MultiSmart
DNP3 Slave Profile

This Manual describes the DNP3 Slave Implementation
in the MultiSmart Pump Controller & RTU

Document No. 00199900
Document Revision 02
This revision: 2 December 2008
This manual is used for the MultiSmart Pump Controller v2.0.4 onwards.

Contents

1 Introduction

The purpose of this document is to describe the specific implementation of the **D**istributed **N**etwork **P**rotocol (DNP) 3.0 Slave within the MultiSmart system.

MultiSmart uses the Triangle MicroWorks, Inc. DNP 3.0 Slave Source Code Library Version 3.00.

This document, in conjunction with the DNP 3.0 Basic 4 Document Set, and the DNP Subset Definitions Document, provides complete information on how to communicate with the MultiSmart Device via the DNP 3.0 protocol.

This implementation of DNP 3.0 is fully compliant with DNP 3.0 Subset Definition Level 2, and contains significant functionality beyond Subset Level 2.

1.1 Points List Types and Generation of Points List Documentation

By default, MultiSmart uses fixed points lists. In order to accommodate future additions to the list, there are gaps in the lists. The effect of this is that any new points will not affect current points, thereby requiring minimal re-integration as future version upgrades are performed. The lists documented here are for fixed points lists.

The side effect of having gaps in the points lists is that communications will be less efficient (although this loss of efficiency will be marginal). Therefore, there is also the option of reconfiguring the lists to be dynamic, which removes these gaps. This reconfiguration can be performed via the **Regenerate Points List** button on the **Settings-> Communications** screen on a MultiSmart LCD.

DNP3 points lists can documented and saved onto compact flash, via the **Document** button on the **Settings->Communications->DNP3** screen on a MultiSmart LCD. This is convenient when dynamic points lists are used, when non-standard configurations are used (e.g. 4 pumps, or 2 wells), or when custom changes have been made to the lists.

1.2 Explanation of Points List Terminology

Each DNP point is listed with a tag name. The tag name refers to the identifier of the value within the MultiSmart database. When editing a DNP point via the **DNP Settings** screen on a MultiSmart LCD, it is possible to edit this tag reference.

For analog inputs, analog outputs, counters, and frozen counters, a precision field is included. These values may represent decimal values, with the number of decimal places defined by the precision. It will be noticed that the valid range for many of these values is specified as “32 bit”. If the precision is 1 (ie no decimal places), then the range will therefore be –2,147,483,648 to +2,147,483,648. If the precision is 0.001 (ie 3 decimal places), then the range will be –2,147,483.648 to +2,147,483.648.

It is possible to define divide by factors for analog inputs, analog outputs, counters, and frozen counters. When a divide by factor is defined via the MultiSmart LCD, the point is first divided by this factor before being transmitted to the master device. This is especially useful if 16 bit object variations are desired. For example, if the valid range of a point is 0 – 100.0000 (ie 4 decimal places), then this can be represented as a 16 bit number by defining a divide by factor of 100. The range will then be 0-100.00, which is within the range of 16 bits.

1.3 Timestamp Accuracy

Through testing it appears as if timestamps are inaccurate between 300ms and 1.3 seconds. This will be reviewed and fixed in a future revision of firmware.

2 DNP V3.0 Device Profile – Table 1

The following table provides a "Device Profile Document" in the standard format defined in the DNP 3.0 Subset Definitions Document. This table, in combination with the Implementation Table provided in Section 3 and the Point List Tables provided in Section 4 provide a complete configuration/interoperability guide for communicating with the MultiSmart Device.

DNP V3.0

DEVICE PROFILE DOCUMENT
(Also see the DNP 3.0 Implementation Table in Section 3.)

Vendor Name: **MultiTrode Pty Ltd**	
Device Name: **MultiSmart RTU/MTU**	
Highest DNP Level Supported: For Requests: **Level 3** For Responses: **Level 3**	Device Function: Master ☒ **Slave**
Notable objects, functions, and/or qualifiers supported in addition to the Highest DNP Levels Supported (the complete list is described in the attached table): For static (non-change-event) object requests, request qualifier codes 07 and 08 (limited quantity), and 17 and 28 (index) are supported. Static object requests sent with qualifiers 07, or 08, will be responded with qualifiers 00 or 01. **16-bit, 32-bit and Floating Point Analog Change Events with Time may be requested.** **Analog Input Deadbands, Object 34, variations 1 through 3, are supported.** **Floating Point Analog Output Status and Output Block Objects 40 and 41 are supported.** **Sequential file transfer, Object 70, variations 2 through 7, are supported.** **Octet String and String Event Objects 110 and 111 are supported.** **Virtual Terminal Output and Event Objects 112 and 113 are supported.**	
Maximum Data Link Frame Size (octets): Transmitted: 292 Received 292	Maximum Application Fragment Size (octets): Transmitted: Configurable up to 2048 Received 2048
Maximum Data Link Re-tries: ☐ None ☐ Fixed ☒ Configurable from 0 to 65535	Maximum Application Layer Re-tries: ☒ None ☐ Configurable (Note: unsolicitied retries are supported, however.)
Requires Data Link Layer Confirmation: ☐ Never ☐ Always ☐ Sometimes ☒ **Configurable as: Never, Only for multi-frame messages, or Always**	
Requires Application Layer Confirmation: ☐ Never ☐ Always ☐ When reporting Event Data (Slave devices only) ☐ When sending multi-fragment responses (Slave devices only) ☐ Sometimes ☒ **Configurable as: "Only when reporting event data", or "When reporting event data or multi-fragment messages."**	

DNP V3.0

DEVICE PROFILE DOCUMENT
(Also see the DNP 3.0 Implementation Table in Section 3.)

Timeouts while waiting for:

Data Link Confirm:	☐ None	☐ Fixed at ____	☐ Variable	☒ Configurable
Complete Appl. Fragment:	☒ None	☐ Fixed at ____	☐ Variable	☐ Configurable
Application Confirm:	☐ None	☐ Fixed at ____	☐ Variable	☒ Configurable
Complete Appl. Response:	☒ None	☐ Fixed at ____	☐ Variable	☐ Configurable

Others: Transmission Delay, configurable
Select/Operate Arm Timeout, configurable
Need Time Interval, configurable
Application File Timeout, configurable
Unsolicited Notification Delay, configurable
Unsolicited Response Retry Delay, configurable
Unsolicited Offline Interval, configurable
Binary Change Event Scan Period, configurable
Double Bit Change Event Scan Period, configurable
Analog Change Event Scan Period, configurable
Counter Change Event Scan Period, configurable
Frozen Counter Change Event Scan Period, configurable
String Change Event Scan Period, configurable
Virtual Terminal Event Scan Period, 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

Attach explanation if 'Sometimes' or 'Configurable' was checked for any operation.
* Pulse controls are interpreted as latch controls on the device.

Reports Binary Input Change Events when no specific variation requested:

☐ Never
☐ Only time-tagged
☐ Only non-time-tagged
☒ **Configurable to send one or the other**

Reports time-tagged Binary Input Change Events when no specific variation requested:

☐ Never
☐ Binary Input Change With Time
☐ Binary Input Change With Relative Time
☒ **Configurable**

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.

DNP V3.0

DEVICE PROFILE DOCUMENT
(Also see the DNP 3.0 Implementation Table in Section 3.)

Default Counter Object/Variation: ☐ No Counters Reported ☒ **Configurable** ☐ 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 ☒ **Configurable**	

Sequential File Transfer Support:

Append File Mode	☒ **Yes**	☐ No
Custom Status Code Strings	☐ Yes	☒ **No**
Permissions Field	☒ **Yes**	☐ No
File Events Assigned to Class	☒ **Yes**	☐ No
File Events Send Immediately	☒ **Yes**	☐ No
Multiple Blocks in a Fragment	☐ Yes	☒ **No**
Max Number of Files Open	**1**	

3 DNP V3.0 Implementation – Table 2

The following table identifies which object variations, function codes, and qualifiers the MultiSmart RTU/MTU 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 with qualifiers 00 or 01. Requests sent with qualifiers 17 or 28 will be responded with qualifiers 17 or 28. For change-event objects, qualifiers 17 or 28 are always responded.

In the table following, text shaded as 00, 01 (start stop) indicates Subset Level 3 functionality (beyond Subset Level 2).

In the table following, text shaded as 07, 08 (limited qty) indicates functionality beyond Subset Level 3.

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
1	0	Binary Input – Any Variation	1 (read) 22 (assign class)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)		
1	1 (default – see note 1)	Binary Input	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
1	2	Binary Input with Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
2	0	Binary Input Change – Any Variation	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
2	1	Binary Input Change without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
2	2	Binary Input Change with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
2	3 (default – see note 1)	Binary Input Change with Relative Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
10	0	Binary Output Status – Any Variation	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)		
10	1	Binary Output	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 1)
10	2 (default – see note 1)	Binary Output Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
11	0	Binary Output Change – Any Variation	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
11	1	Binary Output Change without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
11	2	Binary Output Change with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
12	1	Control Relay Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir. op, noack)	17, 28 (index)	129 (response)	echo of request
12	2	Pattern Control Block	3 (select) 4 (operate) 5 (direct op) 6 (dir. op, noack)	7 (limited quantity)	129 (response)	echo of request
12	3	Pattern Mask	3 (select) 4 (operate) 5 (direct op) 6 (dir. op, noack)	00, 01 (start-stop)	129 (response)	echo of request

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
20	0	Binary Counter – Any Variation	1 (read) 22 (assign class)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)		
			7 (freeze) 8 (freeze noack) 9 (freeze clear) 10 (frz. cl. noack)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)		
20	1	32-Bit Binary Counter (with Flag)	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
20	2	16-Bit Binary Counter (with Flag)	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
20	5 (default – see note 1)	32-Bit Binary Counter without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
20	6	16-Bit Binary Counter without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index-see note 2)
21	0	Frozen Counter – Any Variation	1 (read) 22 (assign class)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)		

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
21	1	32-Bit Frozen Counter (with Flag)	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
21	2	16-Bit Frozen Counter (with Flag)	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
21	5	32-Bit Frozen Counter with Time Of Freeze	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 1)
21	6	16-Bit Frozen Counter with Time Of Freeze	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 1)
21	9 (default – see note 1)	32-Bit Frozen Counter without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
21	10	16-Bit Frozen Counter without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
22	0	Counter Change Event – Any Variation	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
22	1 (default – see note 1)	32-Bit Counter Change Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
22	2	16-Bit Counter Change Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
22	5	32-Bit Counter Change Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
22	6	16-Bit Counter Change Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
23	0	Frozen Counter Event (Variation 0 is used to request default variation)	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
23	1 (default – see note 1)	32-Bit Frozen Counter Event	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17,28 (index)
23	2	16-Bit Frozen Counter Event	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17,28 (index)
23	5	32-Bit Frozen Counter Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
23	6	16-Bit Frozen Counter Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
30	0	Analog Input - Any Variation	1 (read) 22 (assign class)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)		
30	1	32-Bit Analog Input	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
30	2	16-Bit Analog Input	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
30	3 (default – see note 1)	32-Bit Analog Input without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
30	4	16-Bit Analog Input without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
30	5	short floating point	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
30	6	long floating point	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 1)
32	0	Analog Change Event – Any Variation	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
32	1 (default – see note 1)	32-Bit Analog Change Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
32	2	16-Bit Analog Change Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
32	3	32-Bit Analog Change Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
32	4	16-Bit Analog Change Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
32	5	short floating point Analog Change Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
32	6	long floating point Analog Change Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
32	7	short floating point Analog Change Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
32	8	long floating point Analog Change Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
34	0	Analog Input Deadband (Variation 0 is used to request default variation)	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)		
34	1	16 bit Analog Input Deadband	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
			2 (write)	00, 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)		
34	2 (default – see note 1)	32 bit Analog Input Deadband	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2
			2 (write)	00, 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)		
34	3	Short Floating Point Analog Input Deadband	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
			2 (write)	00, 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)		
40	0	Analog Output Status (Variation 0 is used to request default variation)	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)		

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
40	1 (default – see note 1)	32-Bit Analog Output Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index –see note 2)
40	2	16-Bit Analog Output Status	1 (read	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
40	3	short floating point Analog Output Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
40	4	long floating point Analog Output Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index see note 2)
41	1	32-Bit Analog Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir. op, noack)	17, 28 (index)	129 (response)	echo of request
41	2	16-Bit Analog Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir. op, noack)	17, 28 (index)	129 (response)	echo of request
41	3	short floating point Analog Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir. op, noack)	17, 28 (index)	129 (response)	echo of request

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
41	4	long floating point Analog Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir. op, noack)	17, 28 (index)	129 (response)	echo of request
42	0	Analog Output Event – Any Variation	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
42	1	32-Bit Analog Output Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
42	2	16-Bit Analog Output Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
42	3	32-Bit Analog Output Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
42	4	16-Bit Analog Output Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
42	5	short floating point Analog Output Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
42	6	long floating point Analog Output Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
42	7	short floating point Analog Output Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
42	8	long floating point Analog Output Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
50	0	Time and Date				
50	1 (default – see note 1)	Time and Date	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07 (limited qty = 1l) 08 (limited qty)	129 (response)	00, 01 (start-stop) 17, 28 (index-see note 2)
			2 (write)	07 (limited qty = 1l)		
50	3	Time and Date Last Recorded Time	2 (write)	07 (limited qty)		
51	1	Time and Date CTO			129 (response) 130 (unsol. resp)	07 (limited qty) (qty = 1)

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
51	2	Unsynchronized Time and Date CTO			129 (response) 130 (unsol. resp)	07 (limited qty) (qty = 1)
52	2	Time Delay Fine			129 (response)	07 (limited qty) (qty = 1)
60	0	Not Defined				
60	1	Class 0 Data	1 (read)	06 (no range, or all)		
60	2	Class 1 Data	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
			20 (enbl. unsol.) 21 (dab. unsol.) 22 (assign class)	06 (no range, or all)		
60	3	Class 2 Data	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
			20 (enbl. unsol.) 21 (dab. unsol.) 22 (assign class)	06 (no range, or all)		
60	4	Class 3 Data	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
			20 (enbl. unsol.) 21 (dab. unsol.) 22 (assign class)	06 (no range, or all)		
70	0	File Event – Any Variation	1 (read)	06 (no range, or all) 07, 08 (limited qty)		
			22 (assign class)	06 (no range, or all)		
70	2	File Authentication	29 (authenticate)	5b (free-format)	129 (response)	5B (free-format)
70	3	File Command	25 (open) 27 (delete)	5b (free-format)		
70	4	File Command Status	26 (close) 30 (abort)	5b (free-format)	129 (response) 130 (unsol. resp)	5B (free-format)
70	5	File Transfer	1 (read) 2 (write)	5b (free-format)	129 (response) 130 (unsol. resp)	5B (free-format) (index – see note 4)

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
70	6	File Transfer Status			129 (response) 130 (unsol. resp)	5B (free-format)
70	7	File Descriptor	28 (get file info)	5b (free-format)	129 (response) 130 (unsol. resp)	5B (free-format)
80	1	Internal Indications	1 (read)	00, 01 (start-stop)		
			2 (write) (see note 3)	00 (start-stop) index=7		
110	string length	Octet String Object	1 (read) 22 (assign class)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index	129 (response)	00, 01 (start-stop)
			2 (write)	00, 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)		
111	string length	Octet String Event Object	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
112	string length	Virtual Terminal Output Block	2 (write)	00, 01 (start-stop) 07, 08 (limited qty) 17, 28 (index)		
113	string length	Virtual Terminal Event Data	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response) 130 (unsol. resp)	17, 28 (index)
120	1	Authentication Challenge	131 (auth challenge) 132 (unsol auth challenge)	5b (free-format)		
120	2	Authentication Reply	129 (response)	5b (free-format)		
120	3	Authentication Aggressive Mode Start	Whatever function code is in the DNP message	5b (free-format)		
120	5	Authentication Key Status	129 (response)	5b (free-format)		
120	7	Authentication Error	129 (response)	5b (free-format)		
120	8	Authentication Aggressive Mode End	Whatever function code is in the DNP message	5B (free-format)		
		No Object (function code only)	13 (cold restart)			

OBJECT			REQUEST (Library will parse)		RESPONSE (Library will respond with)	
Object Number	**Variation Number**	**Description**	**Function Codes (dec)**	**Qualifier Codes (hex)**	**Function Codes (dec)**	**Qualifier Codes (hex)**
		No Object (function code only)	14 (warm restart)			
		No Object (function code only)	23 (delay meas.)			
		No Object (function code only)	24 (record current time)			

Note 1: *A Default variation refers to the variation responded when variation 0 is requested and/or in class 0, 1, 2, or 3 scans. Default variations are configurable; however, default settings for the configuration parameters are indicated in the table above.*

Note 2: *For static (non-change-event) objects, qualifiers 17 or 28 are only responded when a request is sent with qualifiers 17 or 28, respectively. Otherwise, static object requests sent with qualifiers 00, 01, 06, 07, or 08, will be responded with qualifiers 00 or 01. (For change-event objects, qualifiers 17 or 28 are always responded.)*

Note 3: *Writes of Internal Indications are only supported for index 7 (Restart IIN1-7)*

Note 4: *If a file read operation is performed, if the requested file name has a '.gz' extension, then the file will be zipped first. By zipping files in this manner, the file size can be reduced dramatically. The file will then be transmitted in gzip format.*

4 DNP V3.0 Point List – Table 3

4.1 Binary Input Points

- Static (Steady-State) Object Number: **1**
- Change Event Object Number: **2**
- Request Function Codes supported: **1 (read), 22 (assign class)**

4.1.1 Two Pump Station Configuration

The value in the DNP ID column represents the default setting for a 2 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
0	Faults. Station. UnderVoltage. Status. Active	Station Undervoltage fault condition is active.	Station Undervoltage fault condition is inactive.	1
1	Faults. Station. UnderVoltage. Status. Unacknowledged	Station Undervoltage fault condition is in the unacknowledged state.	Station Undervoltage fault condition is no longer in the unacknowledged state. (ie .fault has been acknowledged by an operator).	1
2	Faults. Station. OverVoltage. Status. Active	Station Overvoltage fault condition is active.	Station Overvoltage fault condition is inactive.	1
3	Faults. Station. OverVoltage. Status. Unacknowledged	Station Overvoltage fault condition is in the unacknowledged state.	Station Overvoltage fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
4	Faults. Station. VoltsPhaseImbalance. Status. Active	Station Volts Phase Imbalance fault condition is active.	Station Volts Phase Imbalance fault condition is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
5	Faults. Station. VoltsPhaseImbalance. Status. Unacknowledged	Station Volts Phase Imbalance fault condition is in the unacknowledged state.	Station Volts Phase Imbalance fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
6	Faults. Station. VoltsPhaseRotation. Status. Active	A Volt Phase Rotation fault condition has been detected at the station.	The station Volt Phase Rotation fault condition is inactive. (ie volt phase rotation is in the normal state.)	1
7	Faults. Station. VoltsPhaseRotation. Status. Unacknowledged	Station Volts Phase Rotation fault condition is in the unacknowledged state.	Station Volts Phase Rotation fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
8	Faults. Station. DCUnderVoltage. Status. Active	Station DC Under Voltage fault condition is active. (ie the MultiSmart's DC power supply is below a set voltage threshold)	Station DC Under Voltage fault condition is inactive.	1
9	Faults. Station. DCUnderVoltage. Status. Unacknowledged	Station DC Under Voltage fault condition is in the unacknowledged state.	Station DC Under Voltage fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
10	Faults. Station. DCOverVoltage. Status. Active	Station DC Over Voltage fault condition is active. (ie the MultiSmart's DC power supply is above a set voltage threshold)	Station DC Over Voltage fault condition is inactive.	1
11	Faults. Station. DCOverVoltage. Status. Unacknowledged	Station DC Over Voltage fault condition is in the unacknowledged state.	Station DC Over Voltage fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
12	Faults. Station. MaxOnTime. Status. Active	Station Maximum On Time fault condition is active.	Station Maximum On Time fault condition is inactive.	1
13	Faults. Station. MaxOnTime. Status. Unacknowledged	Station Maximum On Time fault condition is in the unacknowledged state.	Station Maximum On Time fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
14	Faults. Station. MaxOffTime. Status. Active	Station Maximum Off Time fault condition is active.	Station Maximum Off Time fault condition is inactive.	1
15	Faults. Station. MaxOffTime. Status. Unacknowledged	Station Maximum Off Time fault condition is in the unacknowledged state.	Station Maximum Off Time fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
16	Faults. Station. PowerFail. Status. Active	Station Power Failure fault condition is active.	Station Power Failure fault condition is inactive.	1
17	Faults. Station. PowerFail. Status. Unacknowledged	Station Power Failure fault condition is in the unacknowledged state.	Station Power Failure fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
18	Faults. Station. Overflow. Status. Active	Station Overflow fault condition is active.	Station Overflow fault condition is inactive.	1
19	Faults. Station. Overflow. Status. Unacknowledged	Station Overflow fault condition is in the unacknowledged state.	Station Overflow fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
20	Faults. Active	At least one fault within the station is active.	All faults within the station are inactive.	1
21	Faults. Unacknowledged	At least one fault within the station is unacknowledged.	All faults within the station are acknowledged.	1
22	Faults. PumpFaultedActive	At least one fault within the station which causes a pump to be unavailable is active.	No active faults within the station are causing pumps to be unavailable.	1
23	Faults. PumpFaultedUnack	At least one fault within the station which causes a pump to be unavailable is unacknowledged.	No unacknowledged faults within the station cause pumps to be unavailable.	1
24	Faults. CriticalActive	At least one fault within the station which requires a manual reset is active.	No faults within the station which require a manual reset are active.	1
25	Faults. CriticalUnack	At least one fault within the station which requires a manual reset is unacknowledged.	No faults within the station which require a manual reset are unacknowledged.	1
26	Faults. NonCriticalActive	At least one fault within the station which does not require a manual reset is active.	No faults within the station which do not require a manual reset are active.	1
27	Faults. NonCriticalUnack	At least one fault within the station which does not require a manual reset is unacknowledged.	No faults within the station which do not require a manual reset are unacknowledged.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
28	Lcd. Maintenance	The unit is in maintenance mode. When in maintenance mode, any controls sent via DNP will be ignored. All points will be returned with Local Forced flag set, indicating that data is suspect.	The unit is not in maintenance mode.	1
29	Reserved			1
30	Faults. Well._1. HighHighLevel. Status. Active	The High-High Level alarm in the well has been activated.	The High-High Level alarm is inactive.	1
31	Faults. Well._1. HighHighLevel. Status. Unacknowledged	The High-High Level alarm is in the unacknowledged state.	The High-High Level alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
32	Faults. Well._1. HighLevel. Status. Active	The High Level alarm in the well has been activated.	The High Level alarm is inactive.	1
33	Faults. Well._1. HighLevel. Status. Unacknowledged	The High Level alarm is in the unacknowledged state.	The High Level alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
34	Faults. Well._1. LowLevel. Status. Active	The Low Level alarm in the well has been activated.	The Low Level alarm is inactive.	1
35	Faults. Well._1. LowLevel. Status. Unacknowledged	The Low Level alarm is in the unacknowledged state.	The Low Level alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
36	Faults. Well._1. LowLowLevel. Status. Active	The Low-Low Level alarm in the well has been activated.	The Low-Low Level alarm is inactive.	1
37	Faults. Well._1. LowLowLevel. Status. Unacknowledged	The Low-Low Level alarm is in the unacknowledged state.	The Low-Low Level alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
38	Faults. Well._1. PrimaryLevelHighRange. Status. Active	The Primary Level High Range alarm has been activated.	The Primary Level High Range alarm is inactive.	1
39	Faults. Well._1. PrimaryLevelHighRange. Status. Unacknowledged	The Primary Level High Range alarm is in the unacknowledged state.	The Primary Level High Range alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
40	Faults. Well._1. PrimaryLevelLowRange. Status. Active	The Primary Level Low Range alarm has been activated.	The Primary Level Low Range alarm is inactive.	1
41	Faults. Well._1. PrimaryLevelLowRange. Status. Unacknowledged	The Primary Level Low Range alarm is in the unacknowledged state.	The Primary Level Low Range alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
42	Faults. Well._1. PrimaryLevelInvalid. Status. Active	The Primary Level Invalid fault condition has been activated.	The Primary Level Invalid fault condition is inactive.	1
43	Faults. Well._1. PrimaryLevelInvalid. Status. Unacknowledged	The Primary Level Invalid fault condition is in the unacknowledged state.	The Primary Level Invalid fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
44	Faults. Well._1. PrimaryLevelAinOverRange. Status. Active	The Primary Level Analog Input Over Range fault condition has been activated.	The Primary Level Analog Input Over Range fault condition is inactive.	1
45	Faults. Well._1. PrimaryLevelAinOverRange. Status. Unacknowledged	The Primary Level Analog Input Over Range fault condition is in the unacknowledged state.	The Primary Level Analog Input Over Range fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
46	Faults. Well._1. PrimaryLevelAinUnderRange. Status. Active	The Primary Level Analog Input Under Range fault condition has been activated.	The Primary Level Analog Input Under Range fault condition is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
47	Faults. Well._1. PrimaryLevelAinUnderRange. Status. Unacknowledged	The Primary Level Analog Input Under Range fault condition is in the unacknowledged state.	The Primary Level Analog Input Under Range fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
48	Faults. Well._1. BackupLevelInvalid. Status. Active	The Backup Level Invalid fault condition has been activated.	The Backup Level Invalid fault condition is inactive.	1
49	Faults. Well._1. BackupLevelInvalid. Status. Unacknowledged	The Backup Level Invalid fault condition is in the unacknowledged state.	The Backup Level Invalid fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
50	Faults. Well._1. BackupLevelAinOverRange. Status. Active	The Backup Level Analog Input Over Range fault condition has been activated.	The Backup Level Analog Input Over Range fault condition is inactive.	1
51	Faults. Well._1. BackupLevelAinOverRange. Status. Unacknowledged	The Backup Level Analog Input Over Range fault condition is in the unacknowledged state.	The Backup Level Analog Input Over Range fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
52	Faults. Well._1. BackupLevelAinUnderRange. Status. Active	The Backup Level Analog Input Under Range fault condition has been activated.	The Backup Level Analog Input Under Range fault condition is inactive.	1
53	Faults. Well._1. BackupLevelAinUnderRange. Status. Unacknowledged	The Backup Level Analog Input Under Range fault condition is in the unacknowledged state.	The Backup Level Analog Input Under Range fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
54	Reserved			1
55	Reserved			1
56	Reserved			1
57	Reserved			1
58	Reserved			1
59	Reserved			1
60	Reserved			1
61	Reserved			1
62	Reserved			1
63	Reserved			1
64	Reserved			1
65	Reserved			1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
66	Reserved			1
67	Reserved			1
68	Reserved			1
69	Reserved			1
70	PumpControl. Pump._1. Running	Pump 1 running	Pump 1 not running	1
71	PumpControl. Pump._1. Decommissioned	Pump 1 decommissioned	Pump 1 in service	1
72	PumpControl. Pump._1. Fault.Status. HoldoutActive	Pump 1 “Holdout” fault status is active.	Pump 1 “Holdout” faults status is inactive.	1
73	PumpControl. Pump._1. Fault.Status. UnavailableActive	Pump 1 “Unavailable” status is active. (ie Pump is unavailable and cannot be run)	Pump 1 “Unavailable” status is inactive.	1
74	Faults. Pump._1. Seal.Status. Active	Pump 1 Seal Fault condition is active.	Pump 1 Seal Fault condition is inactive.	1
75	Faults. Pump._1. Seal.Status. Unacknowledged	Pump 1 Seal Fault condition is in the unacknowledged state.	The Pump 1 Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
76	Faults. Pump._1. ThermalOverload.Status. Active	Pump 1 Thermal Overload fault condition is active.	Pump 1 Thermal Overload fault condition is inactive.	1
77	Faults. Pump._1. ThermalOverload.Status. Unacknowledged	Pump 1 Thermal Overload fault condition is in the unacknowledged state.	The Pump 1 Thermal Overload fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
78	Faults. Pump._1. FlsSeal.Status. Active	Pump 1 Flygt Seal fault condition is active.	Pump 1 Flygt Seal fault condition is inactive.	1
79	Faults. Pump._1. FlsSeal.Status. Unacknowledged	Pump 1 Flygt Seal fault condition is in the unacknowledged state.	The Pump 1 Flygt Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
80	Faults. Pump._1. FlsThermal.Status. Active	Pump 1 Flygt Thermal fault condition is active.	Pump 1 Flygt Thermal fault condition is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
81	Faults. Pump._1. FlsThermal.Status. Unacknowledged	Pump 1 Flygt Thermal fault condition is in the unacknowledged state.	The Pump 1 Flygt Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
82	Faults. Pump._1. ClsSeal.Status. Active	Pump 1 CLS Seal fault condition is active.	Pump 1 CLS Seal fault condition is inactive.	1
83	Faults. Pump._1. ClsSeal.Status. Unacknowledged	Pump 1 CLS Seal fault condition is in the unacknowledged state.	The Pump 1 CLS Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
84	Faults. Pump._1. ClsThermal.Status. Active	Pump 1 CLS Thermal fault condition is active.	Pump 1 CLS Thermal fault condition is inactive.	1
85	Faults. Pump._1. ClsThermal.Status. Unacknowledged	Pump 1 CLS Thermal fault condition is in the unacknowledged state.	The Pump 1 CLS Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
86	Faults. Pump._1. EarthFault.Status. Active	Pump 1 Earth Fault condition is active.	Pump 1 Earth Fault condition is inactive.	1
87	Faults. Pump._1. EarthFault.Status. Unacknowledged	Pump 1 Earth Fault condition is in the unacknowledged state.	The Pump 1 Earth Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
88	Faults. Pump._1. IRT.Status. Active	Pump 1 IRT fault condition is active. (The Insulation Resistance Tester has detected an Insulation Resistance fault on this pump)	Pump 1 IRT fault condition is inactive.	1
89	Faults. Pump._1. IRT.Status. Unacknowledged	Pump 1 IRT fault condition is in the unacknowledged state.	The Pump 1 IRT fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
90	Faults. Pump._1. AmpsPhaseImbalance. Status. Active	Pump 1 Amp Phase Imbalance fault condition is active. (A current load imbalance has been detected across the 3 phases on this pump)	Pump 1 Amp Phase Imbalance fault condition is inactive.	1
91	Faults. Pump._1. AmpsPhaseImbalance. Status. Unacknowledged	Pump 1 Amp Phase Imbalance fault condition is in the unacknowledged state.	The Pump 1 Amp Phase Imbalance fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
92	Faults. Pump._1. AmpsPhaseRotation. Status. Active	Pump 1 Amp Phase Rotation fault condition is active.	Pump 1 Amp Phase Rotation fault condition is inactive.	1
93	Faults. Pump._1. AmpsPhaseRotation. Status. Unacknowledged	Pump 1 Amp Phase Rotation fault condition is in the unacknowledged state.	The Pump 1 Amp Phase Rotation fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
94	Faults. Pump._1. UnderCurrent. Status. Active	Pump 1 Under Current fault condition is active.	Pump 1 Under Current fault condition is inactive.	1
95	Faults. Pump._1. UnderCurrent. Status. Unacknowledged	Pump 1 Under Current fault condition is in the unacknowledged state.	The Pump 1 Under Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
96	Faults. Pump._1. OverCurrent. Status. Active	Pump 1 Over Current fault condition is active.	Pump 1 Over Current fault condition is inactive.	1
97	Faults. Pump._1. OverCurrent. Status. Unacknowledged	Pump 1 Over Current fault condition is in the unacknowledged state.	The Pump 1 Over Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
98	Faults. Pump._1. ContactorAux. Status. Active	Pump 1 Contactor Auxiliary status is active. (the contactor auxiliary contacts are connected to a digital input. This fault detects when the input is active so the contactor status can be determined)	Pump 1 Contactor Auxiliary status is inactive.	1
99	Faults. Pump._1. ContactorAux. Status. Unacknowledged	Pump 1 Contactor Auxiliary fault condition is in the unacknowledged state.	The Pump 1 Contactor Auxiliary fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
100	Faults. Pump._1. DelayFail. Status. Active	Pump 1 Delay Fail fault status is active.	Pump 1 Delay Fail fault status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
101	Faults. Pump._1. DelayFail. Status. Unacknowledged	Pump 1 Delay Fail fault condition is in the unacknowledged state.	The Pump 1 Delay Fail fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
102	Faults. Pump._1. MotorOvertemp. Status. Active	Pump 1 Motor Over Temperature fault status is active.	Pump 1 Motor Over Temperature fault status is inactive.	1
103	Faults. Pump._1. MotorOvertemp. Status. Unacknowledged	Pump 1 Motor Over Temperature fault condition is in the unacknowledged state.	The Pump 1 Motor Over Temperature fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
104	Faults. Pump._1. CBOffTrip. Status. Active	Pump 1 Circuit Breaker Off/Trip fault status is active.	Pump 1 Circuit Breaker Off/Trip fault status is inactive.	1
105	Faults. Pump._1. CBOffTrip. Status. Unacknowledged	Pump 1 Circuit Breaker Off/Trip fault condition is in the unacknowledged state.	The Pump 1 Circuit Breaker Off/Trip fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
106	Faults. Pump._1. MaxStarts. Status. Active	Pump 1 Maximum Starts fault status is active.	Pump 1 Maximum Starts fault status is inactive.	1
107	Faults. Pump._1. MaxStarts. Status. Unacknowledged	Pump 1 Maximum Starts fault condition is in the unacknowledged state.	The Pump 1 Maximum Starts fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
108	Faults. Pump._1. Flow. HighFlowFault. Status. Active	Pump 1 High Flow Fault status is active.	Pump 1 High Flow Fault status is inactive.	1
109	Faults. Pump._1. Flow. HighFlowFault. Status. Unacknowledged	Pump 1 High Flow Fault condition is in the unacknowledged state.	The Pump 1 High Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
110	Faults. Pump._1. Flow. HighFlowWarning. Status. Active	Pump 1 High Flow Warning status is active.	Pump 1 High Flow Warning status is inactive.	1
111	Faults. Pump._1. Flow. HighFlowWarning. Status. Unacknowledged	Pump 1 High Flow Warning condition is in the unacknowledged state.	The Pump 1 High Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
112	Faults. Pump._1. Flow. LowFlowWarning. Status. Active	Pump 1 Low Flow Warning status is active.	Pump 1 Low Flow Warning status is inactive.	1
113	Faults. Pump._1. Flow. LowFlowWarning. Status. Unacknowledged	Pump 1 Low Flow Warning condition is in the unacknowledged state.	The Pump 1 Low Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
114	Faults. Pump._1. Flow. LowFlowFault. Status. Active	Pump 1 Low Flow Fault status is active.	Pump 1 Low Flow Fault status is inactive.	1
115	Faults. Pump._1. Flow. LowFlowFault. Status. Unacknowledged	Pump 1 Low Flow Fault condition is in the unacknowledged state.	The Pump 1 Low Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
116	Faults. Pump._1. Active	At least one pump 1 fault is active.	All pump 1 faults are inactive.	1
117	Faults. Pump._1. Unacknowledged	At least one pump 1 fault is unacknowledged.	No pump 1 faults are unacknowledged.	1
118	Faults. Pump._1. PumpFaultedActive	At least one pump 1 fault which causes the pump to be unavailable is active.	No pump 1 faults which cause the pump to be unavailable are active.	1
119	Faults. Pump._1. PumpFaultedUnack	At least one pump 1 fault which causes the pump to be unavailable is unacknowledged.	No pump 1 faults which cause the pump to be unavailable are unacknowledged.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
120	Faults. Pump._1. CriticalActive	At least one pump 1 fault which requires a manual reset is active.	No pump 1 faults which require a manual reset are active.	1
121	Faults. Pump._1. CriticalUnack	At least one pump 1 fault which requires a manual reset is unacknowledged.	No pump 1 faults which require a manual reset are unacknowledged.	1
122	Faults. Pump._1. NonCriticalActive	At least one pump 1 fault which does not require a manual reset is active.	No pump 1 faults which do not require a manual reset is active.	1
123	Faults. Pump._1. NonCriticalUnack	At least one pump 1 fault which does not require a manual reset is unacknowledged.	No pump 1 faults which do not require a manual reset is unacknowledged.	1
124	Reserved			1
125	Reserved			1
126	Reserved			1
127	Reserved			1
128	Reserved			1
129	Reserved			1
130	PumpControl. Pump._2. Running	Pump 2 running	Pump 2 not running	1
131	PumpControl. Pump._2. Decommissioned	Pump 2 decommissioned	Pump 2 in service	1
132	PumpControl. Pump._2. Fault.Status. HoldoutActive	Pump 2 “Holdout” fault status is active.	Pump 2 “Holdout” faults status is inactive.	1
133	PumpControl. Pump._2. Fault.Status. UnavailableActive	Pump 2 “Unavailable” status is active. (ie Pump is unavailable and cannot be run)	Pump 2 “Unavailable” status is inactive.	1
134	Faults. Pump._2. Seal.Status. Active	Pump 2 Seal Fault condition is active.	Pump 2 Seal Fault condition is inactive.	1
135	Faults. Pump._2. Seal.Status. Unacknowledged	Pump 2 Seal Fault condition is in the unacknowledged state.	The Pump 2 Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
136	Faults. Pump._2. ThermalOverload.Status. Active	Pump 2 Thermal Overload fault condition is active.	Pump 2 Thermal Overload fault condition is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
137	Faults. Pump._2. ThermalOverload.Status. Unacknowledged	Pump 2 Thermal Overload fault condition is in the unacknowledged state.	The Pump 2 Thermal Overload fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
138	Faults. Pump._2. FlsSeal.Status. Active	Pump 2 Flygt Seal fault condition is active.	Pump 2 Flygt Seal fault condition is inactive.	1
139	Faults. Pump._2. FlsSeal.Status. Unacknowledged	Pump 2 Flygt Seal fault condition is in the unacknowledged state.	The Pump 2 Flygt Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
140	Faults. Pump._2. FlsThermal.Status. Active	Pump 2 Flygt Thermal fault condition is active.	Pump 2 Flygt Thermal fault condition is inactive.	1
141	Faults. Pump._2. FlsThermal.Status. Unacknowledged	Pump 2 Flygt Thermal fault condition is in the unacknowledged state.	The Pump 2 Flygt Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
142	Faults. Pump._2. ClsSeal.Status. Active	Pump 2 CLS Seal fault condition is active.	Pump 2 CLS Seal fault condition is inactive.	1
143	Faults. Pump._2. ClsSeal.Status. Unacknowledged	Pump 2 CLS Seal fault condition is in the unacknowledged state.	The Pump 2 CLS Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
144	Faults. Pump._2. ClsThermal.Status. Active	Pump 2 CLS Thermal fault condition is active.	Pump 2 CLS Thermal fault condition is inactive.	1
145	Faults. Pump._2. ClsThermal.Status. Unacknowledged	Pump 2 CLS Thermal fault condition is in the unacknowledged state.	The Pump 2 CLS Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
146	Faults. Pump._2. EarthFault.Status. Active	Pump 2 Earth Fault condition is active.	Pump 2 Earth Fault condition is inactive.	1
147	Faults. Pump._2. EarthFault.Status. Unacknowledged	Pump 2 Earth Fault condition is in the unacknowledged state.	The Pump 2 Earth Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
148	Faults. Pump._2. IRT.Status. Active	Pump 2 IRT fault condition is active. (The Insulation Resistance Tester has detected an Insulation Resistance fault on this pump)	Pump 2 IRT fault condition is inactive.	1
149	Faults. Pump._2. IRT.Status. Unacknowledged	Pump 2 IRT fault condition is in the unacknowledged state.	The Pump 2 IRT fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
150	Faults. Pump._2. AmpsPhaseImbalance. Status. Active	Pump 2 Amp Phase Imbalance fault condition is active. (A current load imbalance has been detected across the 3 phases on this pump)	Pump 2 Amp Phase Imbalance fault condition is inactive.	1
151	Faults. Pump._2. AmpsPhaseImbalance. Status. Unacknowledged	Pump 2 Amp Phase Imbalance fault condition is in the unacknowledged state.	The Pump 2 Amp Phase Imbalance fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
152	Faults. Pump._2. AmpsPhaseRotation. Status. Active	Pump 2 Amp Phase Rotation fault condition is active.	Pump 2 Amp Phase Rotation fault condition is inactive.	1
153	Faults. Pump._2. AmpsPhaseRotation. Status. Unacknowledged	Pump 2 Amp Phase Rotation fault condition is in the unacknowledged state.	The Pump 2 Amp Phase Rotation fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
154	Faults. Pump._2. UnderCurrent. Status. Active	Pump 2 Under Current fault condition is active.	Pump 2 Under Current fault condition is inactive.	1
155	Faults. Pump._2. UnderCurrent. Status. Unacknowledged	Pump 2 Under Current fault condition is in the unacknowledged state.	The Pump 2 Under Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
156	Faults. Pump._2. OverCurrent. Status. Active	Pump 2 Over Current fault condition is active.	Pump 2 Over Current fault condition is inactive.	1
157	Faults. Pump._2. OverCurrent. Status. Unacknowledged	Pump 2 Over Current fault condition is in the unacknowledged state.	The Pump 2 Over Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
158	Faults. Pump._2. ContactorAux. Status. Active	Pump 2 Contactor Auxiliary status is active. (the contactor auxiliary contacts are connected to a digital input. This fault detects when the input is active so the contactor status can be determined)	Pump 2 Contactor Auxiliary status is inactive.	1
159	Faults. Pump._2. ContactorAux. Status. Unacknowledged	Pump 2 Contactor Auxiliary fault condition is in the unacknowledged state.	The Pump 2 Contactor Auxiliary fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
160	Faults. Pump._2. DelayFail. Status. Active	Pump 2 Delay Fail fault status is active.	Pump 2 Delay Fail fault status is inactive.	1
161	Faults. Pump._2. DelayFail. Status. Unacknowledged	Pump 2 Delay Fail fault condition is in the unacknowledged state.	The Pump 2 Delay Fail fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
162	Faults. Pump._2. MotorOvertemp. Status. Active	Pump 2 Motor Over Temperature fault status is active.	Pump 2 Motor Over Temperature fault status is inactive.	1
163	Faults. Pump._2. MotorOvertemp. Status. Unacknowledged	Pump 2 Motor Over Temperature fault condition is in the unacknowledged state.	The Pump 2 Motor Over Temperature fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
164	Faults. Pump._2. CBOffTrip. Status. Active	Pump 2 Circuit Breaker Off/Trip fault status is active.	Pump 2 Circuit Breaker Off/Trip fault status is inactive.	1
165	Faults. Pump._2. CBOffTrip. Status. Unacknowledged	Pump 2 Circuit Breaker Off/Trip fault condition is in the unacknowledged state.	The Pump 2 Circuit Breaker Off/Trip fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
166	Faults. Pump._2. MaxStarts. Status. Active	Pump 2 Maximum Starts fault status is active.	Pump 2 Maximum Starts fault status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
167	Faults. Pump._2. MaxStarts. Status. Unacknowledged	Pump 2 Maximum Starts fault condition is in the unacknowledged state.	The Pump 2 Maximum Starts fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
168	Faults. Pump._2. Flow. HighFlowFault. Status. Active	Pump 2 High Flow Fault status is active.	Pump 2 High Flow Fault status is inactive.	1
169	Faults. Pump._2. Flow. HighFlowFault. Status. Unacknowledged	Pump 2 High Flow Fault condition is in the unacknowledged state.	The Pump 2 High Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
170	Faults. Pump._2. Flow. HighFlowWarning. Status. Active	Pump 2 High Flow Warning status is active.	Pump 2 High Flow Warning status is inactive.	1
171	Faults. Pump._2. Flow. HighFlowWarning. Status. Unacknowledged	Pump 2 High Flow Warning condition is in the unacknowledged state.	The Pump 2 High Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
172	Faults. Pump._2. Flow. LowFlowWarning. Status. Active	Pump 2 Low Flow Warning status is active.	Pump 2 Low Flow Warning status is inactive.	1
173	Faults. Pump._2. Flow. LowFlowWarning. Status. Unacknowledged	Pump 2 Low Flow Warning condition is in the unacknowledged state.	The Pump 2 Low Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
174	Faults. Pump._2. Flow. LowFlowFault. Status. Active	Pump 2 Low Flow Fault status is active.	Pump 2 Low Flow Fault status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
175	Faults. Pump._2. Flow. LowFlowFault. Status. Unacknowledged	Pump 2 Low Flow Fault condition is in the unacknowledged state.	The Pump 2 Low Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
176	Faults. Pump._2. Active	At least one pump 2 fault is active.	All pump 2 faults are inactive.	1
177	Faults. Pump._2. Unacknowledged	At least one pump 2 fault is unacknowledged.	No pump 2 faults are unacknowledged.	1
178	Faults. Pump._2. PumpFaultedActive	At least one pump 2 fault which causes the pump to be unavailable is active.	No pump 2 faults which cause the pump to be unavailable are active.	1
179	Faults. Pump._2. PumpFaultedUnack	At least one pump 2 fault which causes the pump to be unavailable is unacknowledged.	No pump 2 faults which cause the pump to be unavailable are unacknowledged.	1
180	Faults. Pump._2. CriticalActive	At least one pump 2 fault which requires a manual reset is active.	No pump 2 faults which require a manual reset are active.	1
181	Faults. Pump._2. CriticalUnack	At least one pump 2 fault which requires a manual reset is unacknowledged.	No pump 2 faults which require a manual reset are unacknowledged.	1
182	Faults. Pump._2. NonCriticalActive	At least one pump 2 fault which does not require a manual reset is active.	No pump 2 faults which do not require a manual reset is active.	1
183	Faults. Pump._2. NonCriticalUnack	At least one pump 2 fault which does not require a manual reset is unacknowledged.	No pump 2 faults which do not require a manual reset is unacknowledged.	1
184	Reserved			1
185	Reserved			1
186	Reserved			1
187	Reserved			1
188	Reserved			1
189	Reserved			1
190	IO.Unit._1. TopBoard. Din._1. ValueDigital	Digital Input 1 on the Top Board is ON.	Digital Input 1 on the Top Board is OFF.	1
191	IO.Unit._1. TopBoard. Din._2. ValueDigital	Digital Input 2 on the Top Board is ON.	Digital Input 2 on the Top Board is OFF.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
192	IO.Unit._1. TopBoard. Din._3. ValueDigital	Digital Input 3 on the Top Board is ON.	Digital Input 3 on the Top Board is OFF.	1
193	IO.Unit._1. TopBoard. Din._4. ValueDigital	Digital Input 4 on the Top Board is ON.	Digital Input 4 on the Top Board is OFF.	1
194	IO.Unit._1. TopBoard. Din._5. ValueDigital	Digital Input 5 on the Top Board is ON.	Digital Input 5 on the Top Board is OFF.	1
195	IO.Unit._1. TopBoard. Din._6. ValueDigital	Digital Input 6 on the Top Board is ON.	Digital Input 6 on the Top Board is OFF.	1
196	IO.Unit._1. TopBoard. Din._7. ValueDigital	Digital Input 7 on the Top Board is ON.	Digital Input 7 on the Top Board is OFF.	1
197	IO.Unit._1. TopBoard. Din._8. ValueDigital	Digital Input 8 on the Top Board is ON.	Digital Input 8 on the Top Board is OFF.	1
198	IO.Unit._1. TopBoard. Din._9. ValueDigital	Digital Input 9 on the Top Board is ON.	Digital Input 9 on the Top Board is OFF.	1
199	IO.Unit._1. TopBoard. Din._10. ValueDigital	Digital Input 10 on the Top Board is ON.	Digital Input 10 on the Top Board is OFF.	1
200	IO.Unit._1. TopBoard. Din._11. ValueDigital	Digital Input 11 on the Top Board is ON.	Digital Input 11 on the Top Board is OFF.	1
201	IO.Unit._1. TopBoard. Din._12. ValueDigital	Digital Input 12 on the Top Board is ON.	Digital Input 12 on the Top Board is OFF.	1
202	IO.Unit._1. TopBoard. Din._13. ValueDigital	Digital Input 13 on the Top Board is ON.	Digital Input 13 on the Top Board is OFF.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
203	IO.Unit._1. TopBoard. Din._14. ValueDigital	Digital Input 14 on the Top Board is ON.	Digital Input 14 on the Top Board is OFF.	1
204	IO.Unit._1. TopBoard. Din._15. ValueDigital	Digital Input 15 on the Top Board is ON.	Digital Input 15 on the Top Board is OFF.	1
205	IO.Unit._1. TopBoard. Din._16. ValueDigital	Digital Input 16 on the Top Board is ON.	Digital Input 16 on the Top Board is OFF.	1
206	IO.Unit._1. TopBoard. Din._17. ValueDigital	Digital Input 17 on the Top Board is ON.	Digital Input 17 on the Top Board is OFF.	1
207	IO.Unit._1. TopBoard. Din._18. ValueDigital	Digital Input 18 on the Top Board is ON.	Digital Input 18 on the Top Board is OFF.	1
208	IO.Unit._1. TopBoard. Din._19. ValueDigital	Digital Input 19 on the Top Board is ON.	Digital Input 19 on the Top Board is OFF.	1
209	IO.Unit._1. TopBoard. Din._20. ValueDigital	Digital Input 20 on the Top Board is ON.	Digital Input 20 on the Top Board is OFF.	1
210	IO.Unit._1. TopBoard. Dout._1. Value	Digital Output 1 on the Top Board is ON.	Digital Output 1 on the Top Board is OFF.	1
211	IO.Unit._1. TopBoard. Dout._2. Value	Digital Output 2 on the Top Board is ON.	Digital Output 2 on the Top Board is OFF.	1
212	IO.Unit._1. TopBoard. Dout._3. Value	Digital Output 3 on the Top Board is ON.	Digital Output 3 on the Top Board is OFF.	1
213	IO.Unit._1. TopBoard. Dout._4. Value	Digital Output 4 on the Top Board is ON.	Digital Output 4 on the Top Board is OFF.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
214	IO.Unit._1. TopBoard. Dout._5. Value	Digital Output 5 on the Top Board is ON.	Digital Output 5 on the Top Board is OFF.	1
215	IO.Unit._1. TopBoard. Dout._6. Value	Digital Output 6 on the Top Board is ON.	Digital Output 6 on the Top Board is OFF.	1
216	IO.Unit._1. TopBoard. Dout._7. Value	Digital Output 7 on the Top Board is ON.	Digital Output 7 on the Top Board is OFF.	1
217	Faults. IO.Unit._1. TopBoard.Ain._1. OverRange. Status. Active	Analog Input 1 Over-range condition is active.	Analog Input 1 Over-range condition is inactive.	1
218	Faults. IO.Unit._1. TopBoard.Ain._1. OverRange. Status. Unacknowledged	Analog Input 1 Over-range condition is in the unacknowledged state.	Analog Input 1 Over-range condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
219	Faults. IO.Unit._1. TopBoard.Ain._1. UnderRange. Status. Active	Analog Input 1 Under-range condition is active.	Analog Input 1 Under-range condition is inactive.	1
220	Faults. IO.Unit._1. TopBoard.Ain._1. UnderRange. Status. Unacknowledged	Analog Input 1 Under-range condition is in the unacknowledged state.	Analog Input 1 Under-range condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
221	Faults. IO.Unit._1. TopBoard.Ain._2. OverRange. Status. Active	Analog Input 2 Over-range condition is active.	Analog Input 2 Over-range condition is inactive.	1
222	Faults. IO.Unit._1. TopBoard.Ain._2. OverRange. Status. Unacknowledged	Analog Input 2 Over-range condition is in the unacknowledged state.	Analog Input 2 Over-range condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
223	Faults. IO.Unit._1. TopBoard.Ain._2. UnderRange. Status. Active	Analog Input 2 Under-range condition is active.	Analog Input 2 Under-range condition is inactive.	1
224	Faults. IO.Unit._1. TopBoard.Ain._2. UnderRange. Status. Unacknowledged	Analog Input 2 Under-range condition is in the unacknowledged state.	Analog Input 2 Under-range condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
225	Reserved			1
226	Reserved			1
227	Reserved			1
228	Reserved			1
229	Reserved			1
230	Reserved			1
231	Reserved			1
232	IO.Unit._1. BottomBoard. Dout._11. Value	Digital Output 11 on the Bottom Board is ON.	Digital Output 11 on the Bottom Board is OFF.	1
233	IO.Unit._1. BottomBoard. Dout._12. Value	Digital Output 12 on the Bottom Board is ON.	Digital Output 12 on the Bottom Board is OFF.	1
234	IO.Unit._1. BottomBoard. Dout._13. Value	Digital Output 13 on the Bottom Board is ON.	Digital Output 13 on the Bottom Board is OFF.	1
235	IO.Unit._1. BottomBoard. Dout._14. Value	Digital Output 14 on the Bottom Board is ON.	Digital Output 14 on the Bottom Board is OFF.	1
236	IO.Unit._1. BottomBoard. Dout._15. Value	Digital Output 15 on the Bottom Board is ON.	Digital Output 15 on the Bottom Board is OFF.	1
237	Reserved			1
238	Reserved			1
239	Reserved			1
240	Reserved			1
241	Reserved			1
242	Reserved			1
243	Reserved			1
244	Reserved			1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
245	Reserved			1
246	Reserved			1
247	Reserved			1
248	Reserved			1
249	Reserved			1
250	Reserved			1
251	Reserved			1
252	Reserved			1
253	Reserved			1
254	Reserved			1
255	Reserved			1
256	Reserved			1
257	Reserved			1
258	Reserved			1
259	Reserved			1
260	Reserved			1
261	Reserved			1
262	Reserved			1
263	Reserved			1
264	Reserved			1
265	Reserved			1
266	Reserved			1
267	Reserved			1
268	Reserved			1
269	Reserved			1
270	Reserved			1
271	Reserved			1
272	Reserved			1
273	Reserved			1
274	Faults. Group._1. StandbyStarts. Status. Active	The maximum standby pump starts condition is active.	The maximum standby pump starts condition is inactive.	1
275	Faults. Group._1. StandbyStarts. Status. Unacknowledged	The maximum standby pump starts condition is in the unacknowledged state	The maximum standby pump starts condition is in the acknowledged state	1
276	Reserved			1
277	Reserved			1
278	Reserved			1
279	Reserved			1
280	Reserved			1
281	Reserved			1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
282	Reserved			1
283	Reserved			1
284	Faults. IO.Unit._1. System. DSPCommsFault. Status. Active	Digital Signal Processor Comms fault condition is active.	Digital Signal Processor Comms fault condition is inactive.	1
285	Faults. IO.Unit._1. System. DSPCommsFault. Status. Unacknowledged	Digital Signal Processor Comms fault condition is in the unacknowledged state.	Digital Signal Processor Comms fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
286	Faults. IO.Unit._1. Probe._1. Status. Active	Probe 1 fault condition is active.	Probe 1 fault condition is inactive.	1
287	Faults. IO.Unit._1. Probe._1. Status. Unacknowledged	Probe 1 fault condition is in the unacknowledged state.	Probe 1 fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	
288	Faults. IO.Unit._1. Probe._2. Status. Active	Probe 2 fault condition is active.	Probe 2 fault condition is inactive.	1
289	Faults. IO.Unit._1. Probe._2. Status. Unacknowledged	Probe 2 fault condition is in the unacknowledged state.	Probe 2 fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
290	Reserved			1
291	Reserved			1
292	Reserved			1
293	Reserved			1

4.1.2 Three Pump Station Configuration

The value in the DNP ID column represents the default setting for a 3 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
0	Faults. Station. UnderVoltage. Status. Active	Station Undervoltage fault condition is active.	Station Undervoltage fault condition is inactive.	1
1	Faults. Station. UnderVoltage. Status. Unacknowledged	Station Undervoltage fault condition is in the unacknowledged state.	Station Undervoltage fault condition is no longer in the unacknowledged state. (ie .fault has been acknowledged by an operator).	1
2	Faults. Station. OverVoltage. Status. Active	Station Overvoltage fault condition is active.	Station Overvoltage fault condition is inactive.	1
3	Faults. Station. OverVoltage. Status. Unacknowledged	Station Overvoltage fault condition is in the unacknowledged state.	Station Overvoltage fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
4	Faults. Station. VoltsPhaseImbalance. Status. Active	Station Volts Phase Imbalance fault condition is active.	Station Volts Phase Imbalance fault condition is inactive.	1
5	Faults. Station. VoltsPhaseImbalance. Status. Unacknowledged	Station Volts Phase Imbalance fault condition is in the unacknowledged state.	Station Volts Phase Imbalance fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
6	Faults. Station. VoltsPhaseRotation. Status. Active	A Volt Phase Rotation fault condition has been detected at the station.	The station Volt Phase Rotation fault condition is inactive. (ie volt phase rotation is in the normal state.)	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
7	Faults. Station. VoltsPhaseRotation. Status. Unacknowledged	Station Volts Phase Rotation fault condition is in the unacknowledged state.	Station Volts Phase Rotation fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
8	Faults. Station. DCUnderVoltage. Status. Active	Station DC Under Voltage fault condition is active. (ie the MultiSmart's DC power supply is below a set voltage threshold)	Station DC Under Voltage fault condition is inactive.	1
9	Faults. Station. DCUnderVoltage. Status. Unacknowledged	Station DC Under Voltage fault condition is in the unacknowledged state.	Station DC Under Voltage fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
10	Faults. Station. DCOverVoltage. Status. Active	Station DC Over Voltage fault condition is active. (ie the MultiSmart's DC power supply is above a set voltage threshold)	Station DC Over Voltage fault condition is inactive.	1
11	Faults. Station. DCOverVoltage. Status. Unacknowledged	Station DC Over Voltage fault condition is in the unacknowledged state.	Station DC Over Voltage fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
12	Faults. Station. MaxOnTime. Status. Active	Station Maximum On Time fault condition is active.	Station Maximum On Time fault condition is inactive.	1
13	Faults. Station. MaxOnTime. Status. Unacknowledged	Station Maximum On Time fault condition is in the unacknowledged state.	Station Maximum On Time fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
14	Faults. Station. MaxOffTime. Status. Active	Station Maximum Off Time fault condition is active.	Station Maximum Off Time fault condition is inactive.	1
15	Faults. Station. MaxOffTime. Status. Unacknowledged	Station Maximum Off Time fault condition is in the unacknowledged state.	Station Maximum Off Time fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
16	Faults. Station. PowerFail. Status. Active	Station Power Failure fault condition is active.	Station Power Failure fault condition is inactive.	1
17	Faults. Station. PowerFail. Status. Unacknowledged	Station Power Failure fault condition is in the unacknowledged state.	Station Power Failure fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
18	Faults. Station. Overflow. Status. Active	Station Overflow fault condition is active.	Station Overflow fault condition is inactive.	1
19	Faults. Station. Overflow. Status. Unacknowledged	Station Overflow fault condition is in the unacknowledged state.	Station Overflow fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
20	Faults. Active	At least one fault within the station is active.	All faults within the station are inactive.	1
21	Faults. Unacknowledged	At least one fault within the station is unacknowledged.	All faults within the station are inactive.	1
22	Faults. PumpFaultedActive	At least one fault within the station which causes a pump to be unavailable is active.	No active faults within the station are causing pumps to be unavailable.	1
23	Faults. PumpFaultedUnack	At least one fault within the station which causes a pump to be unavailable is unacknowledged.	No unacknowledged faults within the station cause pumps to be unavailable.	1
24	Faults. CriticalActive	At least one fault within the station which requires a manual reset is active.	No faults within the station which require a manual reset are active.	1
25	Faults. CriticalUnack	At least one fault within the station which requires a manual reset is unacknowledged.	No faults within the station which require a manual reset are unacknowledged.	1
26	Faults. NonCriticalActive	At least one fault within the station which does not require a manual reset is active.	No faults within the station which do not require a manual reset are active.	1
27	Faults. NonCriticalUnack	At least one fault within the station which does not require a manual reset is unacknowledged.	No faults within the station which do not require a manual reset are unacknowledged.	1
28	Lcd. Maintenance	The unit is in maintenance mode. When in maintenance mode, any controls sent via DNP will be ignored. All points will be returned with Local Forced flag set, indicating that data is suspect.	The unit is not in maintenance mode.	1
29	Reserved			1
30	Faults. Well._1. HighHighLevel. Status. Active	The High-High Level alarm in the well has been activated.	The High-High Level alarm is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
31	Faults. Well._1. HighHighLevel. Status. Unacknowledged	The High-High Level alarm is in the unacknowledged state.	The High-High Level alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
32	Faults. Well._1. HighLevel. Status. Active	The High Level alarm in the well has been activated.	The High Level alarm is inactive.	1
33	Faults. Well._1. HighLevel. Status. Unacknowledged	The High Level alarm is in the unacknowledged state.	The High Level alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
34	Faults. Well._1. LowLevel. Status. Active	The Low Level alarm in the well has been activated.	The Low Level alarm is inactive.	1
35	Faults. Well._1. LowLevel. Status. Unacknowledged	The Low Level alarm is in the unacknowledged state.	The Low Level alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
36	Faults. Well._1. LowLowLevel. Status. Active	The Low-Low Level alarm in the well has been activated.	The Low-Low Level alarm is inactive.	1
37	Faults. Well._1. LowLowLevel. Status. Unacknowledged	The Low-Low Level alarm is in the unacknowledged state.	The Low-Low Level alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
38	Faults. Well._1. PrimaryLevelHighRange. Status. Active	The Primary Level High Range alarm has been activated.	The Primary Level High Range alarm is inactive.	1
39	Faults. Well._1. PrimaryLevelHighRange. Status. Unacknowledged	The Primary Level High Range alarm is in the unacknowledged state.	The Primary Level High Range alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
40	Faults. Well._1. PrimaryLevelLowRange. Status. Active	The Primary Level Low Range alarm has been activated.	The Primary Level Low Range alarm is inactive.	1
41	Faults. Well._1. PrimaryLevelLowRange. Status. Unacknowledged	The Primary Level Low Range alarm is in the unacknowledged state.	The Primary Level Low Range alarm is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
42	Faults. Well._1. PrimaryLevelInvalid. Status. Active	The Primary Level Invalid fault condition has been activated.	The Primary Level Invalid fault condition is inactive.	1
43	Faults. Well._1. PrimaryLevelInvalid. Status. Unacknowledged	The Primary Level Invalid fault condition is in the unacknowledged state.	The Primary Level Invalid fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
44	Faults. Well._1. PrimaryLevelAinOverRange. Status. Active	The Primary Level Analog Input Over Range fault condition has been activated.	The Primary Level Analog Input Over Range fault condition is inactive.	1
45	Faults. Well._1. PrimaryLevelAinOverRange. Status. Unacknowledged	The Primary Level Analog Input Over Range fault condition is in the unacknowledged state.	The Primary Level Analog Input Over Range fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
46	Faults. Well._1. PrimaryLevelAinUnderRange. Status. Active	The Primary Level Analog Input Under Range fault condition has been activated.	The Primary Level Analog Input Under Range fault condition is inactive.	1
47	Faults. Well._1. PrimaryLevelAinUnderRange. Status. Unacknowledged	The Primary Level Analog Input Under Range fault condition is in the unacknowledged state.	The Primary Level Analog Input Under Range fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
48	Faults. Well._1. BackupLevelInvalid. Status. Active	The Backup Level Invalid fault condition has been activated.	The Backup Level Invalid fault condition is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
49	Faults. Well._1. BackupLevelInvalid. Status. Unacknowledged	The Backup Level Invalid fault condition is in the unacknowledged state.	The Backup Level Invalid fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
50	Faults. Well._1. BackupLevelAinOverRange. Status. Active	The Backup Level Analog Input Over Range fault condition has been activated.	The Backup Level Analog Input Over Range fault condition is inactive.	1
51	Faults. Well._1. BackupLevelAinOverRange. Status. Unacknowledged	The Backup Level Analog Input Over Range fault condition is in the unacknowledged state.	The Backup Level Analog Input Over Range fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
52	Faults. Well._1. BackupLevelAinUnderRange. Status. Active	The Backup Level Analog Input Over Range fault condition has been activated.	The Backup Level Analog Input Over Range fault condition is inactive.	1
53	Faults. Well._1. BackupLevelAinUnderRange. Status. Unacknowledged	The Backup Level Analog Input Under Range fault condition is in the unacknowledged state.	The Backup Level Analog Input Under Range fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
54	Reserved			1
55	Reserved			1
56	Reserved			1
57	Reserved			1
58	Reserved			1
59	Reserved			1
60	Reserved			1
61	Reserved			1
62	Reserved			1
63	Reserved			1
64	Reserved			1
65	Reserved			1
66	Reserved			1
67	Reserved			1
68	Reserved			1
69	Reserved			1
70	PumpControl. Pump._1. Running	Pump 1 running	Pump 1 not running	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
71	PumpControl. Pump._1. Decommissioned	Pump 1 decommissioned	Pump 1 in service	1
72	PumpControl. Pump._1. Fault.Status. HoldoutActive	Pump 1 “Holdout” fault status is active.	Pump 1 “Holdout” faults status is inactive.	1
73	PumpControl. Pump._1. Fault.Status. UnavailableActive	Pump 1 “Unavailable” status is active. (ie Pump is unavailable and cannot be run)	Pump 1 “Unavailable” status is inactive.	1
74	Faults. Pump._1. Seal.Status. Active	Pump 1 Seal Fault condition is active.	Pump 1 Seal Fault condition is inactive.	1
75	Faults. Pump._1. Seal.Status. Unacknowledged	Pump 1 Seal Fault condition is in the unacknowledged state.	The Pump 1 Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
76	Faults. Pump._1. ThermalOverload.Status. Active	Pump 1 Thermal Overload fault condition is active.	Pump 1 Thermal Overload fault condition is inactive.	1
77	Faults. Pump._1. ThermalOverload.Status. Unacknowledged	Pump 1 Thermal Overload fault condition is in the unacknowledged state.	The Pump 1 Thermal Overload fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
78	Faults. Pump._1. FlsSeal.Status. Active	Pump 1 Flygt Seal fault condition is active.	Pump 1 Flygt Seal fault condition is inactive.	1
79	Faults. Pump._1. FlsSeal.Status. Unacknowledged	Pump 1 Flygt Seal fault condition is in the unacknowledged state.	The Pump 1 Flygt Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
80	Faults. Pump._1. FlsThermal.Status. Active	Pump 1 Flygt Thermal fault condition is active.	Pump 1 Flygt Thermal fault condition is inactive.	1
81	Faults. Pump._1. FlsThermal.Status. Unacknowledged	Pump 1 Flygt Thermal fault condition is in the unacknowledged state.	The Pump 1 Flygt Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
82	Faults. Pump._1. ClsSeal.Status. Active	Pump 1 CLS Seal fault condition is active.	Pump 1 CLS Seal fault condition is inactive.	1
83	Faults. Pump._1. ClsSeal.Status. Unacknowledged	Pump 1 CLS Seal fault condition is in the unacknowledged state.	The Pump 1 CLS Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
84	Faults. Pump._1. ClsThermal.Status. Active	Pump 1 CLS Thermal fault condition is active.	Pump 1 CLS Thermal fault condition is inactive.	1
85	Faults. Pump._1. ClsThermal.Status. Unacknowledged	Pump 1 CLS Thermal fault condition is in the unacknowledged state.	The Pump 1 CLS Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
86	Faults. Pump._1. EarthFault.Status. Active	Pump 1 Earth Fault condition is active.	Pump 1 Earth Fault condition is inactive.	1
87	Faults. Pump._1. EarthFault.Status. Unacknowledged	Pump 1 Earth Fault condition is in the unacknowledged state.	The Pump 1 Earth Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
88	Faults. Pump._1. IRT.Status. Active	Pump 1 IRT fault condition is active. (The Insulation Resistance Tester has detected an Insulation Resistance fault on this pump)	Pump 1 IRT fault condition is inactive.	1
89	Faults. Pump._1. IRT.Status. Unacknowledged	Pump 1 IRT fault condition is in the unacknowledged state.	The Pump 1 IRT fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
90	Faults. Pump._1. AmpsPhaseImbalance. Status. Active	Pump 1 Amp Phase Imbalance fault condition is active. (A current load imbalance has been detected across the 3 phases on this pump)	Pump 1 Amp Phase Imbalance fault condition is inactive.	1
91	Faults. Pump._1. AmpsPhaseImbalance. Status. Unacknowledged	Pump 1 Amp Phase Imbalance fault condition is in the unacknowledged state.	The Pump 1 Amp Phase Imbalance fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
92	Faults. Pump._1. AmpsPhaseRotation. Status. Active	Pump 1 Amp Phase Rotation fault condition is active.	Pump 1 Amp Phase Rotation fault condition is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
93	Faults. Pump._1. AmpsPhaseRotation. Status. Unacknowledged	Pump 1 Amp Phase Rotation fault condition is in the unacknowledged state.	The Pump 1 Amp Phase Rotation fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
94	Faults. Pump._1. UnderCurrent. Status. Active	Pump 1 Under Current fault condition is active.	Pump 1 Under Current fault condition is inactive.	1
95	Faults. Pump._1. UnderCurrent. Status. Unacknowledged	Pump 1 Under Current fault condition is in the unacknowledged state.	The Pump 1 Under Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
96	Faults. Pump._1. OverCurrent. Status. Active	Pump 1 Over Current fault condition is active.	Pump 1 Over Current fault condition is inactive.	1
97	Faults. Pump._1. OverCurrent. Status. Unacknowledged	Pump 1 Over Current fault condition is in the unacknowledged state.	The Pump 1 Over Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
98	Faults. Pump._1. ContactorAux. Status. Active	Pump 1 Contactor Auxiliary status is active. (the contactor auxiliary contacts are connected to a digital input. This fault detects when the input is active so the contactor status can be determined)	Pump 1 Contactor Auxiliary status is inactive.	1
99	Faults. Pump._1. ContactorAux. Status. Unacknowledged	Pump 1 Contactor Auxiliary fault condition is in the unacknowledged state.	The Pump 1 Contactor Auxiliary fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
100	Faults. Pump._1. DelayFail. Status. Active	Pump 1 Delay Fail fault status is active.	Pump 1 Delay Fail fault status is inactive.	1
101	Faults. Pump._1. DelayFail. Status. Unacknowledged	Pump 1 Delay Fail fault condition is in the unacknowledged state.	The Pump 1 Delay Fail fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
102	Faults. Pump._1. MotorOvertemp. Status. Active	Pump 1 Motor Over Temperature fault status is active.	Pump 1 Motor Over Temperature fault status is inactive.	1
103	Faults. Pump._1. MotorOvertemp. Status. Unacknowledged	Pump 1 Motor Over Temperature fault condition is in the unacknowledged state.	The Pump 1 Motor Over Temperature fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
104	Faults. Pump._1. CBOffTrip. Status. Active	Pump 1 Circuit Breaker Off/Trip fault status is active.	Pump 1 Circuit Breaker Off/Trip fault status is inactive.	1
105	Faults. Pump._1. CBOffTrip. Status. Unacknowledged	Pump 1 Circuit Breaker Off/Trip fault condition is in the unacknowledged state.	The Pump 1 Circuit Breaker Off/Trip fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
106	Faults. Pump._1. MaxStarts. Status. Active	Pump 1 Maximum Starts fault status is active.	Pump 1 Maximum Starts fault status is inactive.	1
107	Faults. Pump._1. MaxStarts. Status. Unacknowledged	Pump 1 Maximum Starts fault condition is in the unacknowledged state.	The Pump 1 Maximum Starts fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
108	Faults. Pump._1. Flow. HighFlowFault. Status. Active	Pump 1 High Flow Fault status is active.	Pump 1 High Flow Fault status is inactive.	1
109	Faults. Pump._1. Flow. HighFlowFault. Status. Unacknowledged	Pump 1 High Flow Fault condition is in the unacknowledged state.	The Pump 1 High Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
110	Faults. Pump._1. Flow. HighFlowWarning. Status. Active	Pump 1 High Flow Warning status is active.	Pump 1 High Flow Warning status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
111	Faults. Pump._1. Flow. HighFlowWarning. Status. Unacknowledged	Pump 1 High Flow Warning condition is in the unacknowledged state.	The Pump 1 High Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
112	Faults. Pump._1. Flow. LowFlowWarning. Status. Active	Pump 1 Low Flow Warning status is active.	Pump 1 Low Flow Warning status is inactive.	1
113	Faults. Pump._1. Flow. LowFlowWarning. Status. Unacknowledged	Pump 1 Low Flow Warning condition is in the unacknowledged state.	The Pump 1 Low Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
114	Faults. Pump._1. Flow. LowFlowFault. Status. Active	Pump 1 Low Flow Fault status is active.	Pump 1 Low Flow Fault status is inactive.	1
115	Faults. Pump._1. Flow. LowFlowFault. Status. Unacknowledged	Pump 1 Low Flow Fault condition is in the unacknowledged state.	The Pump 1 Low Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
116	Faults. Pump._1. Active	At least one pump 1 fault is active.	All pump 1 faults are inactive.	1
117	Faults. Pump._1. Unacknowledged	At least one pump 1 fault is unacknowledged.	No pump 1 faults are unacknowledged.	1
118	Faults. Pump._1. PumpFaultedActive	At least one pump 1 fault which causes the pump to be unavailable is active.	No pump 1 faults which cause the pump to be unavailable are active.	1
119	Faults. Pump._1. PumpFaultedUnack	At least one pump 1 fault which causes the pump to be unavailable is unacknowledged.	No pump 1 faults which cause the pump to be unavailable are unacknowledged.	1
120	Faults. Pump._1. CriticalActive	At least one pump 1 fault which requires a manual reset is active.	No pump 1 faults which require a manual reset are active.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
121	Faults. Pump._1. CriticalUnack	At least one pump 1 fault which requires a manual reset is unacknowledged.	No pump 1 faults which require a manual reset are unacknowledged.	1
122	Faults. Pump._1. NonCriticalActive	At least one pump 1 fault which does not require a manual reset is active.	No pump 1 faults which do not require a manual reset is active.	1
123	Faults. Pump._1. NonCriticalUnack	At least one pump 1 fault which does not require a manual reset is unacknowledged.	No pump 1 faults which do not require a manual reset is unacknowledged.	1
124	Reserved			1
125	Reserved			1
126	Reserved			1
127	Reserved			1
128	Reserved			1
129	Reserved			1
130	PumpControl. Pump._2. Running	Pump 2 running	Pump 2 not running	1
131	PumpControl. Pump._2. Decommissioned	Pump 2 decommissioned	Pump 2 in service	1
132	PumpControl. Pump._2. Fault.Status. HoldoutActive	Pump 2 “Holdout” fault status is active.	Pump 2 “Holdout” faults status is inactive.	1
133	PumpControl. Pump._2. Fault.Status. UnavailableActive	Pump 2 “Unavailable” status is active. (ie Pump is unavailable and cannot be run)	Pump 2 “Unavailable” status is inactive.	1
134	Faults. Pump._2. Seal.Status. Active	Pump 2 Seal Fault condition is active.	Pump 2 Seal Fault condition is inactive.	1
135	Faults. Pump._2. Seal.Status. Unacknowledged	Pump 2 Seal Fault condition is in the unacknowledged state.	The Pump 2 Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
136	Faults. Pump._2. ThermalOverload.Status. Active	Pump 2 Thermal Overload fault condition is active.	Pump 2 Thermal Overload fault condition is inactive.	1
137	Faults. Pump._2. ThermalOverload.Status. Unacknowledged	Pump 2 Thermal Overload fault condition is in the unacknowledged state.	The Pump 2 Thermal Overload fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
138	Faults. Pump._2. FlsSeal.Status. Active	Pump 2 Flygt Seal fault condition is active.	Pump 2 Flygt Seal fault condition is inactive.	1
139	Faults. Pump._2. FlsSeal.Status. Unacknowledged	Pump 2 Flygt Seal fault condition is in the unacknowledged state.	The Pump 2 Flygt Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
140	Faults. Pump._2. FlsThermal.Status. Active	Pump 2 Flygt Thermal fault condition is active.	Pump 2 Flygt Thermal fault condition is inactive.	1
141	Faults. Pump._2. FlsThermal.Status. Unacknowledged	Pump 2 Flygt Thermal fault condition is in the unacknowledged state.	The Pump 2 Flygt Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
142	Faults. Pump._2. ClsSeal.Status. Active	Pump 2 CLS Seal fault condition is active.	Pump 2 CLS Seal fault condition is inactive.	1
143	Faults. Pump._2. ClsSeal.Status. Unacknowledged	Pump 2 CLS Seal fault condition is in the unacknowledged state.	The Pump 2 CLS Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
144	Faults. Pump._2. ClsThermal.Status. Active	Pump 2 CLS Thermal fault condition is active.	Pump 2 CLS Thermal fault condition is inactive.	1
145	Faults. Pump._2. ClsThermal.Status. Unacknowledged	Pump 2 CLS Thermal fault condition is in the unacknowledged state.	The Pump 2 CLS Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
146	Faults. Pump._2. EarthFault.Status. Active	Pump 2 Earth Fault condition is active.	Pump 2 Earth Fault condition is inactive.	1
147	Faults. Pump._2. EarthFault.Status. Unacknowledged	Pump 2 Earth Fault condition is in the unacknowledged state.	The Pump 2 Earth Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
148	Faults. Pump._2. IRT.Status. Active	Pump 2 IRT fault condition is active. (The Insulation Resistance Tester has detected an Insulation Resistance fault on this pump)	Pump 2 IRT fault condition is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
149	Faults. Pump._2. IRT.Status. Unacknowledged	Pump 2 IRT fault condition is in the unacknowledged state.	The Pump 2 IRT fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
150	Faults. Pump._2. AmpsPhaseImbalance. Status. Active	Pump 2 Amp Phase Imbalance fault condition is active. (A current load imbalance has been detected across the 3 phases on this pump)	Pump 2 Amp Phase Imbalance fault condition is inactive.	1
151	Faults. Pump._2. AmpsPhaseImbalance. Status. Unacknowledged	Pump 2 Amp Phase Imbalance fault condition is in the unacknowledged state.	The Pump 2 Amp Phase Imbalance fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
152	Faults. Pump._2. AmpsPhaseRotation. Status. Active	Pump 2 Amp Phase Rotation fault condition is active.	Pump 2 Amp Phase Rotation fault condition is inactive.	1
153	Faults. Pump._2. AmpsPhaseRotation. Status. Unacknowledged	Pump 2 Amp Phase Rotation fault condition is in the unacknowledged state.	The Pump 2 Amp Phase Rotation fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
154	Faults. Pump._2. UnderCurrent. Status. Active	Pump 2 Under Current fault condition is active.	Pump 2 Under Current fault condition is inactive.	1
155	Faults. Pump._2. UnderCurrent. Status. Unacknowledged	Pump 2 Under Current fault condition is in the unacknowledged state.	The Pump 2 Under Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
156	Faults. Pump._2. OverCurrent. Status. Active	Pump 2 Over Current fault condition is active.	Pump 2 Over Current fault condition is inactive.	1
157	Faults. Pump._2. OverCurrent. Status. Unacknowledged	Pump 2 Over Current fault condition is in the unacknowledged state.	The Pump 2 Over Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
158	Faults. Pump._2. ContactorAux. Status. Active	Pump 2 Contactor Auxiliary status is active. (the contactor auxiliary contacts are connected to a digital input. This fault detects when the input is active so the contactor status can be determined)	Pump 2 Contactor Auxiliary status is inactive.	1
159	Faults. Pump._2. ContactorAux. Status. Unacknowledged	Pump 2 Contactor Auxiliary fault condition is in the unacknowledged state.	The Pump 2 Contactor Auxiliary fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
160	Faults. Pump._2. DelayFail. Status. Active	Pump 2 Delay Fail fault status is active.	Pump 2 Delay Fail fault status is inactive.	1
161	Faults. Pump._2. DelayFail. Status. Unacknowledged	Pump 2 Delay Fail fault condition is in the unacknowledged state.	The Pump 2 Delay Fail fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
162	Faults. Pump._2. MotorOvertemp. Status. Active	Pump 2 Motor Over Temperature fault status is active.	Pump 2 Motor Over Temperature fault status is inactive.	1
163	Faults. Pump._2. MotorOvertemp. Status. Unacknowledged	Pump 2 Motor Over Temperature fault condition is in the unacknowledged state.	The Pump 2 Motor Over Temperature fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
164	Faults. Pump._2. CBOffTrip. Status. Active	Pump 2 Circuit Breaker Off/Trip fault status is active.	Pump 2 Circuit Breaker Off/Trip fault status is inactive.	1
165	Faults. Pump._2. CBOffTrip. Status. Unacknowledged	Pump 2 Circuit Breaker Off/Trip fault condition is in the unacknowledged state.	The Pump 2 Circuit Breaker Off/Trip fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
166	Faults. Pump._2. MaxStarts. Status. Active	Pump 2 Maximum Starts fault status is active.	Pump 2 Maximum Starts fault status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
167	Faults. Pump._2. MaxStarts. Status. Unacknowledged	Pump 2 Maximum Starts fault condition is in the unacknowledged state.	The Pump 2 Maximum Starts fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
168	Faults. Pump._2. Flow. HighFlowFault. Status. Active	Pump 2 High Flow Fault status is active.	Pump 2 High Flow Fault status is inactive.	1
169	Faults. Pump._2. Flow. HighFlowFault. Status. Unacknowledged	Pump 2 High Flow Fault condition is in the unacknowledged state.	The Pump 2 High Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
170	Faults. Pump._2. Flow. HighFlowWarning. Status. Active	Pump 2 High Flow Warning status is active.	Pump 2 High Flow Warning status is inactive.	1
171	Faults. Pump._2. Flow. HighFlowWarning. Status. Unacknowledged	Pump 2 High Flow Warning condition is in the unacknowledged state.	The Pump 2 High Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
172	Faults. Pump._2. Flow. LowFlowWarning. Status. Active	Pump 2 Low Flow Warning status is active.	Pump 2 Low Flow Warning status is inactive.	1
173	Faults. Pump._2. Flow. LowFlowWarning. Status. Unacknowledged	Pump 2 Low Flow Warning condition is in the unacknowledged state.	The Pump 2 Low Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
174	Faults. Pump._2. Flow. LowFlowFault. Status. Active	Pump 2 Low Flow Fault status is active.	Pump 2 Low Flow Fault status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
175	Faults. Pump._2. Flow. LowFlowFault. Status. Unacknowledged	Pump 2 Low Flow Fault condition is in the unacknowledged state.	The Pump 2 Low Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
176	Faults. Pump._2. Active	At least one pump 2 fault is active.	All pump 2 faults are inactive.	1
177	Faults. Pump._2. Unacknowledged	At least one pump 2 fault is unacknowledged.	No pump 2 faults are unacknowledged.	1
178	Faults. Pump._2. PumpFaultedActive	At least one pump 2 fault which causes the pump to be unavailable is active.	No pump 2 faults which cause the pump to be unavailable are active.	1
179	Faults. Pump._2. PumpFaultedUnack	At least one pump 2 fault which causes the pump to be unavailable is unacknowledged.	No pump 2 faults which cause the pump to be unavailable are unacknowledged.	1
180	Faults. Pump._2. CriticalActive	At least one pump 2 fault which requires a manual reset is active.	No pump 2 faults which require a manual reset are active.	1
181	Faults. Pump._2. CriticalUnack	At least one pump 2 fault which requires a manual reset is unacknowledged.	No pump 2 faults which require a manual reset are unacknowledged.	1
182	Faults. Pump._2. NonCriticalActive	At least one pump 2 fault which does not require a manual reset is active.	No pump 2 faults which do not require a manual reset is active.	1
183	Faults. Pump._2. NonCriticalUnack	At least one pump 2 fault which does not require a manual reset is unacknowledged.	No pump 2 faults which do not require a manual reset is unacknowledged.	1
184	Reserved			1
185	Reserved			1
186	Reserved			1
187	Reserved			1
188	Reserved			1
189	Reserved			1
190	PumpControl. Pump._3. Running	Pump 3 running	Pump 3 not running	1
191	PumpControl. Pump._3. Decommissioned	Pump 3 decommissioned	Pump 3 in service	1
192	PumpControl. Pump._3. Fault.Status. HoldoutActive	Pump 3 “Holdout” fault status is active.	Pump 3 “Holdout” faults status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
193	PumpControl. Pump._3. Fault.Status. UnavailableActive	Pump 3 “Unavailable” status is active. (ie Pump is unavailable and cannot be run)	Pump 3 “Unavailable” status is inactive.	1
194	Faults. Pump._3. Seal.Status. Active	Pump 3 Seal Fault condition is active.	Pump 3 Seal Fault condition is inactive.	1
195	Faults. Pump._3. Seal.Status. Unacknowledged	Pump 3 Seal Fault condition is in the unacknowledged state.	The Pump 3 Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
196	Faults. Pump._3. ThermalOverload.Status. Active	Pump 3 Thermal Overload fault condition is active.	Pump 3 Thermal Overload fault condition is inactive.	1
197	Faults. Pump._3. ThermalOverload.Status. Unacknowledged	Pump 3 Thermal Overload fault condition is in the unacknowledged state.	The Pump 3 Thermal Overload fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
198	Faults. Pump._3. FlsSeal.Status. Active	Pump 3 Flygt Seal fault condition is active.	Pump 3 Flygt Seal fault condition is inactive.	1
199	Faults. Pump._3. FlsSeal.Status. Unacknowledged	Pump 3 Flygt Seal fault condition is in the unacknowledged state.	The Pump 3 Flygt Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
200	Faults. Pump._3. FlsThermal.Status. Active	Pump 3 Flygt Thermal fault condition is active.	Pump 3 Flygt Thermal fault condition is inactive.	1
201	Faults. Pump._3. FlsThermal.Status. Unacknowledged	Pump 3 Flygt Thermal fault condition is in the unacknowledged state.	The Pump 3 Flygt Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
202	Faults. Pump._3. ClsSeal.Status. Active	Pump 3 CLS Seal fault condition is active.	Pump 3 CLS Seal fault condition is inactive.	1
203	Faults. Pump._3. ClsSeal.Status. Unacknowledged	Pump 3 CLS Seal fault condition is in the unacknowledged state.	The Pump 3 CLS Seal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
204	Faults. Pump._3. ClsThermal.Status. Active	Pump 3 CLS Thermal fault condition is active.	Pump 3 CLS Thermal fault condition is inactive.	1
205	Faults. Pump._3. ClsThermal.Status. Unacknowledged	Pump 3 CLS Thermal fault condition is in the unacknowledged state.	The Pump 3 CLS Thermal fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
206	Faults. Pump._3. EarthFault.Status. Active	Pump 3 Earth Fault condition is active.	Pump 3 Earth Fault condition is inactive.	1
207	Faults. Pump._3. EarthFault.Status. Unacknowledged	Pump 3 Earth Fault condition is in the unacknowledged state.	The Pump 3 Earth Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
208	Faults. Pump._3. IRT.Status. Active	Pump 3 IRT fault condition is active. (The Insulation Resistance Tester has detected an Insulation Resistance fault on this pump)	Pump 3 IRT fault condition is inactive.	1
209	Faults. Pump._3. IRT.Status. Unacknowledged	Pump 3 IRT fault condition is in the unacknowledged state.	The Pump 3 IRT fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
210	Faults. Pump._3. AmpsPhaseImbalance. Status. Active	Pump 3 Amp Phase Imbalance fault condition is active. (A current load imbalance has been detected across the 3 phases on this pump)	Pump 3 Amp Phase Imbalance fault condition is inactive.	1
211	Faults. Pump._3. AmpsPhaseImbalance. Status. Unacknowledged	Pump 3 Amp Phase Imbalance fault condition is in the unacknowledged state.	The Pump 3 Amp Phase Imbalance fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
212	Faults. Pump._3. AmpsPhaseRotation. Status. Active	Pump 3 Amp Phase Rotation fault condition is active.	Pump 3 Amp Phase Rotation fault condition is inactive.	1
213	Faults. Pump._3. AmpsPhaseRotation. Status. Unacknowledged	Pump 3 Amp Phase Rotation fault condition is in the unacknowledged state.	The Pump 3 Amp Phase Rotation fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
214	Faults. Pump._3. UnderCurrent. Status. Active	Pump 3 Under Current fault condition is active.	Pump 3 Under Current fault condition is inactive.	1
215	Faults. Pump._3. UnderCurrent. Status. Unacknowledged	Pump 3 Under Current fault condition is in the unacknowledged state.	The Pump 3 Under Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
216	Faults. Pump._3. OverCurrent. Status. Active	Pump 3 Over Current fault condition is active.	Pump 3 Over Current fault condition is inactive.	1
217	Faults. Pump._3. OverCurrent. Status. Unacknowledged	Pump 3 Over Current fault condition is in the unacknowledged state.	The Pump 3 Over Current fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
218	Faults. Pump._3. ContactorAux. Status. Active	Pump 3 Contactor Auxiliary status is active. (the contactor auxiliary contacts are connected to a digital input. This fault detects when the input is active so the contactor status can be determined)	Pump 3 Contactor Auxiliary status is inactive.	1
219	Faults. Pump._3. ContactorAux. Status. Unacknowledged	Pump 3 Contactor Auxiliary fault condition is in the unacknowledged state.	The Pump 3 Contactor Auxiliary fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
220	Faults. Pump._3. DelayFail. Status. Active	Pump 3 Delay Fail fault status is active.	Pump 3 Delay Fail fault status is inactive.	1
221	Faults. Pump._3. DelayFail. Status. Unacknowledged	Pump 3 Delay Fail fault condition is in the unacknowledged state.	The Pump 3 Delay Fail fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
222	Faults. Pump._3. MotorOvertemp. Status. Active	Pump 3 Motor Over Temperature fault status is active.	Pump 3 Motor Over Temperature fault status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
223	Faults. Pump._3. MotorOvertemp. Status. Unacknowledged	Pump 3 Motor Over Temperature fault condition is in the unacknowledged state.	The Pump 3 Motor Over Temperature fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
224	Faults. Pump._3. CBOffTrip. Status. Active	Pump 3 Circuit Breaker Off/Trip fault status is active.	Pump 3 Circuit Breaker Off/Trip fault status is inactive.	1
225	Faults. Pump._3. CBOffTrip. Status. Unacknowledged	Pump 3 Circuit Breaker Off/Trip fault condition is in the unacknowledged state.	The Pump 3 Circuit Breaker Off/Trip fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
226	Faults. Pump._3. MaxStarts. Status. Active	Pump 3 Maximum Starts fault status is active.	Pump 3 Maximum Starts fault status is inactive.	1
227	Faults. Pump._3. MaxStarts. Status. Unacknowledged	Pump 3 Maximum Starts fault condition is in the unacknowledged state.	The Pump 3 Maximum Starts fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
228	Faults. Pump._3. Flow. HighFlowFault. Status. Active	Pump 3 High Flow Fault status is active.	Pump 3 High Flow Fault status is inactive.	1
229	Faults. Pump._3. Flow. HighFlowFault. Status. Unacknowledged	Pump 3 High Flow Fault condition is in the unacknowledged state.	The Pump 3 High Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
230	Faults. Pump._3. Flow. HighFlowWarning. Status. Active	Pump 3 High Flow Warning status is active.	Pump 3 High Flow Warning status is inactive.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
231	Faults. Pump._3. Flow. HighFlowWarning. Status. Unacknowledged	Pump 3 High Flow Warning condition is in the unacknowledged state.	The Pump 3 High Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
232	Faults. Pump._3. Flow. LowFlowWarning. Status. Active	Pump 3 Low Flow Warning status is active.	Pump 3 Low Flow Warning status is inactive.	1
233	Faults. Pump._3. Flow. LowFlowWarning. Status. Unacknowledged	Pump 3 Low Flow Warning condition is in the unacknowledged state.	The Pump 3 Low Flow Warning condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
234	Faults. Pump._3. Flow. LowFlowFault. Status. Active	Pump 3 Low Flow Fault status is active.	Pump 3 Low Flow Fault status is inactive.	1
235	Faults. Pump._3. Flow. LowFlowFault. Status. Unacknowledged	Pump 3 Low Flow Fault condition is in the unacknowledged state.	The Pump 3 Low Flow Fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
236	Faults. Pump._3. Active	At least one pump 3 fault is active.	All pump 3 faults are inactive.	1
237	Faults. Pump._3. Unacknowledged	At least one pump 3 fault is unacknowledged.	No pump 3 faults are unacknowledged.	1
238	Faults. Pump._3. PumpFaultedActive	At least one pump 3 fault which causes the pump to be unavailable is active.	No pump 3 faults which cause the pump to be unavailable are active.	1
239	Faults. Pump._3. PumpFaultedUnack	At least one pump 3 fault which causes the pump to be unavailable is unacknowledged.	No pump 3 faults which cause the pump to be unavailable are unacknowledged.	1
240	Faults. Pump._3. CriticalActive	At least one pump 3 fault which requires a manual reset is active.	No pump 3 faults which require a manual reset are active.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
241	Faults. Pump._3. CriticalUnack	At least one pump 3 fault which requires a manual reset is unacknowledged.	No pump 3 faults which require a manual reset are unacknowledged.	1
242	Faults. Pump._3. NonCriticalActive	At least one pump 3 fault which does not require a manual reset is active.	No pump 3 faults which do not require a manual reset is active.	1
243	Faults. Pump._3. NonCriticalUnack	At least one pump 3 fault which does not require a manual reset is unacknowledged.	No pump 3 faults which do not require a manual reset is unacknowledged.	1
244	Reserved			1
245	Reserved			1
246	Reserved			1
247	Reserved			1
248	Reserved			1
249	Reserved			1
250	IO.Unit._1. TopBoard. Din._1. ValueDigital	Digital Input 1 on the Top Board is ON.	Digital Input 1 on the Top Board is OFF.	1
251	IO.Unit._1. TopBoard. Din._2. ValueDigital	Digital Input 2 on the Top Board is ON.	Digital Input 2 on the Top Board is OFF.	1
252	IO.Unit._1. TopBoard. Din._3. ValueDigital	Digital Input 3 on the Top Board is ON.	Digital Input 3 on the Top Board is OFF.	1
253	IO.Unit._1. TopBoard. Din._4. ValueDigital	Digital Input 4 on the Top Board is ON.	Digital Input 4 on the Top Board is OFF.	1
254	IO.Unit._1. TopBoard. Din._5. ValueDigital	Digital Input 5 on the Top Board is ON.	Digital Input 5 on the Top Board is OFF.	1
255	IO.Unit._1. TopBoard. Din._6. ValueDigital	Digital Input 6 on the Top Board is ON.	Digital Input 6 on the Top Board is OFF.	1
256	IO.Unit._1. TopBoard. Din._7. ValueDigital	Digital Input 7 on the Top Board is ON.	Digital Input 7 on the Top Board is OFF.	1
257	IO.Unit._1. TopBoard. Din._8. ValueDigital	Digital Input 8 on the Top Board is ON.	Digital Input 8 on the Top Board is OFF.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
258	IO.Unit._1. TopBoard. Din._9. ValueDigital	Digital Input 9 on the Top Board is ON.	Digital Input 9 on the Top Board is OFF.	1
259	IO.Unit._1. TopBoard. Din._10. ValueDigital	Digital Input 10 on the Top Board is ON.	Digital Input 10 on the Top Board is OFF.	1
260	IO.Unit._1. TopBoard. Din._11. ValueDigital	Digital Input 11 on the Top Board is ON.	Digital Input 11 on the Top Board is OFF.	1
261	IO.Unit._1. TopBoard. Din._12. ValueDigital	Digital Input 12 on the Top Board is ON.	Digital Input 12 on the Top Board is OFF.	1
262	IO.Unit._1. TopBoard. Din._13. ValueDigital	Digital Input 13 on the Top Board is ON.	Digital Input 13 on the Top Board is OFF.	1
263	IO.Unit._1. TopBoard. Din._14. ValueDigital	Digital Input 14 on the Top Board is ON.	Digital Input 14 on the Top Board is OFF.	1
264	IO.Unit._1. TopBoard. Din._15. ValueDigital	Digital Input 15 on the Top Board is ON.	Digital Input 15 on the Top Board is OFF.	1
265	IO.Unit._1. TopBoard. Din._16. ValueDigital	Digital Input 16 on the Top Board is ON.	Digital Input 16 on the Top Board is OFF.	1
266	IO.Unit._1. TopBoard. Din._17. ValueDigital	Digital Input 17 on the Top Board is ON.	Digital Input 17 on the Top Board is OFF.	1
267	IO.Unit._1. TopBoard. Din._18. ValueDigital	Digital Input 18 on the Top Board is ON.	Digital Input 18 on the Top Board is OFF.	1
268	IO.Unit._1. TopBoard. Din._19. ValueDigital	Digital Input 19 on the Top Board is ON.	Digital Input 19 on the Top Board is OFF.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
269	IO.Unit._1. TopBoard. Din._20. ValueDigital	Digital Input 20 on the Top Board is ON.	Digital Input 20 on the Top Board is OFF.	1
270	IO.Unit._1. TopBoard. Dout._1. Value	Digital Output 1 on the Top Board is ON.	Digital Output 1 on the Top Board is OFF.	1
271	IO.Unit._1. TopBoard. Dout._2. Value	Digital Output 2 on the Top Board is ON.	Digital Output 2 on the Top Board is OFF.	1
272	IO.Unit._1. TopBoard. Dout._3. Value	Digital Output 3 on the Top Board is ON.	Digital Output 3 on the Top Board is OFF.	1
273	IO.Unit._1. TopBoard. Dout._4. Value	Digital Output 4 on the Top Board is ON.	Digital Output 4 on the Top Board is OFF.	1
274	IO.Unit._1. TopBoard. Dout._5. Value	Digital Output 5 on the Top Board is ON.	Digital Output 5 on the Top Board is OFF.	1
275	IO.Unit._1. TopBoard. Dout._6. Value	Digital Output 6 on the Top Board is ON.	Digital Output 6 on the Top Board is OFF.	1
276	IO.Unit._1. TopBoard. Dout._7. Value	Digital Output 7 on the Top Board is ON.	Digital Output 7 on the Top Board is OFF.	1
277	Faults. IO.Unit._1. TopBoard.Ain._1. OverRange. Status. Active	Analog Input 1 Over-range condition is active.	Analog Input 1 Over-range condition is inactive.	1
278	Faults. IO.Unit._1. TopBoard.Ain._1. OverRange. Status. Unacknowledged	Analog Input 1 Over-range condition is in the unacknowledged state.	Analog Input 1 Over-range condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
279	Faults. IO.Unit._1. TopBoard.Ain._1. UnderRange. Status. Active	Analog Input 1 Under-range condition is active.	Analog Input 1 Under-range condition is inactive.	1
280	Faults. IO.Unit._1. TopBoard.Ain._1. UnderRange. Status. Unacknowledged	Analog Input 1 Under-range condition is in the unacknowledged state.	Analog Input 1 Under-range condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
281	Faults. IO.Unit._1. TopBoard.Ain._2. OverRange. Status. Active	Analog Input 2 Over-range condition is active.	Analog Input 2 Over-range condition is inactive.	1
282	Faults. IO.Unit._1. TopBoard.Ain._2. OverRange. Status. Unacknowledged	Analog Input 2 Over-range condition is in the unacknowledged state.	Analog Input 2 Over-range condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
283	Faults. IO.Unit._1. TopBoard.Ain._2. UnderRange. Status. Active	Analog Input 2 Under-range condition is active.	Analog Input 2 Under-range condition is inactive.	1
284	Faults. IO.Unit._1. TopBoard.Ain._2. UnderRange. Status. Unacknowledged	Analog Input 2 Under-range condition is in the unacknowledged state.	Analog Input 2 Under-range condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
285	Reserved			1
286	Reserved			1
287	Reserved			1
288	Reserved			1
289	Reserved			1
290	Reserved			1
291	Reserved			1
292	IO.Unit._1. BottomBoard. Dout._11. Value	Digital Output 11 on the Bottom Board is ON.	Digital Output 11 on the Bottom Board is OFF.	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
293	IO.Unit._1. BottomBoard. Dout._12. Value	Digital Output 12 on the Bottom Board is ON.	Digital Output 12 on the Bottom Board is OFF.	1
294	IO.Unit._1. BottomBoard. Dout._13. Value	Digital Output 13 on the Bottom Board is ON.	Digital Output 13 on the Bottom Board is OFF.	1
295	IO.Unit._1. BottomBoard. Dout._14. Value	Digital Output 14 on the Bottom Board is ON.	Digital Output 14 on the Bottom Board is OFF.	1
296	IO.Unit._1. BottomBoard. Dout._15. Value	Digital Output 15 on the Bottom Board is ON.	Digital Output 15 on the Bottom Board is OFF.	1
297	Reserved			1
298	Reserved			1
299	Reserved			1
300	Reserved			1
301	Reserved			1
302	Reserved			1
303	Reserved			1
304	Reserved			1
305	Reserved			1
306	Reserved			1
307	Reserved			1
308	Reserved			1
309	Reserved			1
310	Reserved			1
311	Reserved			1
312	Reserved			1
313	Reserved			1
314	Reserved			1
315	Reserved			1
316	Reserved			1
317	Reserved			1
318	Reserved			1
319	Reserved			1
320	Reserved			1
321	Reserved			1
322	Reserved			1
323	Reserved			1
324	Reserved			1
325	Reserved			1
326	Reserved			1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
327	Reserved			1
328	Reserved			1
329	Reserved			1
330	Reserved			1
331	Reserved			1
332	Reserved			1
333	Reserved			1
334	Faults. Group._1. StandbyStarts. Status. Active			1
335	Faults. Group._1. StandbyStarts. Status. Unacknowledged			1
336	Reserved			1
337	Reserved			1
338	Reserved			1
339	Reserved			1
340	Reserved			1
341	Reserved			1
342	Reserved			1
343	Reserved			1
344	Faults. IO.Unit._1. System. DSPCommsFault. Status. Active	Digital Signal Processor Comms fault condition is active.	Digital Signal Processor Comms fault condition is inactive.	1
345	Faults. IO.Unit._1. System. DSPCommsFault. Status. Unacknowledged	Digital Signal Processor Comms fault condition is in the unacknowledged state.	Digital Signal Processor Comms fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
346	Faults. IO.Unit._1. Probe._1. Status. Active	Probe 1 fault condition is active.	Probe 1 fault condition is inactive.	1
347	Faults. IO.Unit._1. Probe._1. Status. Unacknowledged	Probe 1 fault condition is in the unacknowledged state.	Probe 1 fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1

DNP ID	Tag ID	Conditions when set (=1)	Conditions when clear (=0)	Event Class
348	Faults. IO.Unit._1. Probe._2. Status. Active	Probe 2 fault condition is active.	Probe 2 fault condition is inactive.	1
349	Faults. IO.Unit._1. Probe._2. Status. Unacknowledged	Probe 2 fault condition is in the unacknowledged state.	Probe 2 fault condition is no longer in the unacknowledged state. (ie fault has been acknowledged by an operator).	1
350	Reserved			1
351	Reserved			1
352	Reserved			1
353	Reserved			1

4.2 Binary Output Points

Static (Steady-State) Object Number: **10**

Change Event Object Number: **11**

Request Function Codes supported: **1 (read), 22 (assign class)**

Default Variation reported when variation 0 requested: **2 (Binary Output Status)**

Status bits supported: On-line, communications lost, local forced data, state

Notes: *The count, on-time, off-time, queue, and clear parameters are ignored for all points. Condition(s) for Obj 10 var 2 status for each point is indicated below where applicable, also refer notes at the end of the table.*

4.3 Control Relay Output Blocks – Table 4

Object Number: 12

Request Function Codes supported: 3 (select), 4 (operate),

5 (direct operate), 6 (direct operate, noack)

Accepted control types are:

Control Type	Control Code	Accepted by
Pulse ON	0x01	All Points
Pulse OFF	0x02	All Points
Latch ON	0x03	All Points
Latch OFF	0x04	All Points

4.3.1 Two Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 2 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
0	PumpControl. SaveToProfile	Save current configuration to profile	No Action	1
1	Faults. Station. GroupManualReset	Manually reset all faults on the station	No Action	1
2	Faults. Config. ConfigFaults. GroupManualReset	Manually reset all “fault configuration error” faults.	No Action	1
3	Faults. General. GroupManualReset	Manually reset all “General” faults. (General faults are custom faults configured by the user)	No Action	1
4	DnpSlave. Slave._1. Reconfigure	Reconfigure the DNP points list using the last file transferred via a DNP file transfer. The file format must be according to that defined by the “Export to CSV” function from the LCD.	No Action	1
5	Reserved			1
6	Reserved			1

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
7	Reserved			1
8	Faults. Well._1. GroupManualReset	Reset all faults associated with well 1.	No Action	1
9	PumpControl. Well._1. LevelAlarm._1. Enabled	Enables the high-high level alarm.	Disables the high-high level alarm.	1
10	PumpControl. Well._1. LevelAlarm._2. Enabled	Enables the high level alarm.	Disables the high level alarm.	1
11	PumpControl. Well._1. LevelAlarm._3. Enabled	Enables the low level alarm.	Disables the low level alarm.	1
12	PumpControl. Well._1. LevelAlarm._4. Enabled	Enables the low-low level alarm.	Disables the low-low level alarm.	1
13	Reserved			1
14	Faults. Group._1. GroupManualReset	Reset all faults associated with Group 1.	No Action	1
15	Reserved			1
16	Reserved			1
17	Reserved			1
18	Reserved			1
19	Reserved			1
20	Faults. Pump._1. GroupManualReset	Reset all faults associated with Pump 1.	No Action	1
21	Reserved			1

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
22	Faults. Pump._2. GroupManualReset	Reset all faults associated with Pump 2.	No Action	1
23	Reserved			1
24	Faults. IO. Unit._1. GroupManualReset	Manually reset all Input/Output faults on Unit 1.	No Action	1
25	IO. Unit._1. TopBoard. DOUT._1. RemoteSource	Turn “ON” Digital Output 1 on the Top Board. *See Note 1 and Note 2 (associated binary input is 210)*	Turn “OFF” Digital Output 1 on the Top Board.	1
26	IO. Unit._1. TopBoard. DOUT._2. RemoteSource	Turn “ON” Digital Output 2 on the Top Board. *See Note 1 and Note 2 (associated binary input is 211)*	Turn “OFF” Digital Output 2 on the Top Board.	1
27	IO. Unit._1. TopBoard. DOUT._3. RemoteSource	Turn “ON” Digital Output 3 on the Top Board. *See Note 1 and Note 2 (associated binary input is 212)*	Turn “OFF” Digital Output 3 on the Top Board.	1
28	IO. Unit._1. TopBoard. DOUT._4. RemoteSource	Turn “ON” Digital Output 4 on the Top Board. *See Note 1 and Note 2 (associated binary input is 213)*	Turn “OFF” Digital Output 4 on the Top Board.	1
29	IO. Unit._1. TopBoard. DOUT._5. RemoteSource	Turn “ON” Digital Output 5 on the Top Board. *See Note 1 and Note 2 (associated binary input is 214)*	Turn “OFF” Digital Output 5 on the Top Board.	1
30	IO. Unit._1. TopBoard. DOUT._6. RemoteSource	Turn “ON” Digital Output 6 on the Top Board. *See Note 1 and Note 2 (associated binary input is 215)*	Turn “OFF” Digital Output 6 on the Top Board.	1
31	IO. Unit._1. TopBoard. DOUT._7. RemoteSource	Turn “ON” Digital Output 7 on the Top Board. *See Note 1 and Note 2 (associated binary input is 216)*	Turn “OFF” Digital Output 7 on the Top Board.	1
32	Reserved			1

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
33	Reserved			1
34	Reserved			1
35	Reserved			1
36	Reserved			1
37	IO. Unit._1. BottomBoard. DOUT._11. RemoteSource	Turn “ON” Digital Output 11 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 232)*	Turn “OFF” Digital Output 11 on the Bottom Board.	1
38	IO. Unit._1. BottomBoard. DOU.T_12. RemoteSource	Turn “ON” Digital Output 12 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 233)*	Turn “OFF” Digital Output 12 on the Bottom Board.	1
39	IO. Unit._1. BottomBoard. DOUT._13. RemoteSource	Turn “ON” Digital Output 13 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 234)*	Turn “OFF” Digital Output 13 on the Bottom Board.	1
40	IO. Unit._1. BottomBoard. DOUT._14. RemoteSource	Turn “ON” Digital Output 14 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 235)*	Turn “OFF” Digital Output 14 on the Bottom Board.	1
41	IO. Unit._1. BottomBoard. DOUT._15. RemoteSource	Turn “ON” Digital Output 15 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 236)*	Turn “OFF” Digital Output 15 on the Bottom Board.	1
42	Reserved			1
43	Reserved			1
44	Reserved			1
45	Reserved			1

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
46	Reserved			1
47	Reserved			1
48	Reserved			1

For both of these notes, the following terminology applies: Binary output = DNP3 control. Digital output = MultiSmart RTU physical hardware.

Note 1 ***To control these physical hardware points through DNP3, the digital outputs must be configured in the MultiSmart RTU to be controlled via a Remote Source. Please refer to the MultiSmart Installation and Operation Manual for more information.***

Note 2 ***Reading the binary output will give the value of the remote source for that digital output. For digital outputs on the MultiSmart RTU that are not configured as remote source, the associated binary input must be read in order to obtain the actual status of the hardware digital output. For digital outputs on the MultiSmart RTU that are configured as remote source, either the binary output or the associated binary input can be read, and will yield the same value.***

4.3.2 Three Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 3 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
0	PumpControl. SaveToProfile	Save current configuration to profile	No Action	1
1	Faults. Station. GroupManualReset	Manually reset all faults on the station	No Action	1
2	Faults. Config. ConfigFaults. GroupManualReset	Manually reset all “fault configuration error” faults.	No Action	1
3	Faults. General. GroupManualReset	Manually reset all “General” faults. (General faults are custom faults configured by the user)	No Action	1
4	DnpSlave. Slave._1. Reconfigure	Reconfigure the DNP points list using the last file transferred via a DNP file transfer. The file format must be according to that defined by the “Export to CSV” function from the LCD.	No Action	1
5	Reserved			1
6	Reserved			1
7	Reserved			1
8	Faults. Well._1. GroupManualReset	Reset all faults associated with well 1.	No Action	1
9	PumpControl. Well._1. LevelAlarm._1. Enabled	Enables the high-high level alarm.	Disables the high-high level alarm.	1
10	PumpControl. Well._1. LevelAlarm._2. Enabled	Enables the high level alarm.	Disables the high level alarm.	1
11	PumpControl. Well._1. LevelAlarm._3. Enabled	Enables the low level alarm.	Disables the low level alarm.	1

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
12	PumpControl. Well._1. LevelAlarm._4. Enabled	Enables the low-low level alarm.	Disables the low-low level alarm.	1
13	Reserved			1
14	Faults. Group._1. GroupManualReset	Reset all faults associated with Group 1.	No Action	1
15	Reserved			1
16	Reserved			1
17	Reserved			1
18	Reserved			1
19	Reserved			1
20	Faults. Pump._1. GroupManualReset	Reset all faults associated with Pump 1.	No Action	1
21	Reserved			1
22	Faults. Pump._2. GroupManualReset	Reset all faults associated with Pump 2.	No Action	1
23	Reserved			1
24	Faults. Pump._3. GroupManualReset	Reset all faults associated with Pump 3.	No Action	1
25	Reserved			1
26	Faults. IO. Unit._1. GroupManualReset	Manually reset all Input/Output faults on Unit 1.	No Action	1

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
27	IO. Unit._1. TopBoard. DOUT._1. RemoteSource	Turn “ON” Digital Output 1 on the Top Board. *See Note 1 and Note 2 (associated binary input is 270)*	Turn “OFF” Digital Output 1 on the Top Board.	1
28	IO. Unit._1. TopBoard. DOUT._2. RemoteSource	Turn “ON” Digital Output 2 on the Top Board. *See Note 1 and Note 2 (associated binary input is 271)*	Turn “OFF” Digital Output 2 on the Top Board.	1
29	IO. Unit._1. TopBoard. DOUT._3. RemoteSource	Turn “ON” Digital Output 3 on the Top Board. *See Note 1 and Note 2 (associated binary input is 272)*	Turn “OFF” Digital Output 3 on the Top Board.	1
30	IO. Unit._1. TopBoard. DOUT._4. RemoteSource	Turn “ON” Digital Output 4 on the Top Board. *See Note 1 and Note 2 (associated binary input is 273)*	Turn “OFF” Digital Output 4 on the Top Board.	1
31	IO. Unit._1. TopBoard. DOUT._5. RemoteSource	Turn “ON” Digital Output 5 on the Top Board. *See Note 1 and Note 2 (associated binary input is 274)*	Turn “OFF” Digital Output 5 on the Top Board.	1
32	IO. Unit._1. TopBoard. DOUT._6. RemoteSource	Turn “ON” Digital Output 6 on the Top Board. *See Note 1 and Note 2 (associated binary input is 275)*	Turn “OFF” Digital Output 6 on the Top Board.	1
33	IO. Unit._1. TopBoard. DOUT._7. RemoteSource	Turn “ON” Digital Output 7 on the Top Board. *See Note 1 and Note 2 (associated binary input is 276)*	Turn “OFF” Digital Output 7 on the Top Board.	1
34	Reserved			1
35	Reserved			1
36	Reserved			1
37	Reserved			1

DNP ID	Tag ID	Set = 1	Clear = 0	Event Class
38	Reserved			1
39	IO. Unit._1. BottomBoard. DOUT._11. RemoteSource	Turn “ON” Digital Output 11 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 292)*	Turn “OFF” Digital Output 11 on the Bottom Board.	1
40	IO. Unit._1. BottomBoard. DOU.T_12. RemoteSource	Turn “ON” Digital Output 12 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 293)*	Turn “OFF” Digital Output 12 on the Bottom Board.	1
41	IO. Unit._1. BottomBoard. DOUT._13. RemoteSource	Turn “ON” Digital Output 13 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 294)*	Turn “OFF” Digital Output 13 on the Bottom Board.	1
42	IO. Unit._1. BottomBoard. DOUT._14. RemoteSource	Turn “ON” Digital Output 14 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 295)*	Turn “OFF” Digital Output 14 on the Bottom Board.	1
43	IO. Unit._1. BottomBoard. DOUT._15. RemoteSource	Turn “ON” Digital Output 15 on the Bottom Board. *See Note 1 and Note 2 (associated binary input is 296)*	Turn “OFF” Digital Output 15 on the Bottom Board.	1
44	Reserved			1
45	Reserved			1
46	Reserved			1
47	Reserved			1
48	Reserved			1
49	Reserved			1
50	Reserved			1

For both of these notes, the following terminology applies: Binary output = DNP3 control. Digital output = MultiSmart RTU physical hardware.

Note 1 *To control these physical hardware points through DNP3, the digital outputs must be configured in the MultiSmart RTU to be controlled via a Remote Source. Please refer to the MultiSmart Installation and Operation Manual for more information.*

Note 2 *Reading the binary output will give the value of the remote source for that digital output. For digital outputs on the MultiSmart RTU that are not configured as remote source, the associated binary input must be read in order to obtain the actual status of the hardware digital output. For digital outputs on the MultiSmart RTU that are configured as remote source, either the binary output or the associated binary input can be read, and will yield the same value.*

4.4 Binary Counters – Table 5

Static (Steady-State) Object Number: 20

Change Event Object Number: 22

Request Function Codes supported: (assign class) 1 (read), 7 (freeze), 8 (freeze noack) 9 (freeze and clear), 10 (freeze and clear, noack), 22

Static Variation reported when variation 0 requested: 6 (16-Bit Binary Counter without Flag)

Change Event Variation reported when variation 0 requested: 1 (16-Bit Counter Change Event with Time)

4.4.1 Digital Inputs 19 and 20

Digital inputs 1 to 20 on the top board are returned as DNP binary inputs. However, inputs 19 and 20 are high-speed inputs, and will regularly be used as pulse counters. For this reason, these two inputs are also included as DNP binary counters. If it is undesirable to return these value twice (as binary inputs and binary counters), then they can be deleted from either category.

4.4.2 Two Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 2 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

DNP ID	Tag ID	Description	Event Class	Precision	Default Reporting Deadband	Valid Range
0	PumpControl. Statistics. TotalStarts	Total number of pump starts that have occurred at the station.	2	1	1	32 bit
1	PumpControl. Statistics. RunTime	Total time (seconds) for any pumps running in the station.	2	0.1	600.0	32 bit
2	PumpControl. FaultStatistics. TotalFaultCount	Total number of pump faults that have occurred at the station.	2	1	1	32 bit
3	PumpControl. FaultStatistics. TotalFaultTime	Total time (seconds) for any pumps faulted in the station.	2	0.1	600.0	32 bit
4	Flow. VolumePumped	Total volume pumped within the station. (Units are configurable.)	2	1	500	32 bit
5	Flow. OverflowVolume	Total overflow volume for the station. (Units are configurable.)	2	1	100	32 bit
6	Lcd. InvalidPin	Total number of times an invalid pin was entered.	2	1	1	32 bit

DNP ID	Tag ID	Description	Event Class	Precision	Default Reporting Deadband	Valid Range
7	Reserved		2			
8	Reserved		2			
9	Reserved		2			
10	Reserved		2			
11	Reserved		2			
12	Reserved		2			
13	Reserved		2			
14	Reserved		2			
15	Reserved		2			
16	Reserved		2			
17	PumpControl. Pump._1. Statistics. TotalStarts	Total number of times pump 1 has started.	2	1	1	32 bit
18	PumpControl. Pump._1. Statistics. RunTime	Total run time (seconds) for pump 1.	2	0.1	600.0	32 bit
19	PumpControl. Pump._1. FaultStatistics. TotalFaultCount	Total number of faults occurring on pump 1.	2	1	1	32 bit
20	PumpControl. Pump._1. FaultStatistics. TotalFaultTime	Total time (seconds) faulted for pump 1.	2	0.1	600.0	32 bit
21	Flow. Pump._1. VolumePumped	Total volume pumped by pump 1. (Units are configurable.)	2	1	500	32 bit
22	Reserved		2			
23	Reserved		2			
24	Reserved		2			
25	Reserved		2			
26	Reserved		2			
27	PumpControl. Pump._2. Statistics. TotalStarts	Total number of times pump 2 has started.	2	1	1	32 bit

DNP ID	Tag ID	Description	Event Class	Precision	Default Reporting Deadband	Valid Range
28	PumpControl. Pump._2. Statistics. RunTime	Total run time (seconds) for pump 2.	2	0.1	600.0	32 bit
29	PumpControl. Pump._2. FaultStatistics. TotalFaultCount	Total number of faults occurring on pump 2.	2	1	1	32 bit
30	PumpControl. Pump._2. FaultStatistics. TotalFaultTime	Total time (seconds) faulted for pump 2.	2	0.1	600.0	32 bit
31	Flow. Pump._2. VolumePumped	Total volume pumped by pump 2. (Units are configurable.)	2	1	500	32 bit
32	Reserved		2			
33	Reserved		2			
34	Reserved		2			
35	Reserved		2			
36	Reserved		2			
37	IO.Unit._1. TopBoard. Din._19. ValueDigital	Digital count value for digital input 19.	2	1	NA	32 bit
38	IO.Unit._1. TopBoard. Din._20. ValueDigital	Digital count value for digital input 20.	2	1	NA	32 bit
39	Reserved		2			
40	Reserved		2			
41	Reserved		2			
42	Reserved		2			
43	Reserved		2			
44	Reserved		2			
45	Reserved		2			
46	Reserved		2			

4.4.3 Three Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 3 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

DNP ID	Tag ID	Description	Event Class	Precision	Default Reporting Deadband	Valid Range
0	PumpControl. Statistics. TotalStarts	Total number of pump starts that have occurred at the station.	2	1	1	32 bit
1	PumpControl. Statistics. RunTime	Total time (seconds) for any pumps running in the station.	2	0.1	600.0	32 bit
2	PumpControl. FaultStatistics. TotalFaultCount	Total number of pump faults that have occurred at the station.	2	1	1	32 bit
3	PumpControl. FaultStatistics. TotalFaultTime	Total time (seconds) for any pumps faulted in the station.	2	0.1	600.0	32 bit
4	Flow. VolumePumped	Total volume pumped within the station. (Units are configurable.)	2	1	500	32 bit
5	Flow. OverflowVolume	Total overflow volume for the station. (Units are configurable.)	2	1	100	32 bit
6	Lcd. InvalidPin	Total number of times an invalid pin was entered.	2	1	1	32 bit
7	Reserved		2			
8	Reserved		2			
9	Reserved		2			
10	Reserved		2			
11	Reserved		2			
12	Reserved		2			
13	Reserved		2			
14	Reserved		2			
15	Reserved		2			
16	Reserved		2			
17	PumpControl. Pump._1. Statistics. TotalStarts	Total number of times pump 1 has started.	2	1	1	32 bit

DNP ID	Tag ID	Description	Event Class	Precision	Default Reporting Deadband	Valid Range
18	PumpControl. Pump._1. Statistics. RunTime	Total run time (seconds) for pump 1.	2	0.1	600.0	32 bit
19	PumpControl. Pump._1. FaultStatistics. TotalFaultCount	Total number of faults occurring on pump 1.	2	1	1	32 bit
20	PumpControl. Pump._1. FaultStatistics. TotalFaultTime	Total time (seconds) faulted for pump 1.	2	0.1	600.0	32 bit
21	Flow. Pump._1. VolumePumped	Total volume pumped by pump 1. (Units are configurable.)	2	1	500	32 bit
22	Reserved		2			
23	Reserved		2			
24	Reserved		2			
25	Reserved		2			
26	Reserved		2			
27	PumpControl. Pump._2. Statistics. TotalStarts	Total number of times pump 2 has started.	2	1	1	32 bit
28	PumpControl. Pump._2. Statistics. RunTime	Total run time (seconds) for pump 2.	2	0.1	600.0	32 bit
29	PumpControl. Pump._2. FaultStatistics. TotalFaultCount	Total number of faults occurring on pump 2.	2	1	1	32 bit
30	PumpControl. Pump._2. FaultStatistics. TotalFaultTime	Total time (seconds) faulted for pump 2.	2	0.1	600.0	32 bit
31	Flow. Pump._2. VolumePumped	Total volume pumped by pump 2. (Units are configurable.)	2	1	500	32 bit
32	Reserved		2			
33	Reserved		2			
34	Reserved		2			

DNP ID	Tag ID	Description	Event Class	Precision	Default Reporting Deadband	Valid Range
35	Reserved		2			
36	Reserved		2			
37	PumpControl. Pump._3. Statistics. TotalStarts	Total number of times pump 3 has started.	2	1	1	32 bit
38	PumpControl. Pump._3. Statistics. RunTime	Total run time (seconds) for pump 3.	2	0.1	600.0	32 bit
39	PumpControl. Pump._3. FaultStatistics. TotalFaultCount	Total number of faults occurring on pump 3.	2	1	1	32 bit
40	PumpControl. Pump._3. FaultStatistics. TotalFaultTime	Total time (seconds) faulted for pump 3.	2	0.1	600.0	32 bit
41	Flow. Pump._3. VolumePumped	Total volume pumped by pump 3. (Units are configurable.)	2	1	500	32 bit
42	Reserved		2			
43	Reserved		2			
44	Reserved		2			
45	Reserved		2			
46	Reserved		2			
47	IO.Unit._1. TopBoard. Din._19. ValueDigital	Digital count value for digital input 19.	2	1	NA	32 bit
48	IO.Unit._1. TopBoard. Din._20. ValueDigital	Digital count value for digital input 20.	2	1	NA	32 bit
49	Reserved		2			
50	Reserved		2			
51	Reserved		2			
52	Reserved		2			
53	Reserved		2			
54	Reserved		2			
55	Reserved		2			

DNP ID	Tag ID	Description	Event Class	Precision	Default Reporting Deadband	Valid Range
56	Reserved		2			

4.5 Frozen Counters – Table 6

Static (Steady-State) Object Number: **21**

Change Event Object Number: **23**

4.5.1 Automatic Freezing of Counters

Many frozen counters will be periodically frozen by the unit. These counters have corresponding counters, which represent the values being frozen, and non-zero freeze periods. If it is desirable to manually freeze these values (ie via a command from the master), then the freeze period should be set to zero, which turns off automatic freezing.

Many other frozen counters do not have corresponding counters, and have freeze periods set to zero. These frozen counters represent values which are automatically frozen by other processes on a MultiSmart unit. It is not possible to manually freeze these values.

4.5.2 Two Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 2 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
0	PumpControl. Statistics. FrzTotalStarts	Frozen total number of pump starts that have occurred at the station.	2	PumpControl. Statistics. TotalStarts	1	1	3600	32 bit
1	PumpControl. Statistics. FrzRunTime	Frozen total time (seconds) for any pumps running in the station.	2	PumpControl. Statistics. RunTime	0.1	0.1	3600	32 bit
2	PumpControl. FaultStatistics. FrzTotalFaultCount	Frozen total number of pump faults that have occurred at the station.	2	PumpControl. FaultStatistics. TotalFaultCount	1	1	86400	32 bit
3	PumpControl. FaultStatistics. FrzTotalFaultTime	Frozen total time (seconds) for any pumps faulted in the station.	2	PumpControl. FaultStatistics. TotalFaultTime	0.1	0.1	86400	32 bit
4	Flow. FrzVolumePumped	Frozen total volume pumped within the station.	2	Flow. VolumePumped	1	500	3600	32 bit
5	Flow. FrzOverflowVolume	Frozen total overflow volume for the station.	2	Flow. OverflowVolume	1	100	604800	32 bit
6	Lcd. FrzInvalidPin	Frozen total number of times an invalid pin was entered.	2	Lcd. InvalidPin	1	0	604800	32 bit
7	PumpControl. Statistics. StartsLastHour	Number of pump starts last hour.	2		1	1	0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
8	PumpControl. Statistics. StartsThisHour	Number of pump starts this hour.	2		1	1	0	32 bit
9	PumpControl. Statistics. StartsYesterday	Number of pump starts yesterday.	2		1	1	0	32 bit
10	PumpControl. Statistics. StartsToday	Number of pump starts today.	2		1	1	0	32 bit
11	PumpControl. Statistics. StartsLastWeek	Number of pump starts last week.	2		1	1	0	32 bit
12	PumpControl. Statistics. StartsThisWeek	Number of pump starts this week.	2		1	1	0	32 bit
13	PumpControl. Statistics. RunTimeLastHour	Pump run time last hour (seconds).	2		0.1	0.1	0	0.0 – 3600
14	PumpControl. Statistics. RunTimeThisHour	Pump run time this hour (seconds).	2		0.1	600.0	0	0.0 – 3600
15	PumpControl. Statistics. RunTimeYesterday	Pump run time yesterday (seconds).	2		0.1	0.1	0	0.0 – 86400
16	PumpControl. Statistics. RunTimeToday	Pump run time today (seconds).	2		0.1	600.0	0	0.0 – 86400
17	PumpControl. Statistics. RunTimeLastWeek	Pump run time last week (seconds).	2		0.1	0.1	0	0.0 - 604800
18	PumpControl. Statistics. RunTimeThisWeek	Pump run time this week (seconds).	2		0.1	600.0	0	0.0 - 604800
19	Flow. VolumeToday	Volume pumped today.	2		1	500	0	32 bit
20	Flow. VolumeYesterday	Volume pumped yesterday.	2		1	1	0	32 bit
21	Flow. VolumeThisWeek	Volume pumped this week.	2		1	500	0	32 bit
22	Flow. VolumeLastWeek	Volume pumped last week.	2		1	1	0	32 bit
23	Reserved		2					
24	Reserved		2					
25	Reserved		2					

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
26	Reserved		2					
27	Reserved		2					
28	Reserved		2					
29	Reserved		2					
30	Reserved		2					
31	Reserved		2					
32	Reserved		2					
33	PumpControl. Pump._1. Statistics. FrzTotalStarts	Frozen total number of times pump 1 has started.	2	PumpControl. Pump._1. Statistics. TotalStarts	1	1	3600	32 bit
34	PumpControl. Pump._1. Statistics. FrzRunTime	Frozen total run time (seconds) for pump 1.	2	PumpControl. Pump._1. Statistics. RunTime	0.1	0.1	3600	32 bit
35	PumpControl. Pump._1. FaultStatistics. FrzTotalFaultCount	Frozen total number of faults occurring on pump 1.	2	PumpControl. Pump._1. FaultStatistics. TotalFaultCount	1	1	86400	32 bit
36	PumpControl. Pump._1. FaultStatistics. FrzTotalFaultTime	Frozen total time (seconds) faulted for pump 1.	2	PumpControl. Pump._1. FaultStatistics. TotalFaultTime	0.1	0.1	86400	32 bit
37	PumpControl. Pump._1. Statistics. FrzVolumePumped	Frozen total volume pumped by pump 1. (Units are configurable.)	2	PumpControl. Pump._1. Statistics. VolumePumped	1	500	86400	32 bit
38	PumpControl. Pump._1. Statistics. StartsLastHour	Number of times pump 1 started last hour.	2		1	1	0	32 bit
39	PumpControl. Pump._1. Statistics. StartsThisHour	Number of times pump 1 started this hour.	2		1	1	0	32 bit
40	PumpControl. Pump._1. Statistics. StartsYesterday	Number of times pump 1 started yesterday.	2		1	1	0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
41	PumpControl. Pump._1. Statistics. StartsToday	Number of times pump 1 started today.	2		1	1	0	32 bit
42	PumpControl. Pump._1. Statistics. StartsLastWeek	Number of times pump 1 started last week.	2		1	1	0	32 bit
43	PumpControl. Pump._1. Statistics. StartsThisWeek	Number of times pump 1 started this week.	2		1	1	0	32 bit
44	PumpControl. Pump._1. Statistics. RunTimeLastHour	Run time last hour (seconds) for pump 1.	2		0.1	0.1	0	0.0 - 3600
45	PumpControl. Pump._1. Statistics. RunTimeThisHour	Run time this hour (seconds) for pump 1.	2		0.1	600.0	0	0.0 - 3600
46	PumpControl. Pump._1. Statistics. RunTimeYesterday	Run time yesterday (seconds) for pump 1.	2		0.1	0.1	0	0.0 - 86400
47	PumpControl. Pump._1. Statistics. RunTimeToday	Run time today (seconds) for pump 1.	2		0.1	600.0	0	0.0 - 86400
48	PumpControl. Pump._1. Statistics. RunTimeLastWeek	Run time last week (seconds) for pump 1.	2		0.1	0.1	0	0.0 - 604800
49	PumpControl. Pump._1. Statistics. RunTimeThisWeek	Run time this week (seconds) for pump 1.	2		0.1	600.0	0	0.0 - 604800
50	Flow. Pump._1. VolumeToday	Volume pumped today for pump 1. (Units are configurable.)	2		1	500	0	32 bit
51	Flow. Pump._1. VolumeYesterday	Volume pumped yesterday for pump 1. (Units are configurable.)	2		1	1	0	32 bit
52	Reserved		2					
53	Reserved		2					
54	Reserved		2					

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
55	Reserved		2					
56	Reserved		2					
57	Reserved		2					
58	Reserved		2					
59	Reserved		2					
60	Reserved		2					
61	PumpControl. Pump._2. Statistics. FrzTotalStarts	Frozen total number of times pump 2 has started.	2	PumpControl. Pump._2. Statistics. TotalStarts	1	1	3600	32 bit
62	PumpControl. Pump._2. Statistics. FrzRunTime	Frozen total run time (seconds) for pump 2.	2	PumpControl. Pump._2. Statistics. RunTime	0.1	0.1	3600	32 bit
63	PumpControl. Pump._2. FaultStatistics. FrzTotalFaultCount	Frozen total number of faults occurring on pump 2.	2	PumpControl. Pump._2. FaultStatistics. TotalFaultCount	1	1	86400	32 bit
64	PumpControl. Pump._2. FaultStatistics. FrzTotalFaultTime	Frozen total time (seconds) faulted for pump 2.	2	PumpControl. Pump._2. FaultStatistics. TotalFaultTime	0.1	0.1	86400	32 bit
65	PumpControl. Pump._2. Statistics. FrzVolumePumped	Frozen total volume pumped by pump 2. (Units are configurable.)	2	PumpControl. Pump._2. Statistics. VolumePumped	1	500	86400	32 bit
66	PumpControl. Pump._2. Statistics. StartsLastHour	Number of times pump 2 started last hour.	2		1	1	0	32 bit
67	PumpControl. Pump._2. Statistics. StartsThisHour	Number of times pump 2 started this hour.	2		1	1	0	32 bit
68	PumpControl. Pump._2. Statistics. StartsYesterday	Number of times pump 2 started yesterday.	2		1	1	0	32 bit
69	PumpControl. Pump._2. Statistics. StartsToday	Number of times pump 2 started today.	2		1	1	0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
70	PumpControl. Pump._2. Statistics. StartsLastWeek	Number of times pump 2 started last week.	2		1	1	0	32 bit
71	PumpControl. Pump._2. Statistics. StartsThisWeek	Number of times pump 2 started this week.	2		1	1	0	32 bit
72	PumpControl. Pump._2. Statistics. RunTimeLastHour	Run time last hour (seconds) for pump 2.	2		0.1	0.1	0	0.0 - 3600
73	PumpControl. Pump._2. Statistics. RunTimeThisHour	Run time this hour (seconds) for pump 2.	2		0.1	600.0	0	0.0 - 3600
74	PumpControl. Pump._2. Statistics. RunTimeYesterday	Run time yesterday (seconds) for pump 2.	2		0.1	0.1	0	0.0 - 86400
75	PumpControl. Pump._2. Statistics. RunTimeToday	Run time today (seconds) for pump 2.	2		0.1	600.0	0	0.0 - 86400
76	PumpControl. Pump._2. Statistics. RunTimeLastWeek	Run time last week (seconds) for pump 2.	2		0.1	0.1	0	0.0 - 604800
77	PumpControl. Pump._2. Statistics. RunTimeThisWeek	Run time this week (seconds) for pump 2.	2		0.1	600.0	0	0.0 - 604800
78	Flow. Pump._2. VolumeToday	Volume pumped today for pump 2. (Units are configurable.)	2		1	500	0	32 bit
79	Flow. Pump._2. VolumeYesterday	Volume pumped yesterday for pump 2. (Units are configurable.)	2		1	1	0	32 bit
80	Reserved		2					
81	Reserved		2					
82	Reserved		2					
83	Reserved		2					
84	Reserved		2					

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
85	Reserved		2					
86	Reserved		2					
87	Reserved		2					
88	Reserved		2					
89	IO. Unit._1. TopBoard. Din._19. FrzValueDigital	Frozen digital count value for digital input 19.	2	IO. Unit._1. TopBoard. Din._19. ValueDigital	1	NA	0	32 bit
90	IO. Unit._1. TopBoard. Din._20. FrzValueDigital	Frozen digital count value for digital input 20.	2	IO. Unit._1. TopBoard. Din._20. ValueDigital	1	NA	0	32 bit
91	Reserved		2					
92	Reserved		2					
93	Reserved		2					
94	Reserved		2					
95	Reserved		2					
96	Reserved		2					
97	Reserved		2					
98	Reserved		2					
99	Reserved		2					
100	Reserved		2					
101	Reserved		2					
102	Reserved		2					
103	Reserved		2					
104	Reserved		2					
105	Reserved		2					
106	Reserved		2					
107	Reserved		2					
108	Reserved		2					
109	Reserved		2					

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
110	Reserved		2					
111	Reserved		2					
112	Reserved		2					
113	Reserved		2					
114	Reserved		2					
115	Reserved		2					
116	Reserved		2					
117	Reserved		2					
118	Reserved		2					
119	Reserved		2					
120	Reserved		2					
121	Reserved		2					
122	Reserved		2					
123	Reserved		2					
124	Reserved		2					
125	Reserved		2					
126	Reserved		2					
127	Reserved		2					
128	Reserved		2					
129	IO. Unit._1. BottomBoard. Power._1. EnergyYesterdaykWh	The energy (kWh) used yesterday by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2		0.1	5.0	0	32 bit
130	IO. Unit._1. BottomBoard. Power._1. EnergyTodaykWh	The energy (kWh) used today by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2		0.1	5.0	0	32 bit
131	IO. Unit._1. BottomBoard. Power._1. EnergyYesterdaykVAh	The apparent energy (kVAh) used this month by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2		0.1	5.0	0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
132	IO. Unit._1. BottomBoard. Power._1. EnergyTodaykVAh	The apparent energy (kVAh) used today by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2		0.1	5.0	0	32 bit
133	MotorProt. Pump._1. EfficiencyYesterday	The calculated pump efficiency yesterday for pump 1.	2		0.01	0.01	0	32 bit
134	IO. Unit._1. BottomBoard. Power._2. EnergyYesterdaykWh	The energy (kWh) used yesterday by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2		0.1	5.0	0	32 bit
135	IO. Unit._1. BottomBoard. Power._2. EnergyTodaykWh	The energy (kWh) used today by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2		0.1	5.0	0	32 bit
136	IO. Unit._1. BottomBoard. Power._2. EnergyYesterdaykVAh	The apparent energy (kVAh) used this month by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2		0.1	5.0	0	32 bit
137	IO. Unit._1. BottomBoard. Power._2. EnergyTodaykVAh	The apparent energy (kVAh) used today by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2		0.1	5.0	0	32 bit
138	MotorProt. Pump._2. EfficiencyYesterday	The calculated pump efficiency yesterday for pump 2.	2		0.01	0.01	0	32 bit
139	Reserved		2					
140	Reserved		2					
141	Reserved		2					
142	Reserved		2					
143	Reserved		2					
144	Reserved		2					
145	Reserved		2					
146	Reserved		2					
147	Reserved		2					

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
148	Reserved		2					
149	Reserved		2					
150	Reserved		2					
151	Reserved		2					
152	Reserved		2					
153	Reserved		2					
154	Reserved		2					
155	Reserved		2					
156	Reserved		2					
157	Reserved		2					
158	Reserved		2					
159	Reserved		2					
160	Reserved		2					
161	Reserved		2					
162	Reserved		2					
163	Reserved		2					
164	Reserved		2					
165	Reserved		2					
166	Reserved		2					
167	Reserved		2					
168	Reserved		2					
169	PumpControl. Well._1. LevelAlarmSummary. LevelAlarmsYesterday	Number of level alarms yesterday.	2		1		0	32 bit
170	PumpControl. Well._1. LevelAlarmSummary. HighLevelAlarmsYesterday	Number of high level alarms yesterday.	2		1		0	32 bit
171	PumpControl. Well._1. LevelAlarmSummary. LowLevelAlarmsYesterday	Number of low level alarms yesterday.	2		1		0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
172	Reserved		2					
173	Reserved		2					
174	Reserved		2					
175	Reserved		2					
176	Reserved		2					
177	Reserved		2					
178	Reserved		2					

4.5.3 Three Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 3 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
0	PumpControl. Statistics. FrzTotalStarts	Frozen total number of pump starts that have occurred at the station.	2	PumpControl. Statistics. TotalStarts	1	1	3600	32 bit
1	PumpControl. Statistics. FrzRunTime	Frozen total time (seconds) for any pumps running in the station.	2	PumpControl. Statistics. RunTime	0.1	0.1	3600	32 bit
2	PumpControl. FaultStatistics. FrzTotalFaultCount	Frozen total number of pump faults that have occurred at the station.	2	PumpControl. FaultStatistics. TotalFaultCount	1	1	86400	32 bit
3	PumpControl. FaultStatistics. FrzTotalFaultTime	Frozen total time (seconds) for any pumps faulted in the station.	2	PumpControl. FaultStatistics. TotalFaultTime	0.1	0.1	86400	32 bit
4	Flow. FrzVolumePumped	Frozen total volume pumped within the station.	2	Flow. VolumePumped	1	500	3600	32 bit
5	Flow. FrzOverflowVolume	Frozen total overflow volume for the station.	2	Flow. OverflowVolume	1	100	604800	32 bit
6	Lcd. FrzInvalidPin	Frozen total number of times an invalid pin was entered.	2	Lcd. InvalidPin	1	0	604800	32 bit
7	PumpControl. Statistics. StartsLastHour	Number of pump starts last hour.	2		1	1	0	32 bit
8	PumpControl. Statistics. StartsThisHour	Number of pump starts this hour.	2		1	1	0	32 bit
9	PumpControl. Statistics. StartsYesterday	Number of pump starts yesterday.	2		1	1	0	32 bit
10	PumpControl. Statistics. StartsToday	Number of pump starts today.	2		1	1	0	32 bit
11	PumpControl. Statistics. StartsLastWeek	Number of pump starts last week.	2		1	1	0	32 bit
12	PumpControl. Statistics. StartsThisWeek	Number of pump starts this week.	2		1	1	0	32 bit
13	PumpControl. Statistics. RunTimeLastHour	Pump run time last hour (seconds).	2		0.1	0.1	0	0.0 – 3600

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
14	PumpControl. Statistics. RunTimeThisHour	Pump run time this hour (seconds).	2		0.1	600.0	0	0.0 – 3600
15	PumpControl. Statistics. RunTimeYesterday	Pump run time yesterday (seconds).	2		0.1	0.1	0	0.0 – 86400
16	PumpControl. Statistics. RunTimeToday	Pump run time today (seconds).	2		0.1	600.0	0	0.0 – 86400
17	PumpControl. Statistics. RunTimeLastWeek	Pump run time last week (seconds).	2		0.1	0.1	0	0.0 - 604800
18	PumpControl. Statistics. RunTimeThisWeek	Pump run time this week (seconds).	2		0.1	600.0	0	0.0 - 604800
19	Flow. VolumeToday	Volume pumped today.	2		1	500	0	32 bit
20	Flow. VolumeYesterday	Volume pumped yesterday.	2		1	1	0	32 bit
21	Flow. VolumeThisWeek	Volume pumped this week.	2		1	500	0	32 bit
22	Flow. VolumeLastWeek	Volume pumped last week.	2		1	1	0	32 bit
23	Reserved		2					
24	Reserved		2					
25	Reserved		2					
26	Reserved		2					
27	Reserved		2					
28	Reserved		2					
29	Reserved		2					
30	Reserved		2					
31	Reserved		2					
32	Reserved		2					
33	PumpControl. Pump._1. Statistics. FrzTotalStarts	Frozen total number of times pump 1 has started.	2	PumpControl. Pump._1. Statistics. TotalStarts	1	1	3600	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
34	PumpControl. Pump._1. Statistics. FrzRunTime	Frozen total run time (seconds) for pump 1.	2	PumpControl. Pump._1. Statistics. RunTime	0.1	0.1	3600	32 bit
35	PumpControl. Pump._1. FaultStatistics. FrzTotalFaultCount	Frozen total number of faults occurring on pump 1.	2	PumpControl. Pump._1. FaultStatistics. TotalFaultCount	1	1	86400	32 bit
36	PumpControl. Pump._1. FaultStatistics. FrzTotalFaultTime	Frozen total time (seconds) faulted for pump 1.	2	PumpControl. Pump._1. FaultStatistics. TotalFaultTime	0.1	0.1	86400	32 bit
37	PumpControl. Pump._1. Statistics. FrzVolumePumped	Frozen total volume pumped by pump 1. (Units are configurable.)	2	PumpControl. Pump._1. Statistics. VolumePumped	1	500	86400	32 bit
38	PumpControl. Pump._1. Statistics. StartsLastHour	Number of times pump 1 started last hour.	2		1	1	0	32 bit
39	PumpControl. Pump._1. Statistics. StartsThisHour	Number of times pump 1 started this hour.	2		1	1	0	32 bit
40	PumpControl. Pump._1. Statistics. StartsYesterday	Number of times pump 1 started yesterday.	2		1	1	0	32 bit
41	PumpControl. Pump._1. Statistics. StartsToday	Number of times pump 1 started today.	2		1	1	0	32 bit
42	PumpControl. Pump._1. Statistics. StartsLastWeek	Number of times pump 1 started last week.	2		1	1	0	32 bit
43	PumpControl. Pump._1. Statistics. StartsThisWeek	Number of times pump 1 started this week.	2		1	1	0	32 bit
44	PumpControl. Pump._1. Statistics. RunTimeLastHour	Run time last hour (seconds) for pump 1.	2		0.1	0.1	0	0.0 - 3600

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
45	PumpControl. Pump._1. Statistics. RunTimeThisHour	Run time this hour (seconds) for pump 1.	2		0.1	600.0	0	0.0 - 3600
46	PumpControl. Pump._1. Statistics. RunTimeYesterday	Run time yesterday (seconds) for pump 1.	2		0.1	0.1	0	0.0 - 86400
47	PumpControl. Pump._1. Statistics. RunTimeToday	Run time today (seconds) for pump 1.	2		0.1	600.0	0	0.0 - 86400
48	PumpControl. Pump._1. Statistics. RunTimeLastWeek	Run time last week (seconds) for pump 1.	2		0.1	0.1	0	0.0 - 604800
49	PumpControl. Pump._1. Statistics. RunTimeThisWeek	Run time this week (seconds) for pump 1.	2		0.1	600.0	0	0.0 - 604800
50	Flow. Pump._1. VolumeToday	Volume pumped today for pump 1. (Units are configurable.)	2		1	500	0	32 bit
51	Flow. Pump._1. VolumeYesterday	Volume pumped yesterday for pump 1. (Units are configurable.)	2		1	1	0	32 bit
52	Reserved		2					
53	Reserved		2					
54	Reserved		2					
55	Reserved		2					
56	Reserved		2					
57	Reserved		2					
58	Reserved		2					
59	Reserved		2					
60	Reserved		2					
61	PumpControl. Pump._2. Statistics. FrzTotalStarts	Frozen total number of times pump 2 has started.	2	PumpControl. Pump._2. Statistics. TotalStarts	1	1	3600	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
62	PumpControl. Pump._2. Statistics. FrzRunTime	Frozen total run time (seconds) for pump 2.	2	PumpControl. Pump._2. Statistics. RunTime	0.1	0.1	3600	32 bit
63	PumpControl. Pump._2. FaultStatistics. FrzTotalFaultCount	Frozen total number of faults occurring on pump 2.	2	PumpControl. Pump._2. FaultStatistics. TotalFaultCount	1	1	86400	32 bit
64	PumpControl. Pump._2. FaultStatistics. FrzTotalFaultTime	Frozen total time (seconds) faulted for pump 2.	2	PumpControl. Pump._2. FaultStatistics. TotalFaultTime	0.1	0.1	86400	32 bit
65	PumpControl. Pump._2. Statistics. FrzVolumePumped	Frozen total volume pumped by pump 2. (Units are configurable.)	2	PumpControl. Pump._2. Statistics. VolumePumped	1	500	86400	32 bit
66	PumpControl. Pump._2. Statistics. StartsLastHour	Number of times pump 2 started last hour.	2		1	1	0	32 bit
67	PumpControl. Pump._2. Statistics. StartsThisHour	Number of times pump 2 started this hour.	2		1	1	0	32 bit
68	PumpControl. Pump._2. Statistics. StartsYesterday	Number of times pump 2 started yesterday.	2		1	1	0	32 bit
69	PumpControl. Pump._2. Statistics. StartsToday	Number of times pump 2 started today.	2		1	1	0	32 bit
70	PumpControl. Pump._2. Statistics. StartsLastWeek	Number of times pump 2 started last week.	2		1	1	0	32 bit
71	PumpControl. Pump._2. Statistics. StartsThisWeek	Number of times pump 2 started this week.	2		1	1	0	32 bit
72	PumpControl. Pump._2. Statistics. RunTimeLastHour	Run time last hour (seconds) for pump 2.	2		0.1	0.1	0	0.0 - 3600

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
73	PumpControl. Pump._2. Statistics. RunTimeThisHour	Run time this hour (seconds) for pump 2.	2		0.1	600.0	0	0.0 - 3600
74	PumpControl. Pump._2. Statistics. RunTimeYesterday	Run time yesterday (seconds) for pump 2.	2		0.1	0.1	0	0.0 - 86400
75	PumpControl. Pump._2. Statistics. RunTimeToday	Run time today (seconds) for pump 2.	2		0.1	600.0	0	0.0 - 86400
76	PumpControl. Pump._2. Statistics. RunTimeLastWeek	Run time last week (seconds) for pump 2.	2		0.1	0.1	0	0.0 - 604800
77	PumpControl. Pump._2. Statistics. RunTimeThisWeek	Run time this week (seconds) for pump 2.	2		0.1	600.0	0	0.0 - 604800
78	Flow. Pump._2. VolumeToday	Volume pumped today for pump 2. (Units are configurable.)	2		1	500	0	32 bit
79	Flow. Pump._2. VolumeYesterday	Volume pumped yesterday for pump 2. (Units are configurable.)	2		1	1	0	32 bit
80	Reserved		2					
81	Reserved		2					
82	Reserved		2					
83	Reserved		2					
84	Reserved		2					
85	Reserved		2					
86	Reserved		2					
87	Reserved		2					
88	Reserved		2					
89	PumpControl. Pump._3. Statistics. FrzTotalStarts	Frozen total number of times pump 3 has started.	2	PumpControl. Pump._3. Statistics. TotalStarts	1	1	3600	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
90	PumpControl. Pump._3. Statistics. FrzRunTime	Frozen total run time (seconds) for pump 3.	2	PumpControl. Pump._3. Statistics. RunTime	0.1	0.1	3600	32 bit
91	PumpControl. Pump._3. FaultStatistics. FrzTotalFaultCount	Frozen total number of faults occurring on pump 3.	2	PumpControl. Pump._3. FaultStatistics. TotalFaultCount	1	1	86400	32 bit
92	PumpControl. Pump._3. FaultStatistics. FrzTotalFaultTime	Frozen total time (seconds) faulted for pump 3.	2	PumpControl. Pump._3. FaultStatistics. TotalFaultTime	0.1	0.1	86400	32 bit
93	PumpControl. Pump._3. Statistics. FrzVolumePumped	Frozen total volume pumped by pump 3. (Units are configurable.)	2	PumpControl. Pump._3. Statistics. VolumePumped	1	500	86400	32 bit
94	PumpControl. Pump._3. Statistics. StartsLastHour	Number of times pump 3 started last hour.	2		1	1	0	32 bit
95	PumpControl. Pump._3. Statistics. StartsThisHour	Number of times pump 3 started this hour.	2		1	1	0	32 bit
96	PumpControl. Pump._3. Statistics. StartsYesterday	Number of times pump 3 started yesterday.	2		1	1	0	32 bit
97	PumpControl. Pump._3. Statistics. StartsToday	Number of times pump 3 started today.	2		1	1	0	32 bit
98	PumpControl. Pump._3. Statistics. StartsLastWeek	Number of times pump 3 started last week.	2		1	1	0	32 bit
99	PumpControl. Pump._3. Statistics. StartsThisWeek	Number of times pump 3 started this week.	2		1	1	0	32 bit
100	PumpControl. Pump._3. Statistics. RunTimeLastHour	Run time last hour (seconds) for pump 3.	2		0.1	0.1	0	0.0 - 3600

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
101	PumpControl. Pump._3. Statistics. RunTimeThisHour	Run time this hour (seconds) for pump 3.	2		0.1	600.0	0	0.0 - 3600
102	PumpControl. Pump._3. Statistics. RunTimeYesterday	Run time yesterday (seconds) for pump 3.	2		0.1	0.1	0	0.0 - 86400
103	PumpControl. Pump._3. Statistics. RunTimeToday	Run time today (seconds) for pump 3.	2		0.1	600.0	0	0.0 - 86400
104	PumpControl. Pump._3. Statistics. RunTimeLastWeek	Run time last week (seconds) for pump 3.	2		0.1	0.1	0	0.0 - 604800
105	PumpControl. Pump._3. Statistics. RunTimeThisWeek	Run time this week (seconds) for pump 3.	2		0.1	600.0	0	0.0 - 604800
106	Flow. Pump._3. VolumeToday	Volume pumped today for pump 3. (Units are configurable.)	2		1	500	0	32 bit
107	Flow. Pump._3. VolumeYesterday	Volume pumped yesterday for pump 3. (Units are configurable.)	2		1	1	0	32 bit
108	Reserved		2					
109	Reserved		2					
110	Reserved		2					
111	Reserved		2					
112	Reserved		2					
113	Reserved		2					
114	Reserved		2					
115	Reserved		2					
116	Reserved		2					
117	IO. Unit._1. TopBoard. Din._19. FrzValueDigital	Frozen digital count value for digital input 19.	2	IO. Unit._1. TopBoard. Din._19. ValueDigital	1	NA	0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
118	IO. Unit._1. TopBoard. Din._20. FrzValueDigital	Frozen digital count value for digital input 20.	2	IO. Unit._1. TopBoard. Din._20. ValueDigital	1	NA	0	32 bit
119	Reserved		2					
120	Reserved		2					
121	Reserved		2					
122	Reserved		2					
123	Reserved		2					
124	Reserved		2					
125	Reserved		2					
126	Reserved		2					
127	Reserved		2					
128	Reserved		2					
129	Reserved		2					
130	Reserved		2					
131	Reserved		2					
132	Reserved		2					
133	Reserved		2					
134	Reserved		2					
135	Reserved		2					
136	Reserved		2					
137	Reserved		2					
138	Reserved		2					
139	Reserved		2					
140	Reserved		2					
141	Reserved		2					
142	Reserved		2					
143	Reserved		2					
144	Reserved		2					

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
145	Reserved		2					
146	Reserved		2					
147	Reserved		2					
148	Reserved		2					
149	Reserved		2					
150	Reserved		2					
151	Reserved		2					
152	Reserved		2					
153	Reserved		2					
154	Reserved		2					
155	Reserved		2					
156	Reserved		2					
157	IO. Unit._1. BottomBoard. Power._1. EnergyYesterdaykWh	The energy (kWh) used yesterday by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2		0.1	5.0	0	32 bit
158	IO. Unit._1. BottomBoard. Power._1. EnergyTodaykWh	The energy (kWh) used today by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2		0.1	5.0	0	32 bit
159	IO. Unit._1. BottomBoard. Power._1. EnergyYesterdaykVAh	The apparent energy (kVAh) used this month by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2		0.1	5.0	0	32 bit
160	IO. Unit._1. BottomBoard. Power._1. EnergyTodaykVAh	The apparent energy (kVAh) used today by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2		0.1	5.0	0	32 bit
161	MotorProt. Pump._1. EfficiencyYesterday	The calculated pump efficiency yesterday for pump 1.	2		0.01	0.01	0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
162	IO. Unit._1. BottomBoard. Power._2. EnergyYesterdaykWh	The energy (kWh) used yesterday by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2		0.1	5.0	0	32 bit
163	IO. Unit._1. BottomBoard. Power._2. EnergyTodaykWh	The energy (kWh) used today by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2		0.1	5.0	0	32 bit
164	IO. Unit._1. BottomBoard. Power._2. EnergyYesterdaykVAh	The apparent energy (kVAh) used this month by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2		0.1	5.0	0	32 bit
165	IO. Unit._1. BottomBoard. Power._2. EnergyTodaykVAh	The apparent energy (kVAh) used today by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2		0.1	5.0	0	32 bit
166	MotorProt. Pump._2. EfficiencyYesterday	The calculated pump efficiency yesterday for pump 2.	2		0.01	0.01	0	32 bit
167	IO. Unit._1. BottomBoard. Power._3. EnergyYesterdaykWh	The energy (kWh) used yesterday by the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2		0.1	5.0	0	32 bit
168	IO. Unit._1. BottomBoard. Power._3. EnergyTodaykWh	The energy (kWh) used today by the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2		0.1	5.0	0	32 bit
169	IO. Unit._1. BottomBoard. Power._3. EnergyYesterdaykVAh	The apparent energy (kVAh) used this month by the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2		0.1	5.0	0	32 bit
170	IO. Unit._1. BottomBoard. Power._3. EnergyTodaykVAh	The apparent energy (kVAh) used today by the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2		0.1	5.0	0	32 bit
171	MotorProt. Pump._3. EfficiencyYesterday	The calculated pump efficiency yesterday for pump 3.	2		0.01	0.01	0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
172	Reserved		2					
173	Reserved		2					
174	Reserved		2					
175	Reserved		2					
176	Reserved		2					
177	Reserved		2					
178	Reserved		2					
179	Reserved		2					
180	Reserved		2					
181	Reserved		2					
182	Reserved		2					
183	Reserved		2					
184	Reserved		2					
185	Reserved		2					
186	Reserved		2					
187	Reserved		2					
188	Reserved		2					
189	Reserved		2					
190	Reserved		2					
191	Reserved		2					
192	Reserved		2					
193	Reserved		2					
194	Reserved		2					
195	Reserved		2					
196	Reserved		2					
197	PumpControl. Well._1. LevelAlarmSummary. LevelAlarmsYesterday	Number of level alarms yesterday.	2		1	1	0	32 bit

DNP ID	Tag ID	Description	Event Class	Counter	Precision	Default Reporting Deadband	Freeze Period (seconds)	Valid Range
198	PumpControl. Well._1. LevelAlarmSummary. HighLevelAlarmsYesterday	Number of high level alarms yesterday.	2		1	1	0	32 bit
199	PumpControl. Well._1. LevelAlarmSummary. LowLevelAlarmsYesterday	Number of low level alarms yesterday.	2		1	1	0	32 bit
200	Reserved		2					
201	Reserved		2					
202	Reserved		2					
203	Reserved		2					
204	Reserved		2					
205	Reserved		2					
206	Reserved		2					

4.6 Analog Input Points – Table 7

The following table lists Analog Inputs (Object 30).

This implementation uses fixed deadband reporting by default, the value in the "Default Deadband" column represents the absolute amount by which the point must change before an analog change event will be generated. The value in the "Default Class" column represents the class (1, 2, 3, or none) in which detected change events will be reported. Only the default values for these items are documented here because the values may change in operation due to either local (user-interface) or remote (through DNP) configuration control.

Static (Steady-State) Object Number: **30**

Change Event Object Number: **32**

4.6.1 Two Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 2 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
0	PumpControl. GroupAltMode	Returns the current Group Alternation Mode for this station. 0 = Fixed 1 = Cycling A 2 = Cycling B	2	1	NA	0 - 2
1	PumpControl. NextToRun	Indicates which pump will be the next to start at the station.	2	1	0	1-Max Pumps
2	PumpControl. VFD. VFDCurrentSpeed	Returns the current VFD speed setting.	2	0.0001	1.0000	0 – 100%
3	PumpControl. VFD. Mode	Returns the current VFD mode. 0 = Disabled 1 = Enabled	2	1	NA	0 - 1
4	Flow. InflowRate	Last Inflow Rate. (Units are configurable.)	2	0.1	0.1	32 bit
5	PumpControl. LevelFullAt	Indicates the level of the well at which the unit will display as full.	2	0.0001	NA	32 bit
6	PumpControl. DepthOfWell	Indicates the depth of well. This is used in conjuction with the level units. If the units are in percent, then the depth of well will always be 100%. If units other than percent are used, then the scaled level is calculated as *Current Level * Depth Of Well / 100*.	2	0.0001	NA	32 bit
7	Lcd. Measurements	Indicates whether imperial or metric units are used. 0 = Imperial 1 = Metric	2	1	NA	0 - 1
8	PumpControl. LevelOffset	Indicates the offset, or datum point, for the level of the well and all scaled set points. The scaled level is calculated as *Current Level – Level Offset*.	2	0.0001	NA	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
9	Reserved		2			
10	PumpControl. Well._1. CurrentLevel	The current liquid level in the Well.	2	0.0001	5.0000	0 – 100%
11	Reserved		2			
12	PumpControl. Well._1. ScaledLevel	The current scaled liquid level in the well, based on the configured units and depth of well. If the units are %, then this will be the same as the current level.	2	0.0001	5.0000	32 bit
13	PumpControl. Well._1. ScaledLevelPercent	The current scaled liquid level in the well as a percentage of the *LevelFullAt* value.	2	0.0001	5.0000	0 – 100%
14	PumpControl. Group._1. AlternationMode	Current alternation mode setting for group 1. 0 = Fixed Strict 1 = Fixed (std) 2 = Alternation (std) 3 = Alternation Special 4 = Pump Hours 5 = Pump Starts	2	1	NA	0 – 5
15	Reserved		2			
16	Reserved		2			
17	Reserved		2			
18	Reserved		2			
19	Reserved		2			
20	PumpControl. Pump._1. Statistics. LastRunTime	The time (seconds) that pump 1 last ran for.	2	0.1	600.0	32 bit
21	Flow.Pump._1. FlowRate	Pump 1 flow rate.	2	1	5	32 bit
22	Reserved		2			
23	Reserved		2			
24	Reserved		2			
25	Reserved		2			
26	Reserved		2			
27	Reserved		2			
28	Reserved		2			
29	Reserved		2			
30	PumpControl. Pump._2. Statistics. LastRunTime	The time (seconds) that pump 2 last ran for.	2	0.1	600.0	32 bit
31	Flow.Pump._2. FlowRate	Pump 2 flow rate.	2	1	5	32 bit
32	Reserved		2			
33	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
34	Reserved		2			
35	Reserved		2			
36	Reserved		2			
37	Reserved		2			
38	Reserved		2			
39	Reserved		2			
40	IO.Unit._1. DcVolts. Input.Value	The current MultiSmart DC supply voltage (Volts).	2	0.01	1.00	32 bits
41	IO.Unit._1. System. Temp	The current MultiSmart system temperature (degrees).	2	0.1	10.0	N/A
42	Reserved		2			
43	Reserved		2			
44	Reserved		2			
45	IO.Unit._1. TopBoard. Ain._1. Value	The current value of the Analog Input 1 on the Top Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
46	IO.Unit._1. TopBoard. Ain._2. Value	The current value of Analog Input 2 on the Top Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
47	IO.Unit._1. TopBoard. Vin._1. VoltsAb	The measured voltage between A and B Phases (Volts).	2	0.01	10.00	32 bit
48	IO.Unit._1. TopBoard. Vin._1. VoltsBc	The measured voltage between B and C Phases (Volts).	2	0.01	10.00	32 bit
49	IO.Unit._1. TopBoard. Vin._1. VoltsCa	The measured voltage between C and A Phases (Volts).	1	0.01	10.00	32 bit
50	IO.Unit._1. TopBoard. Aout._1. Value	The current value of Analog Output 1 on the Top Board.	1	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
51	Reserved		2			
52	Reserved		2			
53	Reserved		2			
54	Reserved		2			
55	Reserved		2			
56	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
57	Reserved		2			
58	Reserved		2			
59	Reserved		2			
60	Reserved		2			
61	Reserved		2			
62	Reserved		2			
63	Reserved		2			
64	Reserved		2			
65	Reserved		2			
66	Reserved		2			
67	Reserved		2			
68	Reserved		2			
69	Reserved		2			
70	Reserved		2			
71	Reserved		2			
72	Reserved		2			
73	Reserved		2			
74	Reserved		2			
75	IO.Unit._1. BottomBoard. Iin._1. AmpsA	The Current (Amps) measured at Current Input 1A on the Bottom Board.	2	0.01	5.00	32 bit
76	IO.Unit._1. BottomBoard. Iin._1. AmpsB	The Current (Amps) measured at Current Input 1B on the Bottom Board	2	0.01	5.00	32 bit
77	IO.Unit._1. BottomBoard. Iin._1. AmpsC	The Current (Amps) measured at Current Input 1C on the Bottom Board	2	0.01	5.00	32 bit
78	IO.Unit._1. BottomBoard. Iin._2. AmpsA	The Current (Amps) measured at Current Input 2A on the Bottom Board.	2	0.01	5.00	32 bit
79	IO.Unit._1. BottomBoard. Iin._2. AmpsB	The Current (Amps) measured at Current Input 2B on the Bottom Board	2	0.01	5.00	32 bit
80	IO.Unit._1. BottomBoard. Iin._2. AmpsC	The Current (Amps) measured at Current Input 2C on the Bottom Board	2	0.01	5.00	32 bit
81	Reserved		2			
82	Reserved		2			
83	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
84	IO.Unit._1. BottomBoard. Power._1. Power	The Power (KW) used by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.1	10000.0	32 bit
85	IO.Unit._1. BottomBoard. Power._1. PowerFactor	The Power Factor for the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.01	0.05 PF	0 – 1 PF
86	IO.Unit._1. BottomBoard. Power._1. EnergyKWh	The Energy (KWh) used by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.1	5.0	32 bit
87	IO.Unit._1. BottomBoard. Power._2. Power	The Power (KW) used by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.1	10000.0	32 bit
88	IO.Unit._1. BottomBoard. Power._2. PowerFactor	The Power Factor for the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.01	0.05 PF	0 – 1 PF
89	IO.Unit._1. BottomBoard. Power._2. EnergyKWh	The Energy (KWh) used by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.1	5.0	32 bit
90	Reserved		2			
91	Reserved		2			
92	Reserved		2			
93	IO.Unit._1. BottomBoard. Irt._1. Value	The resistance (ohms) measured by Insulation Resistance Tester 1 located on the Bottom Board.	2	0.01	5.00	32 bit
94	IO.Unit._1. BottomBoard. Irt._2. Value	The resistance (ohms) measured by Insulation Resistance Tester 2 located on the Bottom Board.	2	0.01	5.00	32 bit
95	IO.Unit._1. BottomBoard. Irt._3. Value	The resistance (ohms) measured by Insulation Resistance Tester 3 located on the Bottom Board.	2	0.01	5.00	32 bit
96	IO.Unit._1. BottomBoard. Aout._11. Value	The current value of Analog Output 11 on the Bottom Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
97	IO.Unit._1. BottomBoard. Aout._12. Value	The current value of Analog Output 12 on the Bottom Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
98	IO.Unit._1. BottomBoard. Aout._13. Value	The current value of Analog Output 13 on the Bottom Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
99	IO.Unit._1. BottomBoard. Power._1. PowerVA	The Apparent Power (VA) used by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.1	10000.0	32 bit
100	IO.Unit._1. BottomBoard. Power._2. PowerVA	The Apparent Power (VA) used by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.1	10000.0	32 bit
101	Reserved		2			
102	IO.Unit._1. BottomBoard. Power._1. EnergykVAh	The Apparent Energy (KVAh) used by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.1	5.0	32 bit
103	IO.Unit._1. BottomBoard. Power._2. EnergykVAh	The Apparent Energy (KVAh) used by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.1	5.0	32 bit
104	Reserved		2			

4.6.2 Three Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 3 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
0	PumpControl. GroupAltMode	Returns the current Group Alternation Mode for this station. 0 = Fixed 1 = Cycling A 2 = Cycling B	2	1	NA	0 - 2
1	PumpControl. NextToRun	Indicates which pump will be the next to start at the station.	2	1	0	1-Max Pumps
2	PumpControl. VFD. VFDCurrentSpeed	Returns the current VFD speed setting.	2	0.0001	1.0000	0 – 100%
3	PumpControl. VFD. Mode	Returns the current VFD mode. 0 = Disabled 1 = Enabled	2	1	NA	0 - 1
4	Flow. InflowRate	Last Inflow Rate. (Units are configurable.)	2	0.1	0.1	32 bit
5	PumpControl. LevelFullAt	Indicates the level of the well at which the unit will display as full.	2	0.0001	NA	32 bit
6	PumpControl. DepthOfWell	Indicates the depth of well. This is used in conjuction with the level units. If the units are in percent, then the depth of well will always be 100%. If units other than percent are used, then the scaled level is calculated as *Current Level * Depth Of Well / 100*.	2	0.0001	NA	32 bit
7	Lcd. Measurements	Indicates whether imperial or metric units are used. 0 = Imperial 1 = Metric	2	1	NA	0 - 1
8	PumpControl. LevelOffset	Indicates the offset, or datum point, for the level of the well and all scaled set points. The scaled level is calculated as *Current Level – Level Offset*.	2	0.0001	NA	32 bit
9	Reserved		2			
10	PumpControl. Well._1. CurrentLevel	The current liquid level in the Well.	2	0.0001	5.0000	0 – 100%
11	Reserved		2			
12	PumpControl. Well._1. ScaledLevel	The current scaled liquid level in the well, based on the configured units and depth of well. If the units are %, then this will be the same as the current level.	2	0.0001	5.0000	32 bit
13	PumpControl. Well._1. ScaledLevelPercent	The current scaled liquid level in the well as a percentage of the *LevelFullAt* value.	2	0.0001	5.0000	0 – 100%

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
14	PumpControl. Group._1. AlternationMode	Current alternation mode setting for group 1. 0 = Fixed Strict 1 = Fixed (std) 2 = Alternation (std) 3 = Alternation Special 4 = Pump Hours 5 = Pump Starts	2	1	NA	0 - 5
15	Reserved		2			
16	Reserved		2			
17	Reserved		2			
18	Reserved		2			
19	Reserved		2			
20	PumpControl. Pump._1. Statistics. LastRunTime	The time (seconds) that pump 1 last ran for.	2	0.1	600.0	32 bit
21	Flow.Pump._1. FlowRate	Pump 1 flow rate.	2	1	5	32 bit
22	Reserved		2			
23	Reserved		2			
24	Reserved		2			
25	Reserved		2			
26	Reserved		2			
27	Reserved		2			
28	Reserved		2			
29	Reserved		2			
30	PumpControl. Pump._2. Statistics. LastRunTime	The time (seconds) that pump 2 last ran for.	2	0.1	600.0	32 bit
31	Flow.Pump._2. FlowRate	Pump 2 flow rate.	2	1	5	32 bit
32	Reserved		2			
33	Reserved		2			
34	Reserved		2			
35	Reserved		2			
36	Reserved		2			
37	Reserved		2			
38	Reserved		2			
39	Reserved		2			
40	PumpControl. Pump._3. Statistics. LastRunTime	The time (seconds) that pump 3 last ran for.	2	0.1	600.0	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
41	Flow.Pump._3. FlowRate	Pump 3 flow rate.	2	1	5	32 bit
42	Reserved		2			
43	Reserved		2			
44	Reserved		2			
45	Reserved		2			
46	Reserved		2			
47	Reserved		2			
48	Reserved		2			
49	Reserved		2			
50	IO.Unit._1. DcVolts. Input.Value	The current MultiSmart DC supply voltage (Volts).	2	0.01	1.00	32 bits
51	IO.Unit._1. System. Temp	The current MultiSmart system temperature (degrees).	2	0.1	10.0	N/A
52	Reserved		2			
53	Reserved		2			
54	Reserved		2			
55	IO.Unit._1. TopBoard. Ain._1. Value	The current value of the Analog Input 1 on the Top Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
56	IO.Unit._1. TopBoard. Ain._2. Value	The current value of Analog Input 2 on the Top Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
57	IO.Unit._1. TopBoard. Vin._1. VoltsAb	The measured voltage between A and B Phases (Volts).	2	0.01	10.00	32 bit
58	IO.Unit._1. TopBoard. Vin._1. VoltsBc	The measured voltage between B and C Phases (Volts).	2	0.01	10.00	32 bit
59	IO.Unit._1. TopBoard. Vin._1. VoltsCa	The measured voltage between C and A Phases (Volts).	1	0.01	10.00	32 bit
60	IO.Unit._1. TopBoard. Aout._1. Value	The current value of Analog Output 1 on the Top Board.	1	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
61	Reserved		2			
62	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
63	Reserved		2			
64	Reserved		2			
65	Reserved		2			
66	Reserved		2			
67	Reserved		2			
68	Reserved		2			
69	Reserved		2			
70	Reserved		2			
71	Reserved		2			
72	Reserved		2			
73	Reserved		2			
74	Reserved		2			
75	Reserved		2			
76	Reserved		2			
77	Reserved		2			
78	Reserved		2			
79	Reserved		2			
80	Reserved		2			
81	Reserved		2			
82	Reserved		2			
83	Reserved		2			
84	Reserved		2			
85	IO.Unit._1. BottomBoard. Iin._1. AmpsA	The Current (Amps) measured at Current Input 1A on the Bottom Board.	2	0.01	5.00	32 bit
86	IO.Unit._1. BottomBoard. Iin._1. AmpsB	The Current (Amps) measured at Current Input 1B on the Bottom Board	2	0.01	5.00	32 bit
87	IO.Unit._1. BottomBoard. Iin._1. AmpsC	The Current (Amps) measured at Current Input 1C on the Bottom Board	2	0.01	5.00	32 bit
88	IO.Unit._1. BottomBoard. Iin._2. AmpsA	The Current (Amps) measured at Current Input 2A on the Bottom Board.	2	0.01	5.00	32 bit
89	IO.Unit._1. BottomBoard. Iin._2. AmpsB	The Current (Amps) measured at Current Input 2B on the Bottom Board	2	0.01	5.00	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
90	IO.Unit._1. BottomBoard. Iin._2. AmpsC	The Current (Amps) measured at Current Input 2C on the Bottom Board	2	0.01	5.00	32 bit
91	IO.Unit._1. BottomBoard. Iin._3. AmpsA	The Current (Amps) measured at Current Input 3A on the Bottom Board.	2	0.01	5.00	32 bit
92	IO.Unit._1. BottomBoard. Iin._3. AmpsB	The Current (Amps) measured at Current Input 3B on the Bottom Board	2	0.01	5.00	32 bit
93	IO.Unit._1. BottomBoard. Iin._3. AmpsC	The Current (Amps) measured at Current Input 3C on the Bottom Board	2	0.01	5.00	32 bit
94	IO.Unit._1. BottomBoard. Power._1. Power	The Power (KW) used by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.1	10000.0	32 bit
95	IO.Unit._1. BottomBoard. Power._1. PowerFactor	The Power Factor for the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.01	0.05 PF	0 – 1 PF
96	IO.Unit._1. BottomBoard. Power._1. EnergyKWh	The Energy (KWh) used by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.1	5.0	32 bit
97	IO.Unit._1. BottomBoard. Power._2. Power	The Power (KW) used by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.1	10000.0	32 bit
98	IO.Unit._1. BottomBoard. Power._2. PowerFactor	The Power Factor for the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.01	0.05 PF	0 – 1 PF
99	IO.Unit._1. BottomBoard. Power._2. EnergyKWh	The Energy (KWh) used by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.1	5.0	32 bit
100	IO.Unit._1. BottomBoard. Power._3. Power	The Power (KW) used by the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2	0.1	10000.0	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
101	IO.Unit._1. BottomBoard. Power._3. PowerFactor	The Power Factor for the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2	0.01	0.05 PF	0 – 1 PF
102	IO.Unit._1. BottomBoard. Power._3. EnergyKWh	The Energy (KWh) used by the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2	0.1	5.0	32 bit
103	IO.Unit._1. BottomBoard. Irt._1. Value	The resistance (ohms) measured by Insulation Resistance Tester 1 located on the Bottom Board.	2	0.01	5.00	32 bit
104	IO.Unit._1. BottomBoard. Irt._2. Value	The resistance (ohms) measured by Insulation Resistance Tester 2 located on the Bottom Board.	2	0.01	5.00	32 bit
105	IO.Unit._1. BottomBoard. Irt._3. Value	The resistance (ohms) measured by Insulation Resistance Tester 3 located on the Bottom Board.	2	0.01	5.00	32 bit
106	IO.Unit._1. BottomBoard. Aout._11. Value	The current value of Analog Output 11 on the Bottom Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
107	IO.Unit._1. BottomBoard. Aout._12. Value	The current value of Analog Output 12 on the Bottom Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
108	IO.Unit._1. BottomBoard. Aout._13. Value	The current value of Analog Output 13 on the Bottom Board.	2	0.0001	5.0000	0 – 1,000,000 (4 – 20mA)
109	IO.Unit._1. BottomBoard. Power._1. PowerVA	The Apparent Power (VA) used by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.1	10000.0	32 bit
110	IO.Unit._1. BottomBoard. Power._2. PowerVA	The Apparent Power (VA) used by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.1	10000.0	32 bit
111	IO.Unit._1. BottomBoard. Power._3. PowerVA	The Apparent Power (VA) used by the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2	0.1	10000.0	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
112	IO.Unit._1. BottomBoard. Power._1. EnergykVAh	The Apparent Energy (KVAh) used by the pump connected to current inputs 1A, 1B and 1C on the Bottom Board.	2	0.1	5.0	32 bit
113	IO.Unit._1. BottomBoard. Power._2. EnergykVAh	The Apparent Energy (KVAh) used by the pump connected to current inputs 2A, 2B and 2C on the Bottom Board.	2	0.1	5.0	32 bit
114	IO.Unit._1. BottomBoard. Power._3. EnergykVAh	The Apparent Energy (KVAh) used by the pump connected to current inputs 3A, 3B and 3C on the Bottom Board.	2	0.1	5.0	32 bit

4.7 Analog Output Points – Table 8

The following table lists Analog Outputs (Object 40).

Analog output change events are not supported in the current software release.

Static (Steady-State) Object Number: **40**

4.7.1 Two Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 2 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
0	PumpControl. ProfileNumber	Current Profile	2	1	0	0 - 5
1	PumpControl. VFD.Mode	VFD Mode	2	1	NA	0 - 1
2	Reserved		2			
3	Reserved		2			
4	PumpControl. Well._1. LevelAlarm._1. ActSetPoint	High-high level alarm activation set point	2	0.0001	NA	0 - 100
5	PumpControl. Well._1. LevelAlarm._1. DeactSetPoint	High-high level alarm deactivation set point	2	0.0001	NA	0 - 100
6	PumpControl. Well._1. LevelAlarm._2. ActSetPoint	High level alarm activation set point	2	0.0001	NA	0 - 100
7	PumpControl. Well._1. LevelAlarm._2. DeactSetPoint	High level alarm deactivation set point	2	0.0001	NA	0 - 100
8	PumpControl. Well._1. LevelAlarm._3. ActSetPoint	Low level alarm activation set point	2	0.0001	NA	0 - 100
9	PumpControl. Well._1. LevelAlarm._3. DeactSetPoint	Low level alarm deactivation set point	2	0.0001	NA	0 - 100

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
10	PumpControl. Well._1. LevelAlarm._4. ActSetPoint	Low-low level alarm activation set point	2	0.0001	NA	0 - 100
11	PumpControl. Well._1. LevelAlarm._4. DeactSetPoint	Low-low level alarm deactivation set point	2	0.0001	NA	0 - 100
12	PumpControl. Well._1. PrimaryLevelInput. RemoteSource	Primary level input remote source	2	0.0001	5.0000	0 - 100
13	PumpControl. Well._1. BackupLevelInput. RemoteSource	Backup level input remote source	2	0.0001	5.0000	0 - 100
14	Reserved		2			
15	Reserved		2			
16	Reserved		2			
17	Reserved		2			
18	PumpControl. Pump._1. PumpMode	Pump 1 Mode 0 = Auto 1 = Manual (Not writable via DNP3) 2 =Semi-Auto 3 = Off 4 = Decommissioned (Not writable via DNP3)	2	1	0	0 – 4
19	PumpControl. Behaviour._1. ActSetPoint	Lead pump activation set point	2	0.0001	NA	0 - 100
20	PumpControl. Behaviour._1. DeactSetPoint	Lead pump deactivation set point	2	0.0001	NA	0 - 100
21	PumpControl. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point. This is calculated as *(Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
22	PumpControl. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point. This is calculated as *(Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
23	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
24	PumpControl. Pump._2. PumpMode	Pump 2 Mode 0 = Auto 1 = Manual (Not writable via DNP3) 2 =Semi-Auto 3 = Off 4 = Decommissioned (Not writable via DNP3)	2	1	0	0 – 4
25	PumpControl. Behaviour._2. ActSetPoint	Lag pump activation set point	2	0.0001	NA	0 - 100
26	PumpControl. Behaviour._2. DeactSetPoint	Lag pump deactivation set point	2	0.0001	NA	0 - 100
27	PumpControl. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point. This is calculated as *(Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
28	PumpControl. Behaviour._2. ScaledDeactSetPoint	Scaled lead pump deactivation set point. This is calculated as *(Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
29	Reserved		2			
30	IO.Unit._1. TopBoard. Aout._1. RemoteSource	Analog output 1 remote source *See Note 1 and Note 2 (associated analog input is 50)*	2	0.0001	5.0000	32 bit
31	Reserved		2			
32	Reserved		2			
33	Reserved		2			
34	Reserved		2			
35	Reserved		2			
36	IO.Unit._1. BottomBoard. Aout._11. RemoteSource	Analog output 11 remote source *See Note 1 and Note 2 (associated analog input is 96)*	2	0.0001	5.0000	N/A
37	IO.Unit._1. BottomBoard. Aout._12. RemoteSource	Analog output 12 remote source *See Note 1 and Note 2 (associated analog input is 97)*	2	0.0001	5.0000	N/A

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
38	IO.Unit._1. BottomBoard. Aout._13. RemoteSource	Analog output 13 remote source *See Note 1 and Note 2 (associated analog input is 98)*	2	0.0001	5.0000	N/A
39	Reserved		2			
40	Reserved		2			
41	Reserved		2			
42	PumpControl. Profile._0. Behaviour._1. ActSetPoint	The default profile lead pump activation set point.	2	0.0001	NA	0 – 100
43	PumpControl. Profile._0. Behaviour._1. DeactSetPoint	The default profile lead pump deactivation set point.	2	0.0001	NA	0 – 100
44	PumpControl. Profile._0. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for the default profile. This is calculated as *(Default Profile Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
45	PumpControl. Profile._0. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for the default profile. This is calculated as *(Default Profile Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
46	Reserved		2			
47	Reserved		2			
48	PumpControl. Profile._0. Behaviour._2. ActSetPoint	The default profile lag pump activation set point.	2	0.0001	NA	0 – 100
49	PumpControl. Profile._0. Behaviour._2. DeactSetPoint	The default profile lag pump deactivation set point.	2	0.0001	NA	0 – 100
50	PumpControl. Profile._0. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for the default profile. This is calculated as *(Default Profile Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
51	PumpControl. Profile._0. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for the default profile. This is calculated as *(Default Profile Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
52	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
53	Reserved		2			
54	PumpControl. Profile._1. Behaviour._1. ActSetPoint	The profile 1 lead pump activation set point.	2	0.0001	NA	0 – 100
55	PumpControl. Profile._1. Behaviour._1. DeactSetPoint	The profile 1 lead pump deactivation set point.	2	0.0001	NA	0 – 100
56	PumpControl. Profile._1. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 1. This is calculated as *(Profile 1 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
57	PumpControl. Profile._1. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 1. This is calculated as *(Profile 1 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
58	Reserved		2			
59	Reserved		2			
60	PumpControl. Profile._1. Behaviour._2. ActSetPoint	The profile 1 lag pump activation set point.	2	0.0001	NA	0 – 100
61	PumpControl. Profile._1. Behaviour._2. DeactSetPoint	The profile 1 lag pump deactivation set point.	2	0.0001	NA	0 – 100
62	PumpControl. Profile._1. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 1. This is calculated as *(Profile 1 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
63	PumpControl. Profile._1. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 1. This is calculated as *(Profile 1 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
64	Reserved		2			
65	Reserved		2			
66	PumpControl. Profile._2. Behaviour._1. ActSetPoint	The profile 2 lead pump activation set point.	2	0.0001	NA	0 – 100

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
67	PumpControl. Profile._2. Behaviour._1. DeactSetPoint	The profile 2 lead pump deactivation set point.	2	0.0001	NA	0 – 100
68	PumpControl. Profile._2. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 2. This is calculated as *(Profile 2 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
69	PumpControl. Profile._2. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 2. This is calculated as *(Profile 2 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
70	Reserved		2			
71	Reserved		2			
72	PumpControl. Profile._2. Behaviour._2. ActSetPoint	The profile 2 lag pump activation set point.	2	0.0001	NA	0 – 100
73	PumpControl. Profile._2. Behaviour._2. DeactSetPoint	The profile 2 lag pump deactivation set point.	2	0.0001	NA	0 – 100
74	PumpControl. Profile._2. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 2. This is calculated as *(Profile 2 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
75	PumpControl. Profile._2. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 2. This is calculated as *(Profile 2 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
76	Reserved		2			
77	Reserved		2			
78	PumpControl. Profile._3. Behaviour._1. ActSetPoint	The profile 3 lead pump activation set point.	2	0.0001	NA	0 – 100
79	PumpControl. Profile._3. Behaviour._1. DeactSetPoint	The profile 3 lead pump deactivation set point.	2	0.0001	NA	0 – 100
80	PumpControl. Profile._3. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 3. This is calculated as *(Profile 3 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
81	PumpControl. Profile._3. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 3. This is calculated as *(Profile 3 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
82	Reserved		2			
83	Reserved		2			
84	PumpControl. Profile._3. Behaviour._2. ActSetPoint	The profile 3 lag pump activation set point.	2	0.0001	NA	0 – 100
85	PumpControl. Profile._3. Behaviour._2. DeactSetPoint	The profile 3 lag pump deactivation set point.	2	0.0001	NA	0 – 100
86	PumpControl. Profile._3. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 3. This is calculated as *(Profile 3 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
87	PumpControl. Profile._3. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 3. This is calculated as *(Profile 3 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
88	Reserved		2			
89	Reserved		2			
90	PumpControl. Profile._4. Behaviour._1. ActSetPoint	The profile 4 lead pump activation set point.	2	0.0001	NA	0 – 100
91	PumpControl. Profile._4. Behaviour._1. DeactSetPoint	The profile 4 lead pump deactivation set point.	2	0.0001	NA	0 – 100
92	PumpControl. Profile._4. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 4. This is calculated as *(Profile 4 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
93	PumpControl. Profile._4. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 4. This is calculated as *(Profile 4 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
94	Reserved		2			
95	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
96	PumpControl. Profile._4. Behaviour._2. ActSetPoint	The profile 4 lag pump activation set point.	2	0.0001	NA	0 – 100
97	PumpControl. Profile._4. Behaviour._2. DeactSetPoint	The profile 4 lag pump deactivation set point.	2	0.0001	NA	0 – 100
98	PumpControl. Profile._4. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 4. This is calculated as *(Profile 4 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
99	PumpControl. Profile._4. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 4. This is calculated as *(Profile 4 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
100	Reserved		2			
101	Reserved		2			
102	PumpControl. Profile._5. Behaviour._1. ActSetPoint	The profile 5 lead pump activation set point.	2	0.0001	NA	0 – 100
103	PumpControl. Profile._5. Behaviour._1. DeactSetPoint	The profile 5 lead pump deactivation set point.	2	0.0001	NA	0 – 100
104	PumpControl. Profile._5. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 5. This is calculated as *(Profile 5 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
105	PumpControl. Profile._5. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 5. This is calculated as *(Profile 5 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
106	Reserved		2			
107	Reserved		2			
108	PumpControl. Profile._5. Behaviour._2. ActSetPoint	The profile 5 lag pump activation set point.	2	0.0001	NA	0 – 100
109	PumpControl. Profile._5. Behaviour._2. DeactSetPoint	The profile 5 lag pump deactivation set point.	2	0.0001	NA	0 – 100

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
110	PumpControl. Profile._5. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 5. This is calculated as *(Profile 5 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
111	PumpControl. Profile._5. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 5. This is calculated as *(Profile 5 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
112	Reserved		2			
113	Reserved		2			
114	PumpControl. Well._1. LevelAlarm._1. ScaledActSetPoint	Scaled high-high level alarm activation set point. This is calculated as *(High-high Level Alarm Activation Set Point * Depth Of Well / 100) – Level Offset*.	2	0.0001	NA	32 bit
115	PumpControl. Well._1. LevelAlarm._1. ScaledDeactSetPoint	Scaled high-high level alarm deactivation set point. This is calculated as *(High-high Level Alarm Deactivation Set Point * Depth Of Well / 100) – Level Offset*.	2	0.0001	NA	32 bit
116	PumpControl. Well._1. LevelAlarm._2. ScaledActSetPoint	Scaled high level alarm activation set point. This is calculated as *(High Level Alarm Activation Set Point * Depth Of Well / 100) – Level Offset*.	2	0.0001	NA	32 bit
117	PumpControl. Well._1. LevelAlarm._2. ScaledDeactSetPoint	Scaled high level alarm deactivation set point. This is calculated as *(High Level Alarm Deactivation Set Point * Depth Of Well / 100) – Level Offset*.	2	0.0001	NA	32 bit
118	PumpControl. Well._1. LevelAlarm._3. ScaledActSetPoint	Scaled low level alarm activation set point. This is calculated as *(Low Level Alarm Activation Set Point * Depth Of Well / 100) – Level Offset*.	2	0.0001	NA	32 bit
119	PumpControl. Well._1. LevelAlarm._3. ScaledDeactSetPoint	Scaled low level alarm deactivation set point. This is calculated as *(Low Level Alarm Deactivation Set Point * Depth Of Well / 100) – Level Offset*.	2	0.0001	NA	32 bit
120	PumpControl. Well._1. LevelAlarm._4. ScaledActSetPoint	Scaled low-low level alarm activation set point. This is calculated as *(Low-low Level Alarm Activation Set Point * Depth Of Well / 100) – Level Offset*.	2	0.0001	NA	32 bit
121	PumpControl. Well._1. LevelAlarm._4. ScaledDeactSetPoint	Scaled low-low level alarm deactivation set point. This is calculated as *(Low-low Level Alarm Deactivation Set Point * Depth Of Well / 100) – Level Offset*.	2	0.0001	NA	32 bit

Note 1 *To control these physical hardware points through DNP3, the analog outputs must be configured in the MultiSmart RTU to be controlled via a Remote Source. Please refer to the MultiSmart Installation and Operation Manual for more information.*

Note 2 *Reading the analog output will give the value of the remote source for that analog output. For analog outputs on the MultiSmart RTU that are not configured as remote source, the associated analog input must be read in order to obtain the actual status of the hardware analog output. For analog outputs on the MultiSmart RTU that are configured as remote source, either the analog output or the associated analog input can be read, and will yield the same value.*

4.7.2 Three Pump Station Configuration

The value in the Default DNP ID column represents the default setting for a 3 pump, 1 well configuration. DNP ID numbers are allocated during setup and the IDs allocated change to reflect the actual number of pumps and wells configured.

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
0	PumpControl. ProfileNumber	Current Profile	2	1	0	0 - 5
1	PumpControl. VFD.Mode	VFD Mode	2	1	NA	0 - 1
2	Reserved		2			
3	Reserved		2			
4	PumpControl. Well._1. LevelAlarm._1. ActSetPoint	High-high level alarm activation set point	2	0.0001	NA	0 - 100
5	PumpControl. Well._1. LevelAlarm._1. DeactSetPoint	High-high level alarm deactivation set point	2	0.0001	NA	0 - 100
6	PumpControl. Well._1. LevelAlarm._2. ActSetPoint	High level alarm activation set point	2	0.0001	NA	0 - 100
7	PumpControl. Well._1. LevelAlarm._2. DeactSetPoint	High level alarm deactivation set point	2	0.0001	NA	0 - 100
8	PumpControl. Well._1. LevelAlarm._3. ActSetPoint	Low level alarm activation set point	2	0.0001	NA	0 - 100
9	PumpControl. Well._1. LevelAlarm._3. DeactSetPoint	Low level alarm deactivation set point	2	0.0001	NA	0 - 100
10	PumpControl. Well._1. LevelAlarm._4. ActSetPoint	Low-low level alarm activation set point	2	0.0001	NA	0 - 100
11	PumpControl. Well._1. LevelAlarm._4. DeactSetPoint	Low-low level alarm deactivation set point	2	0.0001	NA	0 - 100

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
12	PumpControl. Well._1. PrimaryLevelInput. RemoteSource	Primary level input remote source	2	0.0001	5.0000	0 - 100
13	PumpControl. Well._1. BackupLevelInput. RemoteSource	Backup level input remote source	2	0.0001	5.0000	0 - 100
14	Reserved		2			
15	Reserved		2			
16	Reserved		2			
17	Reserved		2			
18	PumpControl. Pump._1. PumpMode	Pump 1 Mode. 0 = Auto 1 = Manual (Not writable via DNP3) 2 =Semi-Auto 3 = Off 4 = Decommissioned (Not writable via DNP3)	2	1	0	0 – 4
19	PumpControl. Behaviour._1. ActSetPoint	Lead pump activation set point	2	0.0001	NA	0 - 100
20	PumpControl. Behaviour._1. DeactSetPoint	Lead pump deactivation set point	2	0.0001	NA	0 - 100
21	PumpControl. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point. This is calculated as *(Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
22	PumpControl. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point. This is calculated as *(Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
23	Reserved		2			
24	PumpControl. Pump._2. PumpMode	Pump 2 Mode 0 = Auto 1 = Manual (Not writable via DNP3) 2 =Semi-Auto 3 = Off 4 = Decommissioned (Not writable via DNP3)	2	1	0	0 – 4

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
25	PumpControl. Behaviour._2. ActSetPoint	Lag pump activation set point	2	0.0001	NA	0 - 100
26	PumpControl. Behaviour._2. DeactSetPoint	Lag pump deactivation set point	2	0.0001	NA	0 - 100
27	PumpControl. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point. This is calculated as *(Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
28	PumpControl. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point. This is calculated as *(Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
29	Reserved		2			
30	PumpControl. Pump._3. PumpMode	Pump 3 Mode 0 = Auto 1 = Manual (Not writable via DNP3) 2 =Semi-Auto 3 = Off 4 = Decommissioned (Not writable via DNP3)	2	1	0	0 – 4
31	PumpControl. Behaviour._3. ActSetPoint	Lag pump 2 activation set point	2	0.0001	NA	0 - 100
32	PumpControl. Behaviour._3. DeactSetPoint	Lag pump 2 deactivation set point	2	0.0001	NA	0 - 100
33	PumpControl. Behaviour._3. ScaledActSetPoint	Scaled lag pump 2 activation set point. This is calculated as *(Lag Pump 2 Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
34	PumpControl. Behaviour._3. ScaledDeactSetPoint	Scaled lag pump 2 deactivation set point. This is calculated as *(Lag Pump 2 Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
35	Reserved		2			
36	IO.Unit._1. TopBoard. Aout._1. RemoteSource	Analog output 1 remote source *See Note 1 and Note 2 (associated analog input is 60)*	2	0.0001	5.0000	32 bit
37	Reserved		2			
38	Reserved		2			
39	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
40	Reserved		2			
41	Reserved		2			
42	IO.Unit._1. BottomBoard. Aout._11. RemoteSource	Analog output 11 remote source *See Note 1 and Note 2 (associated analog input is 106)*	2	0.0001	5.0000	N/A
43	IO.Unit._1. BottomBoard. Aout._12. RemoteSource	Analog output 12 remote source *See Note 1 and Note 2 (associated analog input is 107)*	2	0.0001	5.0000	N/A
44	IO.Unit._1. BottomBoard. Aout._13. RemoteSource	Analog output 13 remote source *See Note 1 and Note 2 (associated analog input is 108)*	2	0.0001	5.0000	N/A
45	Reserved		2			
46	Reserved		2			
47	Reserved		2			
48	PumpControl. Profile._0. Behaviour._1. ActSetPoint	The default profile lead pump activation set point.	2	0.0001	NA	0 – 100
49	PumpControl. Profile._0. Behaviour._1. DeactSetPoint	The default profile lead pump deactivation set point.	2	0.0001	NA	0 – 100
50	PumpControl. Profile._0. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for the default profile. This is calculated as *(Default Profile Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
51	PumpControl. Profile._0. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for the default profile. This is calculated as *(Default Profile Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
52	Reserved		2			
53	Reserved		2			
54	PumpControl. Profile._0. Behaviour._2. ActSetPoint	The default profile lag pump activation set point.	2	0.0001	NA	0 – 100

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
55	PumpControl. Profile._0. Behaviour._2. DeactSetPoint	The default profile lag pump deactivation set point.	2	0.0001	NA	0 – 100
56	PumpControl. Profile._0. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for the default profile. This is calculated as *(Default Profile Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
57	PumpControl. Profile._0. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for the default profile. This is calculated as *(Default Profile Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
58	Reserved		2			
59	Reserved		2			
60	PumpControl. Profile._0. Behaviour._3. ActSetPoint	The default profile lag pump 2 activation set point.	2	0.0001	NA	0 – 100
61	PumpControl. Profile._0. Behaviour._3. DeactSetPoint	The default profile lag pump 2 deactivation set point.	2	0.0001	NA	0 - 100
62	PumpControl. Profile._0. Behaviour._3. ScaledActSetPoint	Scaled lag pump 2 activation set point for the default profile. This is calculated as *(Default Profile Lag Pump 2 Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
63	PumpControl. Profile._0. Behaviour._3. ScaledDeactSetPoint	Scaled lag pump 2 deactivation set point for the default profile. This is calculated as *(Default Profile Lag Pump 2 Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
64	Reserved		2			
65	Reserved		2			
66	PumpControl. Profile._1. Behaviour._1. ActSetPoint	The profile 1 lead pump activation set point.	2	0.0001	NA	0 – 100
67	PumpControl. Profile._1. Behaviour._1. DeactSetPoint	The profile 1 lead pump deactivation set point.	2	0.0001	NA	0 – 100
68	PumpControl. Profile._1. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 1. This is calculated as *(Profile1 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
69	PumpControl. Profile._1. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 1. This is calculated as *(Profile1 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
70	Reserved		2			
71	Reserved		2			
72	PumpControl. Profile._1. Behaviour._2. ActSetPoint	The profile 1 lag pump activation set point.	2	0.0001	NA	0 – 100
73	PumpControl. Profile._1. Behaviour._2. DeactSetPoint	The profile 1 lag pump deactivation set point.	2	0.0001	NA	0 – 100
74	PumpControl. Profile._1. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 1. This is calculated as *(Profile 1 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
75	PumpControl. Profile._1. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 1. This is calculated as *(Profile 1 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
76	Reserved		2			
77	Reserved		2			
78	PumpControl. Profile._1. Behaviour._3. ActSetPoint	The profile 1 lag pump 2 activation set point.	2	0.0001	NA	0 – 100
79	PumpControl. Profile._1. Behaviour._3. DeactSetPoint	The profile 1 lag pump 2 deactivation set point.	2	0.0001	NA	0 – 100
80	PumpControl. Profile._1. Behaviour._3. ScaledActSetPoint	Scaled lag pump 2 activation set point for profile 1. This is calculated as *(Profile 1 Lag Pump 2 Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
81	PumpControl. Profile._1. Behaviour._3. ScaledDeactSetPoint	Scaled lag pump 2 deactivation set point for profile 1. This is calculated as *(Profile 1 Lag Pump 2 Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
82	Reserved		2			
83	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
84	PumpControl. Profile._2. Behaviour._1. ActSetPoint	The profile 2 lead pump activation set point.	2	0.0001	NA	0 – 100
85	PumpControl. Profile._2. Behaviour._1. DeactSetPoint	The profile 2 lead pump deactivation set point.	2	0.0001	NA	0 – 100
86	PumpControl. Profile._2. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 2. This is calculated as *(Profile 2 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
87	PumpControl. Profile._2. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 2. This is calculated as *(Profile 2 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
88	Reserved		2			
89	Reserved		2			
90	PumpControl. Profile._2. Behaviour._2. ActSetPoint	The profile 2 lag pump activation set point.	2	0.0001	NA	0 – 100
91	PumpControl. Profile._2. Behaviour._2. DeactSetPoint	The profile 2 lag pump deactivation set point.	2	0.0001	NA	0 – 100
92	PumpControl. Profile._2. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 2. This is calculated as *(Profile 2 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
93	PumpControl. Profile._2. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 2. This is calculated as *(Profile 2 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
94	Reserved		2			
95	Reserved		2			
96	PumpControl. Profile._2. Behaviour._3. ActSetPoint	The profile 2 lag pump 2 activation set point.	2	0.0001	NA	0 – 100
97	PumpControl. Profile._2. Behaviour._3. DeactSetPoint	The profile 2 lag pump 2 deactivation set point.	2	0.0001	NA	0 – 100

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
98	PumpControl. Profile._2. Behaviour._3. ScaledActSetPoint	Scaled lag pump activation set point for profile 2. This is calculated as *(Profile 2 Lag Pump 2 Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
99	PumpControl. Profile._2. Behaviour._3. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 2. This is calculated as *(Profile 2 Lag Pump 2 Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
100	Reserved		2			
101	Reserved		2			
102	PumpControl. Profile._3. Behaviour._1. ActSetPoint	The profile 3 lead pump activation set point.	2	0.0001	NA	0 – 100
103	PumpControl. Profile._3. Behaviour._1. DeactSetPoint	The profile 3 lead pump deactivation set point.	2	0.0001	NA	0 – 100
104	PumpControl. Profile._3. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 3. This is calculated as *(Profile 3 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
105	PumpControl. Profile._3. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 3. This is calculated as *(Profile 3 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
106	Reserved		2			
107	Reserved		2			
108	PumpControl. Profile._3. Behaviour._2. ActSetPoint	The profile 3 lag pump activation set point.	2	0.0001	NA	0 – 100
109	PumpControl. Profile._3. Behaviour._2. DeactSetPoint	The profile 3 lag pump deactivation set point.	2	0.0001	NA	0 – 100
110	PumpControl. Profile._3. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 3. This is calculated as *(Profile 3 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
111	PumpControl. Profile._3. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 3. This is calculated as *(Profile 3 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
112	Reserved		2			
113	Reserved		2			
114	PumpControl. Profile._3. Behaviour._3. ActSetPoint	The profile 3 lag pump 2 activation set point.	2	0.0001	NA	0 – 100
115	PumpControl. Profile._3. Behaviour._3. DeactSetPoint	The profile 3 lag pump 2 deactivation set point.	2	0.0001	NA	0 – 100
116	PumpControl. Profile._3. Behaviour._3. ScaledActSetPoint	Scaled lag pump 2 activation set point for profile 3. This is calculated as *(Profile 3 Lag Pump 2 Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
117	PumpControl. Profile._3. Behaviour._3. ScaledDeactSetPoint	Scaled lag pump 2 deactivation set point for profile 3. This is calculated as *(Profile 3 Lag Pump 2 Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
118	Reserved		2			
119	Reserved		2			
120	PumpControl. Profile._4. Behaviour._1. ActSetPoint	The profile 4 lead pump activation set point.	2	0.0001	NA	0 – 100
121	PumpControl. Profile._4. Behaviour._1. DeactSetPoint	The profile 4 lead pump deactivation set point.	2	0.0001	NA	0 – 100
122	PumpControl. Profile._4. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 4. This is calculated as *(Profile 4 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
123	PumpControl. Profile._4. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 4. This is calculated as *(Profile 4 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
124	Reserved		2			
125	Reserved		2			
126	PumpControl. Profile._4. Behaviour._2. ActSetPoint	The profile 4 lag pump activation set point.	2	0.0001	NA	0 – 100

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
127	PumpControl. Profile._4. Behaviour._2. DeactSetPoint	The profile 4 lag pump deactivation set point.	2	0.0001	NA	0 – 100
128	PumpControl. Profile._4. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 4. This is calculated as *(Profile 4 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
129	PumpControl. Profile._4. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 4. This is calculated as *(Profile 4 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
130	Reserved		2			
131	Reserved		2			
132	PumpControl. Profile._4. Behaviour._3. ActSetPoint	The profile 4 lag pump 2 activation set point.	2	0.0001	NA	0 – 100
133	PumpControl. Profile._4. Behaviour._3. DeactSetPoint	The profile 4 lag pump 2 deactivation set point.	2	0.0001	NA	0 – 100
134	PumpControl. Profile._4. Behaviour._3. ScaledActSetPoint	Scaled lag pump 2 activation set point for profile 4. This is calculated as *(Profile 4 Lag Pump 2 Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
135	PumpControl. Profile._4. Behaviour._3. ScaledDeactSetPoint	Scaled lag pump 2 deactivation set point for profile 4. This is calculated as *(Profile 4 Lag Pump 2 Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
136	Reserved		2			
137	Reserved		2			
138	PumpControl. Profile._5. Behaviour._1. ActSetPoint	The profile 5 lead pump activation set point.	2	0.0001	NA	0 – 100
139	PumpControl. Profile._5. Behaviour._1. DeactSetPoint	The profile 5 lead pump deactivation set point.	2	0.0001	NA	0 – 100
140	PumpControl. Profile._5. Behaviour._1. ScaledActSetPoint	Scaled lead pump activation set point for profile 5. This is calculated as *(Profile 5 Lead Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
141	PumpControl. Profile._5. Behaviour._1. ScaledDeactSetPoint	Scaled lead pump deactivation set point for profile 5. This is calculated as *(Profile 5 Lead Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
142	Reserved		2			
143	Reserved		2			
144	PumpControl. Profile._5. Behaviour._2. ActSetPoint	The profile 5 lag pump activation set point.	2	0.0001	NA	0 – 100
145	PumpControl. Profile._5. Behaviour._2. DeactSetPoint	The profile 5 lag pump deactivation set point.	2	0.0001	NA	0 – 100
146	PumpControl. Profile._5. Behaviour._2. ScaledActSetPoint	Scaled lag pump activation set point for profile 5. This is calculated as *(Profile 5 Lag Pump Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
147	PumpControl. Profile._5. Behaviour._2. ScaledDeactSetPoint	Scaled lag pump deactivation set point for profile 5. This is calculated as *(Profile 5 Lag Pump Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
148	Reserved		2			
149	Reserved		2			
150	PumpControl. Profile._5. Behaviour._3. ActSetPoint	The profile 5 lag pump 2 activation set point.	2	0.0001	NA	0 – 100
151	PumpControl. Profile._5. Behaviour._3. DeactSetPoint	The profile 5 lag pump 2 deactivation set point.	2	0.0001	NA	0 – 100
152	PumpControl. Profile._5. Behaviour._3. ScaledActSetPoint	Scaled lag pump 2 activation set point for profile 5. This is calculated as *(Profile 5 Lag Pump 2 Activation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
153	PumpControl. Profile._5. Behaviour._3. ScaledDeactSetPoint	Scaled lag pump 2 deactivation set point for profile 5. This is calculated as *(Profile 5 Lag Pump 2 Deactivation Set Point * Depth Of Well / 100) - Level Offset*.	2	0.0001	NA	32 bit
154	Reserved		2			
155	Reserved		2			

Default DNP ID	Tag ID	Description	Default Class	Precision	Default Reporting Deadband	Valid Range
156	PumpControl. Well._1. LevelAlarm._1. ScaledActSetPoint	Scaled high-high level alarm activation set point. This is calculated as (High-high Level Alarm Activation Set Point * Depth Of Well / 100) – Level Offset.	2	0.0001	NA	32 bit
157	PumpControl. Well._1. LevelAlarm._1. ScaledDeactSetPoint	Scaled high-high level alarm deactivation set point. This is calculated as (High-high Level Alarm Deactivation Set Point * Depth Of Well / 100) – Level Offset.	2	0.0001	NA	32 bit
158	PumpControl. Well._1. LevelAlarm._2. ScaledActSetPoint	Scaled high level alarm activation set point. This is calculated as (High Level Alarm Activation Set Point * Depth Of Well / 100) – Level Offset.	2	0.0001	NA	32 bit
159	PumpControl. Well._1. LevelAlarm._2. ScaledDeactSetPoint	Scaled high level alarm deactivation set point. This is calculated as (High Level Alarm Deactivation Set Point * Depth Of Well / 100) – Level Offset.	2	0.0001	NA	32 bit
160	PumpControl. Well._1. LevelAlarm._3. ScaledActSetPoint	Scaled low level alarm activation set point. This is calculated as (Low Level Alarm Activation Set Point * Depth Of Well / 100) – Level Offset.	2	0.0001	NA	32 bit
161	PumpControl. Well._1. LevelAlarm._3. ScaledDeactSetPoint	Scaled low level alarm deactivation set point. This is calculated as (Low Level Alarm Deactivation Set Point * Depth Of Well / 100) – Level Offset.	2	0.0001	NA	32 bit
162	PumpControl. Well._1. LevelAlarm._4. ScaledActSetPoint	Scaled low-low level alarm activation set point. This is calculated as (Low-low Level Alarm Activation Set Point * Depth Of Well / 100) – Level Offset.	2	0.0001	NA	32 bit
163	PumpControl. Well._1. LevelAlarm._4. ScaledDeactSetPoint	Scaled low-low level alarm deactivation set point. This is calculated as (Low-low Level Alarm Deactivation Set Point * Depth Of Well / 100) – Level Offset.	2	0.0001	NA	32 bit

Note 1 *To control these physical hardware points through DNP3, the analog outputs must be configured in the MultiSmart RTU to be controlled via a Remote Source. Please refer to the MultiSmart Installation and Operation Manual for more information.*

Note 2 *Reading the analog output will give the value of the remote source for that analog output. For analog outputs on the MultiSmart RTU that are not configured as remote source, the associated analog input must be read in order to obtain the actual status of the hardware analog output. For analog outputs on the MultiSmart RTU that are configured as remote source, either the analog output or the associated analog input can be read, and will yield the same value.*

4.8 Octet String Objects – Table 9

The following table lists Octet Strings (Object 110).

Default DNP ID	Tag ID	Description	Default Class
0	PumpControl. Profile._0. Name	Returns a string containing the name of Profile 0.	2
1	PumpControl. Profile._1. Name	Returns a string containing the name of Profile 1.	2
2	PumpControl. Profile._2. Name	Returns a string containing the name of Profile 2.	2
3	PumpControl. Profile._3. Name	Returns a string containing the name of Profile 3.	2
4	PumpControl. Profile._4. Name	Returns a string containing the name of Profile 4.	2
5	PumpControl. Profile._5. Name	Returns a string containing the name of Profile 5.	2
6	Lcd. LastLogInName	Name of the last user to log in via the LCD.	2
7	PumpControl. Units	The units used for the level display. This may be one of either: • % • m • ft • in • Customer defined	2