1	IPSLogic #3 Picked up functions initiate mask Least significant word [0] See 3-180
3-207	976	1U	–	W	0-65535 / 1	IPSLogic #3 Picked up functions initiate mask Next significant word [1] See 3-181
3-208	977	1U	–	W	0-65535 / 1	IPSLogic #3 Picked up functions initiate mask Next significant word [2] See 3-182

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (26 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-209	978	1U	–	W	0-65535 / 1	IPSLogic #3 Picked up functions initiate mask Next significant word [3] See 3-183
3-210	979	1U	–	W	0-65535 / 1	IPSLogic #3 Picked up functions initiate mask Most significant word [4] See 3-184
3-211	980	1U	–	W	0-4 / 1	IPSLogic #3 Profile Switch 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
3-212	981	1U	–	W	0-1 / 1	IPSLogic #3 Initiate via communication
3-213	982	1U	–	W	0-1 / 1	IPSLogic #3 Block via communication
3-214	983	1	CYCLES	W	1-65500 / 1	IPSLogic #3 Time Delay
3-215	984	1U	–	W	0-255 / 1	IPSLogic #4 Initiating inputs See 3-176
3-216	985	1U	–	W	0-65535 / 1	IPSLogic #4 Initiating inputs ext. See 3-177
3-217	986	1U	–	W	0-65535 / 1	IPSLogic #4 Initiating outputs See 3-178
3-218	987	1U	–	W	0-65535 / 1	IPSLogic #4 Gate Config See 3-179
3-219	988	1U	–	W	0-65535 / 1	IPSLogic #4 Picked up functions initiate mask Least significant word [0] See 3-180
3-220	989	1U	–	W	0-65535 / 1	IPSLogic #4 Picked up functions initiate mask Next significant word [1] See 3-181
3-221	990	1U	–	W	0-65535 / 1	IPSLogic #4 Picked up functions initiate mask Next significant word [2] See 3-182
3-222	991	1U	–	W	0-65535 / 1	IPSLogic #4 Picked up functions initiate mask Next significant word [3] See 3-183

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (27 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-223	992	1U	–	W	0-65535 / 1	IPSLogic #4 Picked up functions initiate mask Most significant word [4] See 3-184
3-224	993	1U	–	W	0-4 / 1	IPSLogic #4 Profile Switch 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
3-225	994	1U	–	W	0-1 / 1	IPSLogic #4 Initiate via communication
3-226	995	1U	–	W	0-1 / 1	IPSLogic #4 Block via communication
3-227	996	1	CYCLES	W	1-65500 / 1	IPSLogic #4 Time Delay
3-228	997	1U	–	W	0-255 / 1	IPSLogic #5 Initiating inputs See 3-176
3-229	998	1U	–	W	0-65535 / 1	IPSLogic #5 Initiating inputs ext. See 3-177
3-230	999	1U	–	W	0-65535 / 1	IPSLogic #5 Initiating outputs See 3-178
3-231	1000	1U	–	W	0-65535 / 1	IPSLogic #5 Gate Config See 3-179
3-232	1001	1U	–	W	0-65535 / 1	IPSLogic #5 Picked up functions initiate mask Least significant word [0] See 3-180
3-233	1002	1U	–	W	0-65535 / 1	IPSLogic #5 Picked up functions initiate mask Next significant word [1] See 3-181
3-234	1003	1U	–	W	0-65535 / 1	IPSLogic #5 Picked up functions initiate mask Next significant word [2] See 3-182
3-235	1004	1U	–	W	0-65535 / 1	IPSLogic #5 Picked up functions initiate mask Next significant word [3] See 3-183
3-236	1005	1U	–	W	0-65535 / 1	IPSLogic #5 Picked up functions initiate mask Most significant word [4] See 3-184

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (28 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-237	1006	1U	–	W	0-4 / 1	IPSLogic #5 Profile Switch 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
3-238	1007	1U	–	W	0-1 / 1	IPSLogic #5 Initiate via communication
3-239	1008	1U	–	W	0-1 / 1	IPSLogic #5 Block via communication
3-240	1009	1	CYCLES	W	1-65500 / 1	IPSLogic #5 Time Delay
3-241	1010	1U	–	W	0-255 / 1	IPSLogic #6 Initiating inputs See 3-176
3-242	1011	1U	–	W	0-65535 / 1	IPSLogic #6 Initiating inputs ext. See 3-177
3-243	1012	1U	–	W	0-65535 / 1	IPSLogic #6 Initiating outputs See 3-178
3-244	1013	1U	–	W	0-65535 / 1	IPSLogic #6 Gate Config See 3-179
3-245	1014	1U	–	W	0-65535 / 1	IPSLogic #6 Picked up functions initiate mask Least significant word [0] See 3-180
3-246	1015	1U	–	W	0-65535 / 1	IPSLogic #6 Picked up functions initiate mask Next significant word [1] See 3-181
3-247	1016	1U	–	W	0-65535 / 1	IPSLogic #6 Picked up functions initiate mask Next significant word [2] See 3-182
3-248	1017	1U	–	W	0-65535 / 1	IPSLogic #6 Picked up functions initiate mask Next significant word [3] See 3-183
3-249	1018	1U	–	W	0-65535 / 1	IPSLogic #6 Picked up functions initiate mask Most significant word [4] See 3-184

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (29 of 30)

SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
3-250	1019	1U	–	W	0-4 / 1	IPSLogic #6 Profile Switch 0 = not activated 1 = switch to profile 1 2 = switch to profile 2 3 = switch to profile 3 4 = switch to profile 4
3-251	1020	1U	–	W	0-1 / 1	IPSLogic #6 Initiate via communication
3-252	1021	1U	–	W	0-1 / 1	IPSLogic #6 Block via communication
3-253	1022	1	CYCLES	W	1-65500 / 1	IPSLogic #6 Time Delay
3-254	1023	1	–	W	0-63 / 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

■ **NOTE:** ** When writing these points, curve should always proceed time dial.

Table 4 – Setpoints (30 of 30)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-00	1025	1	–	W	0-1 / 1	Clock control If write 0 = Stop 1 = Run Read returns 0
4-01	1026	1	–	W	0-99 / 1	Year
4-02	1027	1	–	W	1-12 / 1	Month
4-03	1028	1	–	W	1-31 / 1	Date
4-04	1029	–	–	–	–	Not used
4-05	1030	1	–	W	0-23 / 1	Hour
4-06	1031	1	–	W	0-59 / 1	Minute
4-07	1032	1	–	W	0-59 / 1	Second
4-08	1033	1	–	R	–	Pre and Post compensated phasors set update trigger See 1-92 to 1-127
4-09	1034	1	–	R	–	Phasor set update trigger See 1-53 to 1-76
4-10	1035	1	–	R	–	Processor Reset Counter
4-11	1036	1	–	R	–	Powerloss Counter
4-12	1037	1	–	R	–	OUT1 Counter
4-13	1038	1	–	R	–	OUT2 Counter
4-14	1039	1	–	R	–	OUT3 Counter
4-15	1040	1	–	R	–	OUT4 Counter
4-16	1041	1	–	R	–	OUT5 Counter
4-17	1042	1	–	R	–	OUT6 Counter
4-18	1043	1	–	R	–	OUT7 Counter
4-19	1044	1	–	R	–	OUT8 Counter
4-20	1045	1	–	R	–	OUT9 Counter
4-21	1046	1	–	R	–	OUT10 Counter
4-22	1047	1	–	R	–	OUT11 Counter

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (1 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-23	1048	1	–	R	–	OUT12 Counter
4-24	1049	1	–	R	–	OUT13 Counter
4-25	1050	1	–	R	–	OUT14 Counter
4-26	1051	1	–	R	–	OUT15 Counter
4-27	1052	1	–	R	–	OUT16 Counter
4-28	1053	1	–	R	–	Alarm Counter
4-29	1054	1	–	–	–	EEPROM Selftest Counter
4-30	1055	1	–	R	–	Last Selftest Error Code
4-31	1056	1	–	R	–	Last Selftest Error Code -1
4-32	1057	1	–	R	–	Last Selftest Error Code -2
4-33	1058	1	–	R	0-59 / 1	Last Selftest Error Code -3
4-34	1059	1	–	R	0-59 / 1	Clear Target LED (if all tripping conditions cleared.) if read = 0 tripping conditions are cleared, OK to reset if read = 1 tripping conditions are still active, do not reset
4-35	1060	1	–	R	–	Clear Target History
4-36	1061	1	–	R	–	Clear Oscillograph Recorder
4-37	1062	1	–	R	–	Last Comm Error Code
4-38	1063	1	–	–	–	Target LED status 0 = off 1 = on
4-39	1064	1	–	R	–	Receive Packet Errors
4-40	1065	1	–	–	–	IRIG-B Time Sync status 0 = Invalid 1 = Valid

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (2 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
4-41 to 4-52	1066 to 1077	–	–	–	–	Present Time encoded as an ASCII string. * DD-MMM-YYYY HH:MM:SS.TTT For example: 03-Mar-1990 12:15:03.468 4-37 = 12339 or 3033HEX or '0' '3' 4-38 = 11597 or 2d4dHEX or '-' 'M' 4-39 = 24946 or 6172HEX or 'a' 'r' 4-40 = 11569 or 2d31HEX or '-' '1' 4-41 = 14649 or 3939HEX or '9' '9' 4-42 = 12320 or 3020HEX or '0' ' ' 4-43 = 12594 or 3132HEX or '1' '2' 4-44 = 14896 or 3a30HEX or ':' '1' 4-45 = 13626 or 353aHEX or '5' ':' 4-46 = 12339 or 3033HEX or '0' '3' 4-47 = 11828 or 2E34HEX or '.' '4' 4-48 = 13880 or 3638HEX or '6' '8'
4-53	1078	1	KAMPS	W	1-50000 /1	BM W1 Pickup
4-54	1079	1U	–	W	0-255 / 1	BM W1 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 6-7 = Not used (0)
4-55	1080	1U	–	W	0-65535 / 1	BM W1 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
4-56	1081	1U	–	W	0-65535 / 1	BM W1 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

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (3 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-57	1082	10	CYCLES	W	1-40959 / 1	BM W1 Time Delay
4-58	1083	1	KAMPS	W	1-50000 / 1	BM W2 Pickup
4-59	1084	1U	–	W	0-255 / 1	BM W2 Input Initiate See 4-54
4-60	1085	1U	–	W	0-65535 / 1	BM W2 Input Initiate ext. See 4-55
4-61	1086	1U	–	W	0-65535 / 1	BM W2 Output Initiate See 4-56
4-62	1087	10	CYCLES	W	1-40959 / 1	BM W2 Time Delay
4-63	1088	1	KAMPS	W	1-50000 / 1	BM W3 Pickup
4-64	1089	1U	–	W	0-255 / 1	BM W3 Input Initiate See 4-54
4-65	1090	1U	–	W	0-65535 / 1	BM W3 Input Initiate ext. See 4-55
4-66	1091	1U	–	W	0-65535 / 1	BM W3 Output Initiate See 4-56
4-67	1092	10	CYCLES	W	1-40959 / 1	BM W3 Delay
4-68	1093	1	KAMPS	W	1-50000 / 1	BM W4 Pickup
4-69	1094	1U	–	W	0-255 / 1	BM W4 Input Initiate See 4-54
4-70	1095	1U	–	W	0-65535 / 1	BM W4 Input Initiate ext. See 4-55
4-71	1096	1U	–	W	0-65535 / 1	BM W4 Output Initiate See 4-56
4-72	1097	10	CYCLES	W	1-40959 / 1	BM W4 Time Delay
4-73	1098	1U	–	W	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
4-74	1099	1	KAMPS	W	0-50000 / 1	BM W1 Accumulator preset phase A

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (4 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-75	1100	1	KAMPS	W	0-50000 / 1	BM W1 Accumulator preset phase B
4-76	1101	1	KAMPS	W	0-50000 / 1	BM W1 Accumulator preset phase C
4-77	1102	1	KAMPS	W	0-50000 / 1	BM W2 Accumulator preset phase A
4-78	1103	1	KAMPS	W	0-50000 / 1	BM W2 Accumulator preset phase B
4-79	1104	1	KAMPS	W	0-50000 / 1	BM W2 Accumulator preset phase C
4-80	1105	1	KAMPS	W	0-50000 / 1	BM W3 Accumulator preset phase A
4-81	1106	1	KAMPS	W	0-50000 / 1	BM W3 Accumulator preset phase B
4-82	1107	1	KAMPS	W	0-50000 / 1	BM W3 Accumulator preset phase C
4-83	1108	1	KAMPS	W	0-50000 / 1	BM W4 Accumulator preset phase A
4-84	1109	1	KAMPS	W	0-50000 / 1	BM W4 Accumulator preset phase B
4-85	1110	1	KAMPS	W	0-50000 / 1	BM W4 Accumulator preset phase C
4-86 to 4-91	1111 to 1116	–	–	–	–	W1 Phase A current Max Time encoded as binary data. 4-86 = Date [0-30] 4-87 = Month [0-11] 4-88 = Year [00-99] 4-89 = Hours [0-23] 4-90 = Minutes [0-59] 4-91 = Seconds [0-59]
4-92 to 4-97	1117 to 1122	–	–	–	–	W2 Phase A current Max Time See 4-86 to 4-91
4-98 to 4-103	1123 to 1128	–	–	–	–	W3 Phase A current Max Time See 4-86 to 4-91
4-104 to 4-109	1129 to 1134	–	–	–	–	W4 Phase A current Max Time See 4-86 to 4-91
4-110 to 4-115	1135 to 1140	–	–	–	–	W1 Phase B current Max Time See 4-86 to 4-91
4-116 to 4-121	1141 to 1146	–	–	–	–	W2 Phase B current Max Time See 4-86 to 4-91
4-122 to 4-127	1147 to 1152	–	–	–	–	W3 Phase B current Max Time See 4-86 to 4-91
4-128 to 4-133	1153 to 1158	–	–	–	–	W4 Phase B current Max Time See 4-86 to 4-91

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (5 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-134 to 4-139	1159 to 1164	–	–	–	–	W1 Phase C current Max Time See 4-86 to 4-91
4-140 to 4-145	1165 to 1170	–	–	–	–	W2 Phase C current Max Time See 4-86 to 4-91
4-146 to 4-151	1171 to 1176	–	–	–	–	W3 Phase C current Max Time See 4-86 to 4-91
4-152 to 4-157	1177 to 1182	–	–	–	–	W4 Phase C current Max Time See 4-86 to 4-91
4-158 to 4-163	1183 to 1188	–	–	–	–	W2 Phase G current Max Time See 4-86 to 4-91
4-164 to 4-169	1189 to 1194	–	–	–	–	W3 Phase G current Max Time See 4-86 to 4-91
4-170 to 4-175	1195 to 1200	–	–	–	–	W4 Phase G current Max Time See 4-86 to 4-91
4-176	1201	1000	AMPS	R	–	W1 Phase A current Max **
4-177	1202	1000	AMPS	R	–	W2 Phase A current Max **
4-178	1203	1000	AMPS	R	–	W3 Phase A current Max **
4-179	1204	1000	AMPS	R	–	W4 Phase A current Max **
4-180	1205	1000	AMPS	R	–	W1 Phase B current Max **
4-181	1206	1000	AMPS	R	–	W2 Phase B current Max **
4-182	1207	1000	AMPS	R	–	W3 Phase B current Max **
4-183	1208	1000	AMPS	R	–	W4 Phase B current Max **
4-184	1209	1000	AMPS	R	–	W1 Phase C current Max **
4-185	1210	1000	AMPS	R	–	W2 Phase C current Max **
4-186	1211	1000	AMPS	R	–	W3 Phase C current Max **
4-187	1212	1000	AMPS	R	–	W4 Phase C current Max **
4-188	1213	1000	AMPS	R	–	W2 Phase G current Max **
4-189	1214	1000	AMPS	R	–	W3 Phase G current Max **
4-190	1215	1000	AMPS	R	–	W4 Phase G current Max **

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (6 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-191	1216	10	AMPS	W	If C.T. secondary rating = 5 Amp 10-1000 / 1 if C.T. secondary rating =1 Amp 2-200 / 1	Through Fault current threshold
4-192	1217	1	–	W	0-5 / 1	Through Fault winding selection 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-193	1218	1U	kA2 cycle	W	0-65535 / 1	Through Fault cumulative I^2t limit high word
4-194	1219	1U	kA2 cycle	W	0-65535 / 1	Through Fault cumulative I^2t limit low word
4-195	1220	1U	–	W	1-65535 / 1	Through Fault pickup operation limit
4-196	1221	1	CYCLES	W	1-8160 / 1	Through Fault time delay
4-197	1222	1	–	R	–	Restart Ethernet Board. This point should be written after any change has been made to the IP settings (points 4-198 to 4-205). It will take up to 15 seconds for the Ethernet board to reconfigure itself. During this time the communication with the relay on any COM port or Ethernet port will not be available.
4-198	1223	1	–	W	0-65535 / 1	Ethernet Board IP address Most significant word Example: IP = 192.168.1.47 Upper byte = 192 Lower byte = 168 If DHCP protocol is enabled then reading of this point will give a current IP address acquired via DHCP protocol This point requires the restart of ethernet board (see point 4-197)

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (7 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-199	1224	1	–	W	0-65535 / 1	Ethernet Board IP address Least significant word Example: IP = 192.168.1.47 Upper byte = 1 Lower byte = 47 If DHCP protocol is enabled then reading of this point will give a current IP address acquired via DHCP protocol This point requires the restart of ethernet board (see point 4-197)
4-200	1225	1	–	W	0-65535 / 1	Ethernet Board Net Mask Most significant word See 4-198 for details This point requires the restart of ethernet board (see point 4-197)
4-201	1226	1	–	W	0-65535 / 1	Ethernet Board Net Mask Least significant word See 4-199 for details This point requires the restart of ethernet board (see point 4-197)
4-202	1227	1	–	W	0-65535 / 1	Ethernet Board Gateway IP Most significant word See 4-198 for details This point requires the restart of ethernet board (see point 4-197)
4-203	1228	1	–	W	0-65535 / 1	Ethernet Board Gateway IP Least significant word See 4-199 for details This point requires the restart of ethernet board (see point 4-197)
4-204	1229	1	–	W	1-2 / 1	Ethernet Board protocol: 1 = MODBUS TCP/IP 2 = SERIAL CONVERTER This point requires the restart of ethernet board (see point 4-197)
4-205	1230	1	–	W	0-1 / 1	Ethernet Board DHCP enable 0 = disabled 1 = enabled This point requires the restart of ethernet board (see point 4-197)

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (8 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-206	1231	1	–	W	0-1 / 1	Ethernet Board settings status (points 4-198 to 4-205) 0 = no change 1 = one or more setpoints changed
4-207	1232	1	–	–	–	Software version number for ethernet board (Major and minor) For example: V01.34.28 4-207 to 134
4-208	1233	1	–	–	–	Software version number for ethernet board (Build) See 4-207. 4-208 to 28
4-209	1234	1	–	W	0-5 / 1	F50 #1 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-210	1235	1	–	W	0-5 / 1	F50 #2 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-211	1236	1	–	W	0-5 / 1	F50 #3 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-212	1237	1	–	W	0-5 / 1	F50 #4 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (9 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-213	1238	1	–	W	0-5 / 1	F50 #5 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-214	1239	1	–	W	0-5 / 1	F50 #6 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-215	1240	1	–	W	0-5 / 1	F50 #7 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-216	1241	1	–	W	0-5 / 1	F50 #8 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-217	1242	1	–	W	0-5 / 1	F50N #1 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (10 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-218	1243	1	–	W	0-5 / 1	F50N #2 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-219	1244	1	–	W	0-5 / 1	F50N #3 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-220	1245	1	–	W	0-5 / 1	F50N #4 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-221	1246	1	–	W	0-5 / 1	F50N #5 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-222	1247	1	–	W	0-5 / 1	F50N #6 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (11 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-223	1248	1	–	W	0-5 / 1	F50N #7 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-224	1249	1	–	W	0-5 / 1	F50N #8 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-225	1250	1	–	W	0-5 / 1	F51 #1 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-226	1251	1	–	W	0-5 / 1	F51 #2 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-227	1252	1	–	W	0-5 / 1	F51 #3 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (12 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-228	1253	1	–	W	0-5 / 1	F51 #4 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-229	1254	1	–	W	0-5 / 1	F51N #1 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-230	1255	1	–	W	0-5 / 1	F51N #2 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-231	1256	1	–	W	0-5 / 1	F51N #3 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-232	1257	1	–	W	0-5 / 1	F51N #4 Winding Config 0 = summing current #1 1 = summing current #2 2 = W1 3 = W2 4 = W3 5 = W4
4-233	1258	1	–	W	0-2 / 1	F87GD W2 Winding Config 0 = summing #1 phase current 1 = summing #2 phase current 2 = single winding phase current

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (13 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-234	1259	1	–	W	0-2 / 1	F87GD W3 Winding Config 0 = summing #1 phase current 1 = summing #2 phase current 2 = single winding phase current
4-235	1260	1	–	W	0-2 / 1	F87GD W4 Winding Config 0 = summing #1 phase current 1 = summing #2 phase current 2 = single winding phase current
4-236	1261	1	CYCLES	W	0-65500 / 1	IPS LOGIC #1 dropout delay
4-237	1262	1	CYCLES	W	0-65500 / 1	IPS LOGIC #2 dropout delay
4-238	1263	1	CYCLES	W	0-65500 / 1	IPS LOGIC #3 dropout delay
4-239	1264	1	CYCLES	W	0-65500 / 1	IPS LOGIC #4 dropout delay
4-240	1265	1	CYCLES	W	0-65500 / 1	IPS LOGIC #5 dropout delay
4-241	1266	1	CYCLES	W	0-65500 / 1	IPS LOGIC #6 dropout delay
4-242	1267	1	–	W	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
4-243	1268	1	CYCLES	W	1-8160 / 1	TCM1 Delay
4-244	1269	1	–	W	0-1 / 1	Through Fault Inrush Inhibit 0 = Disable inhibit 1 = Enable inhibit
4-245	–	1	CYCLES	W	1-8160 / 1	TCM1 Dropout Delay
4-246	–	1	CYCLES	W	1-8160 / 1	TCM2 Delay
4-247	–	1	CYCLES	W	1-8160 / 1	TCM2 Dropout Delay
4-248	–	1	CYCLES	W	1-8160 / 1	CCM1 Delay
4-249	–	1	CYCLES	W	1-8160 / 1	CCM1 Dropout Delay

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.

Table 5 – Miscellaneous / Maximums / Extra Setpoints (14 of 15)

MISCELLANEOUS / MAXIMUMS / EXTRA SETPOINTS						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
4-250	–	1	CYCLES	W	1-8160 / 1	CCM2 Delay
4-251	–	1	CYCLES	W	1-8160 / 1	CCM2 Dropout Delay
4-252	–	1	–	W	0-4 / 1	Winding Delay Selection *** 0 = None 1 = W1 2 = W2 3 = W3 4 = W4
4-253	–	1	SAMPLES	W	1-7 / 1	Winding Delay ***
4-254	–	1	–	W	0-1/1	59G Voltage selection 0 = Vg 1 = 3V0

■ **NOTES:**

1. * Present time will return the local time from the RTC chip with .TTT = .000 if IRIG-B time sync status 4-40 is 0, if IRIG-B sync status is valid these points will return full time information.
2. ** These values are returned as secondary values. These values need to be scaled by the proper C.T. (V.T.) ratios to obtain an equivalent primary quantity. See Example at end of this Table.
3. *** These points are only present in versions D-0179V01.03.03 and D-0179V01.03.04

Example: #1 W2 phase A demand current
Given:
W2 C.T. Ratio 240 : 1 (1200 A : 5 A) Communication point 8-24 returns 240
Secondary current 4.300 Amps Communication point 1-12 returns 4300
Primary current = C.T. ratio * W2 phase A current demand
1.032 = 240 * 4300 / 1000
1.032 kAmps = W2 phase A demand current

Table 5 – Miscellaneous / Maximums / Extra Setpoints (15 of 15)

SEQUENCE OF EVENTS RECORDER						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
5-00	1281	1U	–	–	0-512 / 1	SER Number of stored events
5-01	1282	1U	–	W	0-512 / 1	SER number of data block for download. Auto incremented by 1 every time a new block of data has been downloaded from points 5-02 to 5-129
5-02 to 5-129	1283 to 1410	1U	–	–	0-65535 / 1	SER Data block. Can be downloaded only as a block of N points (see point 5-131) starting from point 5-02. Block number is selected in point 5-01. SER must be inhibited before starting the download (point 6-04), otherwise the relay will report an error. Point 5-02 has a current block number being downloaded. The rest of the N-1 points consist of actual data. The structure of the data block is defined below.
5-130	1411	1U	–	W	0-1 / 1	SER clear events. Writing 1 to this point will clear all the events. Read back of this point will always return 0
5-131	1412	1U	–	–	0-65535 / 1	SER size of the block in points. Only block consisting of this number of points can be read from points 5-02 to 5-129
5-132	1413	1U	–	W	0-65535 / 1	SER Trigger on function status pickup word [0] See point 1-58 for bits definition
5-133	1414	1U	–	W	0-65535 / 1	SER Trigger on function status pickup word [1] See point 1-59 for bits definition
5-134	1415	1U	–	W	0-65535 / 1	SER Trigger on function status pickup word [2] See point 1-60 for bits definition
5-135	1416	1U	–	W	0-65535 / 1	SER Trigger on function status pickup word [3] See point 1-61 for bits definition
5-136	1417	1U	–	W	0-65535 / 1	SER Trigger on function status pickup word [4] See point 1-62 for bits definition
5-137	1418	1U	–	W	0-65535 / 1	SER Trigger on function status dropout word [0] See point 1-58 for bits definition
5-138	1419	1U	–	W	0-65535 / 1	SER Trigger on function status dropout word [1] See point 1-59 for bits definition
5-139	1420	1U	–	W	0-65535 / 1	SER Trigger on function status dropout word [2] See point 1-60 for bits definition
5-140	1421	1U	–	W	0-65535 / 1	SER Trigger on function status dropout word [3] See point 1-61 for bits definition
5-141	1422	1U	–	W	0-65535 / 1	SER Trigger on function status dropout word [4] See point 1-62 for bits definition

Table 6 – Sequence of Events Recorder (1 of 3)

SEQUENCE OF EVENTS RECORDER						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
5-142	1423	1U	–	W	0-65535 / 1	SER Trigger on function timeout word [0] See point 1-58 for bits definition
5-143	1424	1U	–	W	0-65535 / 1	SER Trigger on function timeout word [1] See point 1-59 for bits definition
5-144	1425	1U	–	W	0-65535 / 1	SER Trigger on function timeout word [2] See point 1-60 for bits definition
5-145	1426	1U	–	W	0-65535 / 1	SER Trigger on function timeout word [3] See point 1-61 for bits definition
5-146	1427	1U	–	W	0-65535 / 1	SER Trigger on function timeout word [4] See point 1-62 for bits definition
5-147	1428	1U	–	W	0-65535 / 1	SER Trigger On Output pickup 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
5-148	1429	1U	–	W	0-255 / 1	SER Trigger on output dropout See 5-147 for bits definition
5-149	1430	1U	–	W	0-63 / 1	SER Trigger on input pickup Bit 0 Input 1 Bit 1 Input 2 Bit 2 Input 3 Bit 3 Input 4 Bit 4 Input 5 Bit 5 Input 6 6-15 Not used (0)
5-150	1431	1U	–	W	0-63 / 1	SER Trigger on input dropout See 5-149 for bits definition
5-151	1432	1U	–	–	0-65535 / 1	SER Trigger on input pickup 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

Table 6 – Sequence of Events Recorder (2 of 3)

SEQUENCE OF EVENTS RECORDER						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
5-152	1433	1U	–	–	0-65535 / 1	SER Trigger on input dropout 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
5-153	1434	1U	–	W	0-65535 / 1	Through Fault preset total I2t LSB word [0] Write only. Read always returns 0 Use points 1-193 to 1-204 for read
5-154	1435	1U	–	W	0-65535 / 1	Through Fault preset total I2t word [1] Write only. Read always returns 0 Use points 1-193 to 1-204 for read
5-155	1436	1U	–	W	0-65535 / 1	Through Fault preset total word [2] Write only. Read always returns 0 Use points 1-193 to 1-204 for read
5-156	1437	1U	–	W	0-65535 / 1	Through Fault preset total I2t MSB word [3] Write only. Read always returns 0 Use points 1-193 to 1-204 for read
5-157	1438	–	–	W	0-1 / 1	Password Option 0 = Classic 1 = Extended
5-158	1439	–	–	–	–	Not Used
5-159	1440	–	–	–	–	Not Used
5-160	1441	1	–	W	0-65535 / 1	Last Selftest Error Code timestamp BCD format. High byte – month, Low byte – year Example: 0x0620 = date: 06/2020
5-161	1442	1	–	W	0-65535 / 1	Last Selftest Error Code – 1 timestamp BCD format. High byte – month, Low byte – year Example: 0x0620 = date: 06/2020
5-162	1443	1	–	W	0-65535 / 1	Last Selftest Error Code – 2 timestamp BCD format. High byte – month, Low byte – year Example: 0x0620 = date: 06/2020

Table 6 – Sequence of Events Recorder (3 of 3)

SEQUENCE OF EVENTS RECORDER						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
5-163	1444	1	–	W	0-65535 / 1	Last Selftest Error Code – 3 timestamp BCD format. High byte – month, Low byte – year Example: 0x0620 = date: 06/2020

OSCILLOGRAPH RECORDER						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
6-00	1537	1	–	W	1-24 / 1	Number of partitions *
6-01	1538	1	–	W	0-255 / 1	Trigger Inputs ** 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)
6-02	1539	1	–	W	0-65535 / 1	Trigger 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
6-03	1540	1	%	W	5-95 / 1	Post Trigger Delay *
6-04	1541	1	–	W	0-1 / 1	Recorder Trigger inhibit 0 = recorder active (running) 1 = recorder trigger inhibit when read: Bit 0 Inhibit by COM1 Bit 1 Inhibit by COM2 Bit 2 Inhibit by COM3 Bit 3-15 Not used (0) Note: Inhibiting Osc. recorder will also inhibit the SER recorder.
6-05	1542	1	–	W	0-2 / 1	Recorder status If read 0 = no records available 1 = at least 1 record available (follows OSC REC led) If write 0 = Do nothing 1 = Remotely trigger recorder 2 = Clear all records

■ **NOTE:** * / ** / *** / **** See Notes at end of Table 7.

Table 7 – Oscillograph Recorder (1 of 5)

OSCILLOGRAPH RECORDER						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
6-06	1543	1U	–	–	0-65535 / 1	Trigger Inputs 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
6-07	1544	1	–	W	0-2 / 1	Osc recorder windings config 0 = Store data of all the windings 1 = Store W1 and W2 2 = Store W1, W2 and W3
6-08	1545	1U	–	W***	0-65535 / 1	Download Record #1 block
6-09	1546	1U	–	W***	0-65535 / 1	Download Record #2 block
6-10	1547	1U	–	W***	0-65535 / 1	Download Record #3 block
6-11	1548	1U	–	W***	0-65535 / 1	Download Record #4 block
6-12	1549	1U	–	W***	0-65535 / 1	Download Record #5 block
6-13	1550	1U	–	W***	0-65535 / 1	Download Record #6 block
6-14	1551	1U	–	W***	0-65535 / 1	Download Record #7 block
6-15	1552	1U	–	W***	0-65535 / 1	Download Record #8 block
6-16	1553	1U	–	W***	0-65535 / 1	Download Record #9 block
6-17	1554	1U	–	W***	0-65535 / 1	Download Record #10 block
6-18	1555	1U	–	W***	0-65535 / 1	Download Record #11 block
6-19	1556	1U	–	W***	0-65535 / 1	Download Record #12 block
6-20	1557	1U	–	W***	0-65535 / 1	Download Record #13 block
6-21	1558	1U	–	W***	0-65535 / 1	Download Record #14 block
6-22	1559	1U	–	W***	0-65535 / 1	Download Record #15 block
6-23	1560	1U	–	W***	0-65535 / 1	Download Record #16 block
6-24	1561	1U	–	W***	0-65535 / 1	Download Record #17 block
6-25	1562	1U	–	W***	0-65535 / 1	Download Record #18 block
6-26	1563	1U	–	W***	0-65535 / 1	Download Record #19 block
6-27	1564	1U	–	W***	0-65535 / 1	Download Record #20 block
6-28	1565	1U	–	W***	0-65535 / 1	Download Record #21 block

■ **NOTE:** * / ** / *** / **** See Notes at end of Table 7.

Table 7 – Oscillograph Recorder (2 of 5)

OSCILLOGRAPH RECORDER						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
6-29	1566	1U	–	W***	0-65535 / 1	Download Record #22 block
6-30	1567	1U	–	W***	0-65535 / 1	Download Record #23 block
6-31	1568	1U	–	W***	0-65535 / 1	Download Record #24 block
6-32	1569	1	–	W	1-24 / 1	Record number for points 6-33 to 6-46. To read status and time stamp of record N, write N to this point and read points 6-33 to 6-46
6-33 to 6-42	1570 to 1579	–	–	–	–	Record #N date and time stamp Encoded as an ASCII string. DD-MMM-YYYY HH:MM:SS:TTT For example: 03-Mar-1990 12:15:03 6-29 = 12339 or 3033HEX or '0' '3' 6-30 = 11597 or 2d4dHEX or '-' 'M' 6-31 = 24946 or 6172HEX or 'a' 'r' 6-32 = 11569 or 2d31HEX or '-' '1' 6-33 = 14649 or 3939HEX or '9' '9' 6-34 = 12320 or 3020HEX or '0' ' ' 6-35 = 12594 or 3132HEX or '1' '2' 6-36 = 14896 or 3a30HEX or ':' '1' 6-37 = 13626 or 353aHEX or '5' ':' 6-38 = 12339 or 3033HEX or '0' '3' To select a record number, use point 6-32
6-43 to 6-45	1580 to 1582	****	–	–	–	Record #N extended time stamp Encoded as ASCII string. 10's 100's and 1000's. For example: 03-Mar-1990 12:15:03.468 6-39 = 11828 or 2E34HEX or '.' '4' 6-41 = 13880 or 3638HEX or '6' '8' To select a record number, use point 6-32

6-46	1583	1	–	–	–	Record #N status (latest)
						0 = untriggered
						(Cleared)
						1 = triggered, full record
						(Available for downloading)
						2 = triggered, incomplete record
						(Available for downloading)
						To select a record number, use point 6-32

6-47	1584	1U	–	W	0-65535 / 1	OSC Trigger on function status pickup word [0] See point 1-58 for bits definition
6-48	1585	1U	–	W	0-65535 / 1	OSC Trigger on function status pickup word [1] See point 1-59 for bits definition

■ **NOTE:** * / ** / *** / **** See Notes at end of Table 7.

Table 7 – Oscillograph Recorder (3 of 5)

OSCILLOGRAPH RECORDER						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
6-49	1586	1U	–	W	0-65535 / 1	OSC Trigger on function status pickup word [2] See point 1-60 for bits definition
6-50	1587	1U	–	W	0-65535 / 1	OSC Trigger on function status pickup word [3] See point 1-61 for bits definition
6-51	1588	1U	–	W	0-65535 / 1	OSC Trigger on function status pickup word [4] See point 1-62 for bits definition
6-52	1589	1U	–	W	0-65535 / 1	OSC Trigger on function timeout pickup word [0] See point 1-58 for bits definition
6-53	1590	1U	–	W	0-65535 / 1	OSC Trigger on function timeout pickup word [1] See point 1-59 for bits definition
6-54	1591	1U	–	W	0-65535 / 1	OSC Trigger on function timeout pickup word [2] See point 1-60 for bits definition
6-55	1592	1U	–	W	0-65535 / 1	OSC Trigger on function timeout pickup word [3] See point 1-61 for bits definition
6-56	1593	1U	–	W	0-65535 / 1	OSC Trigger on function timeout pickup word [4] See point 1-62 for bits definition
6-57 to 6-149	1594 to 1686	–	–	–	–	Not used
6-150	1687	–	–	–	–	MODBUS osc. data (must read fixed length block of 65 points)
6-215	1752	1	–	W	1-1 / 1	Through Clear all records 1 = clear all events
6-216	1753	1	–	–	0-255 / 1	Through Fault total number of stored records
6-217	1754	1	–	W	0-255 / 1	Through Fault current record number
6-218	1755	–	A2 cycle	–	–	Through Fault record #N Total I2t least significant word [0]
6-219	1756	–	A2 cycle	–	–	Through Fault record #N Total I2t next significant word [1]
6-220	1757	–	A2 cycle	–	–	Through Fault record #N Total I2t next significant word [2]
6-221	1758	–	A2 cycle	–	–	Through Fault record #N Total I2t most significant word [3]
6-222	1759	–	AMPS	–	–	Through Fault record #N Imax least significant word [0]
6-223	1760	–	AMPS	–	–	Through Fault record #N Imax most significant word [1]

■ **NOTE:** * / ** / *** / **** See Notes at end of Table 7.

Table 7 – Oscillograph Recorder (4 of 5)

OSCILLOGRAPH RECORDER						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
6-224	1761	–	¼ CYCLE	–	–	Through Fault record #N Duration low word
6-225	1762	–	¼ CYCLE	–	–	Through Fault record #N Duration high word
6-226	1763	–	–	–	0-7 / 1	Through Fault record #N Phase identification Bit 0 = phase A Bit 1 = phase B Bit 2 = phase C
6-227	1764	–	–	–	0-65535 / 1	Through Fault record #N Serial number
6-228 to 6-237	1765 to 1774	–	–	–	–	Through Fault record #N date and time stamp Encoded as an ASCII string. DD-MMM-YYYY HH:MM:SS:TTT For example: 03-Mar-1990 12:15:03 6-32 = 12339 or 3033HEX or '0' '3' 6-33 = 11597 or 2d4dHEX or '-' 'M' 6-34 = 24946 or 6172HEX or 'a' 'r' 6-35 = 11569 or 2d31HEX or '-' '1' 6-36 = 14649 or 3939HEX or '9' '9' 6-37 = 12320 or 3020HEX or '0' ' ' 6-38 = 12594 or 3132HEX or '1' '2' 6-39 = 14896 or 3a30HEX or ':' '1' 6-40 = 13626 or 353aHEX or '5' ':' 6-41 = 12339 or 3033HEX or '0' '3'
6-238 to 6-239	1775 to 1776	****	–	–	–	Through Fault record #N extended time stamp Encoded as ASCII string. 10's 100's and 1000's. For example: 03-Mar-1990 12:15:03.468 6-42 = 11828 or 2E34HEX or '.' '4' 6-43 = 13880 or 3638HEX or '6' '8'

■ **NOTE:** * / ** / *** / **** See Notes at end of Table 7.

Table 7 – Oscillograph Recorder (5 of 5)

TABLE 7 NOTES (OSCILLOGRAPH RECORDER)

■ NOTES:

1. * Changing the number of partitions automatically resets the post trigger delay setting to %5 and clears all previously stored records.
2. ** Trigger bits are OR'ed to create multiple trigger options. An incomplete record only occurs when the trigger appears before the buffer is full. This can happen if triggered immediately on power up or when partition is switched and the post trigger delay is set very small.
3. *** Downloading should not be attempted until record is checked for availability. A block request is sent by the master with a write formatted packet. This data point is the block number of the requested record. Depending on the protocol selected, use the following:

   BECO2200
   The slave will respond with a large packet (134 bytes) containing the address, bytecount, system/data error status and 130 bytes of data and the checksum. The first two data bytes being an echo of the block number the remaining 128 bytes the data block. The master must read the number of partitions data point (6-00) to determine how many blocks to request. Ex: If partitions is set to 1, there are 496 blocks (block 0 - block 495).

   MODBUS
   After the block request is written, perform a multipoint read of point 6-150 with a number of points equal to 65. This will return 130 bytes of block data (2 bytes block number, 128 bytes data). This is the only point that allows a multipoint read with number of points greater than 15.
4. Also, the oscillograph recorder MUST be inhibited from triggering before any block is requested (6-04). Be sure to un-inhibit triggering when downloading is completed or if downloading is aborted.

Partitions	Blocks	Record size	Partitions	Blocks	Record size
1	0-1535	196608	9	0-306	39296
2	0-1024	131200	10	0-277	35584
3	0-768	98432	11	0-254	32640
4	0-615	78848	12	0-235	30208
5	0-511	65536	13	0-218	28032
6	0-439	56320	14	0-205	26368
7	0-384	49280	15	0-192	24704
8	0-342	43904	16	0-179	23040

   It is up to the master to re-request bad packets and do all the error checking.
5. **** Extended time information will read XX:XX:XX.000 (i.e. zeros) if IRIG-B signal is invalid or not used.

Table 7 – Notes (Oscillograph Recorder)

SYSTEM SETUP						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
8-00	2049	1	–	W	0-1 / 1	Profile switching method 0 = Manual 1 = Input contacts
8-01	2050	1	–	W	0-3 / 1	Active profile 0 = profile 1 1 = profile 2 2 = profile 3 3 = profile 4 This point is only writeable when 8-00 above is set to Manual (0).
8-02	2051	1	–	W	1-4 / 1	Copy active profile to: 1 = profile 1 2 = profile 2 3 = profile 3 4 = profile 4 This command may take several seconds to complete. Read returns copy status: 0 = OK 1 = Busy
8-03	2052	1	VOLTS	W	60-140 / 1	Nominal voltage
8-04	2053	1	–	W	0-1 / 1	Transformer and CT connection custom mode enable 0 = custom mode disabled 1 = custom mode enabled
8-05	2054	1	–	W	0-5 / 1	V.T. Configuration 0 = VAB 1 = VBC 2 = VCA 3 = VA 4 = VB 5 = VC
8-06**	2055	1	–	W	0-5 / 1	CT connection type W1 0 = Y connection 1 = Delta AB connection 2 = Delta AC connection 3 = Y inverse connection 4 = Delta AB inverse connection 5 = Delta AC inverse connection
8-07**	2056	1	–	W	0-5 / 1	CT connection type W2 see 8-06
8-08**	2057	1	–	W	0-5 / 1	CT connection type W3 see 8-06

■ **NOTES:**

1. ** Setpoints are in use only if the Transformer and CT connection custom mode is disabled (setpoint 8-04)
2. *** Setpoints are in use only if the Transformer and CT connection custom mode is enabled (setpoint 8-04)

Table 8 – System Setup (1 of 5)

SYSTEM SETUP						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
8-09**	2058	1	–	W	0-5 / 1	CT connection type W4 see 8-06
8-10**	2059	1	–	W	0-5 / 1	PT connection type W1 see 8-06
8-11**	2060	1	–	W	0-5 / 1	PT connection type W2 see 8-06
8-12**	2061	1	–	W	0-5 / 1	PT connection type W3 see 8-06
8-13**	2062	1	–	W	0-5 / 1	PT connection type W4 see 8-06
8-14	2063	1	–	W	0-1 / 1	Phase Rotation 0 = ACB 1 = ABC
8-15	2064	1	–	–	–	C.T. Secondary rating 0 = 1 Amp 1 = 5 Amp
8-16	2065	1	–	–	–	Nominal Frequency 0 = 50 HZ 1 = 60 HZ
8-17	2066	1	–	W	0-4 / 1	Winding Disable 0 = All windings enabled 1 = W1 disabled 2 = W2 disabled 3 = W3 disabled 4 = W4 disabled
8-18	2067	1	–	W	0-1 / 1	Two Winding only option 0 = More than 2 windings are used 1 = Only W1 and W2 are used
8-19	2068	1U	–	W	0-255 / 1	Input status active state 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 6-7 Not used 0 = active closed 1 = active open

■ **NOTES:**

1. ** Setpoints are in use only if the Transformer and CT connection custom mode is disabled (setpoint 8-04)
2. *** Setpoints are in use only if the Transformer and CT connection custom mode is enabled (setpoint 8-04)

Table 8 – System Setup (2 of 5)

SYSTEM SETUP						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
8-20	2069	1U	–	W	0-65535 / 1	Input status active state 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 0 = active closed 1 = active open
8-21	2070	1	–	W	1-3 / 1	Demand Timing Method 1 = 15 Minutes 2 = 30 Minutes 3 = 60 Minutes
8-22	2071	10	–	W	10-65500 / 1	V.T. ratio
8-23	2072	1	–	W	1-65500 / 1	C.T. W1 Phase ratio
8-24	2073	1	–	W	1-65500 / 1	C.T. W2 Phase ratio
8-25	2074	1	–	W	1-65500 / 1	C.T. W3 Phase ratio
8-26	2075	1	–	W	1-65500 / 1	C.T. W4 Phase ratio
8-27	2076	1	–	W	1-65500 / 1	C.T. W2 Ground ratio
8-28	2077	1	–	W	1-65500 / 1	C.T. W3 Ground ratio
8-29	2078	1	–	W	1-65500 / 1	C.T. W4 Ground ratio
8-30	2079	10	–	W	10-65500 / 1	V.T. Ground ratio
8-31***	2080	1	–	W	0-11 / 1	Transformer phase comp. type W1 0 = 1∠0° 6 = 1∠180° 1 = 1∠30° 7 = 1∠210° 2 = 1∠60° 8 = 1∠240° 3 = 1∠90° 9 = 1∠270° 4 = 1∠120° 10 = 1∠300° 5 = 1∠150° 11 = 1∠330°
8-32***	2081	1	–	W	0-11 / 1	Transformer phase comp. type W2 See 8-31
8-33***	2082	1	–	W	0-11 / 1	Transformer phase comp. type W3 See 8-31
8-34***	2083	1	–	W	0-11 / 1	Transformer phase comp. type W4 See 8-31

■ **NOTES:**

1. ** Setpoints are in use only if the Transformer and CT connection custom mode is disabled (setpoint 8-04)
2. *** Setpoints are in use only if the Transformer and CT connection custom mode is enabled (setpoint 8-04)

Table 8 – System Setup (3 of 5)

SYSTEM SETUP						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
8-35***	2084	1	–	W	0-23 / 1	CT phase/magnitude comp. W1 0 = 1∠ 0° 12 = 1/√3∠ 0° 1 = 1∠30° 13 = 1/√3∠30° 2 = 1∠60° 14 = 1/√3∠60° 3 = 1∠90° 15 = 1/√3∠90° 4 = 1∠120° 16 = 1/√3∠120° 5 = 1∠150° 17 = 1/√3∠150° 6 = 1∠180° 18 = 1/√3∠180° 7 = 1∠210° 19 = 1/√3∠210° 8 = 1∠240° 20 = 1/√3∠240° 9 = 1∠270° 21 = 1/√3∠270° 10 = 1∠300° 22 = 1/√3∠300° 11 = 1∠330° 23 = 1/√3∠330°
8-36***	2085	1	–	W	0-23 / 1	CT phase/magnitude comp. W2 See 8-35
8-37***	2086	1	–	W	0-23 / 1	CT phase/magnitude comp. W3 See 8-35
8-38***	2087	1	–	W	0-23 / 1	CT phase/magnitude comp. W4 See 8-35
8-39***	2088	1	–	W	0-255 / 1	Zero Sequence Enable Bit 0 = W1 zero seq. Enable Bit 1 = W2 zero seq. Enable Bit 2 = W3 zero seq. Enable Bit 3 = W4 zero seq. Enable Bits 4-7 Not used
8-40	2089	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT1
8-41	2090	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT2
8-42	2091	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT3
8-43	2092	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT4
8-44	2093	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT5
8-45	2094	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT6
8-46	2095	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT7
8-47	2096	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT8
8-48	2097	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT9
8-49	2098	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT10
8-50	2099	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT11
8-51	2100	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT12

■ **NOTES:**

1. ** Setpoints are in use only if the Transformer and CT connection custom mode is disabled (setpoint 8-04)
2. *** Setpoints are in use only if the Transformer and CT connection custom mode is enabled (setpoint 8-04)

Table 8 – System Setup (4 of 5)

SYSTEM SETUP						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
8-52	2101	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT13
8-53	2102	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT14
8-54	2103	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT15
8-55	2104	1	CYCLES	W	2-8160 / 1	Sealin Delay OUT16
8-56	2105	1	–	W	0-65535 / 1	Latched 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 Note: All active bits will automatically disable same bits in pulsed outputs setpoint
8-57	2106	1	–	W	0-65535 / 1	Pulsed 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 Note: All active bits will automatically disable same bits in latched outputs setpoint
8-58	2107	1	–	W	0-255 / 1	Winding Summing Bit 0 W1 #1 Bit 1 W2 #1 Bit 2 W3 #1 Bit 3 W4 #1 Bit 4 W1 #2 Bit 5 W2 #2 Bit 6 W3 #2 Bit 7 W4 #2

■ **NOTES:**

1. ** Setpoints are in use only if the Transformer and CT connection custom mode is disabled (setpoint 8-04)
2. *** Setpoints are in use only if the Transformer and CT connection custom mode is enabled (setpoint 8-04)

Table 8 – System Setup (5 of 5)

TARGET INFORMATION						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
9-00	2305	1U	–	W	0-7 / 1	Target index
9-01	2306	1U	–	–	–	Target #1 Relay 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 If point reads 0 target is cleared.
9-02	2307	1U	–	–	–	Target #1 Input status 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)
9-03	2308	1U	–	–	–	Target #1 Input status 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
9-04	2309	1U	–	–	–	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_1 Bit 4 F46DT_W2 Bit 12 F50_2 Bit 5 F46IT_W2 Bit 13 F50_3 Bit 6 F46DT_W3 Bit 14 F50_4 Bit 7 F46IT_W3 Bit 15 F50_5
9-05	2310	1U	–	–	–	Function Status (picked up) Next significant word [1] Bit 0 F50_6 Bit 8 F50G_W2_2 Bit 1 F50_7 Bit 9 F50G_W3_1 Bit 2 F50_8 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_1 Bit 6 F50BF_W4 Bit 14 F50N_2 Bit 7 F50G_W2_1 Bit 15 F50N_3

Table 9 – Target Information (1 of 7)

TARGET INFORMATION						
BECO2200 TYPE POINT	**MODBUS REGISTER**	**SCALE FACTOR**	**UNITS**	**W/R/M**	**RANGE/ INCREMENT**	**DESCRIPTION**
9-06	2311	1U	–	–	–	Function Status (picked up) Next significant word [2] Bit 0 F50N_4 Bit 8 F51_4 Bit 1 F50N_5 Bit 9 F51G_W2 Bit 2 F50N_6 Bit 10 F51G_W3 Bit 3 F50N_7 Bit 11 F51G_W4 Bit 4 F50N_8 Bit 12 F51N_1 Bit 5 F51_1 Bit 13 F51N_2 Bit 6 F51_2 Bit 14 F51N_3 Bit 7 F51_3 Bit 15 F51N_4
9-07	2312	1U	–	–	–	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 TF Bit 7 F87T Bit 15 TCM1 Note: The three function status words represent which detectors are picked up (not necessarily timed out) at the time the target is tagged.
9-08	2313	1U	–	–	–	Function Status (picked up) Most significant word [4] Bit 0 IpsLogic #1 Bit 7 BM W2 Bit 1 IpsLogic #2 Bit 8 BM W3 Bit 2 IpsLogic #3 Bit 9 BM W4 Bit 3 IpsLogic #4 Bit 10 TCM2 Bit 4 IpsLogic #5 Bit 11 CCM1 Bit 5 IpsLogic #6 Bit 12 CCM2 Bit 6 BM W1 Bits 13-15 not used
9-09	2314	1U	–	–	–	Function Timer 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_1 Bit 4 F46DT_W2 Bit 12 F50_2 Bit 5 F46IT_W2 Bit 13 F50_3 Bit 6 F46DT_W3 Bit 14 F50_4 Bit 7 F46IT_W3 Bit 15 F50_5

Table 9 – Target Information (2 of 7)

TARGET INFORMATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
9-10	2315	1U	–	–	–	Function Timer Next significant word [1] Bit 0 F50_6 Bit 8 F50G_W2_2 Bit 1 F50_7 Bit 9 F50G_W3_1 Bit 2 F50_8 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
9-11	2316	1U	–	–	–	Function Timer Next significant word [2] Bit 0 F50N_4 Bit 8 F51_4 Bit 1 F50N_5 Bit 9 F51G_W2 Bit 2 F50N_6 Bit 10 F51G_W3 Bit 3 F50N_7 Bit 11 F51G_W4 Bit 4 F50N_8 Bit 12 F51N_1 Bit 5 F51_1 Bit 13 F51N_2 Bit 6 F51_2 Bit 14 F51N_3 Bit 7 F51_3 Bit 15 F51N_4
9-12	2317	1U	–	–	–	Function Timer 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 TF Bit 7 F87T Bit 15 TCM Note: The four function timer words represent which detectors timer are timed out at the time the target is tagged.
9-13	2318	1U	–	–	–	Function Timer (picked up) Most significant word [4] Bit 0 IpsLogic #1 Bit 7 BM W2 Bit 1 IpsLogic #2 Bit 8 BM W3 Bit 2 IpsLogic #3 Bit 9 BM W4 Bit 3 IpsLogic #4 Bit 10 TCM2 Bit 4 IpsLogic #5 Bit 11 CCM1 Bit 5 IpsLogic #6 Bit 12 CCM2 Bit 6 BM W1 Bits 13-15 not used
9-14	2319	1U	–	–	–	Target #1 Active Profile 0 = Profile 1 1 = Profile 2 2 = Profile 3 3 = Profile 4

Table 9 – Target Information (3 of 7)

TARGET INFORMATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
9-15	2320	1U	–	–	–	Target #1 50 #1, #2 W1 and W2 Phase Bit 0 W1 #1 Phase A Bit 1 W1 #1 Phase B Bit 2 W1 #1 Phase C Bit 3 W1 #2 Phase A Bit 4 W1 #2 Phase B Bit 5 W1 #2 Phase C Bit 6 Not used (0) Bit 7 Not used (0) Bit 8 W2 #1 Phase A Bit 9 W2 #1 Phase B Bit 10 W2 #1 Phase C Bit 11 W2 #2 Phase A Bit 12 W2 #2 Phase B Bit 13 W2 #2 Phase C Bit 14 Not used (0) Bit 15 Not used (0)
9-16	2321	1U	–	–	–	Target #1 50 #1, #2 W3 Phase Bit 0 W3 #1 Phase A Bit 1 W3 #1 Phase B Bit 2 W3 #1 Phase C Bit 3 W3 #2 Phase A Bit 4 W3 #2 Phase B Bit 5 W3 #2 Phase C Bit 6 Not used (0) Bit 7 Not used (0) Bit 8 W4 #1 Phase A Bit 9 W4 #1 Phase B Bit 10 W4 #1 Phase C Bit 11 W4 #2 Phase A Bit 12 W4 #2 Phase B Bit 13 W4 #2 Phase C Bit 14 Not used (0) Bit 15 Not used (0)

Table 9 – Target Information (4 of 7)

TARGET INFORMATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
9-17	2322	1U	–	–	–	Target #1 51 Phase status/timer W1 and W2 Bit 0 W1 Phase A timer Bit 1 W1 Phase B timer Bit 2 W1 Phase C timer Bit 3 W1 Phase A status Bit 4 W1 Phase B status Bit 5 W1 Phase C status Bit 6 Not used (0) Bit 7 Not used (0) Bit 8 W2 Phase A timer Bit 9 W2 Phase B timer Bit 10 W2 Phase C timer Bit 11 W2 Phase A status Bit 12 W2 Phase B status Bit 13 W2 Phase C status Bit 14 Not used (0) Bit 15 Not used (0)
9-18	2323	1U	–	–	–	Target #1 51 Phase status/timer W3 Bit 0 W3 Phase A timer Bit 1 W3 Phase B timer Bit 2 W3 Phase C timer Bit 3 W3 Phase A status Bit 4 W3 Phase B status Bit 5 W3 Phase C status Bit 6 Not used (0) Bit 7 Not used (0) Bit 8 W4 Phase A timer Bit 9 W4 Phase B timer Bit 10 W4 Phase C timer Bit 11 W4 Phase A status Bit 12 W4 Phase B status Bit 13 W4 Phase C status Bit 14 Not used (0) Bit 15 Not used (0)

Table 9 – Target Information (5 of 7)

TARGET INFORMATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
9-19	2324	1U	–	–	–	Target #1 87H and 87T Phase status/timer Bit 0 87H Phase A timer Bit 1 87H Phase B timer Bit 2 87H Phase C timer Bit 3 87T Phase A timer Bit 4 87T Phase B timer Bit 5 87T Phase C timer Bit 6 Not used (0) Bit 7 Not used (0) Bit 8 87H Phase A status Bit 9 87H Phase B status Bit 10 87H Phase C status Bit 11 87T Phase A status Bit 12 87T Phase B status Bit 13 87T Phase C status Bit 14 Not used (0) Bit 15 Not used (0)
9-20	2325	100	AMPS	–	–	Target #1 Phase A W1 current
9-21	2326	100	AMPS	–	–	Target #1 Phase B W1 current
9-22	2327	100	AMPS	–	–	Target #1 Phase C W1 current
9-23	2328	100	AMPS	–	–	Target #1 Phase A W2 current
9-24	2329	100	AMPS	–	–	Target #1 Phase B W2 current
9-25	2330	100	AMPS	–	–	Target #1 Phase C W2 current
9-26	2331	100	AMPS	–	–	Target #1 Phase G W2 current
9-27	2332	100	AMPS	–	–	Target #1 Phase A W3 current
9-28	2333	100	AMPS	–	–	Target #1 Phase B W3 current
9-29	2334	100	AMPS	–	–	Target #1 Phase C W3 current
9-30	2335	100	AMPS	–	–	Target #1 Phase G W3 current
9-31	2336	100	AMPS	–	–	Target #1 Phase A W4 current

Table 9 – Target Information (6 of 7)

TARGET INFORMATION						
BECO2200 TYPE POINT	MODBUS REGISTER	SCALE FACTOR	UNITS	W/R/M	RANGE/ INCREMENT	DESCRIPTION
9-32	2337	100	AMPS	–	–	Target #1 Phase B W4 current
9-33	2338	100	AMPS	–	–	Target #1 Phase C W4 current
9-34	2339	100	AMPS	–	–	Target #1 Phase G W4 current
9-35 to 9-46	2340 to 2351	–	–	–	–	Target #1 Target date and time stamp Encoded as an ASCII string. DD-MMM-YYYY HH:MM:SS.TTT For example: 03-Mar-1990 12:15:03.982 9-35 = 12339 or 3033HEX or '0' '3' 9-36 = 11597 or 2d4dHEX or '-' 'M' 9-37 = 24946 or 6172HEX or 'a' 'r' 9-38 = 11569 or 2d31HEX or '-' '1' 9-39 = 14649 or 3939HEX or '9' '9' 9-40 = 12320 or 3020HEX or '0' ' ' 9-41 = 12594 or 3132HEX or '1' '2' 9-42 = 14896 or 3a30HEX or ':' '1' 9-43 = 13626 or 353aHEX or '5' ':' 9-44 = 12339 or 3033HEX or '0' '3' 9-45 = 15929 or 2E39HEX or '.' '9' 9-46 = 14386 or 3832HEX or '8' '2'

Table 9 – Target Information (7 of 7)

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