INSTRUCTION MANUAL

FOR

BE1-11

Protection Systems

Distributed Network Protocol (DNP3)

Publication: 9424200773
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BE1-11*d*, IT-D, and RTD Module

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Preface

This instruction manual provides information about the BE1-11 Protection Systems with the Distributed Network Protocol (DNP3). To accomplish this, the following information is provided:

- General information
- Device profile document
- Implementation table
- DNP settings
- Point list

Conventions Used in this Manual

Important safety and procedural information is emphasized and presented in this manual through warning, caution, and note boxes. Each type is illustrated and defined as follows.

Warning!

Warning boxes call attention to conditions or actions that may cause personal injury or death.

Caution

Caution boxes call attention to operating conditions that may lead to equipment or property damage.

Note

Note boxes emphasize important information pertaining to installation or operation.

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Warning!

READ THIS MANUAL. Read this manual before installing, operating, or maintaining the BE1-11. Note all warnings, cautions, and notes in this manual as well as on the product. Keep this manual with the product for reference. Only qualified personnel should install, operate, or service this system. Failure to follow warning and cautionary labels may result in personal injury or property damage. Exercise caution at all times.

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It is not the intention of this manual to cover all details and variations in equipment, nor does this manual provide data for every possible contingency regarding installation or operation. The availability and design of all features and options are subject to modification without notice. Over time, improvements and revisions may be made to this publication. Before performing any of the following procedures, contact Basler Electric for the latest revision of this manual.

The English-language version of this manual serves as the only approved manual version.

Contents

General Information

This document describes the Basler Electric Distributed Network Protocol (DNP3) implementation in BE1-11 Protection Systems. BE1-11 Protection Systems are classified as intelligent electronic devices (IEDs) that are capable of reacting or responding to specific requests conforming to a level two slave device, as defined in the DNP3 Subset Definitions Document. This manual contains a list of DNP data objects accessible by a master station.

Caution

This product contains one or more *nonvolatile memory* devices. Nonvolatile memory is used to store information (such as settings) that needs to be preserved when the product is power-cycled or otherwise restarted. Established nonvolatile memory technologies have a physical limit on the number of times they can be erased and written. In this product, the limit is 100,000 erase/write cycles. During product application, consideration should be given to communications, logic, and other factors that may cause frequent/repeated writes of settings or other information that is retained by the product. Applications that result in such frequent/repeated writes may reduce the useable product life and result in loss of information and/or product inoperability.

Note

This implementation of DNP3 is fully compliant with DNP3 Subset Definition Level 2, contains many Subset Level 3 features, and contains some functionality even beyond Subset Level 3.

References

- BE1-11*f*, Feeder Protection System, Publication 9424200990
- BE1-11*g*, Generator Protection System, Publication 9424200994
- BE1-11*i*, Intertie Protection System, Publication 9424200993
- BE1-11*m*, Motor Protection System, Publication 9424200996
- BE1-11*t*, Transformer Protection System, Publication 9424200995
- BE1-11*d*, DC Power Protection System, Publication 9424200761
- DNP3 Basic 4 Document Set
- DNP Subset Definitions Document
- The DNP website (www.DNP.org)

Device Profile Document

Table 1 provides a device profile document in the standard format defined in the DNP3 subset definition document. The table, in combination with the implementation table provided in the *Implementation* chapter and the point list tables provided in the *Point List* chapter, provide a complete application configuration guide for including the BE1-11 Protection System protocol in any DNP environment.

Table 1. Device Profile Document

DEVICE PROFILE DOCUMENT	
Vendor Name: Basler Electric Company	
Device Name: BE1-11	
Highest DNP Level Supported: Level 2.	Device Function: ☐ Master ☒ **Slave**
Notable objects, functions, and/or qualifiers supported in addition to the highest DNP levels supported (the complete list is described in DNP3 Implementation Table): - For static (non-change-event) object requests, request qualifier codes 00 and 01 (start-stop), 07 and 08 limited quantity), and 17 and 28 (index) are supported in addition to request qualifier code 06 (no range – or all points). - Static object requests sent with qualifiers 00,01,06,07, and 08, will be responded to with qualifiers 00 or 01. - Static object requests sent with qualifiers 17 and 28 will be responded to with qualifiers 17 or 28. - Only Analog Inputs and Binary Inputs are included in Class 0. - The user can configure Class 0 by mapping Analog Input points and Binary Input points from default lists to active “User Mapped Lists” using BESTCOMS*Plus*®. - Dead band for each Analog Input point from “User Mapped List” is configurable via object 34, and class assignment for each reporting binary and analog input point via DNP assign class function. - Each Analog Input and Analog Output point has configurable scaling factor set through BESTCOMS*Plus*. - Enabling and disabling unsolicited responses on a Class-by-Class basis. - Device supports DNP over serial (485) port or via Ethernet. Device provides a setting to select the type of Internet Protocol connection to establish with a master datagram end point or a TCP listening end point. - Default variations for objects 1, 2, 30, 32, and 40 are programmable through BESTCOMS*Plus* or the devices front panel. - All DNP settings configured through BESTCOMS*Plus* or device front panel are saved in non-volatile memory. - Dead bands and assigned classes, changed via DNP, can be saved in non-volatile memory on user request via Analog Output Block object 43 (point named “DNP Save Assigned Class and Deadband”). - Binary Outputs fixed list is shown in the *Point List* chapter. - Analog Outputs fixed list is shown in the *Point List* chapter. - Maximum number of objects allowed in a single control request for Analog Outputs is variable depending on if a separate object header is used for each selected point or not. The size of SBO buffer is 600 bytes (maximum 35 Analog Outputs with separate object headers). - The device does not support putting the control outputs in a local state. - Binary Input change event buffer size is the number of Binary Inputs multiplied by 4. - Analog Input change event buffer size is the number of Analog Inputs. - This device does not support Collision Avoidance. - Select to Operate time delay is 30 seconds. - Maximum Time Base Drift over 1 minute is 1.2 ms at room temperature and 3 ms over the entire operating range. - Maximum delay measurement error is 50 ms. - Maximum internal time reference error when set from protocol is 250 ms. - Maximum response time is 150 ms. - IN1-4 is immediately asserted on startup.	

DEVICE PROFILE DOCUMENT

- For Unsolicited Responses, if the number of maximum retries has been reached, the outstation continues to transmit unsolicited responses with larger intervals (off-line intervals) indefinitely until confirmation is received from the master.

Maximum Data Link Frame Size (octets):
Transmitted 292
Received 292

Maximum Application Fragment Size (octets):
Transmitted configurable up to 4096
Received 1024

Maximum Data Link Re-tries:
☐ None
☒ **Fixed at 2 (only if frame sent with confirm requested)**
☐ Configurable

Maximum Application Layer Re-tries:
☐ None
☐ Fixed at
☒ **Configurable**

Requires Data Link Layer Confirmation:
☐ Never
☐ Always
☐ Sometimes
☒ **Configurable. Default is NEVER.**

Requires Application Layer Confirmation:
☐ Never
☐ Always (not recommended)
☒ **When reporting Event Data**
☒ **When sending multi-fragment responses**

Timeouts while waiting for:

Data Link Confirm	☐ None	☒ **Fixed at 3000 ms**	☐ Variable	☐ Configurable
Complete Appl. Fragment	☒ **None**	☐ Fixed at ___	☐ Variable	☐ Configurable
Application Confirm	☐ None	☐ Fixed at ____	☐ Variable	☒ **Configurable. 5000 ms default**
Complete Appl. Response	☒ **None**	☐ Fixed at ____	☐ Variable	☐ Configurable

Sends/Executes Control Operations:

WRITE Binary Outputs	☒ **Never**	☐ Always	☐ Sometimes	☐ Configurable
SELECT/OPERATE	☐ Never	☒ **Always**	☐ Sometimes	☐ Configurable
DIRECT OPERATE	☐ Never	☒ **Always**	☐ Sometimes	☐ Configurable
DIRECT OPERATE - NO ACK	☐ Never	☒ **Always**	☐ Sometimes	☐ Configurable
Count > 1	☒ **Never**	☐ Always	☐ Sometimes	☐ Configurable
Pulse On	☐ Never	☒ **Always**	☐ Sometimes	☐ Configurable
Pulse Off	☒ **Never**	☐ Always	☐ Sometimes	☐ Configurable
Latch On	☐ Never	☒ **Always**	☐ Sometimes	☐ Configurable
Latch Off	☐ Never	☒ **Always**	☐ Sometimes	☐ Configurable
Queue ☒ **Never**	☐ Always	☐ Sometimes		☐ Configurable
Clear Queue	☒ **Never**	☐ Always	☐ Sometimes	☐ Configurable

Reports Binary Input Change Events when no specific variation requested:
☐ Never

Reports time-tagged Binary Input Change Events when no specific variation requested:
☐ Never

DEVICE PROFILE DOCUMENT

☐ Only time-tagged ☐ Only non-time-tagged ☒ **Configurable to send time-tagged or non-time-tagged (default is time-tagged)**	☐ Binary Input Change With Time ☐ Binary Input Change With Relative Time ☒ **Configurable**
Sends Unsolicited Responses: ☐ Never ☒ **Configurable** ☐ Only certain objects ☐ Sometimes (attach explanation) ☒ **ENABLE/DISABLE UNSOLICITED Function codes supported**	Sends Static Data in Unsolicited Responses: ☒ **Never** ☐ When Device Restarts ☐ When Status Flags Change No other options are permitted.
Default Counter Object/Variation: ☒ **No Counters Reported** ☐ Configurable (attach explanation) ☐ Default Object Default Variation ☐ Point-by-point list attached	Counters Roll Over at: ☒ **No Counters Reported** ☐ Configurable (attach explanation) ☐ 16 Bits ☐ 32 Bits ☐ Other Value: ☐ Point- by-point list attached
Sends Multi-Fragment Responses: ☒ **Yes** ☐ No	

Implementation Table

Table 2 identifies which object variations, function codes, and qualifiers the BE1-11 DNP supports in both request messages and in response messages.

For static (non-change-event) objects, requests sent with qualifiers 00, 01, 06, 07, or 08 will be responded to with qualifiers 00 or 01. Static object requests sent with qualifiers 17 or 28 will be responded to with qualifiers 17 or 28.

For change-event objects, qualifiers 17 and 28 are always responded.

Table 2. BE1-11 DNP Implementation Table

OBJECT			REQUEST (BE1-11 will parse)		RESPONSE (BE1-11 will respond with)	
Obj.	**Var.**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (hex)**	**Qualifier Codes (hex)**
1	0	Binary Inputs – (Variation 0 is used to request default variation)	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)		
1	1 (default – see note 1)	Single-Bit Binary Input	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81 (response)	00,01 (start-stop) 17,28 (index)
1	2	Binary Input with Status	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81 (response)	00,01 (start-stop) 17,28 (index)
2	0	Binary Input Change (Variation 0 is used to request default variation)	1 (read)	06 (no range) 07,08 (limited qty)		
2	1	Binary Input Change without time	1 (read)	06 (no range) 07,08 (limited qty)	81 (response)	17,28 (index)
2	2 (default – see note 1)	Binary Input Change with time	1 (read)	06 (no range) 07,08 (limited qty)	81 (response)	17,28 (index)
10	0	Binary Output – (Variation 0 is used to request default variation)	1 (read)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)		
10	2 (default)	Binary Output Status	1 (read)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
12	1	Control Relay Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir op Noack)	00,01 (start-stop) 07,08 (limited qty) 17,28 (index)	81	echo of request
30	0	Analog Input (Variation 0 is used to request default variation)	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81 (response)	00,01 (start-stop) 17,28 (index)
30	1	32-Bit Analog Input With Flag	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)

OBJECT			REQUEST (BE1-11 will parse)		RESPONSE (BE1-11 will respond with)	
Obj.	**Var.**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (hex)**	**Qualifier Codes (hex)**
30	2	16-Bit Analog Input With Flag	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
30	3 (default – see notes 1, 2)	32-Bit Analog Input Without Flag	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
30	4	16-Bit Analog Input Without Flag	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
30	5	Short float analog input	1 (read) 22 (assign class)	00,01 (start- stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
32	0	Analog Change Event (Variation 0 is used to request default variation)				
32	1 (default – see notes 1, 2)	32-Bit Analog Input without time	1 (read)	06 (no range) 07,08 (limited qty)	81	17,28 (index)
32	2	16-Bit Analog Input without time	1 (read)	06 (no range) 07,08 (limited qty)	81	17,28 (index)
32	3	32-Bit Analog Input with time	1 (read)	06 (no range) 07,08 (limited qty)	81	17,28 (index)
32	4	16-Bit Analog Input with time	1 (read)	06 (no range) 07,08 (limited qty)	81	17,28 (index)
32	5	Short float analog change event without time	1 (read)	06 (no range) 07,08 (limited qty)	81	17,28 (index)
32	7	Short float analog change event with time	1 (read)	06 (no range) 07,08 (limited qty)	81	17,28 (index)
34	0	(Variation 0 is used to request default variation)	1 (read) 2 (write)			00,01 (start-stop) 17,28 (index)
34	1	16-Bit Analog Input Deadband	1 (read) 2 (write)	For read: 00,01,06,07,08,17, 28 For write: 00,01,07,08,17,28	81	00,01 (start-stop) 17,28 (index)
34	2 (default)	32-Bit Analog Input Deadband	1 (read)	For read: 00,01,06,07,08,17, 28 For write: 00,01,07,08,17,28	81	00,01 (start-stop) 17,28 (index)
40	0	Analog Output Status – (Variation 0 is used to request default variation)	1	00,01 (start-stop) 06 (no range) 07,08 (limited qty) 17,28 (index)		
40	1	32-bit Analog Output Status	1 (read)	00,01 (start-stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)

OBJECT			REQUEST (BE1-11 will parse)		RESPONSE (BE1-11 will respond with)	
Obj.	**Var.**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (hex)**	**Qualifier Codes (hex)**
40	2 (default)	16-bit Analog Output Status	1 (read)	00,01 (start-stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
40	3	Short float Analog Output Status	1 (read)	00,01 (start-stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
41	1	32-bit Analog Output Block	2 (select) 3 (operate) 4 (direct op) 6 (dir op noack)	00,01 (start-stop) 07,08 (limited qty) 17,28 (index)	81	echo of request
41	2	16-bit Analog Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir op noack)	00,01 (start-stop) 07,08 (limited qty) 17,28 (index)	81	echo of request
41	3	Short Float Analog Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir op noack)	00,01 (start-stop) 07,08 (limited qty) 17,28 (index)	81	echo of request
50	1	Time and Date	1 (read) 2 (write)	00,01 (start-stop) 06 (no range or all) 07 (limited qty=1) 08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
60	1	Class 0 Data (Note 4)	1 (read)	06 (no range or all)	81	
60	2	Class 1 Data	1 (read) 20 (enable unsol) 21 (disable unsol) 22 (assign class)	06 (no range or all) 07,08 (limited quantity)	81	
60	3	Class 2 Data	1 (read) 20 (enable unsol) 21 (disable unsol) 22 (assign class)	06 (no range or all) 07,08 (limited quantity)	81	
60	4	Class 3 Data	1 (read) 20 (enable unsol) 21 (disable unsol) 22 (assign class)	06 (no range or all) 07,08 (limited quantity)	81	
80	1	Internal Indications	2 (write)	00 (start-stop) (index=7)		
110		Octet String	1 (read)	00,01 (start-stop) 06 (no range) 07,08 (limited qty) 17,28 (index)	81	00,01 (start-stop) 17,28 (index)
		No Object(function code only) (See Note 3)	13 (cold restart)			
		No Object(function code only) (See Note 3)	14 (warm restart)			
		No Object (function code only)	23 (delay measurement)			

Notes for Table 2:

1. A default variation refers to the variation responded to when variation 0 is requested and/or in class 0, 1, 2, or 3 scans.
2. This is a default “default variation”. Objects 1, 2, 30, 32, and 40 have configurable default variation.
3. A cold restart is implemented as a warm restart – the DNP process is restarted, not BE1-11.
4. In Class 0 are included all binary input points from binary user map and analog inputs from analog user map.

DNP Settings

This chapter describes configuration settings that must be set to enable the BE1-11 to support DNP.

Selection of DNP Protocol

Selection of DNP protocol is predetermined by the BE1-11 style number. BE1-11 Protection Systems that support the DNP protocol must have a style number with the fifth character being the letter D (via RS-485) or the sixth character being the number 3/4 (via Ethernet). This can be verified by reading the BE1-11 style number using BESTCOMS*Plus*® or the front panel interface. Reference the BE1-11 instruction manual.

Since the BE1-11 has only one set of DNP data change buffers and connection information, only one DNP master can actively communicate with the BE1-11 at one time as set by the BE1-11 style number.

DNP settings are configurable through BESTCOMS*Plus* and the front panel. Certain settings can only be configured through BESTCOMS*Plus*, such as analog and binary input points mapping to user-mapped lists and scaling settings for analog inputs and analog output status points.

Deadbands for analog inputs and class assignments for events are configured only through DNP object 34 and DNP Assign function.

For more information about changing the BE1-11 parameters, refer to the appropriate BE1-11 instruction manual.

DNP Configuration through BESTCOMSPlus® and the Front Panel

DNP over Ethernet Settings

1. Type of End Point (TCP Listening or UDP Datagram)
2. Local Port Number
   - Default (20000) or
   - Other (from 20000-65535)
3. Client IP Address
   - any IP address (0.0.0.0) or
   - specific IP address (string x.y.z.w)

TCP Listening End Point Setting

1. TCP Keep Alive Time (TCP Connection Timeout) in ms
   - Range: 10000 to 86400000 ms (default value = 300000 ms (5 minutes))

UDP End Point Settings

1. Destination UDP port for initial unsolicited null response
   - Default value is 20000 with range: 1024 to 65535
2. Destination UDP port for other responses
   - Selection between:
   - Use source port number (value 0) and
   - Other port (range: 1024 to 65535)
3. Association timeout in ms
   - Range: 0 to 86400000 ms

Link Layer Settings

1. Data Link Address (Device DNP address)
   - Range: 0 to 65519 (default address = 1)
2. Data Link Layer Confirmation
   - Select between NEVER/SOMETIMES/ALWAYS (default is NEVER. DNP over Ethernet should always be NEVER.)

Application Layer Settings

1. Application response fragment size
   - Range: 240 to 4096 (default size = 2048)
2. Application confirmation timeout
   - Range: 1 to 2678400000 ms (default value = 5000 ms)

Time Synchronization Support Setting

Time synchronization is disabled by default (setting value = 0). Time synchronization should always be disabled for DNP over Ethernet. Range is from 0 to 2678400000 ms. DNP synch time will affect the device time based on Time Priority Setup. If not selected in Time Priority Setup settings list (DNP Priority = 0), DNP sync time will not be used to synchronize device time. Clock setup is configurable using BESTCOMS*Plus* and the front panel interface.

Unsolicited Response Support Settings

1. Unsolicited support DISABLED/ENABLED
   - The DNP Unsolicited Response Function should be “Disabled” for RS-485 applications since there is no collision avoidance mechanism.
2. Master Data Link Address (DNP Unsolicited Response Destination Address)
   - Range: 0 to 65519 (default address = 5)
3. Unsolicited Response Confirmation Timeout in ms
   - Range: 0 to 2678400000 ms. When setting = 0, the value is the same as setting for Application Confirmation Timeout.
4. Number of unsolicited retries
   - Range: 0 to 255 (default = 2)
5. Unsolicited off-line interval in ms
   - Range: 0 to 2678400000 ms (default = 10000 (10 seconds))
6. Unsolicited response trigger conditions
   - Number of Class 1 events (range from 1 to 100)
   - Number of Class 2 events (range from 1 to 100)
   - Number of Class 3 events (range from 1 to 100)

Objects Default Variations Settings

1. Default variation for Binary Input (Object 1)
   - Range: 1 or 2 (default = 1)
2. Default variation for Binary Input Change (Object 2)
   - Range: 1 or 2 (default = 2 (with time))
3. Default variation for Analog Input (Object 30)
   - Range: 1, 2, 3, 4, or 5 (default = 3 (32-bit without flag))
4. Default variation for Analog Input Change (Object 32)
   - Range: 1, 2, 3, 4, 5, or 7 (default = 1 (32-bit without time))

5. Analog Output Status (Object 40)
   - Range: 1, 2, or 3 (default = 2 (16-bit))

DNP Configuration through BESTCOMSPlus® Only

Mapping of Binary and Analog Input Points

BESTCOMS*Plus* supports mapping of selected analog input points and binary input points to user map lists. Only points from user map lists are included in Class 0, and generate events. User mapped listed are saved in non-volatile memory. By default, all points from binary input points, as listed in the *Point List* chapter are mapped to the binary point user map list. In addition, all points from analog input points, as listed in the *Point List* chapter are mapped to the analog user map.

In BESTCOMS*Plus*, navigate to the following:

- Settings Explorer > BE1-11 > Communications > DNP > DNP Analog Points Mapping and
- Settings Explorer > BE1-11 > Communications > DNP > DNP Binary Points Mapping

Scaling of (Default) Analog Input Points

When an analog point value exceeds the range of the currently active object variation, the reported value is a maximum amount for that variation and object variation that includes status has Over Range flag set.

The Over Range status can be avoided if the value is scaled with the appropriate scaling factor. Default value for any point is 1.000. Range is from 0.001 to maximum 1000000000.000.

BE1-11 Protection Systems have a scaling factor per each analog input point and analog output status point listed in the default tables in the *Point List* chapter for analog inputs and analog outputs.

In BESTCOMS*Plus*, navigate to the following:

- Settings Explorer > BE1-11 > Communications > DNP > DNP Analog Input Scaling and
- Settings Explorer > BE1-11 > Communications > DNP > DNP Analog Output Scaling

BE1-11 DNP over Serial Line

The settings for RS-485 can be set using BESTCOMS*Plus* or the front panel interface. The RS-485 port supports baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200 (default = 19200). Other RS-485 configurable settings are Stop Bits, Parity, and Data Size.

BE1-11 DNP via Ethernet

DNP can communicate through Ethernet if the IP address of the BE1-11 is configured as described in the *Communications* chapter of the BE1-11 instruction manuals.

Point List

Binary Input Points

Binary Input changes are scanned every quarter of a nominal cycle. Events are pending in the Slave application buffer until the Master device sends confirmation that response with pending events was received. Table 3 describes the default list of binary input points.

User can select Binary Input points from the default list in Table 3 and make active (mapped) list of points as desired. Only all Binary Input points from “Binary User Map” list are included in Class 0, and generate events. Only mapped points can be read through any “read” request. Mapping is only possible though BESTCOMS*Plus*®.

All DNP Binary input points that are Alarms must be mapped to Minor/Major/Logic alarm indications in BESTCOMS*Plus* for the Binary input Alarm point to be updated.

Class assignment for each active binary input point (point mapped to User Binary Map) is configurable via DNP assign class function.

Device Event buffer for Binary events is 4 times the total number of Binary inputs in default list.

Default variations for objects 1 and 2 are programmable through BESTCOMS*Plus* or the front panel of the BE1-11.

Assigned classes, changed via DNP, can be saved in non-volatile memory on user request, via Analog Output Block, object 41 (point named “DNP Save Assigned Class and Deadband”).

The application type, listed in the Application column, is defined below:

- D = DC Power Protection System
- F = Feeder Protection System
- G = Generator Protection System
- I = Intertie Protection System
- M = Motor Protection System
- T = Transformer Protection System

Table 3. Binary Input Points

Binary Input Points

Static Object Number: 1
Change Event Object Number: 2

Request Function Codes Supported: 1 (read), 22 (assign class)
Static Variation Reported When Variation 0 Requested: 1 (Binary Input Without Status), Configurable
Change Event Variation Reported When Variation 0 Requested: 2 (Binary Input Change With Time), Configurable

Point Index	Description	Class	Application
0	60FL Target	1	FGIMT
1	24 Block	1	FGIT
2	24 Pickup	1	FGIT
3	24 Trip	1	FGIT
4	24 Target	1	FGIT
5	24 Volts Per Hz	1	FGIT
6	25 Block	1	FGIT
7	25 Status	1	FGIT

Point Index	Description	Class	Application
8	25 VM1 Status	1	FGIT
9	27P-1 Block	1	FGIMT
10	27P-1 Pickup	1	FGIMT
11	27P-1 Trip	1	FGIMT
12	27P-1 A Target	1	FGIMT
13	27P-1 B Target	1	FGIMT
14	27P-1 C Target	1	FGIMT
15	27P-2 Block	1	FGIMT
16	27P-2 Pickup	1	FGIMT
17	27P-2 Trip	1	FGIMT
18	27P-2 A Target	1	FGIMT
19	27P-2 B Target	1	FGIMT
20	27P-2 C Target	1	FGIMT
21	27P-3 Block	1	FGIMT
22	27P-3 Pickup	1	FGIMT
23	27P-3 Trip	1	FGIMT
24	27P-3 A Target	1	FGIMT
25	27P-3 B Target	1	FGIMT
26	27P-3 C Target	1	FGIMT
27	27P-4 Block	1	FGIMT
28	27P-4 Pickup	1	FGIMT
29	27P-4 Trip	1	FGIMT
30	27P-4 A Target	1	FGIMT
31	27P-4 B Target	1	FGIMT
32	27P-4 C Target	1	FGIMT
33	27P-5 Block	1	FGIT
34	27P-5 Pickup	1	FGIT
35	27P-5 Trip	1	FGIT
36	27P-5 A Target	1	FGIT
37	27P-5 B Target	1	FGIT
38	27P-5 C Target	1	FGIT
39	27X-1 Block	1	FGIT
	27-1 Block	1	D
40	27X-1 Pickup	1	FGIT
	27-1 Pickup	1	D
41	27X-1 Trip	1	FGIT
	27-1 Trip	1	D
42	27X-1 3V0 Target	1	FGIT
43	27X-1 V2 Target	1	FGIT
44	27X-1 AUX Target	1	FGIT

Point Index	Description	Class	Application
45	27X-1 3RD Target	1	FGIT
46	27X-1 V1 Target	1	FGIT
47	27X-2 Block	1	FGIT
	27-2 Block	1	D
48	27X-2 Pickup	1	FGIT
	27-2 Pickup	1	D
49	27X-2 Trip	1	FGIT
	27-2 Trip	1	D
50	27X-2 3V0 Target	1	FGIT
51	27X-2 V2 Target	1	FGIT
52	27X-2 AUX Target	1	FGIT
53	27X-2 3RD Target	1	FGIT
54	27X-2 V1 Target	1	FGIT
55	27X-3 Block	1	FGIT
	27-3 Block	1	D
56	27X-3 Pickup	1	FGIT
	27-3 Pickup	1	D
57	27X-3 Trip	1	FGIT
	27-3 Trip	1	D
58	27X-3 3V0 Target	1	FGIT
59	27X-3 V2 Target	1	FGIT
60	27X-3 AUX Target	1	FGIT
61	27X-3 3RD Target	1	FGIT
62	27X-3 V1 Target	1	FGIT
63	27X-4 Block	1	FGIT
	27-4 Block	1	D
64	27X-4 Pickup	1	FGIT
	27-4 Pickup	1	D
65	27X-4 Trip	1	FGIT
	27-4 Trip	1	D
66	27X-4 3V0 Target	1	FGIT
67	27X-4 V2 Target	1	FGIT
68	27X-4 AUX Target	1	FGIT
69	27X-4 3RD Target	1	FGIT
70	27X-4 V1 Target	1	FGIT
71	59P-1 Block	1	FGIMT
72	59P-1 Pickup	1	FGIMT
73	59P-1 Trip	1	FGIMT
74	59P-1 A Target	1	FGIMT
75	59P-1 B Target	1	FGIMT

Point Index	Description	Class	Application
76	59P-1 C Target	1	FGIMT
77	59P-2 Block	1	FGIMT
78	59P-2 Pickup	1	FGIMT
79	59P-2 Trip	1	FGIMT
80	59P-2 A Target	1	FGIMT
81	59P-2 B Target	1	FGIMT
82	59P-2 C Target	1	FGIMT
83	59P-3 Block	1	FGIT
84	59P-3 Pickup	1	FGIT
85	59P-3 Trip	1	FGIT
86	59P-3 A Target	1	FGIT
87	59P-3 B Target	1	FGIT
88	59P-3 C Target	1	FGIT
89	59P-4 Block	1	FGIT
90	59P-4 Pickup	1	FGIT
91	59P-4 Trip	1	FGIT
92	59P-4 A Target	1	FGIT
93	59P-4 B Target	1	FGIT
94	59P-4 C Target	1	FGIT
95	59X-1 Block	1	FGIT
	59-1 Block	1	D
96	59X-1 Pickup	1	FGIMT
	59-1 Pickup	1	D
97	59X-1 Trip	1	FGIMT
	59-1 Trip	1	D
98	59X-1 3V0 Target	1	FGIMT
99	59X-1 V2 Target	1	FGIMT
100	59X-1 AUX Target	1	FGIMT
101	59X-1 3RD Target	1	FGIMT
102	59X-1 V1 Target	1	FGIMT
103	59X-2 Block	1	FGIMT
	59-2 Block	1	D
104	59X-2 Pickup	1	FGIMT
	59-2 Pickup	1	D
105	59X-2 Trip	1	FGIMT
	59-2 Trip	1	D
106	59X-2 3V0 Target	1	FGIMT
107	59X-2 V2 Target	1	FGIMT
108	59X-2 AUX Target	1	FGIMT
109	59X-2 3RD Target	1	FGIMT

Point Index	Description	Class	Application
110	59X-2 V1 Target	1	FGIMT
111	59X-3 Block	1	FGIT
	59-3 Block	1	D
112	59X-3 Pickup	1	FGIT
	59-3 Pickup	1	D
113	59X-3 Trip	1	FGIT
	59-3 Trip	1	D
114	59X-3 3V0 Target	1	FGIT
115	59X-3 V2 Target	1	FGIT
116	59X-3 AUX Target	1	FGIT
117	59X-3 3RD Target	1	FGIT
118	59X-3 V1 Target	1	FGIT
119	59X-4 Block	1	FGIT
	59-4 Block	1	D
120	59X-4 Pickup	1	FGIT
	59-4 Pickup	1	D
121	59X-4 Trip	1	FGIT
	59-4 Trip	1	D
122	59X-4 3V0 Target	1	FGIT
123	59X-4 V2 Target	1	FGIT
124	59X-4 AUX Target	1	FGIT
125	59X-4 3RD Target	1	FGIT
126	59X-4 V1 Target	1	FGIT
127	50-1 Block	1	FGIMT
128	50-1 Pickup	1	FGIMT
129	50-1 Trip	1	FGIMT
130	50-1 A Target	1	FGIMT
131	50-1 B Target	1	FGIMT
132	50-1 C Target	1	FGIMT
133	50-1 Negative Sequence Target	1	FGIMT
134	50-1 Residual Target	1	FGIMT
135	50-1 Independent Ground Target	1	FGIMT
136	50-1 67 A Target	1	FGIT
137	50-1 67 B Target	1	FGIT
138	50-1 67 C Target	1	FGIT
139	50-1 67 Negative Sequence Target	1	FGIT
140	50-1 67 Residual Target	1	FGIT
141	50-1 67 Independent Ground Target	1	FGIT
142	50-2 Block	1	FGIMT
143	50-2 Pickup	1	FGIMT

Point Index	Description	Class	Application
144	50-2 Trip	1	FGIMT
145	50-2 A Target	1	FGIMT
146	50-2 B Target	1	FGIMT
147	50-2 C Target	1	FGIMT
148	50-2 Negative Sequence Target	1	FGIMT
149	50-2 Residual Target	1	FGIMT
150	50-2 Independent Ground Target	1	FGIMT
151	50-2 67 A Target	1	FGIT
152	50-2 67 B Target	1	FGIT
153	50-2 67 C Target	1	FGIT
154	50-2 67 Negative Sequence Target	1	FGIT
155	50-2 67 Residual Target	1	FGIT
156	50-2 67 Independent Ground Target	1	FGIT
157	50-3 Block	1	FGIMT
158	50-3 Pickup	1	FGIMT
159	50-3 Trip	1	FGIMT
160	50-3 A Target	1	FGIMT
161	50-3 B Target	1	FGIMT
162	50-3 C Target	1	FGIMT
163	50-3 Negative Sequence Target	1	FGIMT
164	50-3 Residual Target	1	FGIMT
165	50-3 Independent Ground Target	1	FGIMT
166	50-3 67 A Target	1	FGIT
167	50-3 67 B Target	1	FGIT
168	50-3 67 C Target	1	FGIT
169	50-3 67 Negative Sequence Target	1	FGIT
170	50-3 67 Residual Target	1	FGIT
171	50-3 67 Independent Ground Target	1	FGIT
172	50-4 Block	1	FGIMT
173	50-4 Pickup	1	FGIMT
174	50-4 Trip	1	FGIMT
175	50-4 A Target	1	FGIMT
176	50-4 B Target	1	FGIMT
177	50-4 C Target	1	FGIMT
178	50-4 Negative Sequence Target	1	FGIMT
179	50-4 Residual Target	1	FGIMT
180	50-4 Independent Ground Target	1	FGIMT
181	50-4 67 A Target	1	FGIT
182	50-4 67 B Target	1	FGIT
183	50-4 67 C Target	1	FGIT

Point Index	Description	Class	Application
184	50-4 67 Negative Sequence Target	1	FGIT
185	50-4 67 Residual Target	1	FGIT
186	50-4 67 Independent Ground Target	1	FGIT
187	50-5 Block	1	FGIMT
188	50-5 Pickup	1	FGIMT
189	50-5 Trip	1	FGIMT
190	50-5 A Target	1	FGIMT
191	50-5 B Target	1	FGIMT
192	50-5 C Target	1	FGIMT
193	50-5 Negative Sequence Target	1	FGIMT
194	50-5 Residual Target	1	FGIMT
195	50-5 Independent Ground Target	1	FGIMT
196	50-5 67 A Target	1	FGIT
197	50-5 67 B Target	1	FGIT
198	50-5 67 C Target	1	FGIT
199	50-5 67 Negative Sequence Target	1	FGIT
200	50-5 67 Residual Target	1	FGIT
201	50-5 67 Independent Ground Target	1	FGIT
202	50-6 Block	1	FGIMT
203	50-6 Pickup	1	FGIMT
204	50-6 Trip	1	FGIMT
205	50-6 A Target	1	FGIMT
206	50-6 B Target	1	FGIMT
207	50-6 C Target	1	FGIMT
208	50-6 Negative Sequence Target	1	FGIMT
209	50-6 Residual Target	1	FGIMT
210	50-6 Independent Ground Target	1	FGIMT
211	50-6 67 A Target	1	FGIT
212	50-6 67 B Target	1	FGIT
213	50-6 67 C Target	1	FGIT
214	50-6 67 Negative Sequence Target	1	FGIT
215	50-6 67 Residual Target	1	FGIT
216	50-6 67 Independent Ground Target	1	FGIT
217	51-1 Block	1	FGITM
218	51-1 Pickup	1	FGITM
219	51-1 Trip	1	FGITM
220	51-1 A Target	1	FGITM
221	51-1 B Target	1	FGITM
222	51-1 C Target	1	FGITM
223	51-1 Negative Sequence Target	1	FGITM

Point Index	Description	Class	Application
224	51-1 Residual Target	1	FGITM
225	51-1 Independent Ground Target	1	FGITM
226	51-1 67 A Target	1	FGIT
227	51-1 67 B Target	1	FGIT
228	51-1 67 C Target	1	FGIT
229	51-1 67 Negative Sequence Target	1	FGIT
230	51-1 67 Residual Target	1	FGIT
231	51-1 67 Independent Ground Target	1	FGIT
232	51-2 Block	1	FGITM
233	51-2 Pickup	1	FGITM
234	51-2 Trip	1	FGITM
235	51-2 A Target	1	FGITM
236	51-2 B Target	1	FGITM
237	51-2 C Target	1	FGITM
238	51-2 Negative Sequence Target	1	FGITM
239	51-2 Residual Target	1	FGITM
240	51-2 Independent Ground Target	1	FGITM
241	51-2 67 A Target	1	FGIT
242	51-2 67 B Target	1	FGIT
243	51-2 67 C Target	1	FGIT
244	51-2 67 Negative Sequence Target	1	FGIT
245	51-2 67 Residual Target	1	FGIT
246	51-2 67 Independent Ground Target	1	FGIT
247	51-3 Block	1	FGITM
248	51-3 Pickup	1	FGITM
249	51-3 Trip	1	FGITM
250	51-3 A Target	1	FGITM
251	51-3 B Target	1	FGITM
252	51-3 C Target	1	FGITM
253	51-3 Negative Sequence Target	1	FGITM
254	51-3 Residual Target	1	FGITM
255	51-3 Independent Ground Target	1	FGITM
256	51-3 67 A Target	1	FGIT
257	51-3 67 B Target	1	FGIT
258	51-3 67 C Target	1	FGIT
259	51-3 67 Negative Sequence Target	1	FGIT
260	51-3 67 Residual Target	1	FGIT
261	51-3 67 Independent Ground Target	1	FGIT
262	51-4 Block	1	FGITM
263	51-4 Pickup	1	FGITM

Point Index	Description	Class	Application
264	51-4 Trip	1	FGITM
265	51-4 A Target	1	FGITM
266	51-4 B Target	1	FGITM
267	51-4 C Target	1	FGITM
268	51-4 Negative Sequence Target	1	FGITM
269	51-4 Residual Target	1	FGITM
270	51-4 Independent Ground Target	1	FGITM
271	51-4 67 A Target	1	FGIT
272	51-4 67 B Target	1	FGIT
273	51-4 67 C Target	1	FGIT
274	51-4 67 Negative Sequence Target	1	FGIT
275	51-4 67 Residual Target	1	FGIT
276	51-4 67 Independent Ground Target	1	FGIT
277	51-5 Block	1	FGITM
278	51-5 Pickup	1	FGITM
279	51-5 Trip	1	FGITM
280	51-5 A Target	1	FGITM
281	51-5 B Target	1	FGITM
282	51-5 C Target	1	FGITM
283	51-5 Negative Sequence Target	1	FGITM
284	51-5 Residual Target	1	FGITM
285	51-5 Independent Ground Target	1	FGITM
286	51-5 67 A Target	1	FGIT
287	51-5 67 B Target	1	FGIT
288	51-5 67 C Target	1	FGIT
289	51-5 67 Negative Sequence Target	1	FGIT
290	51-5 67 Residual Target	1	FGIT
291	51-5 67 Independent Ground Target	1	FGIT
292	51-6 Block	1	FGIT
293	51-6 Pickup	1	FGIT
294	51-6 Trip	1	FGIT
295	51-6 A Target	1	FGIT
296	51-6 B Target	1	FGIT
297	51-6 C Target	1	FGIT
298	51-6 Negative Sequence Target	1	FGIT
299	51-6 Residual Target	1	FGIT
300	51-6 Independent Ground Target	1	FGIT
301	51-6 67 A Target	1	FGIT
302	51-6 67 B Target	1	FGIT
303	51-6 67 C Target	1	FGIT

Point Index	Description	Class	Application
304	51-6 67 Negative Sequence SEQ Target	1	FGIT
305	51-6 67 Residual Target	1	FGIT
306	51-6 67 Independent Ground Target	1	FGIT
307	51-7 Block	1	FGIT
308	51-7 Pickup	1	FGIT
309	51-7 Trip	1	FGIT
310	51-7 A Target	1	FGIT
311	51-7 B Target	1	FGIT
312	51-7 C Target	1	FGIT
313	51-7 Negative Sequence Target	1	FGIT
314	51-7 Residual Target	1	FGIT
315	51-7 Independent Ground Target	1	FGIT
316	51-7 67 A Target	1	FGIT
317	51-7 67 B Target	1	FGIT
318	51-7 67 C Target	1	FGIT
319	51-7 67 Negative Sequence Target	1	FGIT
320	51-7 67 Residua Target	1	FGIT
321	51-7 67 Independent Ground Target	1	FGIT
322	32-1 Block	1	DFGIM
323	32-1 Pickup	1	DFGIM
324	32-1 Trip	1	DFGIM
325	32-1 A Over Target	1	FGIM
326	32-1 B Over Target	1	FGIM
327	32-1 C Over Target	1	FGIM
328	32-1 T Over Target	1	FGIM
329	32-1 A Under Target	1	FGIM
330	32-1 B Under Target	1	FGIM
331	32-1 C Under Target	1	FGIM
332	32-1 T Under Target	1	FGIM
333	32-2 Block	1	DFGI
334	32-2 Pickup	1	DFGI
335	32-2 Trip	1	DFGI
336	32-2 A Over Target	1	FGI
337	32-2 B Over Target	1	FGI
338	32-2 C Over Target	1	FGI
339	32-2 T Over Target	1	FGI
340	32-2 A Under Target	1	FGI
341	32-2 B Under Target	1	FGI
342	32-2 C Under Target	1	FGI
343	32-2 T Under Target	1	FGI

Point Index	Description	Class	Application
344	40Z Block	1	G
345	40Z Pickup	1	G
346	40Z Trip	1	G
347	40Z VC Pickup	1	G
348	40Z VC Trip	1	G
349	40Z Z1 Pickup	1	G
350	40Z Z1 Trip	1	G
351	40Z Z1 Target	1	G
352	40Z Z1 VC Pickup	1	G
353	40Z Z1 VC Trip	1	G
354	40Z Z1 VC Target	1	G
355	40Z Z2 Pickup	1	G
356	40Z Z2 Trip	1	G
357	40Z Z2 Target	1	G
358	40Z Z2 VC Pickup	1	G
359	40Z Z2 VC Trip	1	G
360	40Z Z2 VC Target	1	G
361	40Q Block	1	GM
362	40Q Pickup	1	GM
363	40Q Trip	1	GM
364	40Q Target	1	GM
365	81-1 Block	1	FGIMT
366	81-1 Pickup	1	FGIMT
367	81-1 Trip	1	FGIMT
368	81-1 Over Target	1	FGIMT
369	81-1 Under Target	1	FGIMT
370	81-1 Rate of Change Target	1	FGIMT
371	81-2 Block	1	FGIMT
372	81-2 Pickup	1	FGIMT
373	81-2 Trip	1	FGIMT
374	81-2 Over Target	1	FGIMT
375	81-2 Under Target	1	FGIMT
376	81-2 Rate of Change Target	1	FGIMT
377	81-3 Block	1	FGIMT
378	81-3 Pickup	1	FGIMT
379	81-3 Trip	1	FGIMT
380	81-3 Over Target	1	FGIMT
381	81-3 Under Target	1	FGIMT
382	81-3 Rate of Change Target	1	FGIMT
383	81-4 Block	1	FGIMT

Point Index	Description	Class	Application
384	81-4 Pickup	1	FGIMT
385	81-4 Trip	1	FGIMT
386	81-4 Over Target	1	FGIMT
387	81-4 Under Target	1	FGIMT
388	81-4 Rate of Change Target	1	FGIMT
389	81-5 Block	1	FGIT
390	81-5 Pickup	1	FGIT
391	81-5 Trip	1	FGIT
392	81-5 Over Target	1	FGIT
393	81-5 Under Target	1	FGIT
394	81-5 Rate of Change Target	1	FGIT
395	81-6 Block	1	FGIT
396	81-6 Pickup	1	FGIT
397	81-6 Trip	1	FGIT
398	81-6 Over Target	1	FGIT
399	81-6 Under Target	1	FGIT
400	81-6 Rate of Change Target	1	FGIT
401	81-7 Block	1	FGIT
402	81-7 Pickup	1	FGIT
403	81-7 Trip	1	FGIT
404	81-7 Over Target	1	FGIT
405	81-7 Under Target	1	FGIT
406	81-7 Rate of Change Target	1	FGIT
407	81-8 Block	1	FGIT
408	81-8 Pickup	1	FGIT
409	81-8 Trip	1	FGIT
410	81-8 Over Target	1	FGIT
411	81-8 Under Target	1	FGIT
412	81-8 Rate of Change Target	1	FGIT
413	43-1 Pulse	1	DFGIMT
414	43-1 Reset	1	DFGIMT
415	43-1 Set	1	DFGIMT
416	43-1 Output	1	DFGIMT
417	Reserved		
418	43-1 Blocking Tag	1	DFGIMT
419	43-1 Informational Tag	1	DFGIMT
420	43-1 Blocking Untag	1	DFGIMT
421	43-1 Informational Untag	1	DFGIMT
422	43-1 Blocking Tag Status	1	DFGIMT
423	43-1 Informational Tag Status	1	DFGIMT

Point Index	Description	Class	Application
424	43-2 Pulse	1	DFGIMT
425	43-2 Reset	1	DFGIMT
426	43-2 Set	1	DFGIMT
427	43-2 Output	1	DFGIMT
428	Reserved		
429	43-2 Blocking Tag	1	DFGIMT
430	43-2 Informational Tag	1	DFGIMT
431	43-2 Blocking Untag	1	DFGIMT
432	43-2 Informational Untag	1	DFGIMT
433	43-2 Blocking Tag Status	1	DFGIMT
434	43-2 Informational Tag Status	1	DFGIMT
435	43-3 Pulse	1	DFGIMT
436	43-3 Reset	1	DFGIMT
437	43-3 Set	1	DFGIMT
438	43-3 Output	1	DFGIMT
439	Reserved		
440	43-3 Blocking Tag	1	DFGIMT
441	43-3 Informational Tag	1	DFGIMT
442	43-3 Blocking Untag	1	DFGIMT
443	43-3 Informational Untag	1	DFGIMT
444	43-3 Blocking Tag Status	1	DFGIMT
445	43-3 Informational Tag Status	1	DFGIMT
446	43-4 Pulse	1	DFGIMT
447	43-4 Reset	1	DFGIMT
448	43-4 Set	1	DFGIMT
449	43-4 Output	1	DFGIMT
450	Reserved		
451	43-4 Blocking Tag	1	DFGIMT
452	43-4 Informational Tag	1	DFGIMT
453	43-4 Blocking Untag	1	DFGIMT
454	43-4 Informational Untag	1	DFGIMT
455	43-4 Blocking Tag Status	1	DFGIMT
456	43-4 Informational Tag Status	1	DFGIMT
457	43-5 Pulse	1	DFGIMT
458	43-5 Reset	1	DFGIMT
459	43-5 Set	1	DFGIMT
460	43-5 Output	1	DFGIMT
461	Reserved		
462	43-5 Blocking Tag	1	DFGIMT
463	43-5 Informational Tag	1	DFGIMT

Point Index	Description	Class	Application
464	43-5 Blocking Untag	1	DFGIMT
465	43-5 Informational Untag	1	DFGIMT
466	43-5 Blocking Tag Status	1	DFGIMT
467	43-5 Informational Tag Status	1	DFGIMT
468	86-1 Reset	1	DFGIMT
469	86-1 Set	1	DFGIMT
470	86-1 Output	1	DFGIMT
471	86-2 Reset	1	DFGIMT
472	86-2 Set	1	DFGIMT
473	86-2 Output	1	DFGIMT
474	101 Trip	1	DFGIMT
475	101 Close	1	DFGIMT
476	101 Trip Out	1	DFGIMT
477	101 Close Out	1	DFGIMT
478	101 TSC Out	1	DFGIMT
479	101 CSC Out	1	DFGIMT
480	Reserved		
481	101 Blocking Tag	1	DFGIMT
482	101 Informational Tag	1	DFGIMT
483	101 Blocking Untag	1	DFGIMT
484	101 Informational Untag	1	DFGIMT
485	101 Blocking Tag Status	1	DFGIMT
486	101 Informational Tag Status	1	DFGIMT
487	62-1 Block	1	DFGIMT
488	62-1 Initiate	1	DFGIMT
489	62-1 Target	1	DFGIMT
490	62-2 Block	1	DFGIMT
491	62-2 Initiate	1	DFGIMT
492	62-2 Target	1	DFGIMT
493	62-3 Block	1	DFGIMT
494	62-3 Initiate	1	DFGIMT
495	62-3 Target	1	DFGIMT
496	62-4 Block	1	DFGIMT
497	62-4 Initiate	1	DFGIMT
498	62-4 Target	1	DFGIMT
499	62-5 Block	1	DFGIMT
500	62-5 Initiate	1	DFGIMT
501	62-5 Target	1	DFGIMT
502	62-6 Block	1	DFGIMT
503	62-6 Initiate	1	DFGIMT

Point Index	Description	Class	Application
504	62-6 Target	1	DFGIMT
505	62-7 Block	1	DFGIMT
506	62-7 Initiate	1	DFGIMT
507	62-7 Target	1	DFGIMT
508	62-8 Block	1	DFGIMT
509	62-8 Initiate	1	DFGIMT
510	62-8 Target	1	DFGIMT
511	79 Reclose Fail	1	FIT
512	79 Close	1	FIT
513	79 Recloser Running	1	FIT
514	79 Recloser Reset	1	FIT
515	79 Recloser Lockout	1	FIT
516	79 Recloser SCB	1	FIT
517	79 Shot 1	1	FIT
518	79 Shot 2	1	FIT
519	79 Shot 3	1	FIT
520	79 Shot 4	1	FIT
521	79 Reclose Initiate	1	FIT
522	79 Wait	1	FIT
523	79 Drive to Lockout (DTL)	1	FIT
524	79 Zone Pickup	1	FIT
525	79 Zone Trip	1	FIT
526	50BF Block	1	FGIMT
527	50BF BFI52	1	FGIMT
528	50BF BFI50	1	FGIMT
529	50BF BFRT	1	FGIMT
530	50BF BFT	1	FGIMT
531	50BF Target	1	FGIMT
532	50BF Breaker Fail	1	FGIMT
533	50BF Current Detected	1	FGIMT
534	Reserved		
535	52 Trip Coil Monitor Alarm	1	FGIMT
536	Breaker Monitor Block	1	FGIMT
537	Demand Meter IG Alarm	1	FGIMT
538	Demand Meter IN Alarm	1	FGIMT
539	Demand Meter IP Alarm	1	FGIMT
540	Demand Meter IQ Alarm	1	FGIMT
541	Demand Meter var Positive Alarm	1	FGIMT
542	Demand Meter var Negative Alarm	1	FGIMT
543	Demand Meter Watt Forward Alarm	1	FGIMT

Point Index	Description	Class	Application
544	Demand Meter Watt Reverse Alarm	1	FGIMT
545	Demand Meter S Alarm	1	FGIMT
546	Local Contacts Input 1 State	1	DFGIMT
547	Local Contacts Input 2 State	1	DFGIMT
548	Local Contacts Input 3 State	1	DFGIMT
549	Local Contacts Input 4 State	1	DFGIMT
550	Local Contacts Contact 52 TCM Alarm	1	FGIMT
551	Local Contacts Output 1 State	1	DFGIMT
552	Local Contacts Output 2 State	1	DFGIMT
553	Local Contacts Output 3 State	1	DFGIMT
554	Local Contacts Output 4 State	1	DFGIMT
555	Local Contacts Output 5 State	1	DFGIMT
556	Local Contacts Alarm Out State	1	DFGIMT
557	Local Contacts Output 1 Override Enable	1	DFGIMT
558	Local Contacts Output 2 Override Enable	1	DFGIMT
559	Local Contacts Output 3 Override Enable	1	DFGIMT
560	Local Contacts Output 4 Override Enable	1	DFGIMT
561	Local Contacts Output 5 Override Enable	1	DFGIMT
562	Local Contacts Alarm Output Override Enable	1	DFGIMT
563	System Data - Power Up	1	DFGIMT
564	System Data - Forced Trigger	1	DFGIMT
565	System Data - Pickup Logic	1	DFGIMT
566	System Data - Trip Logic	1	DFGIMT
567	System Data - Logic Trigger	1	DFGIMT
568	System Data - Breaker Status	1	DFGIMT
569	Flash Error Alarm	1	DFGIMT
570	Microprocessor Reset Alarm	1	DFGIMT
571	Calibration Error Alarm	1	DFGIMT
572	Calibration Defaults Loaded Alarm	1	DFGIMT
573	Defaults Loaded Alarm	1	DFGIMT
574	Microprocessor Overload Alarm	1	DFGIMT
575	Power Supply Alarm	1	DFGIMT
576	Changes Lost Alarm	1	DFGIMT
577	Real Time Clock Alarm	1	DFGIMT
578	Date/Time Set Alarm	1	DFGIMT
579	Firmware Change Alarm	1	DFGIMT
580	Frequency Out of Range Alarm	1	FGIMT
581	Ethernet Link Lost Alarm	1	DFGIMT
582	USB Communication Alarm	1	DFGIMT
583	IRIG Sync Lost Alarm	1	DFGIMT

Point Index	Description	Class	Application
584	Logic Equal None Alarm	1	DFGIMT
585	No User Setting Alarm	1	DFGIMT
586	NTP Sync Lost Alarm	1	DFGIMT
587	DNP Polls Error Alarm	1	DFGIMT
588	Setting Change Alarm	1	DFGIMT
589	Output Override Alarm	1	DFGIMT
590	Analog Alarm	1	DFGIMT
591	Microprocessor Reset Alarm	1	DFGIMT
592	Breaker Monitor 1 Alarm	1	DFGIMT
593	Breaker Monitor 2 Alarm	1	DFGIMT
594	Breaker Monitor 3 Alarm	1	DFGIMT
595	Fault Report Timeout Alarm	1	DFGIMT
596	Programmable Alarm 1	1	DFGIMT
597	Programmable Alarm 2	1	DFGIMT
598	Programmable Alarm 3	1	DFGIMT
599	Programmable Alarm 4	1	DFGIMT
600	Programmable Alarm 5	1	DFGIMT
601	Programmable Alarm 6	1	DFGIMT
602	Programmable Alarm 7	1	DFGIMT
603	Programmable Alarm 8	1	DFGIMT
604	Major Alarm	1	DFGIMT
605	Minor Alarm	1	DFGIMT
606	Target Alarm	1	DFGIMT
607	Relay Alarm	1	DFGIMT
608	Settings Group SGC Active	1	DFGIMT
609	Settings Group SGC Logic Override	1	DFGIMT
610	Settings Group Settings Group 0	1	DFGIMT
611	Settings Group Settings Group 1	1	DFGIMT
612	Settings Group Settings Group 2	1	DFGIMT
613	Settings Group Settings Group 3	1	DFGIMT
614	50-1 Positive Sequence Target	1	FGIMT
615	50-1 67 Positive Sequence Target	1	FGIT
616	50-2 Positive Sequence Target	1	FGIMT
617	50-2 67 Positive Sequence Target	1	FGIT
618	50-3 Positive Sequence Target	1	FGIMT
619	50-3 67 Positive Sequence Target	1	FGIT
620	50-4 Positive Sequence Target	1	FGIMT
621	50-4 67 Positive Sequence Target	1	FGIT
622	50-5 Positive Sequence Target	1	FGIMT
623	50-5 67 Positive Sequence Target	1	FGIT

Point Index	Description	Class	Application
624	50-6 Positive Sequence Target	1	FGIMT
625	50-6 67 Positive Sequence Target	1	FGIT
626	51-1 Positive Sequence Target	1	FGIMT
627	51-1 67 Positive Sequence Target	1	FGIT
628	51-2 Positive Sequence Target	1	FGIMT
629	51-2 67 Positive Sequence Target	1	FGIT
630	51-3 Positive Sequence Target	1	FGIMT
631	51-3 67 Positive Sequence Target	1	FGIT
632	51-4 Positive Sequence Target	1	FGIMT
633	51-4 67 Positive Sequence Target	1	FGIT
634	51-5 Positive Sequence Target	1	FGIMT
635	51-5 67 Positive Sequence Target	1	FGIT
636	51-6 Positive Sequence Target	1	FGIT
637	51-6 67 Positive Sequence Target	1	FGIT
638	51-7 Positive Sequence Target	1	FGIT
639	51-7 67 Positive Sequence Target	1	FGIT
640	Programmable Alarm 9	1	DFGIMT
641	Programmable Alarm 10	1	DFGIMT
642	Programmable Alarm 11	1	DFGIMT
643	Programmable Alarm 12	1	DFGIMT
644	Programmable Alarm 13	1	DFGIMT
645	Programmable Alarm 14	1	DFGIMT
646	Programmable Alarm 15	1	DFGIMT
647	Programmable Alarm 16	1	DFGIMT
648	87N-1 Block	1	GT
649	87N-1 Pickup	1	GT
650	87N-1 Trip	1	GT
651	87N-1 Target	1	GT
652	51TF Block	1	T
653	51TF Pickup	1	T
654	51TF Trip	1	T
655	51TF Target	1	T
656	51TF Through Fault	1	T
657	Demand Meter CT Circuit 2 3I0 Alarm	1	FGIMT
658	Demand Meter CT Circuit 2 IP Alarm	1	FGIMT
659	Demand Meter CT Circuit 2 I2 Alarm	1	FGIMT
660	Demand Meter CT Circuit 2 IG Alarm	1	FGIMT
661	Local Contacts Output 6 State	1	DFGIMT
662	Local Contacts Output 7 State	1	DFGIMT
663	Local Contacts Output 8 State	1	DFGIMT

Point Index	Description	Class	Application
664-666	Reserved		
667	Local Contacts Output 6 Override Enable	1	DFGIMT
668	Local Contacts Output 7 Override Enable	1	DFGIMT
669	Local Contacts Output 8 Override Enable	1	DFGIMT
670-672	Reserved		
673	Local Contacts Input 5 State	1	DFGIMT
674	Local Contacts Input 6 State	1	DFGIMT
675	Local Contacts Input 7 State	1	DFGIMT
676	Local Contacts Input 8 State	1	DFGIMT
677	Local Contacts Input 9 State	1	DFGIMT
678	Local Contacts Input 10 State	1	DFGIMT
679-685	Reserved		
686	Analog Input Protection 1 Block	1	DFGIMT
687	Analog Input Protection 1 Pickup	1	DFGIMT
688	Analog Input Protection 1 Trip	1	DFGIMT
689	Analog Input Protection 1 Target	1	DFGIMT
690	Analog Input Protection 2 Block	1	DFGIMT
691	Analog Input Protection 2 Pickup	1	DFGIMT
692	Analog Input Protection 2 Trip	1	DFGIMT
693	Analog Input Protection 2 Target	1	DFGIMT
694	Analog Input Protection 3 Block	1	DFGIMT
695	Analog Input Protection 3 Pickup	1	DFGIMT
696	Analog Input Protection 3 Trip	1	DFGIMT
697	Analog Input Protection 3 Target	1	DFGIMT
698	Analog Input Protection 4 Block	1	DFGIMT
699	Analog Input Protection 4 Pickup	1	DFGIMT
700	Analog Input Protection 4 Trip	1	DFGIMT
701	Analog Input Protection 4 Target	1	DFGIMT
702	Analog Input Protection 5 Block	1	DFGIMT
703	Analog Input Protection 5 Pickup	1	DFGIMT
704	Analog Input Protection 5 Trip	1	DFGIMT
705	Analog Input Protection 5 Target	1	DFGIMT
706	Analog Input Protection 6 Block	1	DFGIMT
707	Analog Input Protection 6 Pickup	1	DFGIMT
708	Analog Input Protection 6 Trip	1	DFGIMT
709	Analog Input Protection 6 Target	1	DFGIMT
710	Analog Input Protection 7 Block	1	DFGIMT
711	Analog Input Protection 7 Pickup	1	DFGIMT
712	Analog Input Protection 7 Trip	1	DFGIMT
713	Analog Input Protection 7 Target	1	DFGIMT

Point Index	Description	Class	Application
714	Analog Input Protection 8 Block	1	DFGIMT
715	Analog Input Protection 8 Pickup	1	DFGIMT
716	Analog Input Protection 8 Trip	1	DFGIMT
717	Analog Input Protection 8 Target	1	DFGIMT
718	48 Block	1	M
719	48 Trip	1	M
720	48 Target	1	M
721	66 Block	1	M
722	66 Block Start	1	M
723	Motor Status - Motor is Started	1	M
724	Motor Status - Motor is Stopped	1	M
725	Motor Status - Block	1	M
726	Motor Status - Emergency Start	1	M
727	Motor Status - Lockout	1	M
728	Motor Status - Starting	1	M
729	Motor Status - Running	1	M
730	Motor Status - Stopped	1	M
731	Motor Status - Start Blocked	1	M
732-736	Reserved		
737	49RTD-1 Block	1	DFGIMT
738	49RTD-1 Pickup	1	DFGIMT
739	49RTD-1 Trip	1	DFGIMT
740	49RTD-1 RTD 1-1 Target	1	DFGIMT
741	49RTD-1 RTD 1-2 Target	1	DFGIMT
742	49RTD-1 RTD 1-3 Target	1	DFGIMT
743	49RTD-1 RTD 1-4 Target	1	DFGIMT
744	49RTD-1 RTD 1-5 Target	1	DFGIMT
745	49RTD-1 RTD 1-6 Target	1	DFGIMT
746	49RTD-1 RTD 1-7 Target	1	DFGIMT
747	49RTD-1 RTD 1-8 Target	1	DFGIMT
748	49RTD-1 RTD 1-9 Target	1	DFGIMT
749	49RTD-1 RTD 1-10 Target	1	DFGIMT
750	49RTD-1 RTD 1-11 Target	1	DFGIMT
751	49RTD-1 RTD 1-12 Target	1	DFGIMT
752	49RTD-1 RTD 2-1 Target	1	DFGIMT
753	49RTD-1 RTD 2-2 Target	1	DFGIMT
754	49RTD-1 RTD 2-3 Target	1	DFGIMT
755	49RTD-1 RTD 2-4 Target	1	DFGIMT
756	49RTD-1 RTD 2-5 Target	1	DFGIMT
757	49RTD-1 RTD 2-6 Target	1	DFGIMT

Point Index	Description	Class	Application
758	49RTD-1 RTD 2-7 Target	1	DFGIMT
759	49RTD-1 RTD 2-8 Target	1	DFGIMT
760	49RTD-1 RTD 2-9 Target	1	DFGIMT
761	49RTD-1 RTD 2-10 Target	1	DFGIMT
762	49RTD-1 RTD 2-11 Target	1	DFGIMT
763	49RTD-1 RTD 2-12 Target	1	DFGIMT
764	49RTD-2 Block	1	DFGIMT
765	49RTD-2 Pickup	1	DFGIMT
766	49RTD-2 Trip	1	DFGIMT
767	49RTD-2 RTD 1-1 Target	1	DFGIMT
768	49RTD-2 RTD 1-2 Target	1	DFGIMT
769	49RTD-2 RTD 1-3 Target	1	DFGIMT
770	49RTD-2 RTD 1-4 Target	1	DFGIMT
771	49RTD-2 RTD 1-5 Target	1	DFGIMT
772	49RTD-2 RTD 1-6 Target	1	DFGIMT
773	49RTD-2 RTD 1-7 Target	1	DFGIMT
774	49RTD-2 RTD 1-8 Target	1	DFGIMT
775	49RTD-2 RTD 1-9 Target	1	DFGIMT
776	49RTD-2 RTD 1-10 Target	1	DFGIMT
777	49RTD-2 RTD 1-11 Target	1	DFGIMT
778	49RTD-2 RTD 1-12 Target	1	DFGIMT
779	49RTD-2 RTD 2-1 Target	1	DFGIMT
780	49RTD-2 RTD 2-2 Target	1	DFGIMT
781	49RTD-2 RTD 2-3 Target	1	DFGIMT
782	49RTD-2 RTD 2-4 Target	1	DFGIMT
783	49RTD-2 RTD 2-5 Target	1	DFGIMT
784	49RTD-2 RTD 2-6 Target	1	DFGIMT
785	49RTD-2 RTD 2-7 Target	1	DFGIMT
786	49RTD-2 RTD 2-8 Target	1	DFGIMT
787	49RTD-2 RTD 2-9 Target	1	DFGIMT
788	49RTD-2 RTD 2-10 Target	1	DFGIMT
789	49RTD-2 RTD 2-11 Target	1	DFGIMT
790	49RTD-2 RTD 2-12 Target	1	DFGIMT
791	49RTD-3 Block	1	DFGIMT
792	49RTD-3 Pickup	1	DFGIMT
793	49RTD-3 Trip	1	DFGIMT
794	49RTD-3 RTD 1-1 Target	1	DFGIMT
795	49RTD-3 RTD 1-2 Target	1	DFGIMT
796	49RTD-3 RTD 1-3 Target	1	DFGIMT
797	49RTD-3 RTD 1-4 Target	1	DFGIMT

Point Index	Description	Class	Application
798	49RTD-3 RTD 1-5 Target	1	DFGIMT
799	49RTD-3 RTD 1-6 Target	1	DFGIMT
800	49RTD-3 RTD 1-7 Target	1	DFGIMT
801	49RTD-3 RTD 1-8 Target	1	DFGIMT
802	49RTD-3 RTD 1-9 Target	1	DFGIMT
803	49RTD-3 RTD 1-10 Target	1	DFGIMT
804	49RTD-3 RTD 1-11 Target	1	DFGIMT
805	49RTD-3 RTD 1-12 Target	1	DFGIMT
806	49RTD-3 RTD 2-1 Target	1	DFGIMT
807	49RTD-3 RTD 2-2 Target	1	DFGIMT
808	49RTD-3 RTD 2-3 Target	1	DFGIMT
809	49RTD-3 RTD 2-4 Target	1	DFGIMT
810	49RTD-3 RTD 2-5 Target	1	DFGIMT
811	49RTD-3 RTD 2-6 Target	1	DFGIMT
812	49RTD-3 RTD 2-7 Target	1	DFGIMT
813	49RTD-3 RTD 2-8 Target	1	DFGIMT
814	49RTD-3 RTD 2-9 Target	1	DFGIMT
815	49RTD-3 RTD 2-10 Target	1	DFGIMT
816	49RTD-3 RTD 2-11 Target	1	DFGIMT
817	49RTD-3 RTD 2-12 Target	1	DFGIMT
818	49RTD-4 Block	1	DFGIMT
819	49RTD-4 Pickup	1	DFGIMT
820	49RTD-4 Trip	1	DFGIMT
821	49RTD-4 RTD 1-1 Target	1	DFGIMT
822	49RTD-4 RTD 1-2 Target	1	DFGIMT
823	49RTD-4 RTD 1-3 Target	1	DFGIMT
824	49RTD-4 RTD 1-4 Target	1	DFGIMT
825	49RTD-4 RTD 1-5 Target	1	DFGIMT
826	49RTD-4 RTD 1-6 Target	1	DFGIMT
827	49RTD-4 RTD 1-7 Target	1	DFGIMT
828	49RTD-4 RTD 1-8 Target	1	DFGIMT
829	49RTD-4 RTD 1-9 Target	1	DFGIMT
830	49RTD-4 RTD 1-10 Target	1	DFGIMT
831	49RTD-4 RTD 1-11 Target	1	DFGIMT
832	49RTD-4 RTD 1-12 Target	1	DFGIMT
833	49RTD-4 RTD 2-1 Target	1	DFGIMT
834	49RTD-4 RTD 2-2 Target	1	DFGIMT
835	49RTD-4 RTD 2-3 Target	1	DFGIMT
836	49RTD-4 RTD 2-4 Target	1	DFGIMT
837	49RTD-4 RTD 2-5 Target	1	DFGIMT

Point Index	Description	Class	Application
838	49RTD-4 RTD 2-6 Target	1	DFGIMT
839	49RTD-4 RTD 2-7 Target	1	DFGIMT
840	49RTD-4 RTD 2-8 Target	1	DFGIMT
841	49RTD-4 RTD 2-9 Target	1	DFGIMT
842	49RTD-4 RTD 2-10 Target	1	DFGIMT
843	49RTD-4 RTD 2-11 Target	1	DFGIMT
844	49RTD-4 RTD 2-12 Target	1	DFGIMT
845	49RTD-5 Block	1	DFGIMT
846	49RTD-5 Pickup	1	DFGIMT
847	49RTD-5 Trip	1	DFGIMT
848	49RTD-5 RTD 1-1 Target	1	DFGIMT
849	49RTD-5 RTD 1-2 Target	1	DFGIMT
850	49RTD-5 RTD 1-3 Target	1	DFGIMT
851	49RTD-5 RTD 1-4 Target	1	DFGIMT
852	49RTD-5 RTD 1-5 Target	1	DFGIMT
853	49RTD-5 RTD 1-6 Target	1	DFGIMT
854	49RTD-5 RTD 1-7 Target	1	DFGIMT
855	49RTD-5 RTD 1-8 Target	1	DFGIMT
856	49RTD-5 RTD 1-9 Target	1	DFGIMT
857	49RTD-5 RTD 1-10 Target	1	DFGIMT
858	49RTD-5 RTD 1-11 Target	1	DFGIMT
859	49RTD-5 RTD 1-12 Target	1	DFGIMT
860	49RTD-5 RTD 2-1 Target	1	DFGIMT
861	49RTD-5 RTD 2-2 Target	1	DFGIMT
862	49RTD-5 RTD 2-3 Target	1	DFGIMT
863	49RTD-5 RTD 2-4 Target	1	DFGIMT
864	49RTD-5 RTD 2-5 Target	1	DFGIMT
865	49RTD-5 RTD 2-6 Target	1	DFGIMT
866	49RTD-5 RTD 2-7 Target	1	DFGIMT
867	49RTD-5 RTD 2-8 Target	1	DFGIMT
868	49RTD-5 RTD 2-9 Target	1	DFGIMT
869	49RTD-5 RTD 2-10 Target	1	DFGIMT
870	49RTD-5 RTD 2-11 Target	1	DFGIMT
871	49RTD-5 RTD 2-12 Target	1	DFGIMT
872	49RTD-6 Block	1	DFGIMT
873	49RTD-6 Pickup	1	DFGIMT
874	49RTD-6 Trip	1	DFGIMT
875	49RTD-6 RTD 1-1 Target	1	DFGIMT
876	49RTD-6 RTD 1-2 Target	1	DFGIMT
877	49RTD-6 RTD 1-3 Target	1	DFGIMT

Point Index	Description	Class	Application
878	49RTD-6 RTD 1-4 Target	1	DFGIMT
879	49RTD-6 RTD 1-5 Target	1	DFGIMT
880	49RTD-6 RTD 1-6 Target	1	DFGIMT
881	49RTD-6 RTD 1-7 Target	1	DFGIMT
882	49RTD-6 RTD 1-8 Target	1	DFGIMT
883	49RTD-6 RTD 1-9 Target	1	DFGIMT
884	49RTD-6 RTD 1-10 Target	1	DFGIMT
885	49RTD-6 RTD 1-11 Target	1	DFGIMT
886	49RTD-6 RTD 1-12 Target	1	DFGIMT
887	49RTD-6 RTD 2-1 Target	1	DFGIMT
888	49RTD-6 RTD 2-2 Target	1	DFGIMT
889	49RTD-6 RTD 2-3 Target	1	DFGIMT
890	49RTD-6 RTD 2-4 Target	1	DFGIMT
891	49RTD-6 RTD 2-5 Target	1	DFGIMT
892	49RTD-6 RTD 2-6 Target	1	DFGIMT
893	49RTD-6 RTD 2-7 Target	1	DFGIMT
894	49RTD-6 RTD 2-8 Target	1	DFGIMT
895	49RTD-6 RTD 2-9 Target	1	DFGIMT
896	49RTD-6 RTD 2-10 Target	1	DFGIMT
897	49RTD-6 RTD 2-11 Target	1	DFGIMT
898	49RTD-6 RTD 2-12 Target	1	DFGIMT
899	87 Block	1	GMT
900	87 Pickup	1	GMT
901	87 Trip	1	GMT
902	87 A Target	1	GMT
903	87 B Target	1	GMT
904	87 C Target	1	GMT
905	87 Alarm	1	GMT
906	Logic Label 1	1	DFGIMT
907	Logic Label 2	1	DFGIMT
908	Logic Label 3	1	DFGIMT
909	Logic Label 4	1	DFGIMT
910	Logic Label 5	1	DFGIMT
911	Logic Label 6	1	DFGIMT
912	Logic Label 7	1	DFGIMT
913	Logic Label 8	1	DFGIMT
914	Logic Label 9	1	DFGIMT
915	Logic Label 10	1	DFGIMT
916	Logic Label 11	1	DFGIMT
917	Logic Label 12	1	DFGIMT

Point Index	Description	Class	Application
918	49TC Block	1	M
919	49TC Locked Rotor	1	M
920	49TC Overloaded	1	M
921	49TC Trip	1	M
922	49TC Target	1	M
923	Motor Command - Start Motor	1	M
925	Motor Command - Stop Motor	1	M
926	Motor Command - Issue Start Command	1	M
927	Motor Command - Issue Stop Command	1	M
928	Remote Module 1 RTD Out of Range Alarm	1	DFGIMT
929	Remote Module 1 Default Calibration Loaded Alarm	1	DFGIMT
930	Remote Module 1 Defaults Loaded Alarm	1	DFGIMT
932	Remote Module 1 Flash Failure Alarm	1	DFGIMT
933	Remote Module 1 RTD Communications Sending Fail Alarm	1	DFGIMT
934	Remote Module 1 RTD Communications Receiving Fail Alarm	1	DFGIMT
935	Remote Module 2 RTD Out of Range Alarm	1	DFGIMT
936	Remote Module 2 Default Calibration Loaded Alarm	1	DFGIMT
937	Remote Module 2 Defaults Loaded Alarm	1	DFGIMT
938	Remote Module 2 Flash Failure Alarm	1	DFGIMT
939	Remote Module 2 RTD Communications Sending Fail Alarm	1	DFGIMT
940	Remote Module 2 RTD Communications Receiving Fail Alarm	1	DFGIMT
941-1003	Reserved		
1004	Alarms Eth Excess Traffic	1	DFGIMT
1005	25 Volt Synced	1	FGIT
1006	25 Angle Synced	1	FGIT
1007	25 Freq Synced	1	FGIT
1008	50-1 Unbalance	1	FGIMT
1009	50-1 67 Unbalance	1	FGIT
1010	50-2 Unbalance	1	FGIMT
1011	50-2 67 Unbalance	1	FGIT
1012	50-3 Unbalance	1	FGIMT
1013	50-3 67 Unbalance	1	FGIT
1014	50-4 Unbalance	1	FGIMT
1015	50-4 67 Unbalance	1	FGIT
1016	50-5 Unbalance	1	FGIMT
1017	50-5 67 Unbalance	1	FGIT
1018	50-6 Unbalance	1	FGIMT
1019	50-6 67 Unbalance	1	FGIT
1020	50-7 Block	1	T
1021	50-7 Pickup	1	T

Point Index	Description	Class	Application
1022	50-7 Trip	1	T
1023	50-7 A Target	1	T
1024	50-7 B Target	1	T
1025	50-7 C Target	1	T
1026	50-7 Negative Sequence Target	1	T
1027	50-7 Residual Target	1	T
1028	50-7 Independent Ground Target	1	T
1029	50-7 67 A Target	1	T
1030	50-7 67 B Target	1	T
1031	50-7 67 C Target	1	T
1032	50-7 67 Negative Sequence Target	1	T
1033	50-7 67 Residual Target	1	T
1034	50-7 67 Independent Ground Target	1	T
1035	50-7 Positive Sequence Target	1	T
1036	50-7 67 Positive Sequence Target	1	T
1037	50-7 Unbalance	1	T
1038	50-7 67 Unbalance	1	T
1039	50-8 Block	1	T
1040	50-8 Pickup	1	T
1041	50-8 Trip	1	T
1042	50-8 A Target	1	T
1043	50-8 B Target	1	T
1044	50-8 C Target	1	T
1045	50-8 Negative Sequence Target	1	T
1046	50-8 Residual Target	1	T
1047	50-8 Independent Ground Target	1	T
1048	50-8 67 A Target	1	T
1049	50-8 67 B Target	1	T
1050	50-8 67 C Target	1	T
1051	50-8 67 Negative Sequence Target	1	T
1052	50-8 67 Residual Target	1	T
1053	50-8 67 Independent Ground Target	1	T
1054	50-8 Positive Sequence Target	1	T
1055	50-8 67 Positive Sequence Target	1	T
1056	50-8 Unbalance	1	T
1057	50-8 67 Unbalance	1	T
1058	50-9 Block	1	T
1059	50-9 Pickup	1	T
1060	50-9 Trip	1	T
1061	50-9 A Target	1	T

Point Index	Description	Class	Application
1062	50-9 B Target	1	T
1063	50-9 C Target	1	T
1064	50-9 Negative Sequence Target	1	T
1065	50-9 Residual Target	1	T
1066	50-9 Independent Ground Target	1	T
1067	50-9 67 A Target	1	T
1068	50-9 67 B Target	1	T
1069	50-9 67 C Target	1	T
1070	50-9 67 Negative Sequence Target	1	T
1071	50-9 67 Residual Target	1	T
1072	50-9 67 Independent Ground Target	1	T
1073	50-9 Positive Sequence Target	1	T
1074	50-9 67 Positive Sequence Target	1	T
1075	50-9 Unbalance	1	T
1076	50-9 67 Unbalance	1	T
1077	51-1 Unbalance	1	FGIMT
1078	51-1 67 Unbalance	1	FGIT
1079	51-2 Unbalance	1	FGIMT
1080	51-2 67 Unbalance	1	FGIT
1081	51-3 Unbalance	1	FGIMT
1082	51-3 67 Unbalance	1	FGIT
1083	51-4 Unbalance	1	FGIMT
1084	51-4 67 Unbalance	1	FGIT
1085	51-5 Unbalance	1	FGIMT
1086	51-5 67 Unbalance	1	FGIT
1087	51-6 Unbalance	1	FGIT
1088	51-6 67 Unbalance	1	FGIT
1089	51-7 Unbalance	1	FGIT
1090	51-7 67 Unbalance	1	FGIT
1091	51-8 Block	1	T
1092	51-8 Pickup	1	T
1093	51-8 Trip	1	T
1094	51-8 A Target	1	T
1095	51-8 B Target	1	T
1096	51-8 C Target	1	T
1097	51-8 Negative Sequence Target	1	T
1098	51-8 Residual Target	1	T
1099	51-8 Independent Ground Target	1	T
1100	51-8 67 A Target	1	T
1101	51-8 67 B Target	1	T

Point Index	Description	Class	Application
1102	51-8 67 C Target	1	T
1103	51-8 67 Negative Sequence Target	1	T
1104	51-8 67 Residual Target	1	T
1105	51-8 67 Independent Ground Target	1	T
1106	51-8 Positive Sequence Target	1	T
1107	51-8 67 Positive Sequence Target	1	T
1108	51-8 Unbalance	1	T
1109	51-8 67 Unbalance	1	T
1110	51-9 Block	1	T
1111	51-9 Pickup	1	T
1112	51-9 Trip	1	T
1113	51-9 A Target	1	T
1114	51-9 B Target	1	T
1115	51-9 C Target	1	T
1116	51-9 Negative Sequence Target	1	T
1117	51-9 Residual Target	1	T
1118	51-9 Independent Ground Target	1	T
1119	51-9 67 A Target	1	T
1120	51-9 67 B Target	1	T
1121	51-9 67 C Target	1	T
1122	51-9 67 Negative Sequence Target	1	T
1123	51-9 67 Residual Target	1	T
1124	51-9 67 Independent Ground Target	1	T
1125	51-9 Positive Sequence Target	1	T
1126	51-9 67 Positive Sequence Target	1	T
1227	51-9 Unbalance	1	T
1128	51-9 67 Unbalance	1	T
1129	87 Unrestrained Trip	1	GMT
1130	87 Transient Monitor	1	GMT
1131	87 Unrestrained A	1	GMT
1132	87 Unrestrained B	1	GMT
1133	87 Unrestrained C	1	GMT
1134	87 2nd Harmonic Inhibit	1	GMT
1135	87 5th Harmonic Inhibit	1	GMT
1136	55 Block	1	M
1137	55 Pickup	1	M
1138	55 Trip	1	M
1139	55 Target	1	M
1140	21-1 Block	1	FGT
1141	21-1 Pickup	1	FGT

Point Index	Description	Class	Application
1142	21-1 Trip	1	FGT
1143	21-1 AB	1	FGT
1144	21-1 BC	1	FGT
1145	21-1 CA	1	FGT
1146	21-2 Block	1	FGT
1147	21-2 Pickup	1	FGT
1148	21-2 Trip	1	FGT
1149	21-2 AB	1	FGT
1150	21-2 BC	1	FGT
1151	21-2 CA	1	FGT
1152	78V Block	1	GI
1153	78V Pickup	1	GI
1154	78V Trip	1	GI
1155	78V	1	GI
1156	78OOS Block	1	G
1157	78OOS Pickup	1	G
1158	78OOS Trip	1	G
1159	78OOS	1	G
1160	78OOS MHO Pickup	1	G
1161	78OOS Blinder A Pickup	1	G
1162	78OOS Blinder B Pickup	1	G
1163	25A Block	1	G
1164	25A Status	1	G
1165	25A Volt Synced	1	G
1166	25A Angle Synced	1	G
1167	25A Freq Synced	1	G
1168	25A Close Breaker	1	G
1169	25A VM1 Status	1	G
1170	25A Initiate	1	G
1171	25A Sync Fail	1	G
1172	25A Raising Volts	1	G
1173	25A Lowering Volts	1	G
1174	25A Raising Freq	1	G
1175	25A Lowering Freq	1	G
1176	25A Sync in Progress	1	G
1177	Power Loss Alarm	1	DFGIMT
1178	Logic Alarms	1	DFGIMT
1179	87N-2 Block	1	T
1180	87N-2 Pickup	1	T
1181	87N-2 Trip	1	T

Point Index	Description	Class	Application
1182	87N-2 Target	1	T
1183	49RTD-7 Block	1	DFGIMT
1184	49RTD-7 Pickup	1	DFGIMT
1185	49RTD-7 Trip	1	DFGIMT
1186	49RTD-7 RTD 1-1 Target	1	DFGIMT
1187	49RTD-7 RTD 1-2 Target	1	DFGIMT
1188	49RTD-7 RTD 1-3 Target	1	DFGIMT
1189	49RTD-7 RTD 1-4 Target	1	DFGIMT
1190	49RTD-7 RTD 1-5 Target	1	DFGIMT
1191	49RTD-7 RTD 1-6 Target	1	DFGIMT
1192	49RTD-7 RTD 1-7 Target	1	DFGIMT
1193	49RTD-7 RTD 1-8 Target	1	DFGIMT
1194	49RTD-7 RTD 1-9 Target	1	DFGIMT
1195	49RTD-7 RTD 1-10 Target	1	DFGIMT
1196	49RTD-7 RTD 1-11 Target	1	DFGIMT
1197	49RTD-7 RTD 1-12 Target	1	DFGIMT
1198	49RTD-7 RTD 2-1 Target	1	DFGIMT
1199	49RTD-7 RTD 2-2 Target	1	DFGIMT
1200	49RTD-7 RTD 2-3 Target	1	DFGIMT
1201	49RTD-7 RTD 2-4 Target	1	DFGIMT
1202	49RTD-7 RTD 2-5 Target	1	DFGIMT
1203	49RTD-7 RTD 2-6 Target	1	DFGIMT
1204	49RTD-7 RTD 2-7 Target	1	DFGIMT
1205	49RTD-7 RTD 2-8 Target	1	DFGIMT
1206	49RTD-7 RTD 2-9 Target	1	DFGIMT
1207	49RTD-7 RTD 2-10 Target	1	DFGIMT
1208	49RTD-7 RTD 2-11 Target	1	DFGIMT
1209	49RTD-7 RTD 2-12 Target	1	DFGIMT
1210	49RTD-8 Block	1	DFGIMT
1211	49RTD-8 Pickup	1	DFGIMT
1212	49RTD-8 Trip	1	DFGIMT
1213	49RTD-8 RTD 1-1 Target	1	DFGIMT
1214	49RTD-8 RTD 1-2 Target	1	DFGIMT
1215	49RTD-8 RTD 1-3 Target	1	DFGIMT
1216	49RTD-8 RTD 1-4 Target	1	DFGIMT
1217	49RTD-8 RTD 1-5 Target	1	DFGIMT
1218	49RTD-8 RTD 1-6 Target	1	DFGIMT
1219	49RTD-8 RTD 1-7 Target	1	DFGIMT
1220	49RTD-8 RTD 1-8 Target	1	DFGIMT
1221	49RTD-8 RTD 1-9 Target	1	DFGIMT

Point Index	Description	Class	Application
1222	49RTD-8 RTD 1-10 Target	1	DFGIMT
1223	49RTD-8 RTD 1-11 Target	1	DFGIMT
1224	49RTD-8 RTD 1-12 Target	1	DFGIMT
1225	49RTD-8 RTD 2-1 Target	1	DFGIMT
1226	49RTD-8 RTD 2-2 Target	1	DFGIMT
1227	49RTD-8 RTD 2-3 Target	1	DFGIMT
1228	49RTD-8 RTD 2-4 Target	1	DFGIMT
1229	49RTD-8 RTD 2-5 Target	1	DFGIMT
1230	49RTD-8 RTD 2-6 Target	1	DFGIMT
1231	49RTD-8 RTD 2-7 Target	1	DFGIMT
1232	49RTD-8 RTD 2-8 Target	1	DFGIMT
1233	49RTD-8 RTD 2-9 Target	1	DFGIMT
1234	49RTD-8 RTD 2-10 Target	1	DFGIMT
1235	49RTD-8 RTD 2-11 Target	1	DFGIMT
1236	49RTD-8 RTD 2-12 Target	1	DFGIMT
1237	49RTD-9 Block	1	DFGIMT
1238	49RTD-9 Pickup	1	DFGIMT
1239	49RTD-9 Trip	1	DFGIMT
1240	49RTD-9 RTD 1-1 Target	1	DFGIMT
1241	49RTD-9 RTD 1-2 Target	1	DFGIMT
1242	49RTD-9 RTD 1-3 Target	1	DFGIMT
1243	49RTD-9 RTD 1-4 Target	1	DFGIMT
1244	49RTD-9 RTD 1-5 Target	1	DFGIMT
1245	49RTD-9 RTD 1-6 Target	1	DFGIMT
1246	49RTD-9 RTD 1-7 Target	1	DFGIMT
1247	49RTD-9 RTD 1-8 Target	1	DFGIMT
1248	49RTD-9 RTD 1-9 Target	1	DFGIMT
1249	49RTD-9 RTD 1-10 Target	1	DFGIMT
1250	49RTD-9 RTD 1-11 Target	1	DFGIMT
1251	49RTD-9 RTD 1-12 Target	1	DFGIMT
1252	49RTD-9 RTD 2-1 Target	1	DFGIMT
1253	49RTD-9 RTD 2-2 Target	1	DFGIMT
1254	49RTD-9 RTD 2-3 Target	1	DFGIMT
1255	49RTD-9 RTD 2-4 Target	1	DFGIMT
1256	49RTD-9 RTD 2-5 Target	1	DFGIMT
1257	49RTD-9 RTD 2-6 Target	1	DFGIMT
1258	49RTD-9 RTD 2-7 Target	1	DFGIMT
1259	49RTD-9 RTD 2-8 Target	1	DFGIMT
1260	49RTD-9 RTD 2-9 Target	1	DFGIMT
1261	49RTD-9 RTD 2-10 Target	1	DFGIMT

Point Index	Description	Class	Application
1262	49RTD-9 RTD 2-11 Target	1	DFGIMT
1263	49RTD-9 RTD 2-12 Target	1	DFGIMT
1264	49RTD-10 Block	1	DFGIMT
1265	49RTD-10 Pickup	1	DFGIMT
1266	49RTD-10 Trip	1	DFGIMT
1267	49RTD-10 RTD 1-1 Target	1	DFGIMT
1268	49RTD-10 RTD 1-2 Target	1	DFGIMT
1269	49RTD-10 RTD 1-3 Target	1	DFGIMT
1270	49RTD-10 RTD 1-4 Target	1	DFGIMT
1271	49RTD-10 RTD 1-5 Target	1	DFGIMT
1272	49RTD-10 RTD 1-6 Target	1	DFGIMT
1273	49RTD-10 RTD 1-7 Target	1	DFGIMT
1274	49RTD-10 RTD 1-8 Target	1	DFGIMT
1275	49RTD-10 RTD 1-9 Target	1	DFGIMT
1276	49RTD-10 RTD 1-10 Target	1	DFGIMT
1277	49RTD-10 RTD 1-11 Target	1	DFGIMT
1278	49RTD-10 RTD 1-12 Target	1	DFGIMT
1279	49RTD-10 RTD 2-1 Target	1	DFGIMT
1280	49RTD-10 RTD 2-2 Target	1	DFGIMT
1281	49RTD-10 RTD 2-3 Target	1	DFGIMT
1282	49RTD-10 RTD 2-4 Target	1	DFGIMT
1283	49RTD-10 RTD 2-5 Target	1	DFGIMT
1284	49RTD-10 RTD 2-6 Target	1	DFGIMT
1285	49RTD-10 RTD 2-7 Target	1	DFGIMT
1286	49RTD-10 RTD 2-8 Target	1	DFGIMT
1287	49RTD-10 RTD 2-9 Target	1	DFGIMT
1288	49RTD-10 RTD 2-10 Target	1	DFGIMT
1289	49RTD-10 RTD 2-11 Target	1	DFGIMT
1290	49RTD-10 RTD 2-12 Target	1	DFGIMT
1291	49RTD-11 Block	1	DFGIMT
1292	49RTD-11 Pickup	1	DFGIMT
1293	49RTD-11 Trip	1	DFGIMT
1294	49RTD-11 RTD 1-1 Target	1	DFGIMT
1295	49RTD-11 RTD 1-2 Target	1	DFGIMT
1296	49RTD-11 RTD 1-3 Target	1	DFGIMT
1297	49RTD-11 RTD 1-4 Target	1	DFGIMT
1298	49RTD-11 RTD 1-5 Target	1	DFGIMT
1299	49RTD-11 RTD 1-6 Target	1	DFGIMT
1300	49RTD-11 RTD 1-7 Target	1	DFGIMT
1301	49RTD-11 RTD 1-8 Target	1	DFGIMT

Point Index	Description	Class	Application
1302	49RTD-11 RTD 1-9 Target	1	DFGIMT
1303	49RTD-11 RTD 1-10 Target	1	DFGIMT
1304	49RTD-11 RTD 1-11 Target	1	DFGIMT
1305	49RTD-11 RTD 1-12 Target	1	DFGIMT
1306	49RTD-11 RTD 2-1 Target	1	DFGIMT
1307	49RTD-11 RTD 2-2 Target	1	DFGIMT
1308	49RTD-11 RTD 2-3 Target	1	DFGIMT
1309	49RTD-11 RTD 2-4 Target	1	DFGIMT
1310	49RTD-11 RTD 2-5 Target	1	DFGIMT
1311	49RTD-11 RTD 2-6 Target	1	DFGIMT
1312	49RTD-11 RTD 2-7 Target	1	DFGIMT
1313	49RTD-11 RTD 2-8 Target	1	DFGIMT
1314	49RTD-11 RTD 2-9 Target	1	DFGIMT
1315	49RTD-11 RTD 2-10 Target	1	DFGIMT
1316	49RTD-11 RTD 2-11 Target	1	DFGIMT
1317	49RTD-11 RTD 2-12 Target	1	DFGIMT
1318	49RTD-12 Block	1	DFGIMT
1319	49RTD-12 Pickup	1	DFGIMT
1320	49RTD-12 Trip	1	DFGIMT
1321	49RTD-12 RTD 1-1 Target	1	DFGIMT
1322	49RTD-12 RTD 1-2 Target	1	DFGIMT
1323	49RTD-12 RTD 1-3 Target	1	DFGIMT
1324	49RTD-12 RTD 1-4 Target	1	DFGIMT
1325	49RTD-12 RTD 1-5 Target	1	DFGIMT
1326	49RTD-12 RTD 1-6 Target	1	DFGIMT
1327	49RTD-12 RTD 1-7 Target	1	DFGIMT
1328	49RTD-12 RTD 1-8 Target	1	DFGIMT
1329	49RTD-12 RTD 1-9 Target	1	DFGIMT
1330	49RTD-12 RTD 1-10 Target	1	DFGIMT
1331	49RTD-12 RTD 1-11 Target	1	DFGIMT
1332	49RTD-12 RTD 1-12 Target	1	DFGIMT
1333	49RTD-12 RTD 2-1 Target	1	DFGIMT
1334	49RTD-12 RTD 2-2 Target	1	DFGIMT
1335	49RTD-12 RTD 2-3 Target	1	DFGIMT
1336	49RTD-12 RTD 2-4 Target	1	DFGIMT
1337	49RTD-12 RTD 2-5 Target	1	DFGIMT
1338	49RTD-12 RTD 2-6 Target	1	DFGIMT
1339	49RTD-12 RTD 2-7 Target	1	DFGIMT
1340	49RTD-12 RTD 2-8 Target	1	DFGIMT
1341	49RTD-12 RTD 2-9 Target	1	DFGIMT

Point Index	Description	Class	Application
1342	49RTD-12 RTD 2-10 Target	1	DFGIMT
1343	49RTD-12 RTD 2-11 Target	1	DFGIMT
1344	49RTD-12 RTD 2-12 Target	1	DFGIMT
1345	49RTD-13 Block	1	DFGIMT
1346	49RTD-13 Pickup	1	DFGIMT
1347	49RTD-13 Trip	1	DFGIMT
1348	49RTD-13 RTD 1-1 Target	1	DFGIMT
1349	49RTD-13 RTD 1-2 Target	1	DFGIMT
1350	49RTD-13 RTD 1-3 Target	1	DFGIMT
1351	49RTD-13 RTD 1-4 Target	1	DFGIMT
1352	49RTD-13 RTD 1-5 Target	1	DFGIMT
1353	49RTD-13 RTD 1-6 Target	1	DFGIMT
1354	49RTD-13 RTD 1-7 Target	1	DFGIMT
1355	49RTD-13 RTD 1-8 Target	1	DFGIMT
1356	49RTD-13 RTD 1-9 Target	1	DFGIMT
1357	49RTD-13 RTD 1-10 Target	1	DFGIMT
1358	49RTD-13 RTD 1-11 Target	1	DFGIMT
1359	49RTD-13 RTD 1-12 Target	1	DFGIMT
1360	49RTD-13 RTD 2-1 Target	1	DFGIMT
1361	49RTD-13 RTD 2-2 Target	1	DFGIMT
1362	49RTD-13 RTD 2-3 Target	1	DFGIMT
1363	49RTD-13 RTD 2-4 Target	1	DFGIMT
1364	49RTD-13 RTD 2-5 Target	1	DFGIMT
1365	49RTD-13 RTD 2-6 Target	1	DFGIMT
1366	49RTD-13 RTD 2-7 Target	1	DFGIMT
1367	49RTD-13 RTD 2-8 Target	1	DFGIMT
1368	49RTD-13 RTD 2-9 Target	1	DFGIMT
1369	49RTD-13 RTD 2-10 Target	1	DFGIMT
1370	49RTD-13 RTD 2-11 Target	1	DFGIMT
1371	49RTD-13 RTD 2-12 Target	1	DFGIMT
1372	49RTD-14 Block	1	DFGIMT
1373	49RTD-14 Pickup	1	DFGIMT
1374	49RTD-14 Trip	1	DFGIMT
1375	49RTD-14 RTD 1-1 Target	1	DFGIMT
1376	49RTD-14 RTD 1-2 Target	1	DFGIMT
1377	49RTD-14 RTD 1-3 Target	1	DFGIMT
1378	49RTD-14 RTD 1-4 Target	1	DFGIMT
1379	49RTD-14 RTD 1-5 Target	1	DFGIMT
1380	49RTD-14 RTD 1-6 Target	1	DFGIMT
1381	49RTD-14 RTD 1-7 Target	1	DFGIMT

Point Index	Description	Class	Application
1382	49RTD-14 RTD 1-8 Target	1	DFGIMT
1383	49RTD-14 RTD 1-9 Target	1	DFGIMT
1384	49RTD-14 RTD 1-10 Target	1	DFGIMT
1385	49RTD-14 RTD 1-11 Target	1	DFGIMT
1386	49RTD-14 RTD 1-12 Target	1	DFGIMT
1387	49RTD-14 RTD 2-1 Target	1	DFGIMT
1388	49RTD-14 RTD 2-2 Target	1	DFGIMT
1389	49RTD-14 RTD 2-3 Target	1	DFGIMT
1390	49RTD-14 RTD 2-4 Target	1	DFGIMT
1391	49RTD-14 RTD 2-5 Target	1	DFGIMT
1392	49RTD-14 RTD 2-6 Target	1	DFGIMT
1393	49RTD-14 RTD 2-7 Target	1	DFGIMT
1394	49RTD-14 RTD 2-8 Target	1	DFGIMT
1395	49RTD-14 RTD 2-9 Target	1	DFGIMT
1396	49RTD-14 RTD 2-10 Target	1	DFGIMT
1397	49RTD-14 RTD 2-11 Target	1	DFGIMT
1398	49RTD-14 RTD 2-12 Target	1	DFGIMT
1399	Overrun Alarm	1	DFGIMT
1400	Programmable Target 1	1	DFGIMT
1401	Programmable Target 2	1	DFGIMT
1402	Programmable Target 3	1	DFGIMT
1403	Programmable Target 4	1	DFGIMT
1404	Programmable Target 5	1	DFGIMT
1405	Programmable Target 6	1	DFGIMT
1406	Programmable Target 7	1	DFGIMT
1407	Programmable Target 8	1	DFGIMT
1408	Programmable Target 9	1	DFGIMT
1409	Programmable Target 10	1	DFGIMT
1410	Programmable Target 11	1	DFGIMT
1411	Programmable Target 12	1	DFGIMT
1412	25A Initiated	1	G
1413	Any Phase A Target	1	FGIMT
1414	Any Phase B Target	1	FGIMT
1415	Any Phase C Target	1	FGIMT
1416	Any Ground Target	1	FGIMT
1417	Any Neutral Target	1	FGIMT
1418	Any Ground/Neutral Target	1	FGIMT
1419	Any Positive Sequence Target	1	FGIMT
1420	Any Negative Sequence Target	1	FGIMT
1421	DC Bus IT-D I1 Not Connected	1	D

Point Index	Description	Class	Application
1422	DC Bus IT-D V1 Not Connected	1	D
1423	DC Bus IT-D V2 Not Connected	1	D
1424	DC Bus IT-D V3 Not Connected	1	D
1425	27-1 Target	1	D
1426	27-2 Target	1	D
1427	27-3 Target	1	D
1428	27-4 Target	1	D
1429	59-1 Target	1	D
1430	59-2 Target	1	D
1431	59-3 Target	1	D
1432	59-4 Target	1	D
1433	76-1 Block	1	D
1434	76-1 Pickup	1	D
1435	76-1 Trip	1	D
1436	76-1 Target	1	D
1437	76-2 Block	1	D
1438	76-2 Pickup	1	D
1439	76-2 Trip	1	D
1440	76-2 Target	1	D
1441	76-3 Block	1	D
1442	76-3 Pickup	1	D
1443	76-3 Trip	1	D
1444	76-3 Target	1	D
1445	76-4 Block	1	D
1446	76-4 Pickup	1	D
1447	76-4 Trip	1	D
1448	76-4 Target	1	D
1449	76-5 Block	1	D
1450	76-5 Pickup	1	D
1451	76-5 Trip	1	D
1452	76-5 Target	1	D
1453	76-6 Block	1	D
1454	76-6 Pickup	1	D
1455	76-6 Trip	1	D
1456	76-6 Target	1	D
1457	76-7 Block	1	D
1458	76-7 Pickup	1	D
1459	76-7 Trip	1	D
1460	76-7 Target	1	D
1461	76-8 Block	1	D

Point Index	Description	Class	Application
1462	76-8 Pickup	1	D
1463	76-8 Trip	1	D
1464	76-8 Target	1	D
1465	76-9 Block	1	D
1466	76-9 Pickup	1	D
1467	76-9 Trip	1	D
1468	76-9 Target	1	D
1469	76-10 Block	1	D
1470	76-10 Pickup	1	D
1471	76-10 Trip	1	D
1472	76-10 Target	1	D
1473	76-11 Block	1	D
1474	76-11 Pickup	1	D
1475	76-11 Trip	1	D
1476	76-11 Target	1	D
1477	76-12 Block	1	D
1478	76-12 Pickup	1	D
1479	76-12 Trip	1	D
1480	76-12 Target	1	D
1481	76-13 Block	1	D
1482	76-13 Pickup	1	D
1483	76-13 Trip	1	D
1484	76-13 Target	1	D
1485	ROR-1 Block	1	D
1486	ROR-1 Trip	1	D
1487	ROR-1 Pickup	1	D
1488	ROR-1 Target	1	D
1489	ROR-2 Block	1	D
1490	ROR-2 Trip	1	D
1491	ROR-2 Pickup	1	D
1492	ROR-2 Target	1	D
1493	32-1 Over Target	1	D
1494	32-1 Under Target	1	D
1495	32-2 Over Target	1	D
1496	32-2 Under Target	1	D
1497	82 Reclose Fail	1	D
1498	82 Close	1	D
1499	82 Recloser Running	1	D
1500	82 Recloser Reset	1	D
1501	82 Recloser Lockout	1	D

Point Index	Description	Class	Application
1502	82 Recloser LM Contact	1	D
1503	82 Shot 1	1	D
1504	82 Shot 2	1	D
1505	82 Shot 3	1	D
1506	82 Shot 4	1	D
1507	82 Reclose Initiate	1	D
1508	82 Wait	1	D
1509	82 DTL	1	D
1510	82 Enable	1	D
1511	82 Bypass	1	D
1512	Reserved		
1513	72 Trip Coil Monitor Alarm	1	D
1514	Local Contacts Contact 72 TCM Alarm	1	D
1515	49 Block	1	D
1516	49 Reset	1	D
1517	49 Overload	1	D
1518	49 Alarm	1	D
1519	49 Trip	1	D
1520	49 Target	1	D
1521	Voltage Monitor Block	1	D
1522	Voltage Monitor LB / LL	1	D
1523	Voltage Monitor LB / DL	1	D
1524	Voltage Monitor DB / LL	1	D
1525	Voltage Monitor DB / DL	1	D
1526	DC Demand Meter 1 – I1 DC Positive Demand	1	D
1527	DC Demand Meter 1 – I1 DC Negative Demand	1	D
1528	DC Demand Meter 1 – P1 DC Positive Demand	1	D
1529	DC Demand Meter 1 – P1 DC Negative Demand	1	D
1530	DC Bus IT-D I1 Frequency Mismatch	1	D
1531	DC Bus IT-D V1 Frequency Mismatch	1	D
1532	DC Bus IT-D V2 Frequency Mismatch	1	D
1533	DC Bus IT-D V3 Frequency Mismatch	1	D

Binary Output Status Points and Control Relay Output Blocks

Table 4 lists both the Binary Output Status Points (Object 10) and the Control Relay Output Blocks (Object 12). It is important to note that Binary Output Status Points are not included in Class 0.

Table 4. Binary Output Status Points and Control Relay Output Blocks

Binary Output Status Points:
Object Number: 10

Variations supported: 1, 2
Request Function Codes supported: 1 (read)
Default Variation reported when variation 0 requested: 2 (Binary Output Status)

Control Relay Output Blocks

Object Number: 12

Variations supported: 1
Request Function Codes supported: 3 (select), 4 (operate), 5 (direct operate), 6 (direct operate, noack)

Point Index	Description	Control Operations	Off/Trip	On/Close
0	43-1 Operate	On/Off or Close/Trip	2	1
1	43-1 Operate	Pulse	0	3
2	43-1 Untag Blocking Tag	On or Close	0	2
3	43-1 Untag Informational Tag	On or Close	0	1
4	43-1 Tag Blocking Tag	On or Close	0	2
5	43-1 Tag Informational Tag	On or Close	0	1
6	43-2 Operate	On/Off or Close/Trip	2	1
7	43-2 Operate	Pulse	0	3
8	43-2 Untag Blocking Tag	On or Close	0	2
9	43-2 Untag Informational Tag	On or Close	0	1
10	43-2 Tag Blocking Tag	On or Close	0	2
11	43-2 Tag Informational Tag	On or Close	0	1
12	43-3 Operate	On/Off or Close/Trip	2	1
13	43-3 Operate	Pulse	0	3
14	43-3 Untag Blocking Tag	On or Close	0	2
15	43-3 Untag Informational	On or Close	0	1
16	43-3 Tag Blocking Tag	On or Close	0	2
17	43-3 Tag Informational Tag	On or Close	0	1
18	43-4 Operate	On/Off or Close/Trip	2	1
19	43-4 Operate	Pulse	0	3
20	43-4 Untag Blocking Tag	On or Close	0	2
21	43-4 Untag Informational Tag	On or Close	0	1
22	43-4 Tag Blocking Tag	On or Close	0	2
23	43-4 Tag Informational Tag	On or Close	0	1
24	43-5 Operate	On/Off or Close/Trip	2	1
25	43-5 Operate	Pulse	0	3
26	43-5 Untag Blocking Tag	On or Close	0	2
27	43-5 Untag Informational Tag	On or Close	0	1
28	43-5 Tag Blocking Tag	On or Close	0	2
29	43-5 Tag Informational Tag	On or Close	0	1
30	101 Operate	Close/Trip	1	2
31	101 Untag Blocking Tag	On or Close	0	2
32	101 Untag Informational Tag	On or Close	0	1
33	101 Tag Blocking Tag	On or Close	0	2

Point Index	Description	Control Operations	Off/Trip	On/Close
34	101 Tag Informational Tag	On or Close	0	1
35	Contact Output 1 Override	On/Off or Close/Trip	0	1
36	Contact Output 1 Override	Pulse	0	2
37	Contact Output 2 Override	On/Off or Close/Trip	0	1
38	Contact Output 2 Override	Pulse	0	2
39	Contact Output 3 Override	On/Off or Close/Trip	0	1
40	Contact Output 3 Override	Pulse	0	2
41	Contact Output 4 Override	On/Off or Close/Trip	0	1
42	Contact Output 4 Override	Pulse	0	2
43	Contact Output 5 Override	On/Off or Close/Trip	0	1
44	Contact Output 5 Override	Pulse	0	2
45	Contact Output A Override	On/Off or Close/Trip	0	1
46	Contact Output A Override	Pulse	0	2
47	Contact Output 6 Override	On/Off or Close/Trip	0	1
48	Contact Output 6 Override	Pulse	0	2
49	Contact Output 7 Override	On/Off or Close/Trip	0	1
50	Contact Output 7 Override	Pulse	0	2
51	Contact Output 8 Override	On/Off or Close/Trip	0	1
52	Contact Output 8 Override	Pulse	0	2
53-58	Reserved			

Analog Inputs

The following table lists Analog Inputs (Object 30). It is important to note that 16-bit and 32-bit variations of Analog Inputs, Analog Output Control Blocks, and Analog Output Statuses are transmitted through DNP as signed numbers. Even for analog input points that are not valid as negative values, the maximum positive representation for a 16-bit variation is $<2^{15}-1> = 32,767$. For a 32-bit variation the maximum positive representation is $<2^{31}-1> = 2,147,483,647$.

Each Analog Input point has a separate setting for scaling factor. See the appropriate BE1-11 instruction manual for more information on using BESTCOMS*Plus* to change scaling factors.

An analog change event will be generated if the point changes its value by the absolute amount equal or greater than the Dead band. Dead band for each analog point is configurable via object 34. Analog change events, once generated, will be reported in one of the class polls (1, 2, or 3).

Change events for analog inputs are reported in most recent value mode (when a change is detected, the report of the change contains the most recent value of the time of the report, not the time the change was detected.

Analog input Deadband (Object 34) defines ranges where no action should be taken. Note that active DNP object 34 point list always matches active Analog Inputs (User Mapped) list.

The user can select analog points from the default analog point list (Table 5) and map them to the active analog user map list. This mapping is only configurable through BESTCOMS*Plus*. Only points from the analog user map list are members of class 0 and reported as events through assigned class.

Note: Table 5 is the default point list for Analog Input Deadband Object: 34.

Table 5. Analog Inputs

Analog Inputs

Static Object Number: 30
Change Event Object Number: 32

Request Function Codes Supported: 1 (read), 22 (assign class)
Static Variation Reported When Variation 0 Requested: User programmable. Default “variation 0” is 3 (32-bit Analog Input without Flag).
Change Event Variation Reported When Variation 0 Requested: User programmable. Default “variation”) is 1 (32-bit Analog Change Event without Time).
Analog Input Deadband Object: 34

Point Index	Description	Change Event Default Assigned Class	Application
0	Phase Bus Meter Circuit 1 VA Primary Magnitude	2	FGIMT
1	Phase Bus Meter Circuit 1 VA Angle	2	FGIMT
2	Phase Bus Meter Circuit 1 VB Primary Magnitude	2	FGIMT
3	Phase Bus Meter Circuit 1 VB Angle	2	FGIMT
4	Phase Bus Meter Circuit 1 VC Primary Magnitude	2	FGIMT
5	Phase Bus Meter Circuit 1 VC Angle	2	FGIMT
6	Phase Bus Meter Circuit 1 VAB Primary Magnitude	2	FGIMT
7	Phase Bus Meter Circuit 1 VAB Angle	2	FGIMT
8	Phase Bus Meter Circuit 1 VBC Primary Magnitude	2	FGIMT
9	Phase Bus Meter Circuit 1 VBC Angle	2	FGIMT
10	Phase Bus Meter Circuit 1 VCA Primary Magnitude	2	FGIMT
11	Phase Bus Meter Circuit 1 VCA Angle	2	FGIMT
12-13	Reserved		
14	Phase Bus Meter Circuit 1 IA Primary Magnitude	2	FGIMT
15	Phase Bus Meter Circuit 1 IA Angle	2	FGIMT
16	Phase Bus Meter Circuit 1 IB Primary Magnitude	2	FGIMT
17	Phase Bus Meter Circuit 1 IB Angle	2	FGIMT
18	Phase Bus Meter Circuit 1 IC Primary Magnitude	2	FGIMT
19	Phase Bus Meter Circuit 1 IC Angle	2	FGIMT
20	Phase Bus Meter Circuit 1 V1 Primary Magnitude	2	FGIMT
21	Phase Bus Meter Circuit 1 V1 Angle	2	FGIMT
22	Phase Bus Meter Circuit 1 V2 Primary Magnitude	2	FGIMT
23	Phase Bus Meter Circuit 1 V2 Angle	2	FGIMT
24	Phase Bus Meter Circuit 1 3V0 Primary Magnitude	2	FGIMT
25	Phase Bus Meter Circuit 1 3V0 Angle	2	FGIMT
26	Phase Bus Meter Circuit 1 I1 Primary Magnitude	2	FGIMT
27	Phase Bus Meter Circuit 1 I1 Angle	2	FGIMT
28	Phase Bus Meter Circuit 1 I2 Primary Magnitude	2	FGIMT
29	Phase Bus Meter Circuit 1 I2 Angle	2	FGIMT
30	Phase Bus Meter Circuit 1 3I0 Primary Magnitude	2	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
31	Phase Bus Meter Circuit 1 3I0 Angle	2	FGIMT
32	Phase Bus Meter Circuit 1 Watt A Average	2	FGIMT
33	Phase Bus Meter Circuit 1 Watt B Average	2	FGIMT
34	Phase Bus Meter Circuit 1 Watt C Average	2	FGIMT
35	Phase Bus Meter Circuit 1 var A Average	2	FGIMT
36	Phase Bus Meter Circuit 1 var B Average	2	FGIMT
37	Phase Bus Meter Circuit 1 var C Average	2	FGIMT
38	Phase Bus Meter Circuit 1 Frequency	2	FGIMT
39	Phase Bus Meter Circuit 1 VA A	2	FGIMT
40	Phase Bus Meter Circuit 1 VA B	2	FGIMT
41	Phase Bus Meter Circuit 1 VA C	2	FGIMT
42	Phase Bus Meter Circuit 1 PF A	2	FGIMT
43	Phase Bus Meter Circuit 1 PF B	2	FGIMT
44	Phase Bus Meter Circuit 1 PF C	2	FGIMT
45	Phase Bus Meter Circuit 1 Total Watts	2	FGIMT
46	Phase Bus Meter Circuit 1 Total vars	2	FGIMT
47	Phase Bus Meter Circuit 1 Total VA	2	FGIMT
48	Phase Bus Meter Circuit 1 Total PF	2	FGIMT
49	Phase Bus Meter Circuit 1 Positive Watthour A	2	FGIMT
50	Phase Bus Meter Circuit 1 Positive Watthour B	2	FGIMT
51	Phase Bus Meter Circuit 1 Positive Watthour C	2	FGIMT
52	Phase Bus Meter Circuit 1 Positive Watthour Total	2	FGIMT
53	Phase Bus Meter Circuit 1 Positive varhour A	2	FGIMT
54	Phase Bus Meter Circuit 1 Positive varhour B	2	FGIMT
55	Phase Bus Meter Circuit 1 Positive varhour C	2	FGIMT
56	Phase Bus Meter Circuit 1 Positive varhour Total	2	FGIMT
57	Phase Bus Meter Circuit 1 Negative Watthour A	2	FGIMT
58	Phase Bus Meter Circuit 1 Negative Watthour B	2	FGIMT
59	Phase Bus Meter Circuit 1 Negative Watthour C	2	FGIMT
60	Phase Bus Meter Circuit 1 Negative Watthour Total	2	FGIMT
61	Phase Bus Meter Circuit 1 Negative varhour A	2	FGIMT
62	Phase Bus Meter Circuit 1 Negative varhour B	2	FGIMT
63	Phase Bus Meter Circuit 1 Negative varhour C	2	FGIMT
64	Phase Bus Meter Circuit 1 Negative varhour Total	2	FGIMT
65	Aux Bus Meter VA Primary Magnitude	2	FGIMT
66	Aux Bus Meter VA Angle	2	FGIMT
67	Aux Bus Meter VA-3rd Primary Magnitude	2	FGIMT
68	Aux Bus Meter VA-3rd Angle	2	FGIMT
69	Aux Bus Meter Frequency	2	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
70	Ground Current Meter Fundamental Primary	2	FGIMT
71	Ground Current Meter Fundamental Angle	2	FGIMT
72	Sync Metering Bus1-Bus2 Angle	2	FGIMT
73	Sync Metering Bus1-Bus2 Frequency	2	FGIMT
74	Sync Metering Bus1-Bus2 Volts	2	FGIMT
75	Demand Meter IA Present	2	FGIMT
76	Demand Meter IB Present	2	FGIMT
77	Demand Meter IC Present	2	FGIMT
78	Demand Meter IG Present	2	FGIMT
79	Demand Meter 3I0 Present	2	FGIMT
80	Demand Meter I2 Present	2	FGIMT
81	Demand Meter Watts A Present	2	FGIMT
82	Demand Meter Watts B Present	2	FGIMT
83	Demand Meter Watts C Present	2	FGIMT
84	Demand Meter Watts Total Present	2	FGIMT
85	Demand Meter vars A Present	2	FGIMT
86	Demand Meter vars B Present	2	FGIMT
87	Demand Meter vars C Present	2	FGIMT
88	Demand Meter vars Total Present	2	FGIMT
89	Demand Meter VA A Present	2	FGIMT
90	Demand Meter VA B Present	2	FGIMT
91	Demand Meter VA C Present	2	FGIMT
92	Demand Meter VA Total Present	2	FGIMT
93	Demand Meter IA Peak	2	FGIMT
94	Demand Meter IB Peak	2	FGIMT
95	Demand Meter IC Peak	2	FGIMT
96	Demand Meter IG Peak	2	FGIMT
97	Demand Meter 3I0 Peak	2	FGIMT
98	Demand Meter I2 Peak	2	FGIMT
99	Demand Meter Watts A Peak	2	FGIMT
100	Demand Meter Watts B Peak	2	FGIMT
101	Demand Meter Watts C Peak	2	FGIMT
102	Demand Meter Watts Total Peak	2	FGIMT
103	Demand Meter vars A Peak	2	FGIMT
104	Demand Meter vars B Peak	2	FGIMT
105	Demand Meter vars C Peak	2	FGIMT
106	Demand Meter vars Total Peak	2	FGIMT
107	Demand Meter VA A Peak	2	FGIMT
108	Demand Meter VA B Peak	2	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
109	Demand Meter VA C Peak	2	FGIMT
110	Demand Meter VA Total Peak	2	FGIMT
111	Demand Meter Negative Watts A Peak	2	FGIMT
112	Demand Meter Negative Watts B Peak	2	FGIMT
113	Demand Meter Negative Watts C Peak	2	FGIMT
114	Demand Meter Negative Watts Total Peak	2	FGIMT
115	Demand Meter Negative vars A Peak	2	FGIMT
116	Demand Meter Negative vars B Peak	2	FGIMT
117	Demand Meter Negative vars C Peak	2	FGIMT
118	Demand Meter Negative vars Total Peak	2	FGIMT
119	Power Quality Frequency 10 seconds	3	FGIMT
120	Power Quality VA Primary 200 milliseconds	3	FGIMT
121	Power Quality VB Primary 200 milliseconds	3	FGIMT
122	Power Quality VC Primary 200 milliseconds	3	FGIMT
123	Power Quality VA Primary 3 seconds	3	FGIMT
124	Power Quality VB Primary 3 seconds	3	FGIMT
125	Power Quality VC Primary 3 seconds	3	FGIMT
126	Power Quality VA Primary 10 minutes	3	FGIMT
127	Power Quality VB Primary 10 minutes	3	FGIMT
128	Power Quality VC Primary 10 minutes	3	FGIMT
129	Power Quality VA Primary 2 hours	3	FGIMT
130	Power Quality VB Primary 2 hours	3	FGIMT
131	Power Quality VC Primary 2 hours	3	FGIMT
132	Power Quality VAB Primary 200 milliseconds	3	FGIMT
133	Power Quality VBC Primary 200 milliseconds	3	FGIMT
134	Power Quality VCA Primary 200 milliseconds	3	FGIMT
135	Power Quality VAB Primary 3 seconds	3	FGIMT
136	Power Quality VBC Primary 3 seconds	3	FGIMT
137	Power Quality VCA Primary 3 seconds	3	FGIMT
138	Power Quality VAB Primary 10 minutes	3	FGIMT
139	Power Quality VBC Primary 10 minutes	3	FGIMT
140	Power Quality VCA Primary 10 minutes	3	FGIMT
141	Power Quality VAB Primary 2 hours	3	FGIMT
142	Power Quality VBC Primary 2 hours	3	FGIMT
143	Power Quality VCA Primary 2 hours	3	FGIMT
144	Power Quality Dip Status	3	FGIMT
145	Power Quality Primary Residual Voltage	3	FGIMT
146	Power Quality Swell Status	3	FGIMT
147	Power Quality Swell Voltage Primary	3	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
148	Power Quality U0 200 milliseconds	3	FGIMT
149	Power Quality U2 200 milliseconds	3	FGIMT
150	Power Quality U0 3 seconds	3	FGIMT
151	Power Quality U2 3 seconds	3	FGIMT
152	Power Quality U0 10 minutes	3	FGIMT
153	Power Quality U2 10 minutes	3	FGIMT
154	Power Quality U0 2 hours	3	FGIMT
155	Power Quality U2 2 hours	3	FGIMT
156	Power Quality VA Harmonic 1	3	FGIMT
157	Power Quality VA Harmonic 2	3	FGIMT
158	Power Quality VA Harmonic 3	3	FGIMT
159	Power Quality VA Harmonic 4	3	FGIMT
160	Power Quality VA Harmonic 5	3	FGIMT
161	Power Quality VA Harmonic 6	3	FGIMT
162	Power Quality VA Harmonic 7	3	FGIMT
163	Power Quality VA Harmonic 8	3	FGIMT
164	Power Quality VA Harmonic 9	3	FGIMT
165	Power Quality VA Harmonic 10	3	FGIMT
166	Power Quality VA Harmonic 11	3	FGIMT
167	Power Quality VA Harmonic 12	3	FGIMT
168	Power Quality VA Harmonic 13	3	FGIMT
169	Power Quality VA Harmonic 14	3	FGIMT
170	Power Quality VA Harmonic 15	3	FGIMT
171	Power Quality VB Harmonic 1	3	FGIMT
172	Power Quality VB Harmonic 2	3	FGIMT
173	Power Quality VB Harmonic 3	3	FGIMT
174	Power Quality VB Harmonic 4	3	FGIMT
175	Power Quality VB Harmonic 5	3	FGIMT
176	Power Quality VB Harmonic 6	3	FGIMT
177	Power Quality VB Harmonic 7	3	FGIMT
178	Power Quality VB Harmonic 8	3	FGIMT
179	Power Quality VB Harmonic 9	3	FGIMT
180	Power Quality VB Harmonic 10	3	FGIMT
181	Power Quality VB Harmonic 11	3	FGIMT
182	Power Quality VB Harmonic 12	3	FGIMT
183	Power Quality VB Harmonic 13	3	FGIMT
184	Power Quality VB Harmonic 14	3	FGIMT
185	Power Quality VB Harmonic 15	3	FGIMT
186	Power Quality VC Harmonic 1	3	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
187	Power Quality VC Harmonic 2	3	FGIMT
188	Power Quality VC Harmonic 3	3	FGIMT
189	Power Quality VC Harmonic 4	3	FGIMT
190	Power Quality VC Harmonic 5	3	FGIMT
191	Power Quality VC Harmonic 6	3	FGIMT
192	Power Quality VC Harmonic 7	3	FGIMT
193	Power Quality VC Harmonic 8	3	FGIMT
194	Power Quality VC Harmonic 9	3	FGIMT
195	Power Quality VC Harmonic 10	3	FGIMT
196	Power Quality VC Harmonic 11	3	FGIMT
197	Power Quality VC Harmonic 12	3	FGIMT
198	Power Quality VC Harmonic 13	3	FGIMT
199	Power Quality VC Harmonic 14	3	FGIMT
200	Power Quality VC Harmonic 15	3	FGIMT
201	Power Quality IA Harmonic 1	3	FGIMT
202	Power Quality IA Harmonic 2	3	FGIMT
203	Power Quality IA Harmonic 3	3	FGIMT
204	Power Quality IA Harmonic 4	3	FGIMT
205	Power Quality IA Harmonic 5	3	FGIMT
206	Power Quality IA Harmonic 6	3	FGIMT
207	Power Quality IA Harmonic 7	3	FGIMT
208	Power Quality IA Harmonic 8	3	FGIMT
209	Power Quality IA Harmonic 9	3	FGIMT
210	Power Quality IA Harmonic 10	3	FGIMT
211	Power Quality IA Harmonic 11	3	FGIMT
212	Power Quality IA Harmonic 12	3	FGIMT
213	Power Quality IA Harmonic 13	3	FGIMT
214	Power Quality IA Harmonic 14	3	FGIMT
215	Power Quality IA Harmonic 15	3	FGIMT
216	Power Quality IB Harmonic 1	3	FGIMT
217	Power Quality IB Harmonic 2	3	FGIMT
218	Power Quality IB Harmonic 3	3	FGIMT
219	Power Quality IB Harmonic 4	3	FGIMT
220	Power Quality IB Harmonic 5	3	FGIMT
221	Power Quality IB Harmonic 6	3	FGIMT
222	Power Quality IB Harmonic 7	3	FGIMT
223	Power Quality IB Harmonic 8	3	FGIMT
224	Power Quality IB Harmonic 9	3	FGIMT
225	Power Quality IB Harmonic 10	3	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
226	Power Quality IB Harmonic 11	3	FGIMT
227	Power Quality IB Harmonic 12	3	FGIMT
228	Power Quality IB Harmonic 13	3	FGIMT
229	Power Quality IB Harmonic 14	3	FGIMT
230	Power Quality IB Harmonic 15	3	FGIMT
231	Power Quality IC Harmonic 1	3	FGIMT
232	Power Quality IC Harmonic 2	3	FGIMT
233	Power Quality IC Harmonic 3	3	FGIMT
234	Power Quality IC Harmonic 4	3	FGIMT
235	Power Quality IC Harmonic 5	3	FGIMT
236	Power Quality IC Harmonic 6	3	FGIMT
237	Power Quality IC Harmonic 7	3	FGIMT
238	Power Quality IC Harmonic 8	3	FGIMT
239	Power Quality IC Harmonic 9	3	FGIMT
240	Power Quality IC Harmonic 10	3	FGIMT
241	Power Quality IC Harmonic 11	3	FGIMT
242	Power Quality IC Harmonic 12	3	FGIMT
243	Power Quality IC Harmonic 13	3	FGIMT
244	Power Quality IC Harmonic 14	3	FGIMT
245	Power Quality IC Harmonic 15	3	FGIMT
246	Power Quality IG Harmonic 1	3	FGIMT
247	Power Quality IG Harmonic 2	3	FGIMT
248	Power Quality IG Harmonic 3	3	FGIMT
249	Power Quality IG Harmonic 4	3	FGIMT
250	Power Quality IG Harmonic 5	3	FGIMT
251	Power Quality IG Harmonic 6	3	FGIMT
252	Power Quality IG Harmonic 7	3	FGIMT
253	Power Quality IG Harmonic 8	3	FGIMT
254	Power Quality IG Harmonic 9	3	FGIMT
255	Power Quality IG Harmonic 10	3	FGIMT
256	Power Quality IG Harmonic 11	3	FGIMT
257	Power Quality IG Harmonic 12	3	FGIMT
258	Power Quality IG Harmonic 13	3	FGIMT
259	Power Quality IG Harmonic 14	3	FGIMT
260	Power Quality IG Harmonic 15	3	FGIMT
261	Energy Meter Positive Watthour A	2	FGIMT
262	Energy Meter Positive Watthour B	2	FGIMT
263	Energy Meter Positive Watthour C	2	FGIMT
264	Energy Meter Positive Watthour Total	2	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
265	Energy Meter Positive varhour A	2	FGIMT
266	Energy Meter Positive varhour B	2	FGIMT
267	Energy Meter Positive varhour C	2	FGIMT
268	Energy Meter Positive varhour Total	2	FGIMT
269	Energy Meter Negative Watthour A	2	FGIMT
270	Energy Meter Negative Watthour B	2	FGIMT
271	Energy Meter Negative Watthour C	2	FGIMT
272	Energy Meter Negative Watthour Total	2	FGIMT
273	Energy Meter Negative varhour A	2	FGIMT
274	Energy Meter Negative varhour B	2	FGIMT
275	Energy Meter Negative varhour C	2	FGIMT
276	Energy Meter Negative varhour Total	2	FGIMT
277	Fault Report Read-Latest Fault ID	1	DFGIMT
278	Fault Report Record-Number	1	DFGIMT
279	Fault Report Fault-Report Relay Address DNP	1	DFGIMT
280	Fault Report Time Stamp-Year	1	DFGIMT
281	Fault Report Time Stamp-Month	1	DFGIMT
282	Fault Report Time Stamp-Day of Month	1	DFGIMT
283	Fault Report Time Stamp-Hour	1	DFGIMT
284	Fault Report Time Stamp-Minute	1	DFGIMT
285	Fault Report Time Stamp-Second	1	DFGIMT
286	Fault Report Time Stamp-Millisecond	1	DFGIMT
287	Fault Report Clear-Time	1	DFGIMT
288	Fault Report Operate-Time	1	DFGIMT
289	Fault Report Trigger-Status BLK0	1	DFGIMT
290	Fault Report Trigger-Status BLK1	1	DFGIMT
291	Fault Report Trigger-Status BLK2	1	DFGIMT
292	Fault Report Trigger-Status BLK3	1	DFGIMT
293	Fault Report Trigger-Status BLK4	1	DFGIMT
294	Fault Report Trigger-Status BLK5	1	DFGIMT
295	Fault Report Trigger-Status BLK6	1	DFGIMT
296	Fault Report Trigger-Status BLK7	1	DFGIMT
297	Fault Report Trigger-Status BLK8	1	DFGIMT
298	Fault Report Trigger-Status BLK9	1	DFGIMT
299	Fault Report Trigger-Status BLK10	1	DFGIMT
300	Fault Report Trigger-Status BLK11	1	DFGIMT
301	Fault Report Trigger-Status BLK12	1	DFGIMT
302	Fault Report Trigger-Status BLK13	1	DFGIMT
303	Fault Report Trigger-Status BLK14	1	DFGIMT

Point Index	Description	Change Event Default Assigned Class	Application
304	Fault Report Trigger-Status BLK15	1	DFGIMT
305	Fault Report Trigger-Status BLK16	1	DFGIMT
306	Fault Report Trigger-Status BLK17	1	DFGIMT
307	Fault Report Trigger-Status BLK18	1	DFGIMT
308	Fault Report Trigger-Status BLK19	1	DFGIMT
309	Fault Report Trigger-Status BLK20	1	DFGIMT
310	Fault Report Trigger-Status BLK21	1	DFGIMT
311	Fault Report Trigger-Status BLK22	1	DFGIMT
312	Fault Report Trigger-Status BLK23	1	DFGIMT
313	Fault Report Trigger-Status BLK24	1	DFGIMT
314	Fault Report Trigger-Status BLK25	1	DFGIMT
315	Fault Report Trigger-Status BLK26	1	DFGIMT
316	Fault Report Trigger-Status BLK27	1	DFGIMT
317	Fault Report Trigger-Status BLK28	1	DFGIMT
318	Fault Report Trigger-Status BLK29	1	DFGIMT
319	Fault Report Trigger-Status BLK30	1	DFGIMT
320	Fault Report Trigger-Status BLK31	1	DFGIMT
321	Fault Report Trigger-Status BLK32	1	DFGIMT
322	Fault Report Trigger-Status BLK33	1	DFGIMT
323	Fault Report Trigger-Status BLK34	1	DFGIMT
324	Fault Report Trigger-Status BLK35	1	DFGIMT
325	Fault Report Trigger-Status BLK36	1	DFGIMT
326	Fault Report Trigger-Status BLK37	1	DFGIMT
327	Fault Report Trigger-Status BLK38	1	DFGIMT
328	Fault Report Trigger-Status BLK39	1	DFGIMT
329	Fault Report Trigger-Status BLK40	1	DFGIMT
330	Fault Report Trigger-Status BLK41	1	DFGIMT
331	Fault Report Trigger-Status BLK42	1	DFGIMT
332	Fault Report Trigger-Status BLK43	1	DFGIMT
333	Fault Report Trigger-Status BLK44	1	DFGIMT
334	Fault Report Trigger-Status BLK45	1	DFGIMT
335	Fault Report Trigger-Status BLK46	1	DFGIMT
336	Fault Report Trigger-Status BLK47	1	DFGIMT
337	Fault Report Trigger-Status BLK48	1	DFGIMT
338	Fault Report Trigger-Status BLK49	1	DFGIMT
339	Fault Report Trigger-Status BLK50	1	DFGIMT
340	Fault Report Trigger-Status BLK51	1	DFGIMT
341	Fault Report Trigger-Status BLK52	1	DFGIMT
342	Fault Report Trigger-Status BLK53	1	DFGIMT

Point Index	Description	Change Event Default Assigned Class	Application
343	Fault Report Trigger-Status BLK54	1	DFGIMT
344	Fault Report Trigger-Status BLK55	1	DFGIMT
345	Fault Report Trigger-Status BLK56	1	DFGIMT
346	Fault Report Trigger-Status BLK57	1	DFGIMT
347	Fault Report Trigger-Status BLK58	1	DFGIMT
348	Fault Report Trigger-Status BLK59	1	DFGIMT
349	Fault Report Trigger-Status BLK60	1	DFGIMT
350	Fault Report Trigger-Status BLK61	1	DFGIMT
351	Fault Report Trigger-Status BLK62	1	DFGIMT
352	Fault Report Trigger-Status BLK63	1	DFGIMT
353	Fault Report Trigger-Status BLK64	1	DFGIMT
354	Fault Report Trigger-Status BLK65	1	DFGIMT
355	Fault Report Trigger-Status BLK66	1	DFGIMT
356	Fault Report Trigger-Status BLK67	1	DFGIMT
357	Fault Report Trigger-Status BLK68	1	DFGIMT
358	Fault Report Trigger-Status BLK69	1	DFGIMT
359	Fault Report Trigger-Status BLK70	1	DFGIMT
360	Fault Report Trigger-Status BLK71	1	DFGIMT
361	Fault Report Trigger-Status BLK72	1	DFGIMT
362	Fault Report Trigger-Status BLK73	1	DFGIMT
363	Fault Report Trigger-Status BLK74	1	DFGIMT
364	Fault Report Trigger-Status BLK75	1	DFGIMT
365	Fault Report Trigger-Status BLK76	1	DFGIMT
366	Fault Report Trigger-Status BLK77	1	DFGIMT
367	Fault Report Trigger-Status BLK78	1	DFGIMT
368	Fault Report Trigger-Status BLK79	1	DFGIMT
369	Fault Report Trigger-Status BLK80	1	DFGIMT
370	Fault Report Trigger-Status BLK81	1	DFGIMT
371	Fault Report Trigger-Status BLK82	1	DFGIMT
372	Fault Report Event Type	1	DFGIMT
373	Fault Report Active-Setting Group	1	DFGIMT
374	Fault Report Target-State BLK0	1	DFGIMT
375	Fault Report Target-State BLK1	1	DFGIMT
376	Fault Report Target-State BLK2	1	DFGIMT
377	Fault Report Target-State BLK3	1	DFGIMT
378	Fault Report Target-State BLK4	1	DFGIMT
379	Fault Report Target-State BLK5	1	DFGIMT
380	Fault Report Target-State BLK6	1	DFGIMT
381	Fault Report Target-State BLK7	1	DFGIMT

Point Index	Description	Change Event Default Assigned Class	Application
382	Fault Report Target-State BLK8	1	DFGIMT
383	Fault Report Target-State BLK9	1	DFGIMT
384	Fault Report Target-State BLK10	1	DFGIMT
385	Fault Report Target-State BLK11	1	DFGIMT
386	Fault Report Target-State BLK12	1	DFGIMT
387	Fault Report Target-State BLK13	1	DFGIMT
388	Fault Report Target-State BLK14	1	DFGIMT
389	Fault Report Target-State BLK15	1	DFGIMT
390	Fault Report Target-State BLK16	1	DFGIMT
391	Fault Report Target-State BLK17	1	DFGIMT
392	Fault Report Target-State BLK18	1	DFGIMT
393	Fault Report Target-State BLK19	1	DFGIMT
394	Fault Report Target-State BLK20	1	DFGIMT
395	Fault Report Target-State BLK21	1	DFGIMT
396	Fault Report Target-State BLK22	1	DFGIMT
397	Fault Report Target-State BLK23	1	DFGIMT
398	Fault Report Target-State BLK24	1	DFGIMT
399	Fault Report Target-State BLK25	1	DFGIMT
400	Fault Report Target-State BLK26	1	DFGIMT
401	Fault Report Target-State BLK27	1	DFGIMT
402	Fault Report Target-State BLK28	1	DFGIMT
403	Fault Report Target-State BLK29	1	DFGIMT
404	Fault Report Target-State BLK30	1	DFGIMT
405	Fault Report Target-State BLK31	1	DFGIMT
406	Fault Report Target-State BLK32	1	DFGIMT
407	Fault Report Target-State BLK33	1	DFGIMT
408	Fault Report Target-State BLK34	1	DFGIMT
409	Fault Report Target-State BLK35	1	DFGIMT
410	Fault Report Target-State BLK36	1	DFGIMT
411	Fault Report Target-State BLK37	1	DFGIMT
412	Fault Report Target-State BLK38	1	DFGIMT
413	Fault Report Target-State BLK39	1	DFGIMT
414	Fault Report Target-State BLK40	1	DFGIMT
415	Fault Report Target-State BLK41	1	DFGIMT
416	Fault Report Target-State BLK42	1	DFGIMT
417	Fault Report Target-State BLK43	1	DFGIMT
418	Fault Report Target-State BLK44	1	DFGIMT
419	Fault Report Target-State BLK45	1	DFGIMT
420	Fault Report Target-State BLK46	1	DFGIMT

Point Index	Description	Change Event Default Assigned Class	Application
421	Fault Report Target-State BLK47	1	DFGIMT
422	Fault Report Target-State BLK48	1	DFGIMT
423	Fault Report Target-State BLK49	1	DFGIMT
424	Fault Report Target-State BLK50	1	DFGIMT
425	Fault Report Target-State BLK51	1	DFGIMT
426	Fault Report Target-State BLK52	1	DFGIMT
427	Fault Report Target-State BLK53	1	DFGIMT
428	Fault Report Target-State BLK54	1	DFGIMT
429	Fault Report Target-State BLK55	1	DFGIMT
430	Fault Report Target-State BLK56	1	DFGIMT
431	Fault Report Target-State BLK57	1	DFGIMT
432	Fault Report Target-State BLK58	1	DFGIMT
433	Fault Report Target-State BLK59	1	DFGIMT
434	Fault Report Target-State BLK60	1	DFGIMT
435	Fault Report Target-State BLK61	1	DFGIMT
436	Fault Report Target-State BLK62	1	DFGIMT
437	Fault Report Target-State BLK63	1	DFGIMT
438	Fault Report Target-State BLK64	1	DFGIMT
439	Fault Report Target-State BLK65	1	DFGIMT
440	Fault Report Target-State BLK66	1	DFGIMT
441	Fault Report Target-State BLK67	1	DFGIMT
442	Fault Report Target-State BLK68	1	DFGIMT
443	Fault Report Target-State BLK69	1	DFGIMT
444	Fault Report Target-State BLK70	1	DFGIMT
445	Fault Report Target-State BLK71	1	DFGIMT
446	Fault Report Target-State BLK72	1	DFGIMT
447	Fault Report Target-State BLK73	1	DFGIMT
448	Fault Report Target-State BLK74	1	DFGIMT
449	Fault Report Target-State BLK75	1	DFGIMT
450	Fault Report Target-State BLK76	1	DFGIMT
451	Fault Report Target-State BLK78	1	DFGIMT
452	Fault Report Target-State BLK79	1	DFGIMT
453	Fault Report Target-State BLK80	1	DFGIMT
454	Fault Report Target-State BLK81	1	DFGIMT
455	Fault Report Target-State BLK82	1	DFGIMT
456	Fault Report Recloser-State	1	FI
457	Fault Report IA	1	FGIMT
458	Fault Report IB	1	FGIMT
459	Fault Report IC	1	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
460	Reserved		
461	Fault Report IG	1	FGIMT
462	Fault Report 3I0	1	FGIMT
463	Fault Report I1	1	FGIMT
464	Fault Report I2	1	FGIMT
465	Fault Report IA-Angle	1	FGIMT
466	Fault Report IB-Angle	1	FGIMT
467	Fault Report IC-Angle	1	FGIMT
468	Reserved		
469	Fault Report IG-Angle	1	FGIMT
470	Fault Report 3I0-Angle	1	FGIMT
471	Fault Report I1-Angle	1	FGIMT
472	Fault Report I2-Angle	1	FGIMT
473	Fault Report VA	1	FGIMT
474	Fault Report VB	1	FGIMT
475	Fault Report VC	1	FGIMT
476	Fault Report VN	1	FGIMT
477	Fault Report VX	1	FGIMT
478	Fault Report V0	1	FGIMT
479	Fault Report V1	1	FGIMT
480	Fault Report V2	1	FGIMT
481	Fault Report VA-Angle	1	FGIMT
482	Fault Report VB-Angle	1	FGIMT
483	Fault Report VC-Angle	1	FGIMT
484	Fault Report VN-Angle	1	FGIMT
485	Fault Report VX-Angle	1	FGIMT
486	Fault Report V0-Angle	1	FGIMT
487	Fault Report V1-Angle	1	FGIMT
488	Fault Report V2-Angle	1	FGIMT
489	Fault Report Phase Frequency	1	FGIMT
490	Fault Report Auxiliary Frequency	1	FGIMT
491	Fault Report Distance To Fault	1	FGIMT
492	Security Center Logout	1	FGIMT
493	Neutral Differential Meter Iop	2	FGIMT
494	Differential Meter Ir	2	FGIMT
495	Fault Report Fault Type	1	FGIMT
496	Fault Report Number of Records	1	FGIMT
497	Fault Report IA CT Circuit 2	1	FGIMT
498	Fault Report IB CT Circuit 2	1	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
499	Fault Report IC CT Circuit 2	1	FGIMT
500	Fault Report IG CT Circuit 2	1	FGIMT
501	Fault Report 3I0 CT Circuit 2	1	FGIMT
502	Fault Report I1 CT Circuit 2	1	FGIMT
503	Fault Report I2 CT Circuit 2	1	FGIMT
504	Fault Report IA-Angle CT Circuit 2	1	FGIMT
505	Fault Report IB-Angle CT Circuit 2	1	FGIMT
506	Fault Report IC-Angle CT Circuit 2	1	FGIMT
507	Fault Report IG-Angle CT Circuit 2	1	FGIMT
508	Fault Report 3I0-Angle CT Circuit 2	1	FGIMT
509	Fault Report I1-Angle CT Circuit 2	1	FGIMT
510	Fault Report I2-Angle CT Circuit 2	1	FGIMT
511	Phase Current Meter Primary CT Circuit 2 IA	2	FGIMT
512	Phase Current Meter Primary CT Circuit 2 IB	2	FGIMT
513	Phase Current Meter Primary CT Circuit 2 IC	2	FGIMT
514	Phase Current Meter Primary CT Circuit 2 I1	2	FGIMT
515	Phase Current Meter Primary CT Circuit 2 I2	2	FGIMT
516	Phase Current Meter Primary CT Circuit 2 3I0	2	FGIMT
517	Phase Current Meter Angle CT Circuit 2 IA	2	FGIMT
518	Phase Current Meter Angle CT Circuit 2 IB	2	FGIMT
519	Phase Current Meter Angle CT Circuit 2 IC	2	FGIMT
520	Phase Current Meter Angle CT Circuit 2 I1	2	FGIMT
521	Phase Current Meter Angle CT Circuit 2 I2	2	FGIMT
522	Phase Current Meter Angle CT Circuit 2 3I0	2	FGIMT
523	Ground Current Meter Primary CT Circuit 2 IG	2	FGIMT
524	Ground Current Meter Angle CT Circuit 2 IG	2	FGIMT
525	Power Quality IA Harmonic 1 CT Circuit 2	3	FGIMT
526	Power Quality IA Harmonic 2 CT Circuit 2	3	FGIMT
527	Power Quality IA Harmonic 3 CT Circuit 2	3	FGIMT
528	Power Quality IA Harmonic 4 CT Circuit 2	3	FGIMT
529	Power Quality IA Harmonic 5 CT Circuit 2	3	FGIMT
530	Power Quality IA Harmonic 6 CT Circuit 2	3	FGIMT
531	Power Quality IA Harmonic 7 CT Circuit 2	3	FGIMT
532	Power Quality IA Harmonic 8 CT Circuit 2	3	FGIMT
533	Power Quality IA Harmonic 9 CT Circuit 2	3	FGIMT
534	Power Quality IA Harmonic 10 CT Circuit 2	3	FGIMT
535	Power Quality IA Harmonic 11 CT Circuit 2	3	FGIMT
536	Power Quality IA Harmonic 12 CT Circuit 2	3	FGIMT
537	Power Quality IA Harmonic 13 CT Circuit 2	3	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
538	Power Quality IA Harmonic 14 CT Circuit 2	3	FGIMT
539	Power Quality IA Harmonic 15 CT Circuit 2	3	FGIMT
540	Power Quality IB Harmonic 1 CT Circuit 2	3	FGIMT
541	Power Quality IB Harmonic 2 CT Circuit 2	3	FGIMT
542	Power Quality IB Harmonic 3 CT Circuit 2	3	FGIMT
543	Power Quality IB Harmonic 4 CT Circuit 2	3	FGIMT
544	Power Quality IB Harmonic 5 CT Circuit 2	3	FGIMT
545	Power Quality IB Harmonic 6 CT Circuit 2	3	FGIMT
546	Power Quality IB Harmonic 7 CT Circuit 2	3	FGIMT
547	Power Quality IB Harmonic 8 CT Circuit 2	3	FGIMT
548	Power Quality IB Harmonic 9 CT Circuit 2	3	FGIMT
549	Power Quality IB Harmonic 10 CT Circuit 2	3	FGIMT
550	Power Quality IB Harmonic 11 CT Circuit 2	3	FGIMT
551	Power Quality IB Harmonic 12 CT Circuit 2	3	FGIMT
552	Power Quality IB Harmonic 13 CT Circuit 2	3	FGIMT
553	Power Quality IB Harmonic 14 CT Circuit 2	3	FGIMT
554	Power Quality IB Harmonic 15 CT Circuit 2	3	FGIMT
555	Power Quality IC Harmonic 1 CT Circuit 2	3	FGIMT
556	Power Quality IC Harmonic 2 CT Circuit 2	3	FGIMT
557	Power Quality IC Harmonic 3 CT Circuit 2	3	FGIMT
558	Power Quality IC Harmonic 4 CT Circuit 2	3	FGIMT
559	Power Quality IC Harmonic 5 CT Circuit 2	3	FGIMT
560	Power Quality IC Harmonic 6 CT Circuit 2	3	FGIMT
561	Power Quality IC Harmonic 7 CT Circuit 2	3	FGIMT
562	Power Quality IC Harmonic 8 CT Circuit 2	3	FGIMT
563	Power Quality IC Harmonic 9 CT Circuit 2	3	FGIMT
564	Power Quality IC Harmonic 10 CT Circuit 2	3	FGIMT
565	Power Quality IC Harmonic 11 CT Circuit 2	3	FGIMT
566	Power Quality IC Harmonic 12 CT Circuit 2	3	FGIMT
567	Power Quality IC Harmonic 13 CT Circuit 2	3	FGIMT
568	Power Quality IC Harmonic 14 CT Circuit 2	3	FGIMT
569	Power Quality IC Harmonic 15 CT Circuit 2	3	FGIMT
570	Power Quality IG Harmonic 1 CT Circuit 2	3	FGIMT
571	Power Quality IG Harmonic 2 CT Circuit 2	3	FGIMT
572	Power Quality IG Harmonic 3 CT Circuit 2	3	FGIMT
573	Power Quality IG Harmonic 4 CT Circuit 2	3	FGIMT
574	Power Quality IG Harmonic 5 CT Circuit 2	3	FGIMT
575	Power Quality IG Harmonic 6 CT Circuit 2	3	FGIMT
576	Power Quality IG Harmonic 7 CT Circuit 2	3	FGIMT

Point Index	Description	Change Event Default Assigned Class	Application
577	Power Quality IG Harmonic 8 CT Circuit 2	3	FGIMT
578	Power Quality IG Harmonic 9 CT Circuit 2	3	FGIMT
579	Power Quality IG Harmonic 10 CT Circuit 2	3	FGIMT
580	Power Quality IG Harmonic 11 CT Circuit 2	3	FGIMT
581	Power Quality IG Harmonic 12 CT Circuit 2	3	FGIMT
582	Power Quality IG Harmonic 13 CT Circuit 2	3	FGIMT
583	Power Quality IG Harmonic 14 CT Circuit 2	3	FGIMT
584	Power Quality IG Harmonic 15 CT Circuit 2	3	FGIMT
585	Demand Meter IA Present CT Circuit 2	2	FGIMT
586	Demand Meter IB Present CT Circuit 2	2	FGIMT
587	Demand Meter IC Present CT Circuit 2	2	FGIMT
588	Demand Meter 3I0 Present CT Circuit 2	2	FGIMT
589	Demand Meter I2 Present CT Circuit 2	2	FGIMT
590	Demand Meter IA Peak CT Circuit 2	2	FGIMT
591	Demand Meter IB Peak CT Circuit 2	2	FGIMT
592	Demand Meter IC Peak CT Circuit 2	2	FGIMT
593	Demand Meter 3I0 Peak CT Circuit 2	2	FGIMT
594	Demand Meter I2 Peak CT Circuit 2	2	FGIMT
595	Demand Meter IG Present CT Circuit 2	2	FGIMT
596	Demand Meter IG Peak CT Circuit 2	2	FGIMT
597-612	Reserved		
613	Analog Input Meter 1	3	DFGIMT
614	Analog Input Meter 2	3	DFGIMT
615	Analog Input Meter 3	3	DFGIMT
616	Analog Input Meter 4	3	DFGIMT
617	Analog Input Meter 5	3	DFGIMT
618	Analog Input Meter 6	3	DFGIMT
619	Analog Input Meter 7	3	DFGIMT
620	Analog Input Meter 8	3	DFGIMT
621	Analog Output Meter 1	3	DFGIMT
622	Analog Output Meter 2	3	DFGIMT
623	Analog Output Meter 3	3	DFGIMT
624	Analog Output Meter 4	3	DFGIMT
625	Analog Output Meter 5	3	DFGIMT
626	Analog Output Meter 6	3	DFGIMT
627	Analog Output Meter 7	3	DFGIMT
628	Analog Output Meter 8	3	DFGIMT
629	RTD Meter 1	3	DFGIMT

Point Index	Description	Change Event Default Assigned Class	Application
630	RTD Meter 2	3	DFGIMT
631	RTD Meter 3	3	DFGIMT
632	RTD Meter 4	3	DFGIMT
633	RTD Meter 5	3	DFGIMT
634	RTD Meter 6	3	DFGIMT
635	RTD Meter 7	3	DFGIMT
636	RTD Meter 8	3	DFGIMT
637	RTD Meter 9	3	DFGIMT
638	RTD Meter 10	3	DFGIMT
639	RTD Meter 11	3	DFGIMT
640	RTD Meter 12	3	DFGIMT
641	RTD Meter 13	3	DFGIMT
642	RTD Meter 14	3	DFGIMT
643	RTD Meter 15	3	DFGIMT
644	RTD Meter 16	3	DFGIMT
645	RTD Meter 17	3	DFGIMT
646	RTD Meter 18	3	DFGIMT
647	RTD Meter 19	3	DFGIMT
648	RTD Meter 20	3	DFGIMT
649	RTD Meter 21	3	DFGIMT
650	RTD Meter 22	3	DFGIMT
651	RTD Meter 23	3	DFGIMT
652	RTD Meter 24	3	DFGIMT
653	Phase Differential Meter Iop A	2	GMT
654	Phase Differential Meter Ir A	2	GMT
655	Phase Differential Meter Iop B	2	GMT
656	Phase Differential Meter Ir B	2	GMT
657	Phase Differential Meter Iop C	2	GMT
658	Phase Differential Meter Ir C	2	GMT
659	Learned Motor Data Average Maximum Thermal	2	M
660	Learned Motor Data Average Maximum Current	2	M
661	Learned Motor Data Average Minimum Voltage	2	M
662	Learned Motor Data Average Maximum RTD Group 1	2	M
663	Learned Motor Data Average Maximum RTD Group 2	2	M
664	Learned Motor Data Average Maximum RTD Group 3	2	M
665	Learned Motor Data Average Maximum RTD Group 4	2	M
666	Learned Motor Data Average Start Duration Min	2	M
667	Learned Motor Data Average Start Duration Sec	2	M
668	Motor Meter Thermal Capacity	2	M

Point Index	Description	Change Event Default Assigned Class	Application
669	Motor Meter Current Unbalance	2	M
670	Motor Meter Voltage Unbalance	2	M
671	Motor Meter Effective Motor Current	2	M
672	Motor Maintenance Data - Hours Running	2	M
673	Motor Maintenance Data - Minutes Running	2	M
674	Motor Maintenance Data - Max Duration Start Min	2	M
675	Motor Maintenance Data - Max Duration Start Sec	2	M
676	Motor Maintenance Data - Successful Normal Starts	2	M
677	Motor Maintenance Data - Successful Emergency Starts	2	M
678	Motor Maintenance Data - Failed Normal Starts	2	M
679	Motor Maintenance Data - Failed Emergency Starts	2	M
680	Motor Maintenance Data - Number of Trips	2	M
681	Motor Maintenance Data - Number of Thermal Trips	2	M
682	Motor Maintenance Data - Max Start Thermal Capacity	2	M
683	Motor Maintenance Data - Max Start Current	2	M
684	Motor Maintenance Data - Min Voltage Starts	2	M
685	Motor Maintenance Data - Max RTD Group 1	2	M
686	Motor Maintenance Data - Max RTD Group 2	2	M
687	Motor Maintenance Data - Max RTD Group 3	2	M
688	Motor Maintenance Data - Max RTD Group 4	2	M
689-738	Reserved		
739	Phase Differential Meter 1 Iop 2nd A	2	T
740	Phase Differential Meter 1 Iop 2nd B	2	T
741	Phase Differential Meter 1 Iop 2nd C	2	T
742	Phase Differential Meter 1 Iop 5th A	2	T
743	Phase Differential Meter 1 Iop 5th B	2	T
744	Phase Differential Meter 1 Iop 5th C	2	T
745	Fault Report – Days Since January 1, 1984	1	DFGIMT
746	Fault Report – Milliseconds of Day	1	DFGIMT
747	Active Settings Group	1	DFGIMT
748	Differential Meter 2 Iop	2	M
749	Differential Meter 2 Ir	2	M
750	Learned Motor Data Average Max RTD Group 5	2	M
751	Learned Motor Data Average Max RTD Group 6	2	M
752	Learned Motor Data Average Max RTD Group 7	2	M
753	Motor Maintenance Data Max RTD Group 5	2	M
754	Motor Maintenance Data Max RTD Group 6	2	M
755	Motor Maintenance Data Max RTD Group 7	2	M

Point Index	Description	Change Event Default Assigned Class	Application
756	Energy Meter Positive Watthours DC	2	D
757	Energy Meter Negative Watthours DC	2	D
758	DC Meter Input I1 System	2	D
759	DC Meter Input V1 System	2	D
760	DC Meter Input V2 System	2	D
761	DC Meter Input V3 System	2	D
762	DC Meter Power 1 System	2	D
763	DC Meter Input I1 Shunt	2	D
764	DC Meter Power 1 Shunt	2	D
765	Fault Report I1	1	D
766	Fault Report V1	1	D
767	Fault Report V2	1	D
768	Fault Report V3	1	D
769	DC Meter Thermal Energy	2	D
770	Reserved		
771	DC Demand Meter 1 I1 DC Present	2	D
772	DC Demand Meter 1 P1 DC Present	2	D
773	DC Demand Meter 1 Peak I1 Positive	2	D
774	DC Demand Meter 1 Peak I1 Negative	2	D
775	DC Demand Meter 1 Peak P1 Positive	2	D
776	DC Demand Meter 1 Peak P1 Negative	2	D

Analog Output Status Points and Control Blocks

Table 6 lists both the Analog Status Points (Object 40) and the Analog Output Control Blocks (Object 41). It is important to note that Analog Output Status Points are not included into Class 0.

The Return Status Value for object 41 for all control operations may be 6 (hardware problem) due to a value out of range, or a BE1-11 internal state. One of the reasons for rejection may be if another communication port or front panel interface has access higher than READ. For more information, see the appropriate BE1-11 instructional manual.

Each Analog Output Status Point has a setting for scaling factor configurable via BESTCOMS*Plus*.

Table 6. Analog Output Status Points and Control Blocks

Analog Output Status Points
Object Number: 40

Variations Supported: 1, 2, 3

Request Function Codes supported: 1 (read)
Default Variation Reported When Variation 0 Requested: 2 (16-Bit Analog Output Status)

Analog Output Blocks
Object Number: 41

Variations Supported: 1, 2, 3

Request Function Codes supported: 3 (select), 4 (operate), 5 (direct operate), 6 (direct operate, noack)

Point Index	Description	Application
0	43-1 Mode	DFGIMT
1	43-2 Mode	DFGIMT
2	43-3 Mode	DFGIMT
3	43-4 Mode	DFGIMT
4	43-5 Mode	DFGIMT
5	101 Mode	DFGIMT
6	Breaker Monitor Operations	DFGIMT
7	Breaker Monitor Duty A	FGIMT
	Breaker Monitor Duty	D
8	Breaker Monitor Duty B	FGIMT
9	Breaker Monitor Duty C	FGIMT
10	Demand Meter Reset Demands	DFGIMT
11	DNP Save Assigned Class and Deadband	DFGIMT
12	Fault Report Record Selection (For more information, see *Fault Report Record Selection* at the end of this chapter.)	DFGIMT
13	Contact Output 1 Override Enable	DFGIMT
14	Contact Output 2 Override Enable	DFGIMT
15	Contact Output 3 Override Enable	DFGIMT
16	Contact Output 4 Override Enable	DFGIMT
17	Contact Output 5 Override Enable	DFGIMT
18	Contact Output A Override Enable	DFGIMT
19	Major Alarm Reset	DFGIMT
20	Minor Alarm Reset	DFGIMT
21	Targets Reset	DFGIMT
22	Relay Alarms Reset	DFGIMT
23	Settings Group Mode	DFGIMT
24	Settings Group Operate	DFGIMT
25	Demand Meter CT Circuit 2 Reset Current Demands	FGIMT
26	Demand Meter CT Circuit 2 Reset Ground Current Demands	FGIMT

Point Index	Description	Application
27	Contact Output 6 Override Enable	DFGIMT
28	Contact Output 7 Override Enable	DFGIMT
29	Contact Output 8 Override Enable	DFGIMT
30-32	Reserved	
33	Logic Alarms Reset	DFGIMT
34	DC Demand Meter Reset Demands	D

8-Bit Unsigned Integer, Object 110

Table 7 is the point list for Object 110, and lists the 8-Bit Unsigned Integer Points. Note that this object has only variation 1 and cannot be requested with default variation 0.

Table 7. Object 110, 8-Bit Unsigned Integer Points

8-Bit Unsigned Integer
Object Number: 110

Variations Supported: 1

Request Function Codes supported: 1 (read)

Point Index	Description
0	Unit Info Style Number
1	Unit Info Model Number
2	Unit Info Application Firmware Part Number
3	Unit Info Serial Number

Fault Report Record Selection

DNP Analog Input points 277–491, 495–510 and 745–746 will contain the last Fault Report Record information from the Fault Report Record number indicated in the DNP Analog Input point 278 “Fault Report Record Number”. Normally this will be the latest Fault Record number.

The DNP Analog Output point 12 “Fault Report Selection Record” when read also indicates the Fault Record number for the Fault Report DNP Analog Input points (277–491, 495-510, 745–746).

If DNP Analog Output point 12 is written using the “Select” and then “Operate” functionality (Object 41, Variation 1, Function Code 2 and then 3) to the value of a different Fault Report Record, then DNP Analog Input point 278 “Fault Report Record Number” and DNP Analog Input points (277–491,495–510,745–746) will contain the Fault Report Record information for that Fault number written to Analog Output Point 12.

Revision History

Table 8 provides a historical summary of the changes made to this instruction manual. Revisions are listed in chronological order.

Table 8. Instruction Manual Revision History

Manual Revision and Date	Change
A, Apr-14	• Initial release (consolidated 9424200788, 9424200789, 9424200891, 9424200898, and 9424200992)
B, Dec-15	• Minor text edits
C, Jul-16	• Added Binary Input Points 676 through 678 and 1399 through 1412
D, Feb-17	• Added caution statement about nonvolatile memory
E, May-17	• Added binary points 1413 through 1420 in Table 3.
E1, Nov-18	• Added Prop 65 warning on back of cover page
F, Feb-19	• Added points for BE1-11*d* • Added *Fault Report Record Selection* in the *Point List* chapter

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