

**M-6283A DNP 3.0
Communication Database
Rev. 2.12**



M-6283A DNP3.0 COMMUNICATION DATABASE

Specifications Presented Herein Are Thought To Be Accurate At The Time Of Publication But Are Subject To Change Without Notice.

No Warranties Of Any Kind Are Implied On The Information Contained In This Document.

Rev	1.0	6/14/2013 Initial Release
Rev	1.1	07/11/2013 Added to AO 182 Description Missing 4 - Independent Phase Switching.
Rev	1.1.1	03/06/2014 Re-verify and minor corrections Version 1.1
Rev	2.3	12/03/2014 Document Update
Rev	2.4	11/30/2016 Document Update
Rev	2.5	09/18/2017 Document updated for Emergency mode enhancement
Rev	2.6	03/14/2018 • Binary Output points added for profile selection and "Reset Six Output Config Count" • Analog output point added for "Daily Operation Counter Configuration"
Rev	2.7	07/20/2018 • Binary Output point added for block status • Added Analog input timer status points in seconds • Analog output Enhanced Time Override points added
Rev	2.8	10/20/2020 • Binary Input point added for Operation mode • Analog Input points added for Phase Angles • Analog Output Phase Angle Reference points added
Rev	2.11	10/01/2021 (FW V05.06.XX) • Analog Inputs added for Primary Line to Line • Updated the Scale for Primary Line to Line • Updated the Scale for Primary Line to Line (120V sensor and 10V, 20V sensors)
Rev	2.12	01/22/2024 (FW V05.07.XX) • BI, BO, AI, AO, Counters : DNP Point names and MODBUS register information are added for all data types • BI 121(Block Open with Hysteresis): Block Open with Hysteresis name is updated as "Block Open with Hysteresis C" • AO 177 Description is updated • AO 182 (Control Input Selection): Control Input Selection range is updated from (1–3) to (1–4) • AO281 (Change Active Profile): Change Active Profile new data point added • BO 16 to 27: Description is updated for these data points • BO 28, 29 and 30 (Phase OC Latch Alarm Reset A, B and C): New data points added • AI 319 to 359: Description is updated for the following data points • AI 398 to 401: Description is updated for the following data points

Beckwith Electric DNP3.0 Points Grouping

Specifications

The communication database profile in the M-6283A with the DNP3.0 protocol is grouped into four object types. These are:

- **Single-Bit Binary Inputs (Status)** (object 01, variation 01):
These points are Report by Exception with time stamp.
They are considered class 1 data (an event with high priority).
- **16-Bit Analog Output Block/Status (Setpoints)** (object 40, variation 02 / object 41, variation 02):
With these points, you can write and read all the setpoints, configuration setpoints and the real-time clock setpoints.
- **Control Relay Output Block (Direct Control)** (object 12, variation 01):
These points are Select Before Operate. Once the select command is received, the operate command will only be honored if it arrives within the configured time. The default time delay is 20 seconds.
- **16-Bit Analog Inputs** (object 30, variation 02):
These points represent all instantaneous measurements, demands, counters and dates/times.

All points in the M-6283A are of static type, meaning that a class 0 poll will dump all data to the querying RTU (Via Object 60 Variation 0).

Single-Bit Binary Inputs (Status) Object: 01 Variation = 01 for class 0 poll							
Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
0	1	N/A	Close Status	1721 Bit 2	Close Status	0 = no 1 = yes	01
1	1	N/A	Open Status	1721 Bit 1	Open Status	0 = no 1 = yes	01
2	1	N/A	Block Open	1722 Bit 0 & 1	Block Open	0 = no 1 = yes	01
3	1	N/A	Block Close	1722 Bit 0 & 1	Block Close	0 = no 1 = yes	01
4	1	N/A	Manual	1722 Bit 4 & 5	Manual	0 = no 1 = yes	01
5	1	N/A	Auto	1722 Bit 4 & 5	Auto	0 = no 1 = yes	01
6	1	N/A	Remote	1722 Bit 4 & 5	Remote	0 = no 1 = yes	01
7	1	N/A	Scada HB Lost	1722 Bit 9	Scada HB Lost	0 = no 1 = yes	01
8	1	N/A	Maximum Voltage Limit	1724 Bit 0	Maximum Voltage Limit	0 = inactive 1 = active	01
9	1	N/A	Minimum Voltage Limit	1724 Bit 1	Minimum Voltage Limit	0 = inactive 1 = active	01
10	1	N/A	RemoteOvervoltage Limit	1724 Bit 2	Remote Overvoltage Limit	0 = inactive 1 = active	01
11	1	N/A	Remote Undervoltage Limit	1724 Bit 3	Remote Undervoltage Limit	0 = inactive 1 = active	01
12	1	N/A	Bank Status NC Limit	1722 Bit 8	Bank Status NC Limit	0 = no 1 = yes	01
13	1	N/A	Bank/Switch Failed Level 2	1724 Bit 4	Bank/Switch Failed Level 2	0 = no 1 = yes	01
14	1	N/A	Bank/Switch Failed Level 1	1724 Bit 5	Bank/Switch Failed Level 1	0 = no 1 = yes	01
15	1	N/A	Resettable Counter Limit	1724 Bit 6	Resettable Counter Limit	0 = inactive 1 = active	01
16	1	N/A	Daily Operation Counter Limit	1724 Bit 7	Daily Operation Counter Limit	0 = inactive 1 = active	01
17	1	N/A	Comm Block	1724 Bit 8	Comm Block	0 = inactive 1 = active	01
18	1	N/A	Self Test	1724 Bit 9	Self Test	0 = inactive 1 = active	01
19	1	N/A	HMI active	1722 Bit 12	HMI active	0 = no 1 = yes	01

Table 1 – Single-Bit Binary Inputs (Status) (1 of 9)

Single-Bit Binary Inputs (Status)

Object: 01 Variation = 01 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
20	1	N/A	Phase A Switch Status	1725 Bit 0	Phase A Switch Status	0 = inactive 1 = active	01
21	1	N/A	Phase B Switch Status	1725 Bit 1	Phase B Switch Status	0 = inactive 1 = active	01
22	1	N/A	Phase C Switch Status	1725 Bit 2	Phase C Switch Status	0 = inactive 1 = active	01
23	1	N/A	Phase Switch Failure	1723 Bit 6	Phase Switch Failure	0 = inactive 1 = active	01
24	1	N/A	Pack Failure or Harmonics	1723 Bit 7	Pack Failure or Harmonics	0 = inactive 1 = active	01
25	1	N/A	Cap Switch Failure	1723 Bit 8	Cap Switch Failure	0 = inactive 1 = active	01
26	1	N/A	Voltage Harmonics Alarm Phase A	1533 Bit 10	Voltage Harmonics Alarm Phase A	1 = pickup 0 = inactive	01
27	1	N/A	Voltage Harmonics Alarm Phase B	1534 Bit 10	Voltage Harmonics Alarm Phase B	1 = pickup 0 = inactive	01
28	1	N/A	Voltage Harmonics Alarm Phase C	1535 Bit 10	Voltage Harmonics Alarm Phase C	1 = pickup 0 = inactive	01
29	1	N/A	Current Harmonics Alarm Phase A	1533 Bit 11	Current Harmonics Alarm Phase A	1 = pickup 0 = inactive	01
30	1	N/A	Current Harmonics Alarm Phase B	1534 Bit 11	Current Harmonics Alarm Phase B	1 = pickup 0 = inactive	01
31	1	N/A	Current Harmonics Alarm Phase C	1535 Bit 11	Current Harmonics Alarm Phase C	1 = pickup 0 = inactive	01
32	1	N/A	Auto Control mode setpoint mismatch	–	Auto Control mode set point mismatch	0 = inactive 1 = active	01
33	1	N/A	Remote Control mode setpoint mismatch	–	Remote Control mode set point mismatch	0 = inactive 1 = active	01
34	1	N/A	Control Mode Limits setpoint mismatch	–	Control Mode Limits set point mismatch	0 = inactive 1 = active	01
35	1	N/A	Bank/Switch Failed L1 setpoint mismatch	–	Bank/Switch Failed L1 set point mismatch	0 = inactive 1 = active	01
36	1	N/A	Bank/Switch Failed L2 setpoint mismatch	–	Bank/Switch Failed L2 set point mismatch	0 = inactive 1 = active	01
37	–	N/A	Temperature unit	1014	Temperature unit	0 = Celsius 1 = Fahrenheit	01
38	–	N/A	Voltage Harmonics	1724 Bit 10	Voltage Harmonics	1 = pickup 0 = inactive	01
39	–	N/A	Current Harmonics	1724 Bit 11	Current Harmonics	1 = pickup 0 = inactive	01

Table 1 – Single-Bit Binary Inputs (Status) (2 of 9)

Single-Bit Binary Inputs (Status) Object: 01 Variation = 01 for class 0 poll							
Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
40	–	N/A	Predictive Block Close	1822,1823 & 1824 Bit 9	Predictive Block Close	0 = inactive 1 = active	01
41	–	N/A	Predictive Block open	1822,1823 & 1824 Bit 10	Predictive Block open	0 = inactive 1 = active	01
42	–	N/A	Fixed Band Center Setpoint Mismatch	–	Fixed Band Center Set point Mismatch	0 = inactive 1 = active	01
43	–	N/A	Install Mode BC Invalid	–	Install Mode BC Invalid	0 = inactive 1 = active	01
44	–	N/A	Backup Power Fail	–	Backup Fail	0 = inactive 1 = active	01
45	–	N/A	CBEMA1 ERROR	–	CBEMA Event1 Settings Error	0 = inactive 1 = active	01
46	–	N/A	CBEMA2 ERROR	–	CBEMA Event2 Settings Error	0 = inactive 1 = active	01
47	–	N/A	CBEMA3 ERROR	–	CBEMA Event3 Settings Error	0 = inactive 1 = active	01
48	–	N/A	CBEMA4 ERROR	–	CBEMA Event4 Settings Error	0 = inactive 1 = active	01
49	–	N/A	Invalid Switch Type/Pulse Time	–	Invalid Switch Type/Pulse Time	0 = inactive 1 = active	01
50	–	N/A	VAR Control setpoint mismatch	–	VAR Control set point mismatch	0 = inactive 1 = active	01
51	–	N/A	Current Control setpoint mismatch	–	Current Control set point mismatch	0 = inactive 1 = active	01
52	–	N/A	CBEMA1 Event Status A	1733 Bit 0	CBEMA Event1 Status A	0 = inactive 1 = active	01
53	–	N/A	CBEMA2 Event Status A	1733 Bit 1	CBEMA Event2 Status A	0 = inactive 1 = active	01
54	–	N/A	CBEMA3 Event Status A	1733 Bit 2	CBEMA Event3 Status A	0 = inactive 1 = active	01
55	–	N/A	CBEMA4 Event Status A	1733 Bit 3	CBEMA Event4 Status A	0 = inactive 1 = active	01
56	–	N/A	CBEMA1 Event Status A	1738 Bit 0	CBEMA Event1 Status B	0 = inactive 1 = active	01
57	–	N/A	CBEMA2 Event Status A	1738 Bit 1	CBEMA Event2 Status B	0 = inactive 1 = active	01
58	–	N/A	CBEMA3 Event Status A	1738 Bit 2	CBEMA Event3 Status B	0 = inactive 1 = active	01

Table 1 – Single-Bit Binary Inputs (Status) (3 of 9)

Single-Bit Binary Inputs (Status)

Object: 01 Variation = 01 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
59	–	N/A	CBEMA4 Event Status A	1738 Bit 3	CBEMA Event4 Status B	0 = inactive 1 = active	01
60	–	N/A	CBEMA1 Event Status A	1743 Bit 0	CBEMA Event1 Status C	0 = inactive 1 = active	01
61	–	N/A	CBEMA2 Event Status A	1743 Bit 1	CBEMA Event2 Status C	0 = inactive 1 = active	01
62	–	N/A	CBEMA3 Event Status A	1743 Bit 2	CBEMA Event3 Status C	0 = inactive 1 = active	01
63	–	N/A	CBEMA4 Event Status A	1743 Bit 3	CBEMA Event4 Status C	0 = inactive 1 = active	01
64	–	N/A	Intrusion Detection	1725 Bit 3	Intrusion Detection	0 = inactive 1 = active	01
65	–	N/A	Block Close with Hysteresis	1822,1823 &1824 Bit 11	Filtered Block Close	0 = inactive 1 = active	01
66	–	N/A	Block Open with Hysteresis	1822,1823 &1824 Bit 12	Filtered Block Open	0 = inactive 1 = active	01
67	–	N/A	Delta Voltage Alarm	1724 Bit 13	Delta Voltage Alarm	0 = inactive 1 = active	01
68	–	N/A	NC Block Status	1723 Bit 14	NC Block Status	0 = inactive 1 = active	01
69	–	N/A	NC Lockout Status	1723 Bit 15	NC Lockout Status	0 = inactive 1 = active	01
70	–	N/A	Phase A OC Event	1754 Bit 0	Phase A OC Event	0 = inactive 1 = active	01
71	–	N/A	Phase B OC Event	1754 Bit 1	Phase B OC Event	0 = inactive 1 = active	01
72	–	N/A	Phase C OC Event	1754 Bit 2	Phase C OC Event	0 = inactive 1 = active	01
The Following Points are applicable for M-6283A Single Pole Switching setting							
73	–	N/A	Close Status A	1524 Bit 2	Close Status A	0 = inactive 1 = active	01
74	–	N/A	Open Status A	1524 Bit 1	Open Status A	0 = inactive 1 = active	01
75	–	N/A	Block Open A	1527 Bit 0 & 1	Block Open A	0 = inactive 1 = active	01
76	–	N/A	Block Close A	1527 Bit 0 & 1	Block Close A	0 = inactive 1 = active	01
77	–	N/A	Close Status B	1525 Bit 2	Close Status B	0 = inactive 1 = active	01

Table 1 – Single-Bit Binary Inputs (Status) (4 of 9)

Single-Bit Binary Inputs (Status) Object: 01 Variation = 01 for class 0 poll							
Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
78	–	N/A	Open Status B	1525 Bit 1	Open Status B	0 = inactive 1 = active	01
79	–	N/A	Block Open B	1528 Bit 0 & 1	Block Open B	0 = inactive 1 = active	01
80	–	N/A	Block Close B	1528 Bit 0 & 1	Block Close B	0 = inactive 1 = active	01
81	–	N/A	Close Status C	1526 Bit 2	Close Status C	0 = inactive 1 = active	01
82	–	N/A	Open Status C	1526 Bit 1	Open Status C	0 = inactive 1 = active	01
83	–	N/A	Block Open C	1529 Bit 0 & 1	Block Open C	0 = inactive 1 = active	01
84	–	N/A	Block Close C	1529 Bit 0 & 1	Block Close C	0 = inactive 1 = active	01
85	–	N/A	Neutral Phase Unbalance	1578 Bit 0	Neutral Phase Unbalance	0 = inactive 1 = active	01
86	–	N/A	Neutral Unbalance Phase A	1578 Bit 1	Neutral Unbalance Switch A	0 = inactive 1 = active	01
87	–	N/A	Neutral Unbalance Phase B	1578 Bit 2	Neutral Unbalance Switch B	0 = inactive 1 = active	01
88	–	N/A	Neutral Unbalance Phase C	1578 Bit 3	Neutral Unbalance Switch C	0 = inactive 1 = active	01
89	–	N/A	Neutral Magnitude Unbalance	1578 Bit 4	Neutral Magnitude Unbalance	0 = inactive 1 = active	01
90	–	N/A	Maximum Voltage Limit A	1822 Bit 0	Maximum Voltage Limit A	0 = inactive 1 = active	01
91	–	N/A	Minimum Voltage Limit A	1822 Bit 1	Minimum Voltage Limit A	0 = inactive 1 = active	01
92	–	N/A	Remote Overvoltage Limit A	1822 Bit 2	Remote Overvoltage Limit A	0 = inactive 1 = active	01
93	–	N/A	Remote Undervoltage Limit A	1822 Bit 3	Remote Undervoltage Limit A	0 = inactive 1 = active	01
94	–	N/A	Resettable Counter Limit A	1822 Bit 4	Resettable Counter Limit A	0 = inactive 1 = active	01
95	–	N/A	Daily Operation Counter Limit A	1822 Bit 5	Daily Operation Counter Limit A	0 = inactive 1 = active	01
96	–	N/A	Predictive Block Close A	1822 Bit 9	Predictive Block Close A	0 = inactive 1 = active	01
97	–	N/A	Predictive Block Open A	1822 Bit 10	Predictive Block open A	0 = inactive 1 = active	01

Table 1 – Single-Bit Binary Inputs (Status) (5 of 9)

Single-Bit Binary Inputs (Status)

Object: 01 Variation = 01 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
98	–	N/A	Block Close with Hysteresis A	1822 Bit 11	Block Close with Hysteresis A	0 = inactive 1 = active	01
99	–	N/A	Block Open with Hysteresis A	1822 Bit 12	Block Open with Hysteresis A	0 = inactive 1 = active	01
100	–	N/A	Delta Voltage Alarm A	1822 Bit 13	Delta Voltage Alarm A	0 = inactive 1 = active	01
101	–	N/A	Maximum Voltage Limit B	1823 Bit 0	Maximum Voltage Limit B	0 = inactive 1 = active	01
102	–	N/A	Minimum Voltage Limit B	1823 Bit 1	Minimum Voltage Limit B	0 = inactive 1 = active	01
103	–	N/A	Remote Overvoltage Limit B	1823 Bit 2	Remote Overvoltage Limit B	0 = inactive 1 = active	01
104	–	N/A	Remote Undervoltage Limit B	1823 Bit 3	Remote Undervoltage Limit B	0 = inactive 1 = active	01
105	–	N/A	Resettable Counter Limit B	1823 Bit 4	Resettable Counter Limit B	0 = inactive 1 = active	01
106	–	N/A	Daily Operation Counter Limit B	1823 Bit 5	Daily Operation Counter Limit B	0 = inactive 1 = active	01
107	–	N/A	Predictive Block Close B	1823 Bit 9	Predictive Block Close B	0 = inactive 1 = active	01
108	–	N/A	Predictive Block Open B	1823 Bit 10	Predictive Block open B	0 = inactive 1 = active	01
109	–	N/A	Block Close with Hysteresis B	1823 Bit 11	Block Close with Hysteresis B	0 = inactive 1 = active	01
110	–	N/A	Block Open with Hysteresis B	1823 Bit 12	Block Open with Hysteresis B	0 = inactive 1 = active	01
111	–	N/A	Delta Voltage Alarm B	1823 Bit 13	Delta Voltage Alarm B	0 = inactive 1 = active	01
112	–	N/A	Maximum Voltage Limit C	1824 Bit 0	Maximum Voltage Limit C	0 = inactive 1 = active	01
113	–	N/A	Minimum Voltage Limit C	1824 Bit 1	Minimum Voltage Limit C	0 = inactive 1 = active	01
114	–	N/A	Remote Overvoltage Limit C	1824 Bit 2	Remote Overvoltage Limit C	0 = inactive 1 = active	01
115	–	N/A	Remote Undervoltage Limit C	1824 Bit 3	Remote Undervoltage Limit C	0 = inactive 1 = active	01
116	–	N/A	Resettable Counter Limit C	1824 Bit 4	Resettable Counter Limit C	0 = inactive 1 = active	01

Table 1 – Single-Bit Binary Inputs (Status) (6 of 9)

Single-Bit Binary Inputs (Status)

Object: 01 Variation = 01 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
117	–	N/A	Daily Operation Counter Limit C	1824 Bit 5	Daily Operation Counter Limit C	0 = inactive 1 = active	01
118	–	N/A	Predictive Block Close C	1824 Bit 9	Predictive Block Close C	0 = inactive 1 = active	01
119	–	N/A	Predictive Block Open C	1824 Bit 10	Predictive Block open C	0 = inactive 1 = active	01
120	–	N/A	Block Close with Hysteresis C	1824 Bit 11	Block Close with Hysteresis C	0 = inactive 1 = active	01
121	–	N/A	Block Open with Hysteresis C	1824 Bit 12	Block Open with Hysteresis C	0 = inactive 1 = active	01
122	–	N/A	Delta Voltage Alarm C	1824 Bit 13	Delta Voltage Alarm C	0 = inactive 1 = active	01
123	–	N/A	Control Operation Mode	–	Control Operation Mode	0 = inactive 1 = active	01
124	–	N/A	Voltage THD Trip and Lockout	1604 Bit 0	Voltage THD Trip and Lockout	0 = inactive 1 = active	01
125	–	N/A	Current THD Trip and Lockout	1604 Bit 1	Current THD Trip and Lockout	0 = inactive 1 = active	01
126	–	N/A	Voltage THD Trip and Lockout A	1604 Bit 2	Voltage THD Trip and Lockout A	0 = inactive 1 = active	01
127	–	N/A	Voltage THD Trip and Lockout B	1604 Bit 3	Voltage THD Trip and Lockout B	0 = inactive 1 = active	01
128	–	N/A	Voltage THD Trip and Lockout C	1604 Bit 4	Voltage THD Trip and Lockout C	0 = inactive 1 = active	01
129	–	N/A	Current THD Trip and Lockout A	1604 Bit 5	Current THD Trip and Lockout A	0 = inactive 1 = active	01
130	–	N/A	Current THD Trip and Lockout B	1604 Bit 6	Current THD Trip and Lockout B	0 = inactive 1 = active	01
131	–	N/A	Current THD Trip and Lockout C	1604 Bit 7	Current THD Trip and Lockout C	0 = inactive 1 = active	01
132	–	N/A	Leading Var Alarm	1795 Bit 0	Leading Var Alarm	0 = inactive 1 = active	01
133	–	N/A	Lagging Var Alarm	1795 Bit 1	Lagging Var Alarm	0 = inactive 1 = active	01
134	–	N/A	Leading Power Factor Alarm	1795 Bit 2	Leading Power Factor Alarm	0 = inactive 1 = active	01
135	–	N/A	Lagging Power Factor Alarm	1795 Bit 3	Lagging Power Factor Alarm	0 = inactive 1 = active	01
136	–	N/A	Emergency Voltage Loss Phase A	–	Emergency Voltage Loss Phase A	0 = inactive 1 = active	01

Table 1 – Single-Bit Binary Inputs (Status) (7 of 9)

Single-Bit Binary Inputs (Status)

Object: 01 Variation = 01 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
137	–	N/A	Emergency Voltage Loss Phase B	–	Emergency Voltage Loss Phase B	0 = inactive 1 = active	01
138	–	N/A	Emergency Voltage Loss Phase C	–	Emergency Voltage Loss Phase C	0 = inactive 1 = active	01
139	–	N/A	Emergency Switch Power Loss	–	Emergency Switch Power Loss	0 = inactive 1 = active	01
140	–	N/A	Emergency Switched to Gang Operation	–	Emergency Switched to Gang Operation	0 = inactive 1 = active	01
141	–	N/A	Lockout on Gang Mode	–	Lockout on Gang Mode	0 = inactive 1 = active	01
142	–	N/A	Lockout on Phase A	–	Lockout on Phase A	0 = inactive 1 = active	01
143	–	N/A	Lockout on Phase B	–	Lockout on Phase B	0 = inactive 1 = active	01
144	–	N/A	Lockout on Phase C	–	Lockout on Phase C	0 = inactive 1 = active	01
145	–	N/A	Remote trigger using SCADA command	–	Remote trigger using SCADA command	0 = inactive 1 = active	01
146	–	N/A	Emergency Mode Voltage Loss Phase A	1606 Bit 0	Emergency Mode Voltage Loss Phase A	0 = inactive 1 = active	01
147	–	N/A	Emergency Mode Voltage Loss Phase B	1606 Bit 1	Emergency Mode Voltage Loss Phase B	0 = inactive 1 = active	01
148	–	N/A	Emergency Mode Voltage Loss Phase C	1606 Bit 2	Emergency Mode Voltage Loss Phase C	0 = inactive 1 = active	01
149	–	N/A	Emergency Mode Control/ Switch Power Loss	1606 Bit 3	Emergency Mode Control/ Switch Power Loss	0 = inactive 1 = active	01
150	–	N/A	Emergency Mode Auto Control Gang Operation	1606 Bit 5	Emergency Mode Auto Control Gang Operation	0 = inactive 1 = active	01
151	–	N/A	Emergency Mode Activated	1606 Bit 9	Emergency Mode Activated	0 = inactive 1 = active	01
152	–	N/A	Block on Gang Mode	–	Block on Gang Mode	0 = inactive 1 = active	01
153	–	N/A	Block on Phase A	–	Block on Phase A	0 = inactive 1 = active	01
154	–	N/A	Block on Phase B	–	Block on Phase B	0 = inactive 1 = active	01
155	–	N/A	Block on Phase C	–	Block on Phase C	0 = inactive 1 = active	01

Table 1 – Single-Bit Binary Inputs (Status) (8 of 9)

Single-Bit Binary Inputs (Status)

Object: 01 Variation = 01 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	MODBUS Cross Ref.	Description	Range Value	Request Function
156	–	N/A	Operation Mode	1606 Bit 15	Operation Mode	0 = Ganged 1 = Independent	01
157	–	N/A	Phase OC Latching Alarm A	–	Phase A OC Latch Alarm	0 = inactive 1 = active	01
158	–	N/A	Phase OC Latching Alarm B	–	Phase B OC Latch Alarm	0 = inactive 1 = active	01
159	–	N/A	Phase OC Latching Alarm C	–	Phase C OC Latch Alarm	0 = inactive 1 = active	01

Table 1 – Single-Bit Binary Inputs (Status) (9 of 9)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
Setpoints							
0	10	Volts	Overvoltage Limit (Auto Control mode)	3530	Control Open Voltage (Auto Control mode)	1400 950	01
1	10	Volts	Undervoltage Limit (Auto Control mode)	3531	Control Close Voltage (Auto Control mode)	1400 950	01
2	1	Secs	Close Def/Inv Time (Auto Control mode)	3532	Close Def/Inv Time (Auto Control mode)	600 0	01
3	1	Secs	Open Def/Inv Time (Auto Control mode)	3704	Open Def/Inv Time (Auto Control mode)	600 0	01
4	1	–	Time Delay Selection (Auto Control mode)	3542	Time Delay Selection (Auto Control mode) 0 = Definite Time 1 = Inverse time	1 0	01
5	1	–	Basic Timer Type (Auto Control mode)	3543	Basic Timer Type (Auto Control mode) 0 = Integrating 1 = Instant Reset	1 0	01
6	1	–	Control Mode Limits (Option Select)	3534	Control Mode Limits (Option Select) 000 = Disable All bit 0 = Enable in Auto bit 1 = Enable in Manual bit 2 = Enable in Remote	7 0	01
7	10	Volts	Maximum Voltage Limit	3535	Maximum Voltage Limit	1400 950	01
8	10	Volts	Minimum Voltage Limit	3536	Minimum Voltage Limit	1400 950	01
9	1	Secs	Definite Time (Control Mode Limits)	3537	Definite Time (Control Mode Limits)	60 0	01
10	1	–	Remote Control Mode (Enable/Disable)	3538	Remote Control Mode (Enable/Disable)	1 0	01
11	10	Volts	Remote Over voltage Limit	3539	Remote Over voltage Limit	1400 950	01
12	10	Volts	Remote Under voltage Limit	3540	Remote Under voltage Limit	1400 950	01
13	1	Secs	Def/Inv Time (Remote Control mode)	3541	Def/Inv Time (Remote Control mode)	600 0	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (1 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
14	1	–	Time Delay Selection (Remote Control mode)	3544	Time Delay Selection (Remote Control mode) 0 = Definite Time 1 = Inverse time	1 0	01
15	1	–	Basic Timer Type (Remote Control mode)	3545	Basic Timer Type (Remote Control mode) 0 = Integrating 1 = Instant Reset	1 0	01
16	1	Secs	Close warning Delay	3713	Close warning Delay	90 0	01
17	1	Secs	Open warning Delay	3715	Open warning Delay	90 0	–
18	1	Secs	Re-Close Delay	3716	Re-Close Delay	600 300	01
19	1	Secs (ms)	Close/Open pulse Duration	3717	Close/Open pulse Duration	15 5 (100 50)	01
20	10	Volts	VT correction	3722	VT correction	150 -150	01
21	–	–	Phase A Voltage multiplier MSB	3830	Phase A Voltage multiplier MSB	(MSB LSB)	01
22	10	–	Phase A Voltage multiplier LSB	3831	Phase A Voltage multiplier LSB	100000 1	01
23	–	–	Phase B Voltage multiplier MSB	3832	Phase B Voltage multiplier MSB	(MSB LSB)	01
24	10	–	Phase B Voltage multiplier LSB	3833	Phase B Voltage multiplier LSB	100000 1	01
25	–	–	Phase C Voltage multiplier MSB	3834	Phase C Voltage multiplier MSB	(MSB LSB)	01
26	10	–	Phase C Voltage multiplier LSB	3835	Phase C Voltage multiplier LSB	100000 1	01
27	10	–	Neutral Current multiplier	3724	Neutral Current multiplier	32600 10	01
28	1	–	Neutral Options	3811	Neutral Options (Line post sensor only) 0 = Neutral Current 1 = Neutral Voltage	1 0	01
29	1	–	Bank/Switch Failed level2 (Enable/Disable)	3725	Bank/Switch Failed Level 2 (Enable/Disable) 0 = Disable 1 = Enable	1 0	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (2 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value		Request Function
30	10	Amp	Bank/Switch Failed level2	3726	Bank/Switch Failed Level 2	2000	10	01
31	1	Secs	Time Delay (Bank/Switch Failed level2)	3729	Time Delay (Bank/Switch Failed Level 2)	300	10	01
32	1	–	Select Action (Bank/Switch Failed level2)	3730	Select Action (Bank/Switch Failed level2) bit 0 = Retry Operation bit 1 = Reverse and Block bit 2 = Reset Block	7	0	01
33	1	–	Number of Retry Attempts	3800	Number of Retry Attempts	9	1	–
34	1	Hrs	Block Reset Time Delay	3802	Block Reset Time Delay	72	0	–
35	1	–	Failed Level2 No Prior Operation En/Dis	3803	Failed Level2 No Prior Operation En/Dis 0 = Disable 1 = Enable	1	0	–
36	1	Min	No Prior OP Open And Lockout Time Delay	3804	No Prior OP Open And Lockout Time Delay	4320	0	–
37	1	–	No Prior OP Reset Lockout En/Dis	3805	No Prior OP Reset Lockout En/Dis 0 = Disable 1 = Enable	1	0	–
38	1	Hrs	No Prior OP Reset Lockout Time Delay	3806	No Prior OP Reset Lockout Time Delay	72	0	–
39	100	Volts	Neutral Voltage Limit Level 2	3812	Neutral Voltage Limit Level 2	30000	0	01
40	1	–	Bank/Switch Failed level1 (Enable/Disable)	3727	Bank/Switch Failed Level 1 (Enable/Disable) 0 = Disable 1 = Enable	1	0	01
41	10	Amp	Bank/Switch Failed level1	3728	Bank/Switch Failed Level 1	2000	10	01
42	100	Volts	Neutral Voltage Limit Level 1	3813	Neutral Voltage Limit Level 1	30000	1	01
43	1	–	Bank/Switch Status (Enable/Disable)	3731	Bank/Switch Status (Enable/Disable) 0 = Disable 1 = Enable	1	0	01
44	100	Amp	Bank Status Closed	3732	Bank Status Closed	10000	10	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (3 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value		Request Function
45	100	Amp	Bank Status Open	3733	Bank Status Open	10000	10	01
46	100	Volts	Close status Neutral Voltage Limit	3814	Close status Neutral Voltage Limit	3000	0	01
47	100	Volts	Open status Neutral Voltage Limit	3815	Open status Neutral Voltage Limit	3000	0	01
48	1	Sec	Time Delay (Bank/Switch Status)	3734	Time Delay (Bank/Switch Status)	300	10	01
49	1	–	Retry Operation (Enable/Disable)	3735	Retry Operation (Enable/Disable) 0 = Disable 1 = Enable	1	0	01
50	1	–	Programmable alarm relay	4718	Programmable alarm relay	0xffff	0	01
51	1	–	Operation Counter Preset in 1000s	4826	Operation Counter Preset in 1000s	999	0	01
52	1	–	Operation Counter Preset in 1s	4827	Operation Counter Preset in 1s	999	0	01
53	1	–	Daily Operation Counter Limit	4828	Daily Operation Counter Limit	99	2	01
54	1	–	Alarm Counter in 1000s	4833	Alarm limit counter MSB	15	0	01
55	1	–	Alarm Counter in 1s	4834	Alarm limit counter LSB	65535	0	01
56	1	–	Resettable Operation Counter (LSW Read/Reset)	5703	Resettable Operation Counter (LSW Read/Reset)	1	0	01
57	1	–	Resettable Operation Counter (MSW Read/Reset)	5704	Resettable Operation Counter (MSW Read/Reset)	1	0	01
58	–	Min	Scada Heartbeat Timeout	839	Scada Heartbeat Timeout	300	1	01
59	1	–	Scada Heartbeat Enable/Disable	838	Scada Heartbeat 0 = Disable 1 = Standard 2 = Direct	2	0	01
60	1	–	Bank Status Switch Detect Enable/Disable	3736	Bank Status Switch Detect Enable/Disable 0 = Disable 1 = Enable	1	0	01
61	1	–	Rms/Dft Selection	4847	Rms/Dft Selection	1	0	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (4 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
Data Logging							
62	1	min	Log Sample Period	8700	Log Sample Period	120 0	01
63	1	–	DataLog Mask	8701	DataLog Mask	255 0 (2047)	01
Harmonics Setup							
64	1	–	Voltage Harmonics Select(MSB)	5100	Voltage Harmonics Select (MSB)	65535 0	01
65	1	–	Voltage Harmonics Select(LSB)	5101	Voltage Harmonics Select (LSB)	65535 0	01
66	10	%	Voltage Threshold	5102	Voltage Threshold	300 0	01
67	1	sec	Harmonics Trigger Delay	5103	Harmonics Trigger Delay	300 1	01
Oscilloscope Setup							
68	1	–	OSC Number of Partition	8808	Number of Partition	16 1	01
69	1	–	OSC Pickup (MSB)	8803	OSC Pickup (MSB)	65535 0	01
70	1	–	OSC Pickup (LSB)	8804	OSC Pickup (LSB)	65535 0	01
71	1	–	OSC Dropout(MSB)	8805	OSC Dropout (MSB)	65535 0	01
72	1	–	OSC Dropout(LSB)	8806	OSC Dropout (LSB)	65535 1	01
73	1	%	OSC Post Trigger Delay	8807	Post Trigger Delay	95 5	01
74	1	–	OSC Samples Per Cycle	8813	Samples Per Cycle	2 0	01
75	1	–	Clear Oscilloscope Records	8812	Clear Oscilloscope Records	0	01
Sequence of Events Setup							
76	1	–	Soe OR Gate Pickup (MSB)	8900	SOE OR Gate Pickup (MSB)	65535 0	01
77	1	–	Soe OR Gate Pickup (LSB)	8901	SOE OR Gate Pickup (LSB)	65535 0	01
78	1	–	Soe OR Gate Dropout (MSB)	8902	SOE OR Gate Dropout (MSB)	65535 0	01
79	1	–	Soe OR Gate Dropout (LSB)	8903	SOE OR Gate Dropout (LSB)	65535 0	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (5 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value		Request Function
80	1	–	Soe AND Gate Pickup (MSB)	8904	SOE AND Gate Pickup (MSB)	65535	0	01
81	1	–	Soe AND Gate Pickup (LSB)	8905	SOE AND Gate Pickup (LSB)	65535	0	01
82	1	–	Soe AND Gate Dropout (MSB)	8906	SOE AND Gate Dropout (MSB)	65535	0	01
83	1	–	Soe AND Gate Dropout (LSB)	8907	SOE AND Gate Dropout (LSB)	65535	1	01
84	1	–	Soe Gate Config	8908	SOE Gate Config	1	0	01
85	1	–	Soe Clear Records	8909	SOE Clear Records	0		01
Current Harmonics Setup								
86	1	–	Current Harmonics Select(MSB)	5104	Current Harmonics Select (MSB)	65535	0	01
87	1	–	Current Harmonics Select(LSB)	5105	Current Harmonics Select (LSB)	65535	0	01
88	1	%	Current Threshold	5106	Current Threshold	100	0	01
Control Mode Selection Setup								
89	1	–	Control Mode Selection(Auto Control mode)	3546	Control Mode Selection (Auto Control mode)	2	0	01
VAr Control Setup								
90	1	%	Open Control Var (Auto Control mode)	3547	Open Control VAr (Auto Control mode)	100	-100	01
91	1	%	Close Control Var (Auto Control mode)	3548	Close Control VAr (Auto Control mode)	100	0	01
Current Control Setup								
92	1	A	Open Control Current (Auto Control mode)	3549	Open Control Current (Auto Control mode)	600	10	01
93	1	A	Close Control Current(Auto Control mode)	3540	Close Control Current (Auto Control mode)	600	10	01
94	1	KVAr	Capacitor Bank Size (three phase)	3746	Capacitor Bank Size (three phase)	4800	75	01
95	100	–	Phase A Current Multiplier	3740	Phase A Current Multiplier	50000	100	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (6 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
96	100	–	Phase B Current Multiplier	3773	Phase B Current Multiplier	50000 100	01
97	100	–	Phase C Current Multiplier	3774	Phase C Current Multiplier	50000 100	01
98	10	Degree	Current Phase Shift Compensation A	3745	Current Phase Shift Compensation A	3590 0	01
99	10	Degree	Current Phase Shift Compensation B	3776	Current Phase Shift Compensation B	3590 0	01
100	10	Degree	Current Phase Shift Compensation C	3777	Current Phase Shift Compensation C	3590 0	01
101	1	–	Dummy	3747	Future Use	1 0	01
Override Functions							
102	1	–	Override Mode	1141	Override Mode 0 = No Override 1 = Temperature Override 2 = Time Override	2 0	01
103	1	–	Override Time Mode Set Start Time Lower	1142	Override Time Mode Set Start Time Lower	65535 0	01
104	1	–	Override Time Mode Set Start Time Higher	1143	Override Time Mode Set Start Time Higher	65535 0	01
105	10	hrs	Override Time Mode Duration	1144	Override Time Mode Duration	240 0	01
106	1	–	Override Time Mode Operation	1145	Override Time Mode Operation 0 = Do Open 1 = Do Close	1 0	01
107	1	–	Override Time Mode Recurrence	1146	Override Time Mode Recurrence 0 = Daily 1 = Weekly	1 0	01
108	1	–	Override Time Mode Week day	1147	Override Time Mode Week day	0x7f 0	01
109	1	–	Override Time Mode Occurrence Count	1148	Override Time Mode Occurrence Count	10000 1	01
110	1	–	Override Time Mode Occurrence Mode	1152	Override Time Mode Occurrence Mode 0 = No End date 1 = End after 2 = Seasonal	2 0	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (7 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
111	1	–	Override Time Mode Set Start Time Lower S2	1017	Override Time Mode Set Start Time Lower S2	65535 0	01
112	1	–	Override Time Mode Set Start Time Higher S2	1018	Override Time Mode Set Start Time Higher S2	65535 0	01
113	1	–	Override Time Mode Operation S2	1019	Override Time Mode Operation S2 0 = Do Open 1 = Do Close	1 0	–
114	1	–	Override Time Mode Occurrence Count S2	1020	Override Time Mode Occurrence Count S2	10000 1	–
115	10	°F	Override Temp. Mode Limit Fahren. (Above Op)	1149	Above Operation Override Temperature Mode Limit in Fahrenheit (if writing) Note: Reading this point will return the temperature limit with no indication of the unit. Point 37 of object one indicates the temperature unit.	1850 -400	01
116	10	°C	Override Temp. Mode Limit Celsius (Above Op)	1153	Above Operation Override Temperature Mode Limit in Celsius (if writing) Note: Reading this point will return the temperature limit with no indication of the unit. Point 37 of object one indicates the temperature unit.	850 -400	01
117	1	–	Override Temperature Mode Above Op	1150	Override Temperature Mode Above Op	2 0	01
118	1	–	Override Temperature Mode Below Op	1151	Override Temperature Mode Below Op	2 0	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (8 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
119	10	°F	Override Temp. Mode Limit Fahren. (Below Op)	1155	Below Operation Override Temperature Mode Limit in Fahrenheit (if writing) Note: Reading this point will return the temperature limit with no indication of the unit. Point 37 of object one indicates the temperature unit.	1850 -400	01
120	10	°C	Override Temp. Mode Limit Celsius (Below Op)	1154	Below Operation Override Temperature Mode Limit in Celsius (if writing) Note: Reading this point will return the temperature limit with no indication of the unit. Point 37 of object one indicates the temperature unit.	850 -400	01
121	1	–	Enable/Disable External Temperature Sensor	1019	External Temperature sensor Enable/Disable 0 = Disable 1 = Enable	1 0	01
122	10	–	Calibrate External Temperature	4508	Temperature Calibration for External Temperature sensor	1850 -400 or 850 -400 based on the selected unit	01
123	10	–	Calibrate Internal Temperature	4508	Temperature Calibration for Internal Temperature sensor	1850 -400 or 850 -400 based on the selected unit	01
124	10	Volts	Set Delta Voltage	3741	Set Delta Voltage	200 5	01
125	10	–	Reset Delta Current	3748	Reset Delta Current	0	01
126	1	–	Save Comm Block CMD	3749	Save Comm Block CMD	1 0	01
AutoDaptive Settings							
127	1	–	Voltage Control Type	3551	Voltage Control Type 0 = Classic	0	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (9 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
128	1	–	Dummy	3552	Future use	1 0	01
129	10	Volts	Dummy	3553	Future use	1350 1000	01
130	10	–	Dummy	3554	Future use	20 10	01
131	1	Sec	Dummy	3555	Future use	3600 60	01
132	1	Sec	Dummy	3556	Future use	3600 60	01
133	10	Volts	Dummy	3760	Future use	1400 950	01
134	1	–	Dummy	3758	Future use	1 0	01
135	10	Degree	Neutral Current Phase Shift Compensation	3765	Neutral Current Phase Shift Compensation	3590 0	01
136	1	–	Substation Address	934	Substation Address	65519 0	01
137	1	–	Feeder Address	935	Feeder Address	65519 0	01
138	–	–	Minimum Current Threshold Enable	5107	Minimum Current Threshold Enable	1 0	01
139	10	A	Minimum Fundamental Current Threshold	5108	Minimum Fundamental Current Threshold	1500 0	01
140	10	Volts	CBEMA Normal Voltage	5200	CBEMA Normal Voltage	1300 1000	01
141	–	–	CBEMA Event1 Enable	5201	CBEMA Event 1 Enable	1 0	01
142	–	%	CBEMA Event1 Pickup	5202	CBEMA Event 1 Pickup	130 50	01
143	–	%	CBEMA Event1 Dropout	5203	CBEMA Event 1 Dropout	130 50	01
144	–	Cycles	CBEMA Event1 Duration	5204	CBEMA Event 1 Duration	60 1	01
145	–	–	CBEMA Event2 Enable	5205	CBEMA Event 2 Enable	1 0	01
146	–	%	CBEMA Event2 Pickup	5206	CBEMA Event 2 Pickup	130 50	01
147	–	%	CBEMA Event2 Dropout	5207	CBEMA Event 2 Dropout	130 50	01
148	–	Cycles	CBEMA Event2 Duration	5208	CBEMA Event 2 Duration	120 1	01
149	–	–	CBEMA Event3 Enable	5209	CBEMA Event 3 Enable	1 0	01
150	–	%	CBEMA Event3 Pickup	5210	CBEMA Event 3 Pickup	130 50	01
151	–	%	CBEMA Event3 Dropout	5211	CBEMA Event 3 Dropout	130 50	01

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (10 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
152	–	Cycles	CBEMA Event3 Duration	5212	CBEMA Event 3 Duration	60000 60	01
153	–	–	CBEMA Event4 Enable	5213	CBEMA Event 4 Enable	1 0	01
154	–	%	CBEMA Event4 Pickup	5214	CBEMA Event 4 Pickup	130 50	01
155	–	%	CBEMA Event4 Dropout	5215	CBEMA Event 4 Dropout	130 50	01
156	–	Cycles	CBEMA Event4 Duration	5216	CBEMA Event 4 Duration	60 1	01
157	–	–	Clear CBEMA Counters	5217	Clear CBEMA Counters	1	01
158	–	–	Switch Type	3766	Switch Type 0 = Solenoid 1 = Motor	1 0	01
159	–	–	Reset Delta Current	3748	Reset Delta Current	0	01
160	–	Sec	Average voltage period	3769	Average voltage period	60 5	01
161	–	–	Communication access security	2048	Communication access Security 0 = Disable 1 = Enable	1 0	–
162	–	Sec	Communication access timeout	2049	Communication access timeout	50000 15	–
163	10	Volts	Dummy	3557	Future use	1350 1000	–
164	10	Volts	Dummy	3558	Future use	50 0	–
165	10	–	Dummy	3559	Future use	100 2	–
166	1	Sec	Dummy	3560	Future use	1200 10	–
167	1	–	Dummy	3563	Future use	30 2	–
168	1	Sec	Dummy	3562	Future use	600 1	–
169	1	–	Dummy	3561	Future use	1 0	–
170	1	–	Dummy	3767	Future use	60 2	–
171	1	–	Alarm Contact Enable/Disable	3787	Alarm Contact Enable/Disable 0 = Disable 1 = Enable	1 0	–
172	1	–	Dummy	3564	Future use	365 1	–

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (11 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
173	1	–	Dummy	3565	Future use	4800 300	–
174	10	–	Dummy	3566	Future use	150 10	–
175	10	–	Dummy	3567	Future use	50 4	–
176	1	Min (write) /Sec (read)	Direct SCADA Heart beat	946	Direct SCADA Heart beat	300 0	–
177	1	–	Dummy	3795	Neutral Current Reference 0 – Phase A 1 – Phase B 2 – Phase C	2 0	–
178	1	ms	TX Delay	947	Tx Delay	50 0	–
179	1	–	Close Warning Delay Enable	3797	Close Warning Delay Enable 0 = Disable 1 = Enable Bit 0 = Enable in Auto Bit 1 = Enable in Remote Bit 2 = Enable in Manual Note: The warning delay should always be enabled in manual mode. The control automatically enables it otherwise.	7 0	–
180	1	–	Open Warning Delay Enable	3798	Open Warning Delay Enable 0 = Disable 1 = Enable Bit 0 = Enable in Auto Bit 1 = Enable in Remote Bit 2 = Enable in Manual Note: The warning delay should always be enabled in manual mode. The control automatically enables it otherwise.	7 0	–
181	1	V	Primary Nominal Voltage	3772	Primary Nominal Voltage	65535 1000	–

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (12 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
182	1	–	Control Input Selection	3775	Control Input Selection 0 = Phase 1 1 = Phase 2 2 = Phase 3 3 = Average Input 4 = Independent Phase Switching	4 1	–
183	1	amps	Phase Over Current Pickup Limit	3808	Phase Over Current Pickup Limit	20000 10	–
184	1	cycles	Phase Over Current Time delay	3809	Phase Over Current Time delay	8160 1	–
185	1	–	Input Terminal Assignment	3810	Input Terminal Assignment Terminal: 1 2 3 0 = A B C 1 = A C B 2 = B A C 3 = B C A 4 = C A B 5 = C B A	5 0	–
186	1	–	Clear Overcurrent Event Counters	5233	Clear Overcurrent Event Counters	1	–
187	1	–	High Energy Switch Enable/Disable	3820	High Energy Switch Enable/ Disable 0 = Disable 1 = Enable	1 0	–
188	1	–	Clear Peak Phase Overcurrent Parameters	5234	Clear Peak Phase Overcurrent Parameters	1	–
189	1	–	Switch Contact Type	3824	Switch Contact Type 0 = 52a 1 = 52b	1 0	–
190	1	–	Preset Bank Status Phase A	4986	Preset Bank Status Phase A 1 = Open 2 = Close	2 1	–
191	1	–	Preset Bank Status Phase B	4987	Preset Bank Status Phase B 1 = Open 2 = Close	2 1	–
192	1	–	Preset Bank Status Phase C	4988	Preset Bank Status Phase C 1 = Open 2 = Close	2 1	–

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (13 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
193	1	–	Operation Counter Configuration	3837	Operation Counter Configuration 0 = Open or Close 1 = Close Only	1 0	–
194	10	%	Neutral Overcurrent Pickup	3839	Neutral Overcurrent Pickup	2000 800	–
195	10	%	Neutral Undercurrent Pickup	3840	Neutral Undercurrent Pickup	1000 200	–
196	1	–	Voltage Loss Trip	3778	Voltage Loss Trip	1 0	–
197	1	sec	Minimum Time Between Operations	3841	Minimum Time Between Operations	3600 0	–
198	10	volts	Edit Overvoltage Limit (Auto Control mode)	3000	Edit Overvoltage Limit (Auto Control mode)	1400 950	–
199	10	volts	Edit Undervoltage Limit (Auto Control mode)	3001	Edit Undervoltage Limit (Auto Control mode)	1400 950	–
200	1	sec	Edit Close Def/Inv Time (Auto Control mode)	3002	Edit Close Def/Inv Time (Auto Control mode)	600 0	–
201	1	sec	Edit Open Def/Inv Time (Auto Control mode)	3003	Edit Open Def/Inv Time (Auto Control mode)	600 0	–
202	1	–	Edit Time Delay Selection (Auto Control mode)	3012	Edit Time Delay Selection (Auto Control mode)	1 0	–
203	1	–	Edit Basic Timer Type (Auto Control mode)	3013	Edit Basic Timer Type (Auto Control mode)	1 0	–
204	1	–	Edit Control Mode Limits (Option Select)	3004	Edit Control Mode Limits (Option Select)	7 0	–
205	10	volts	Edit Maximum Voltage Limit	3005	Edit Maximum Voltage Limit	1400 950	–
206	10	volts	Edit Minimum Voltage Limit	3006	Edit Minimum Voltage Limit	1400 950	–
207	1	sec	Edit Definite Time (Control Mode Limits)	3007	Edit Definite Time (Control Mode Limits)	60 0	–
208	1	–	Edit Remote Control Mode (Enable/Disable)	3008	Edit Remote Control Mode (Enable/Disable)	1 0	–
209	10	volts	Edit Remote Overvoltage Limit	3009	Edit Remote Overvoltage Limit	1400 950	–

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (14 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
210	10	volts	Edit Remote Undervoltage Limit	3010	Edit Remote Undervoltage Limit	1400 950	–
211	1	sec	Edit Def/Inv Time (Remote Control mode)	3011	Edit Def/Inv Time (Remote Control mode)	600 0	–
212	1	–	Edit Time Delay Selection (Remote Control mode)	3014	Edit Time Delay Selection (Remote Control mode)	1 0	–
213	1	–	Edit Basic Timer Type (Remote Control mode)	3015	Edit Basic Timer Type (Remote Control mode)	1 0	–
214	1	–	Edit Voltage Control Type	3021	Edit Voltage Control Type	2 0	–
215	1	–	Edit Control Mode Selection(Auto Control mode)	3016	Edit Control Mode Selection(Auto Control mode)	2 0	–
216	1	%	Edit Open Control Var (Auto Control mode)	3017	Edit Open Control Var (Auto Control mode)	100 -100	–
217	1	%	Edit Close Control Var (Auto Control mode)	3018	Edit Close Control Var (Auto Control mode)	100 0	–
218	–	A	Edit Open Control Current (Auto Control mode)	3019	Edit Open Control Current (Auto Control mode)	600 10	–
219	–	A	Edit Close Control Current(Auto Control mode)	3020	Edit Close Control Current(Auto Control mode)	600 10	–
220	1	–	Edit Profile Number	3524	Edit Profile Number	8 1	–
221	1	–	ScadaHB Profile Switch	3521	ScadaHB Profile Switch	36863 0	–
222	1	–	Edit Override Mode	1156	Edit Override Mode	2 0	–
223	1	–	Edit Override Time Mode Set Start Time Lower	1157	Edit Override Time Mode Set Start Time Lower	65535 0	–
224	1	–	Edit Override Time Mode Set Start Time Higher	1158	Edit Override Time Mode Set Start Time Higher	65535 0	–
225	10	Hrs	Edit Override Time Mode Duration	1159	Edit Override Time Mode Duration	240 0	–
226	1	–	Edit Override Time Mode Operation	1160	Edit Override Time Mode Operation	1 0	–

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (15 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
227	1	–	Edit Override Time Mode Recurrence	1161	Edit Override Time Mode Recurrence	1 0	–
228	1	–	Edit Override Time Mode Week day	1162	Edit Override Time Mode Week day	127 0	–
229	1	–	Edit Override Time Mode Occurrence Count	1163	Edit Override Time Mode Occurrence Count	10000 1	–
230	1	–	Edit Override Time Mode Occurrence Mode	1167	Edit Override Time Mode Occurrence Mode	1 0	–
231	10	°F	Edit Override Temp. Mode Limit Fahren. (Above Op)	1164	Edit Override Temp. Mode Limit Fahren. (Above Op)	1850 -40	–
232	10	°C	Edit Override Temp. Mode Limit Celsius (Above Op)	1168	Edit Override Temp. Mode Limit Celsius (Above Op)	850 -400	–
233	1	–	Edit Override Temperature Mode Above Op	1165	Edit Override Temperature Mode Above Op	2 0	–
234	1	–	Edit Override Temperature Mode Below Op	1166	Edit Override Temperature Mode Below Op	2 0	–
235	10	°F	Edit Override Temp. Mode Limit Fahren. (Below Op)	1170	Edit Override Temp. Mode Limit Fahren. (Below Op)	1850 -400	–
236	10	°C	Edit Override Temp. Mode Limit Celsius (Below Op)	1169	Edit Override Temp. Mode Limit Celsius (Below Op)	850 -400	–
237	10	V	Set Reverse Power Delta Voltage	3522	Set Reverse Power Delta Voltage	200 5	–
238	1	–	Voltage THD Trip and Lockout Enable	3842	Voltage THD Trip and Lockout Enable	1 0	–
239	1	%	Voltage THD Trip Pickup	3843	Voltage THD Trip Pickup	100 1	–
240	1	%	Voltage THD Lockout Reset	3844	Voltage THD Lockout Reset	100 1	–
241	1	sec	Voltage THD Trip Time Delay	3845	Voltage THD Trip Time Delay	3600 1	–
242	1	sec	Voltage THD Lockout Reset Delay	3846	Voltage THD Lockout Reset Delay	3600 1	–
243	1	–	Current THD Trip and Lockout Enable	3847	Current THD Trip and Lockout Enable	1 0	–
244	1	%	Current THD Trip Pickup	3848	Current THD Trip Pickup	100 1	–
245	1	%	Current THD Lockout Reset	3849	Current THD Lockout Reset	100 1	–

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (16 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
246	1	sec	Current THD Trip Time Delay	3850	Current THD Trip Time Delay	3600 1	–
247	1	sec	Current THD Lockout Reset Delay	3851	Current THD Lockout Reset Delay	3600 1	–
248	1	–	Maximum THD Lockout/Reset Operations	3852	Maximum THD Lockout/Reset Operations	5 1	–
249	1	min	Maximum Time for THD Lockout/Reset Operations	3853	Maximum Time for THD Lockout/Reset Operations	3600 1	–
250	1	KVAr	Leading VAr Alarm Limit	3856	Leading VAr Alarm Limit	-150 -4800	–
251	1	KVAr	Lagging VAr Alarm Limit	3857	Lagging VAr Alarm Limit	4800 150	–
252	1000	–	Leading PF Alarm Limit	3858	Leading PF Alarm Limit	-850 -990	–
253	1000	–	Lagging PF Alarm Limit	3859	Lagging PF Alarm Limit	980 800	–
254	1	Sec	VAr and PF Alarm Time Delay	3860	VAr and PF Alarm Time Delay	3600 0	–
255	1	A	Min. Current Threshold for Power Factor Alarms	3861	Min. Current Threshold for Power Factor Alarms	150 5	–
256	1	–	Programmable alarm relay MSB	4719	Programmable alarm relay MSB	65535 0	–
257	10	volts	VT correction Phase B	3854	VT correction Phase B	150 -150	–
258	10	volts	VT correction Phase C	3855	VT correction Phase C	150 -150	–
259	1	%	Delta V Offset Buffer	3862	Delta V Offset Buffer	100 0	–
260	1	–	Emergency Control/Switch Power	3863	Emergency Control/Switch Power	2 0	–
261	1	min	Emergency Voltage Loss Detection Time	3864	Emergency Voltage Loss Detection Time	60 3	–
262	1	–	Emergency mode Enable/Disable	3865	Emergency mode Enable/Disable	1 0	–
263	1	Volts	Emergency Voltage Loss Activate Level	3867	Emergency Voltage Loss Activate Level	115 85	–
264	1	Volts	Emergency Voltage Restore De-Activate Level	3868	Emergency Voltage Restore De-Activate Level	120 85	–
265	1	min	Emergency Voltage Restore Time Delay	3869	Emergency Voltage Restore Time Delay	60 1	–
266	1	–	Daily Operation Counter Configuration	3825	Daily Operation Counter Configuration	7 0	–

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (17 of 18)

16-Bit Analog Output Block/Status (Setpoints)

Object: 40/41 Variation = 02 for class 0 poll

Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value		Request Function
267	1	–	Time Override Method	3870	Time Override Method	1	0	–
268	1	–	Enhanced Ov Time Mode Set Start Time Lower	1219	Enhanced Ov Time Mode Set Start Time Lower	65535	0	–
269	1	–	Enhanced Ov Time Mode Set Start Time Higher	1220	Enhanced Ov Time Mode Set Start Time Higher	65535	0	–
270	10	Hrs	Enhanced Ov Time Mode Duration	1221	Enhanced Ov Time Mode Duration	240	0	–
271	1	–	Enhanced Ov Time Mode Operation	1222	Enhanced Ov Time Mode Operation	1	0	–
272	1	–	Enhanced Ov Time Mode Set End Time Lower	1223	Enhanced Ov Time Mode Set End Time Lower	65535	0	–
273	1	–	Enhanced Ov Time Mode Set End Time Higher	1224	Enhanced Ov Time Mode Set End Time Higher	65535	0	–
274	1	–	Edit Enhanced Ov Time Mode Set Start Time Lower	1225	Edit Enhanced Ov Time Mode Set Start Time Lower	65535	0	–
275	1	–	Edit Enhanced Ov Time Mode Set Start Time Higher	1226	Edit Enhanced Ov Time Mode Set Start Time Higher	65535	0	–
276	10	Hrs	Edit Enhanced Ov Time Mode Duration	1227	Edit Enhanced Ov Time Mode Duration	240	0	–
277	1	–	Edit Enhanced Ov Time Mode Operation	1228	Edit Enhanced Ov Time Mode Operation	1	0	–
278	1	–	Edit Enhanced Ov Time Mode Set End Time Lower	1229	Edit Enhanced Ov Time Mode Set End Time Lower	65535	0	–
279	1	–	Edit Enhanced Ov Time Mode Set End Time Higher	1230	Edit Enhanced Ov Time Mode Set End Time Higher	65535	0	–
280	1	–	Phase Angle Reference	3875	Phase Angle Reference	5	0	–
281	1	–	Change Active Profile	3519	Change Active Profile being used by control	8	1	–

■ **NOTE:** These points are read via: obj 40, var 02 (16 bit analog output status)
 These points are written via: obj 41, var 02 (16 bit analog output block)

Table 2 – 16-Bit Analog Output Block/Status (Setpoints) (18 of 18)

Control Relay Output Block (Direct Control Method)

Object: 12 (Write Only)

Data Point	Scale	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
0	1	N/A	Manual Close 1	7700	Remote Close (Remote CMD) Based on CROB selection	1 0	06
1	1	N/A	Manual Open 1	7701	Remote Open(Remote CMD) Based on CROB selection	1 0	06
2	1	N/A	Block Automatic Control via Comm	7702	Remote Operation (Remote CMD) Latch on = Enable = 1 Latch off = Disable = 0 Based on CROB selection	1 0	06
3	1	N/A	Reset Counter to Zero	–	Reset Resettable Operation counter	1	06
4	1	N/A	Manual Close/Open	–	Remote Close/Open (Remote CMD) Latch on = pulse on = close = (Remote Close) Latch off = pulse off = trip = (Remote Open) Based on CROB selection	1 0	06
5	1	N/A	Initiate Install mode via Comm	7703	Trigger Install mode (MOD668) (Based on CROB selection) Latch on = pulse on = close → triggers install mode	1 0	06
6	1	N/A	Reset NC Block	7704	Reset NC Block (Based on CROB Selection) Latch off = Pulse off = Trip	1 0	06
7	1	N/A	Reset NC Lockout	7705	Reset NC Lockout (Based on CROB Selection) Latch on = Pulse on = Close	1 0	06
The Following Points are applicable for M6283A Single Pole switching setting							
8	1	N/A	Manual Close All	7710	Remote Close All (Remote CMD) Based on CROB selection	1 0	06
9	1	N/A	Manual Open All	7711	Remote Open All (Remote CMD) Based on CROB selection	1 0	06
10	1	N/A	Manual Close A	7712	Remote Close A (Remote CMD) Based on CROB selection	1 0	06
11	1	N/A	Manual Open A	7713	Remote Open A (Remote CMD) Based on CROB selection	1 0	06

■ **NOTE:** These points are written via: obj 12, var 01 using the Direct operate command
These points are read via: obj 10, var 01

Table 3 – Control Relay Output Block (Direct Control Method) (1 of 2)

Control Relay Output Block (Direct Control Method)

Object: 12 (Write Only)

Data Point	Scale	Unit	Name	Modbus Cross Ref.	Description	Range Value	Request Function
12	1	N/A	Manual Close B	7714	Remote Close B (Remote CMD) Based on CROB selection	1 0	06
13	1	N/A	Manual Open B	7715	Remote Open B (Remote CMD) Based on CROB selection	1 0	06
14	1	N/A	Manual Close C	7716	Remote Close C (Remote CMD) Based on CROB selection	1 0	06
15	1	N/A	Manual Open C	7717	Remote Open C (Remote CMD) Based on CROB selection	1 0	06
16	1	N/A	Disable SCADA Test Mode	7718	Disable SCADA Test Mode	1 0	06
17	1	N/A	Reset THD Lockout	7706	Reset THD Lockout	1 0	06
18	1	N/A	Reset Emergency Voltage Loss	7719	Reset Emergency Voltage Loss	1 0	06
19	1	N/A	Reset Six Output configuration Count	7709	Reset Six Output configuration Count	1 0	06
20	1	N/A	Switch Profile1	7720	Switch Profile1	1 0	06
21	1	N/A	Switch Profile2	7721	Switch Profile2	1 0	06
22	1	N/A	Switch Profile3	7722	Switch Profile3	1 0	06
23	1	N/A	Switch Profile4	7723	Switch Profile4	1 0	06
24	1	N/A	Switch Profile5	7724	Switch Profile5	1 0	06
25	1	N/A	Switch Profile6	7725	Switch Profile6	1 0	06
26	1	N/A	Switch Profile7	7726	Switch Profile7	1 0	06
27	1	N/A	Switch Profile8	7727	Switch Profile8	1 0	06
28	1	N/A	Phase OC Latch Alarm Reset A	–	Reset OC Latch Phase A	1 0	–
29	1	N/A	Phase OC Latch Alarm Reset B	–	Reset OC Latch Phase B	1 0	–
30	1	N/A	Phase OC Latch Alarm Reset C	–	Reset OC Latch Phase C	1 0	–

■ **NOTE:** These points are written via: obj 12, var 01 using the Direct operate command
 These points are read via: obj 10, var 01

Table 3 – Control Relay Output Block (Direct Control Method) (2 of 2)

16-Bit Analog Inputs Object: 30 Variation = 02 for class 0 poll							
Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
0	10	V	Phase A Voltage	1701	Phase A Voltage	120 V based	10
1	10	KV	Primary Phase A Voltage	1702	Primary Phase A Voltage	–	2
2	10	V	Phase B Voltage	1703	Phase B Voltage	120 V based	10
3	10	KV	Primary Phase B Voltage	1704	Primary Phase B Voltage	–	10
4	10	V	Phase C Voltage	1705	Phase C Voltage	120 V based	10
5	10	KV	Primary Phase C Voltage	1706	Primary Phase C Voltage	–	10
6	100	Volts	Delta Voltage	1707	Delta Voltage	2 V based	50
7	1	A	Phase A Current	1708	Phase A Current	–	2
8	1	A	Phase B Current	1709	Phase B Current	–	10
9	1	A	Phase C Current	1710	Phase C Current	–	10
10	100	A	Neutral Current	1711	Neutral Current	–	2
11	10	Hz	Frequency	1712	Frequency	if 50 Hz: 45 to 55 Hz if 60 Hz: 55 to 65 Hz	2
12	1	%	Close Definite Timer	1713	Close Definite Timer	–	2
13	1	%	Open Definite Timer	1714	Open Definite Timer	–	2
14	1	%	Open Warning Timer	1715	Open Warning Timer	–	2
15	1	%	Close Warning Timer	1716	Close Warning Timer	–	2
16	1	%	Re-Close Timer	1717	Re-Close Timer	–	2
17	1U	–	Operation Counter (LSW)	1718	Operation Counter (LSW)	–	2
18	1U	–	Operation Counter (MSW)	1719	Operation Counter (MSW)	–	2
19	1	–	Daily Operation Counter	1720	Daily Operation Counter	–	2
20	10	%	Voltage Thd A	4200	Voltage Thd A	–	0
21-50	10	%	Voltage Harmonics A (2nd to 31st)	4201-4230	Voltage Harmonics A (2nd to 31st)	–	0
51	10	%	Current Thd A	4231	Current Thd A	–	0

Table 4 – 16-Bit Analog Inputs (1 of 13)

16-Bit Analog Inputs Object: 30 Variation = 02 for class 0 poll							
Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
52-81	10	%	Current Harmonics A X (2nd to 31st)	4232-4261	Current Harmonics A (2nd to 31st)	—	0
82	10	%	Voltage Thd B	4262	Voltage Thd B	—	0
83-112	10	%	Voltage Harmonics B X (2nd to 31st)	4263-4292	Voltage Harmonics B (2nd to 31st)	—	0
113	10	%	Current Thd B	4293	Current Thd B	—	0
114-143	10	%	Current Harmonics B X (2nd to 31st)	4294-4323	Current Harmonics B (2nd to 31st)	—	0
144	10	%	Voltage Thd C	4324	Voltage Thd C	—	0
145-174	10	%	Voltage Harmonics C X (2nd to 31st)	4325-4354	Voltage Harmonics C (2nd to 31st)	—	0
175	10	%	Current Thd C	4355	Current Thd C	—	0
176-205	10	%	Current Harmonics C X (2nd to 31st)	4356-4385	Current Harmonics C (2nd to 31st)	—	0
206	1000	—	Power Factor	1726	Power Factor (-) = Lead (+) = Lag	—	50
207	—	—	Primary VA	1731	Primary VA	—	2
208	—	—	Primary VA Unit/Scale	1732	Primary VA Unit/Scale 0 = VA (scale factor 10) 1 = KVA (scale factor 10) 2 = MVA (scale factor 100)	—	2
209	—	—	Primary Watts	1727	Primary Watts	—	2
210	—	—	Primary Watts Unit/Scale	1728	Primary Watts Unit/Scale 0 = Watts (scale factor 10) 1 = KW (scale factor 10) 2 = MW (scale factor 100)	—	2
211	—	—	Primary VAR	1729	Primary VAR	—	2
212	—	—	Primary VAR Unit/Scale	1730	Primary VAR Unit/Scale 0 = VARs (scale factor 10) 1 = KVAR (scale factor 10) 2 = MVAR (scale factor 100)	—	2
213	10	V	Dummy	3762	Future use	—	100
214	10	V	Dummy	3763	Future use	—	100
215	1	Sec	Dummy	1802	Future use	—	100
216	1	Sec	Dummy	1803	Future use	—	100
217	10	V	Average Voltage	1819	Average Voltage	—	100

Table 4 – 16-Bit Analog Inputs (2 of 13)

16-Bit Analog Inputs Object: 30 Variation = 02 for class 0 poll							
Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
218	10	V	Poll Voltage	1816	Poll Voltage	–	20
219	10	V	Average Voltage of (A B C)	1701	Average Voltage of (A B C)	120 V based	10
220	10	A	Average Current of (A B C)	1701	Average Current of (A B C)	120 V based	10
221	1	Min	Scada Heartbeat Timeout	839	Scada Heartbeat Timeout	–	100
222	1	–	SCADA Heartbeat Enable/Disable	838	Scada Heartbeat Enable/Disable 0 = Disable 1 = Standard 2 = Direct	0-2	100
223	1	–	Band Center Selection	3753	Band Center Selection	–	100
224	10	V	Fixed Band Center	3754	Fixed Band Center	–	100
225	10	V	Set Delta Voltage	3741	Set Delta Voltage	–	100
226	1	Sec	Average Voltage Period	3769	Average Voltage Period	–	100
227	10	–	Temperature	9000	Temperature	–	100
228	1	Sec	Direct SCADA Heart beat Timer (Sec)	946	Direct SCADA Heart beat Timer (Sec)	–	1000
229	1	–	CBEMA Event Status A	1733	CBEMA Event Status A Bit 0 = Event 1 Bit 1 = Event 2 Bit 2 = Event 3 Bit 3 = Event 4	0-15	1
230	1	–	CBEMA Event1 Counter A	1734	CBEMA Event 1 Counter A	0 10000	50
231	1	–	CBEMA Event2 Counter A	1735	CBEMA Event 2 Counter A	0 10000	50
232	1	–	CBEMA Event3 Counter A	1736	CBEMA Event 3 Counter A	0 10000	50
233	1	–	CBEMA Event4 Counter A	1737	CBEMA Event 4 Counter A	0 10000	50
234	1	–	CBEMA Event Status B	1738	CBEMA Event Status B Bit 0 = Event 1 Bit 1 = Event 2 Bit 2 = Event 3 Bit 3 = Event 4	0-15	1

Table 4 – 16-Bit Analog Inputs (3 of 13)

16-Bit Analog Inputs
Object: 30 Variation = 02 for class 0 poll

Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
235	1	–	CBEMA Event1 Counter B	1739	CBEMA Event 1 Counter B	0 10000	50
236	1	–	CBEMA Event2 Counter B	1740	CBEMA Event 2 Counter B	0 10000	50
237	1	–	CBEMA Event3 Counter B	1741	CBEMA Event 3 Counter B	0 10000	50
238	1	–	CBEMA Event4 Counter B	1742	CBEMA Event 4 Counter B	0 10000	50
239	1	–	CBEMA Event Status C	1743	CBEMA Event Status C Bit 0 = Event 1 Bit 1 = Event 2 Bit 2 = Event 3 Bit 3 = Event 4	0-15	1
240	1	–	CBEMA Event1 Counter C	1744	CBEMA Event 1 Counter C	0 10000	50
241	1	–	CBEMA Event2 Counter C	1745	CBEMA Event 2 Counter C	0 10000	50
242	1	–	CBEMA Event3 Counter C	1746	CBEMA Event 3 Counter C	0 10000	50
243	1	–	CBEMA Event4 Counter C	1747	CBEMA Event 4 Counter C	0 10000	50
244	1	Cycles	CBEMA1 Violation Duration A	1804	CBEMA 1 Violation Duration A	0 65535	0
245	1	Cycles	CBEMA2 Violation Duration A	1805	CBEMA 2 Violation Duration A	0 65535	0
246	1	Cycles	CBEMA3 Violation Duration A	1806	CBEMA 3 Violation Duration A	0 65535	0
247	1	Cycles	CBEMA4 Violation Duration A	1807	CBEMA 4 Violation Duration A	0 65535	0
248	1	Cycles	CBEMA1 Violation Duration B	1808	CBEMA 1 Violation Duration B	0 65535	0
249	1	Cycles	CBEMA2 Violation Duration B	1809	CBEMA 2 Violation Duration B	0 65535	0
250	1	Cycles	CBEMA3 Violation Duration B	1810	CBEMA 3 Violation Duration B	0 65535	0
251	1	Cycles	CBEMA4 Violation Duration B	1811	CBEMA 4 Violation Duration B	0 65535	0

Table 4 – 16-Bit Analog Inputs (4 of 13)

16-Bit Analog Inputs Object: 30 Variation = 02 for class 0 poll							
Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
252	1	Cycles	CBEMA1 Violation Duration C	1812	CBEMA 1 Violation Duration C	0 65535	0
253	1	Cycles	CBEMA2 Violation Duration C	1813	CBEMA 2 Violation Duration C	0 65535	0
254	1	Cycles	CBEMA3 Violation Duration C	1814	CBEMA 3 Violation Duration C	0 65535	0
255	1	Cycles	CBEMA4 Violation Duration C	1815	CBEMA 4 Violation Duration C	0 65535	0
256	1	A	Phase A Over Current Average	1748	Phase A Over Current Average	–	50
257	1	A	Phase A Over Current Max	1749	Phase A Over Current Max	–	50
258	1	A	Phase B Over Current Average	1750	Phase B Over Current Average	–	50
259	1	A	Phase B Over Current Max	1751	Phase B Over Current Max	–	50
260	1	A	Phase C Over Current Average	1752	Phase C Over Current Average	–	50
261	1	A	Phase C Over Current Max	1753	Phase C Over Current Max	–	50
262	1	–	Phase OC Event Counter A	1756	Phase OC Event Counter A	–	50
263	1	–	Phase OC Event Counter B	1757	Phase OC Event Counter B	–	50
264	1	–	Phase OC Event Counter C	1758	Phase OC Event Counter C	–	50
The 265 - 312 points are applicable for M-6283A Single Pole switching setting							
265	1	%	Close Definite Timer A	1500	Close Definite Timer A	–	2
266	1	%	Close Definite Timer B	1501	Close Definite Timer B	–	2
267	1	%	Close Definite Timer C	1502	Close Definite Timer C	–	2
268	1	%	Open Definite Timer A	1503	Open Definite Timer A	–	2
269	1	%	Open Definite Timer B	1504	Open Definite Timer B	–	2
270	1	%	Open Definite Timer C	1505	Open Definite Timer C	–	2
271	1	%	Open Warning Timer A	1506	Open Warning Timer A	–	2
272	1	%	Open Warning Timer B	1507	Open Warning Timer B	–	2

Table 4 – 16-Bit Analog Inputs (5 of 13)

16-Bit Analog Inputs
Object: 30 Variation = 02 for class 0 poll

Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
273	1	%	Open Warning Timer C	1508	Open Warning Timer C	–	2
274	1	%	Close Warning Timer A	1509	Close Warning Timer A	–	2
275	1	%	Close Warning Timer B	1510	Close Warning Timer B	–	2
276	1	%	Close Warning Timer C	1511	Close Warning Timer C	–	2
277	1	%	Re-Close Timer A	1512	Re-Close Timer A	–	2
278	1	%	Re-Close Timer B	1513	Re-Close Timer B	–	2
279	1	%	Re-Close Timer C	1514	Re-Close Timer C	–	2
280	1	–	Operation Counter (LSW) A	1515	Operation Counter (LSW) A	–	2
281	1	–	Operation Counter (MSW) A	1516	Operation Counter (MSW) A	–	2
282	1	–	Operation Counter (LSW) B	1517	Operation Counter (LSW) B	–	2
283	1	–	Operation Counter (MSW) B	1518	Operation Counter (MSW) B	–	2
284	1	–	Operation Counter (LSW) C	1519	Operation Counter (LSW) C	–	2
285	1	–	Operation Counter (MSW) C	1520	Operation Counter (MSW) C	–	2
286	1	–	Daily Operation Counter A	1521	Daily Operation Counter A	–	2
287	1	–	Daily Operation Counter B	1522	Daily Operation Counter B	–	2
288	1	–	Daily Operation Counter C	1523	Daily Operation Counter C	–	2
289	1000	–	Power Factor A	1536	Power Factor A (-) = Lead (+) = Lag	–	50
290	1	–	Primary VA A	1541	Primary VA A	–	2
291	1	–	Primary VA Unit/ Scale A	1542	Primary VA Unit/Scale A 0 = VA (scale factor 10) 1 = KVA (scale factor 10) 2 = MVA (scale factor 100)	–	2
292	1	–	Primary Watts A	1537	Primary Watts A	–	2

Table 4 – 16-Bit Analog Inputs (6 of 13)

16-Bit Analog Inputs
Object: 30 Variation = 02 for class 0 poll

Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
293	1	–	Primary Watts Unit/ Scale A	1538	Primary Watts Unit/ Scale A 0 = Watts (scale factor 10) 1 = KW (scale factor 10) 2 = MW (scale factor 100)	–	2
294	1	–	Primary VAr A	1539	Primary VAr A	–	2
295	1	–	Primary VAr Unit/ Scale A	1540	Primary VAr Unit/Scale A 0 = VAr (scale factor 10) 1 = KVA (scale factor 10) 2 = MVA (scale factor 100)	–	2
296	1000	–	Power Factor B	1543	Power Factor B (-) = Lead (+) = Lag	–	50
297	1	–	Primary VA B	1548	Primary VA B	–	2
298	1	–	Primary VA Unit/Scale B	1549	Primary VA Unit/Scale B 0 = VA (scale factor 10) 1 = KVA (scale factor 10) 2 = MVA (scale factor 100)	–	2
299	1	–	Primary Watts B	1544	Primary Watts B	–	2
300	1	–	Primary Watts Unit/ Scale B	1545	Primary Watts Unit/ Scale B 0 = Watts (scale factor 10) 1 = KW (scale factor 10) 2 = MW (scale factor 100)	–	2
301	1	–	Primary VAr B	1546	Primary VAr B	–	2
302	1	–	Primary VAr Unit/Scale B	1547	Primary VAr Unit/Scale B 0 = VAr (scale factor 10) 1 = KVA (scale factor 10) 2 = MVA (scale factor 100)	–	50
303	1000	–	Power Factor C	1550	Power Factor C (-) = Lead (+) = Lag	–	50
304	1	–	Primary VA C	1555	Primary VA C	–	2
305	1	–	Primary VA Unit/Scale C	1556	Primary VA Unit/Scale C 0 = VA (scale factor 10) 1 = KVA (scale factor 10) 2 = MVA (scale factor 100)	–	2
306	1	–	Primary Watts C	1551	Primary Watts C	–	2

Table 4 – 16-Bit Analog Inputs (7 of 13)

16-Bit Analog Inputs
Object: 30 Variation = 02 for class 0 poll

Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
307	1	–	Primary Watts Unit/ Scale C	1552	Primary Watts Unit/ Scale C 0 = Watts (scale factor 10) 1 = KW (scale factor 10) 2 = MW (scale factor 100)	–	2
308	1	–	Primary VAr C	1553	Primary VAr C	–	2
309	1	–	Primary VAr Unit/Scale C	1554	Primary VAr Unit/Scale C 0 = VARs (scale factor 10) 1 = KVAR (scale factor 10) 2 = MVAR (scale factor 100)	–	2
310	100	Volts	VoltsDelta Voltage Phase A	1759	Delta Voltage Phase A	2 V Based	50
311	100	Volts	VoltsDelta Voltage Phase B	1760	Delta Voltage Phase B	2 V Based	50
312	100	Volts	VoltsDelta Voltage Phase C	1761	Delta Voltage Phase C	2 V Based	50
313	1000	KV	KVPrimary Phase A Voltage in 1/1000th KV	1560	Primary Phase A Voltage in 1/1000th KV	–	10
314	1000	KV	KVPrimary Phase B Voltage in 1/1000th KV	1561	Primary Phase B Voltage in 1/1000th KV	–	10
315	1000	KV	KVPrimary Phase C Voltage in 1/1000th KV	1562	Primary Phase C Voltage in 1/1000th KV	–	10
316	10	A	APhase A Current in 1/10th A	1563	Phase A Current in 1/10th A	–	10
317	10	A	APhase B Current in 1/10th A	1554	Phase B Current in 1/10th A	–	10
318	10	A	APhase C Current in 1/10th A	1565	Phase C Current in 1/10th A	–	10
319	1000	MVA	Primary VA in 1/1000th MVA	1568	Primary VA in 1/1000th MVA	–	10
320	1000	MW	Primary Watts in 1/1000th MW	1566	Primary Watts in 1/1000th MW	–	10
321	1000	MVAr	Primary VAr in 1/1000th MVAr	1567	Primary VAr in 1/1000th MVAr	–	10
322	1000	MVA	Primary VA A in 1/1000th MVA	1571	Primary VA A in 1/1000th MVA	–	10
323	1000	MW	Primary Watts A in 1/1000th MW	1569	Primary Watts A in 1/1000th MW	–	10

Table 4 – 16-Bit Analog Inputs (8 of 13)

16-Bit Analog Inputs Object: 30 Variation = 02 for class 0 poll							
Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
324	1000	MVAr	Primary VAr A in 1/1000th MVAr	1570	Primary VAr A in 1/1000th MVAr	–	10
325	1000	MVA	Primary VA B in 1/1000th MVA	1574	Primary VA B in 1/1000th MVA	–	10
326	1000	MW	Primary Watts B in 1/1000th MW	1572	Primary Watts B in 1/1000th MW	–	10
327	1000	MVAr	Primary VAr B in 1/1000th MVAr	1573	Primary VAr B in 1/1000th MVAr	–	10
328	1000	MVA	Primary VA C in 1/1000th MVA	1577	Primary VA C in 1/1000th MVA	–	10
329	1000	MW	Primary Watts C in 1/1000th MW	1575	Primary Watts C in 1/1000th MW	–	10
330	1000	MVAr	Primary VAr C in 1/1000th MVAr	1576	Primary VAr C in 1/1000th MVAr	–	10
331	1	–	Product ID	700	Product ID	–	2
332	100	–	Software Version Number (Major)	703	Software Version Number (Major)	–	2
333	1	–	Software Version Number (Minor)	704	Software Version Number (Minor)	–	2
334	1	A	APeak Phase OC A	1766	Peak Phase OC A	–	10
335	1	–	Peak Phase OC Time A (LSB)	1767	Peak Phase OC Time A (LSB)	–	10
336	1	–	Peak Phase OC Time A (MSB)	1768	Peak Phase OC Time A (MSB)	–	10
337	1	A	APeak Phase OC B	1769	Peak Phase OC B	–	10
338	1	–	Peak Phase OC Time B (LSB)	1770	Peak Phase OC Time B (LSB)	–	10
339	1	–	Peak Phase OC Time B (MSB)	1771	Peak Phase OC Time B (MSB)	–	10
340	1	A	APeak Phase OC C	1772	Peak Phase OC C	–	10
341	1	–	Peak Phase OC Time C (LSB)	1773	Peak Phase OC Time C (LSB)	–	10
342	1	–	Peak Phase OC Time C (MSB)	1774	Peak Phase OC Time C (MSB)	–	10
343	10	Degree	Neutral Current Phase Angle	1579	Neutral Current Phase Angle	–	10

Table 4 – 16-Bit Analog Inputs (9 of 13)

16-Bit Analog Inputs
Object: 30 Variation = 02 for class 0 poll

Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
344	10	volt	Line Voltage AB	1763	Line Voltage AB	—	10
345	10	volt	Line Voltage BC	1764	Line Voltage BC	—	10
346	10	volt	Line Voltage AC	1765	Line Voltage AC	—	10
347	10	volt	Fundamental Voltage A	4390	Fundamental Voltage A	—	10
348	10	volt	Fundamental Voltage B	4391	Fundamental Voltage B	—	10
349	10	volt	Fundamental Voltage C	4392	Fundamental Voltage C	—	10
350	1	A	Fundamental Current A	4393	Fundamental Current A	—	10
351	1	A	Fundamental Current B	4394	Fundamental Current B	—	10
352	1	A	Fundamental Current C	4365	Fundamental Current C	—	10
353	10	volt	Voltage with Expected Delta Voltage A	1775	Voltage with Expected Delta Voltage A	—	10
354	10	volt	Voltage with Expected Delta Voltage B	1776	Voltage with Expected Delta Voltage B	—	10
355	10	volt	Voltage with Expected Delta Voltage C	1777	Voltage with Expected Delta Voltage C	—	10
356	10	volt	Control Voltage with Expected Delta Voltage	1778	Control Voltage with Expected Delta Voltage	—	10
357	10	KVA	Primary VA in 1/10th KVA	1612	Primary VA in 1/10th KVA	—	10
358	10	KW	Primary Watts in 1/10th KW	1610	Primary Watts in 1/10th KW	—	10
359	10	KVAr	Primary VAr in 1/10th KVAr	1611	Primary VAr in 1/10th KVAr	—	10
360	10	KVA	Primary VA A in 1/10th KVA	1615	Primary VA A in 1/10th KVA	—	10
361	10	KW	Primary Watts A in 1/10th KW	1613	Primary Watts A in 1/10th KW	—	10
362	10	KVAr	Primary VAr A in 1/10th KVAr	1614	Primary VAr A in 1/10th KVAr	—	10
363	10	KVA	Primary VA B in 1/10th KVA	1618	Primary VA B in 1/10th KVA	—	10
364	10	KW	Primary Watts B in 1/10th KW	1616	Primary Watts B in 1/10th KW	—	10

Table 4 – 16-Bit Analog Inputs (10 of 13)

16-Bit Analog Inputs Object: 30 Variation = 02 for class 0 poll							
Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
365	10	KVAr	Primary VAr B in 1/10th KVAr	1617	Primary VAr B in 1/10th KVAr	–	10
366	10	KVA	Primary VA C in 1/10th KVA	1621	Primary VA C in 1/10th KVA	–	10
367	10	KW	Primary Watts C in 1/10th KW	1619	Primary Watts C in 1/10th KW	–	10
368	10	KVAr	Primary VAr C in 1/10th KVAr	1620	Primary VAr C in 1/10th KVAr	–	10
369	1	–	Setting Change tracker	1622	Setting Change tracker	–	10
370	1	–	DNP configuration change tracker	1623	DNP configuration change tracker	–	10
371	1	sec	Close Definite Timer (Sec)	1630	Close Definite Timer (Sec)	0 65535	100
372	1	sec	Close Definite Timer Phase A (Sec)	1631	Close Definite Timer Phase A (Sec)	0 65535	100
373	1	sec	Close Definite Timer Phase B (Sec)	1632	Close Definite Timer Phase B (Sec)	0 65535	100
374	1	sec	Close Definite Timer Phase C (Sec)	1633	Close Definite Timer Phase C (Sec)	0 65535	100
375	1	sec	Open Definite Timer (Sec)	1634	Open Definite Timer (Sec)	0 65535	100
376	1	sec	Open Definite Timer Phase A (Sec)	1635	Open Definite Timer Phase A (Sec)	0 65535	100
377	1	sec	Open Definite Timer Phase B (Sec)	1636	Open Definite Timer Phase B (Sec)	0 65535	100
378	1	sec	Open Definite Timer Phase C (Sec)	1637	Open Definite Timer Phase C (Sec)	0 65535	100
379	1	sec	Open Warning Timer (Sec)	1638	Open Warning Timer (Sec)	0 65535	100
380	1	sec	Open Warning Timer Phase A (Sec)	1639	Open Warning Timer Phase A (Sec)	0 65535	100
381	1	sec	Open Warning Timer Phase B (Sec)	1640	Open Warning Timer Phase B (Sec)	0 65535	100
382	1	sec	Open Warning Timer Phase C (Sec)	1641	Open Warning Timer Phase C (Sec)	0 65535	100
383	1	sec	Close Warning Timer (Sec)	1642	Close Warning Timer (Sec)	0 65535	100

Table 4 – 16-Bit Analog Inputs (11 of 13)

16-Bit Analog Inputs
Object: 30 Variation = 02 for class 0 poll

Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
384	1	sec	Close Warning Timer Phase A (Sec)	1643	Close Warning Timer Phase A (Sec)	0 65535	100
385	1	sec	Close Warning Timer Phase B (Sec)	1644	Close Warning Timer Phase B (Sec)	0 65535	100
386	1	sec	Close Warning Timer Phase C (Sec)	1645	Close Warning Timer Phase C (Sec)	0 65535	100
387	1	sec	Re-Close Timer (Sec)	1646	Re-Close Timer (Sec)	0 65535	100
388	1	sec	Re-Close Timer Phase A (Sec)	1647	Re-Close Timer Phase A (Sec)	0 65535	100
389	1	sec	Re-Close Timer Phase B (Sec)	1648	Re-Close Timer Phase B (Sec)	0 65535	100
390	1	sec	Re-Close Timer Phase C (Sec)	1649	Re-Close Timer Phase C (Sec)	0 65535	100
391	1	Degrees	IA Angle Phase A Current	1860	IA Angle Phase A Current	-180 180	100
392	1	Degrees	IB Angle Phase B Current	1861	IB Angle Phase B Current	-180 180	100
393	1	Degrees	IC Angle Phase C Current	1862	IC Angle Phase C Current	-180 180	100
394	1	Degrees	VA Angle Phase A Voltage	1863	VA Angle Phase A Voltage	-180 180	100
395	1	Degrees	VB Angle Phase B Voltage	1864	VB Angle Phase B Voltage	-180 180	100
396	1	Degrees	VC Angle Phase C Voltage	1865	VC Angle Phase C Voltage	-180 180	100
397	1	Degrees	IN Neutral Current Angle	1866	IN Angle Neutral Current	-180 180	100
398	10	KV	Primary Line Voltage AB	1867	Primary Line Voltage AB Sensor 10 V / 20 V (Scale factor 1000) Sensor 120 V (Scale factor 10)	0 65535	10
399	10	KV	Primary Line Voltage BC	1868	Primary Line Voltage BC Sensor 10 V / 20 V (Scale factor 1000) Sensor 120 V (Scale factor 10)	0 65535	10

Table 4 – 16-Bit Analog Inputs (12 of 13)

16-Bit Analog Inputs Object: 30 Variation = 02 for class 0 poll							
Data POINT	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
400	10	KV	Primary Line Voltage AC	1869	Primary Line Voltage AC Sensor 10 V / 20 V (Scale factor 1000) Sensor 120 V (Scale factor 10)	0 65535	10
401	—	—	Active Profile	3519	Active Profile Control is using	—	2

Table 4 – 16-Bit Analog Inputs (13 of 13)

Binary Counters Object: 20 Variation = 01 for class 0 poll							
Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
0	1	N/A	Operation Counters	1718, 1719	Operation Counters	999999 0	10
1	1	N/A	Resettable Operation Counters	–	Resettable Operation Counters	999999 0	10
2	1	N/A	Close Operation Counters	–	Close Operation Counters	500000 0	10
3	1	N/A	Open Operation Counters	–	Open Operation Counters	500000 0	10
4	1	N/A	Daily Operation Counters	1720	Daily Operation Counters	99 0	10
5	1	N/A	CBEMA Event 1 Counter A	1734	CBEMA Event1 Counter A	10000 0	10
6	1	N/A	CBEMA Event 2 Counter A	1735	CBEMA Event2 Counter A	10000 0	10
7	1	N/A	CBEMA Event 3 Counter A	1736	CBEMA Event3 Counter A	10000 0	10
8	1	N/A	CBEMA Event 4 Counter A	1737	CBEMA Event4 Counter A	10000 0	10
9	1	N/A	CBEMA Event 1 Counter B	1739	CBEMA Event1 Counter B	10000 0	10
10	1	N/A	CBEMA Event 2 Counter B	1740	CBEMA Event2 Counter B	10000 0	10
11	1	N/A	CBEMA Event 3 Counter B	1741	CBEMA Event3 Counter B	10000 0	10
12	1	N/A	CBEMA Event 4 Counter B	1742	CBEMA Event4 Counter B	10000 0	10
13	1	N/A	CBEMA Event 1 Counter C	1744	CBEMA Event1 Counter C	10000 0	10
14	1	N/A	CBEMA Event 2 Counter C	1745	CBEMA Event2 Counter C	10000 0	10
15	1	N/A	CBEMA Event 3 Counter C	1746	CBEMA Event3 Counter C	10000 0	10
16	1	N/A	CBEMA Event 4 Counter C	1747	CBEMA Event4 Counter C	10000 0	10
17	1	N/A	Phase OC Event Counter A	1756	Phase OC Event Counter A	10000 0	10

Table 5 – Binary Counters (1 of 2)

Binary Counters Object: 20 Variation = 01 for class 0 poll							
Data Point	Scale N/A = Not used	Unit	Name	Modbus Cross Ref.	Description	Range Value	Deadband
18	1	N/A	Phase OC Event Counter B	1757	Phase OC Event Counter B	10000 0	10
19	1	N/A	Phase OC Event Counter C	1758	Phase OC Event Counter C	10000 0	10
20	1	N/A	Operation Counters A	1515, 1516	Operation Counters A	999999 0	10
21	1	N/A	Operation Counters B	1517, 1518	Operation Counters B	999999 0	10
22	1	N/A	Operation Counters C	1519, 1520	Operation Counters C	999999 0	10
23	1	N/A	Resettable Operation Counters A	–	Resettable Operation Counters A	999999 0	10
24	1	N/A	Resettable Operation Counters B	–	Resettable Operation Counters B	999999 0	10
25	1	N/A	Resettable Operation Counters C	–	Resettable Operation Counters C	999999 0	10
26	1	N/A	Close Operation Counters A	–	Close Operation Counters A	500000 0	10
27	1	N/A	Close Operation Counters B	–	Close Operation Counters B	500000 0	10
28	1	N/A	Close Operation Counters C	–	Close Operation Counters C	500000 0	10
29	1	N/A	Open Operation Counters A	–	Open Operation Counters A	500000 0	10
30	1	N/A	Open Operation Counters B	–	Open Operation Counters B	500000 0	10
31	1	N/A	Open Operation Counters C	–	Open Operation Counters C	500000 0	10
32	1	N/A	Daily Operation Counters A	1521	Daily Operation Counters A	99 0	10
33	1	N/A	Daily Operation Counters B	1522	Daily Operation Counters B	99 0	10
34	1	N/A	Daily Operation Counters C	1523	Daily Operation Counters C	99 0	10

Table 5 – Binary Counters (2 of 2)

DNP V3.0 DEVICE PROFILE DOCUMENT					
Vendor Name: Beckwith Electric Device Name: Digital Capacitor Bank Control					
Highest DNP Level Supported: For Requests: Level 2 For Responses: Level 2			Device Function: Master x 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):					
Maximum Data Link Frame Size (octets): Transmitted: 292 Received 292			Maximum Application Fragment Size (octets): Transmitted: 1536 Received 512		
Maximum Data Link Re-tries: None x Fixed at 3 Configurable			Maximum Application Layer Re-tries: x None Configurable		
Requires Data Link Layer Confirmation: x Never Always Sometimes Configurable					
Requires Application Layer Confirmation: x Never Always When reporting Event Data (Slave devices only) When sending multi-fragment responses (Slave devices only) Sometimes Configurable					
Timeouts while waiting for:					
Data Link Confirm:	None	x Fixed at 2 Sec	Variable	Configurable	
Complete Appl. Fragment:	x None	Fixed at _____	Variable	Configurable	
Application Confirm:	None	x Fixed at 10 Sec	Variable	Configurable	
Complete Appl. Response:	x None	Fixed at _____	Variable	Configurable	
Sends/Executes Control Operations:					
WRITE Binary Outputs	x Never	Always	Sometimes	Configurable	
SELECT/OPERATE	Never	x Always	Sometimes	Configurable	
DIRECT OPERATE	Never	x Always	Sometimes	Configurable	
DIRECT OPERATE – NO ACK	Never	x Always	Sometimes	Configurable	
Count > 1	x Never	Always	Sometimes	Configurable	
Pulse On	Never	Always	Sometimes	x Configurable	
Pulse Off	Never	Always	Sometimes	x Configurable	
Latch On	Never	Always	Sometimes	x Configurable	
Latch Off	Never	Always	Sometimes	x Configurable	
Trip	Never	Always	Sometimes	x Configurable	
Close	Never	Always	Sometimes	x Configurable	
Queue	x Never	Always	Sometimes	Configurable	
Clear Queue	x Never	Always	Sometimes	Configurable	
NOTE: The Pulse On & Pulse Off commands works the same way as Latch On/Off and Trip/Close. The command does not depend on Pulse ON & OFF time.					

Table 6 – Device Profile (1 of 2)

DNP V3.0 DEVICE PROFILE DOCUMENT			
Vendor Name: Beckwith Electric Device Name: Digital Capacitor Bank Control			
Reports Binary Input Change Events when no specific variation requested: Never Only time-tagged Only non-time-tagged x Configurable		Reports time-tagged Binary Input Change Events when no specific variation requested: Never Binary Input Change With Time Binary Input Change With Relative Time x Configurable	
Sends Unsolicited Responses: Never x Configurable Only certain objects Sometimes (attach explanation) x ENABLE/DISABLE UNSOLICITED Function codes supported		Sends Static Data in Unsolicited Responses: x Never When Device Restarts When Status Flags Change No other options are permitted.	
Default Counter Object/Variation: No Counters Reported x Configurable Default Object Default Variation: Point-by-point list attached		Counters Roll Over at: No Counters Reported Configurable (attach explanation) 16 Bits 32 Bits x Point-by-point list	
Sends Multi-Fragment Responses: x Yes No Configurable			
Sequential File Transfer Support:			
Append File Mode	Yes	x	No
Custom Status Code Strings	Yes	x	No
Permissions Field	Yes	x	No
File Events Assigned to Class	Yes	x	No
File Events Send Immediately	Yes	x	No
Multiple Blocks in a Fragment	x Yes		No
Max Number of Files Open	1		
NOTE: Sequential file transfer is used to download/upload the DNP configuration. Also used to download data logging, oscillograph data.			
The following IDs are used to download			
i)	Datalog config file – “DataLog.cfg”		
ii)	Datalog data file – “DataLog.dat”		
iii)	Upload DNP configuration file – “WriteDnpcfg.xml”		
iv)	Download DNP configuration file – “ReadDnpcfg.xml”		
v)	Download Oscillograph cfg file – “Oscillograph.cfg”		
vi)	Download Oscillograph data file – “Oscillograph.dat”		

Table 6 – Device Profile (2 of 2)

DNP V3.0 Implementation Table

OBJECT			REQUEST		RESPONSE	
Object Number	Variation Number	Description	Function Codes (dec)	Qualifier Codes (hex)	Function Codes (dec)	Qualifier Codes (hex)
1	0	Binary Input – Any Variation	1 (read)	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)	17, 28 (index)
2	2 (default – see Note 1)	Binary Input Change with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
2	3	Binary Input Change with Relative Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
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)
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

NOTES:

1. A Default variation refers to the variation responded when variation 0 is requested and/or in class 0, 1, 2, or 3 scans. Default variations are configurable; however, default settings for the configuration parameters are indicated in the table above.
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.)
3. Writes of Internal Indications are only supported for index 7 (Restart IIN1-7)

Table 7 – Implementation (1 of 4)

DNP V3.0 Implementation Table

OBJECT			REQUEST		RESPONSE	
Object Number	Variation Number	Description	Function Codes (dec)	Qualifier Codes (hex)	Function Codes (dec)	Qualifier Codes (hex)
20	1	32-Bit Binary Counter with flag	1 (read) 7 (Freeze) 8 (Freeze NoRply) 9 (Freeze Clear) 10 (Freeze Clear NoRply)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
20	2	16-Bit Binary Counter with flag	1 (read) 7 (Freeze) 8 (Freeze NoRply) 9 (Freeze Clear) 10 (Freeze Clear NoRply)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
20	5	32-Bit Binary Counter without flag	1 (read) 7 (Freeze) 8 Freeze NoRply) 9 (Freeze Clear) 10 Freeze Clear NoRply)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
20	6	16-Bit Binary Counter without flag	1 (read) 7 (Freeze) 8 (Freeze NoRply) 9 Freeze Clear) 10 (Freeze Clear NoRply)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
21	1	32-Bit Frozen Counters with flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
21	2	16-Bit Frozen Counters with flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
21	5	32-Bit Frozen Counters with Time of freeze	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
21	6	16-Bit Frozen Counters with Time of freeze	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
21	9	32-Bit Frozen Counters without flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)

NOTES:

1. A Default variation refers to the variation responded when variation 0 is requested and/or in class 0, 1, 2, or 3 scans. Default variations are configurable; however, default settings for the configuration parameters are indicated in the table above.
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.)
3. Writes of Internal Indications are only supported for index 7 (Restart IIN1-7)

Table 7 – Implementation (2 of 4)

DNP V3.0 Implementation Table

OBJECT			REQUEST		RESPONSE	
Object Number	Variation Number	Description	Function Codes (dec)	Qualifier Codes (hex)	Function Codes (dec)	Qualifier Codes (hex)
21	10	16-Bit Frozen Counters without flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty)	129 (response)	00, 01 (start-stop)
22	1	32-Bit Binary Counter Event without time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
22	2	16-Bit Binary Counter Event without time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
22	5	32-Bit Binary Counter Event with time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
22	6	16-Bit Binary Counter Event with time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
30	0	Analog Input - Any Variation	1 (read)	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 (default – see Note 1)	16-Bit Analog Input	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see Note 2)
30	3	32-Bit Analog Input without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see Note 2)
30	4	16-Bit Analog Input without Flag	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see Note 2)
32	0	Analog Change Event – Any Variation	1 (read)	06 (no range, or all) 07, 08 (limited qty)	–	–
32	1	32-Bit Analog Change Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)
32	2 (default – see Note 1)	16-Bit Analog Change Event without Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	17, 28 (index)

NOTES:

1. A Default variation refers to the variation responded when variation 0 is requested and/or in class 0, 1, 2, or 3 scans. Default variations are configurable; however, default settings for the configuration parameters are indicated in the table above.
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.)
3. Writes of Internal Indications are only supported for index 7 (Restart IIN1-7)

Table 7 – Implementation (3 of 4)

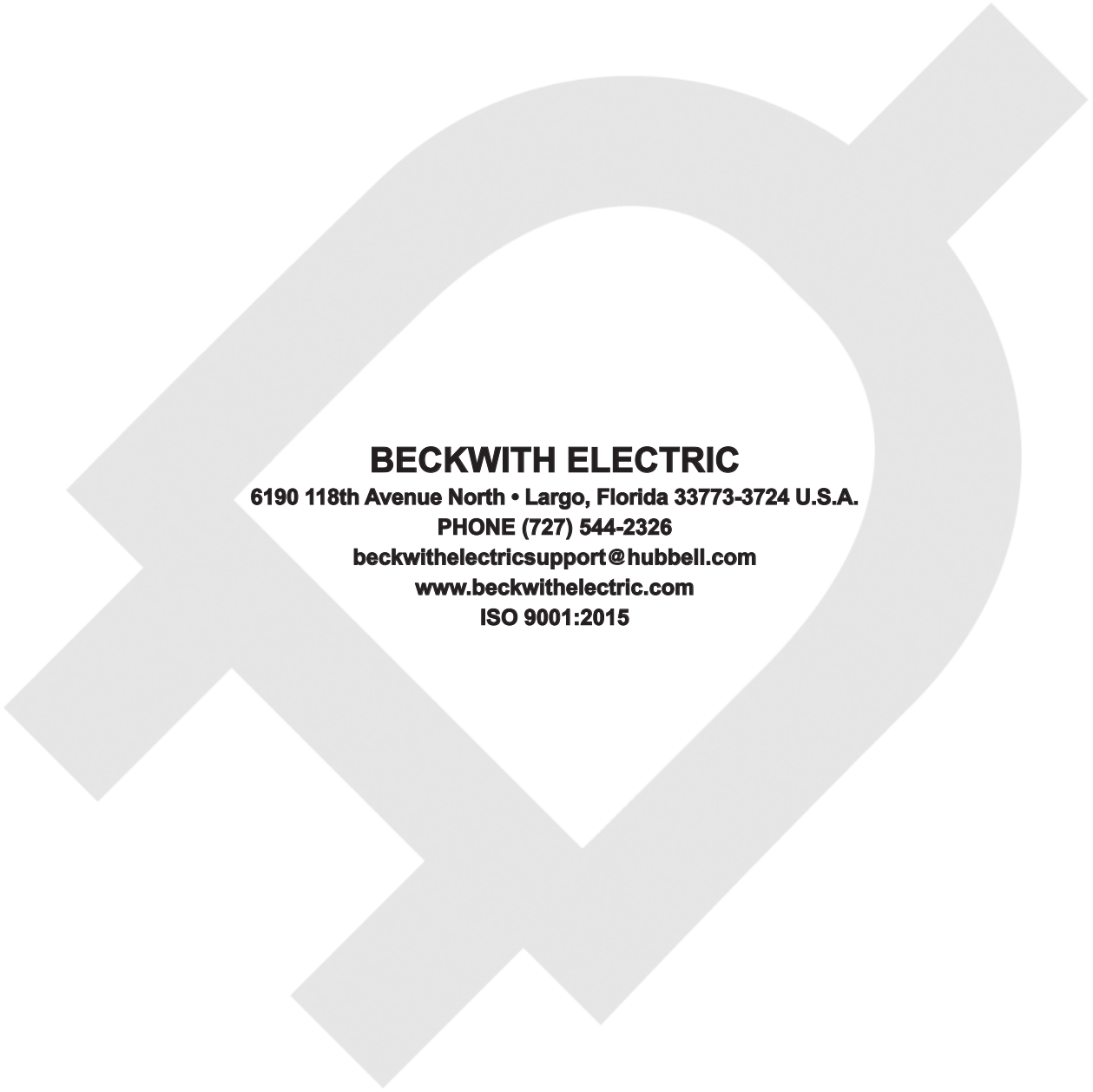
DNP V3.0 Implementation Table

OBJECT			REQUEST		RESPONSE	
Object Number	Variation Number	Description	Function Codes (dec)	Qualifier Codes (hex)	Function Codes (dec)	Qualifier Codes (hex)
32	3	32-Bit Analog Change Event with Time	1 (read)	06 (no range, or all) 07, 08 (limited qty)	129 (response)	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)	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)	–	–
40	2 (default – see Note 1)	16-Bit Analog Output Status	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07, 08 (limited qty) 17, 28 (index)	129 (response)	00, 01 (start-stop) 17, 28 (index – see Note 2)
41	0	Analog Output Block (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)	–	–
41	2 (default – see Note 1)	16-Bit Analog Output Block	3 (select) 4 (operate) 5 (direct op) 6 (dir. op, noack)	17, 28 (index)	129 (response)	echo of request
50	1 (default – see Note 1)	Time and Date	1 (read)	00, 01 (start-stop) 06 (no range, or all) 07 (limited qty =1)	129 (response)	00, 01 (start-stop) 17, 28 (index – see Note 2)
			2 (write)	07 (limited qty =1)	–	–
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)	–	–
60	3	Class 2 Data	1 (read)	06 (no range, or all) 07, 08 (limited qty)	–	–
80	1	Internal Indications	1 (read)	00, 01 (start-stop)	–	–
			2 (write) (see Note 3)	00 (start-stop) (index = 7)	–	–

NOTES:

1. A Default variation refers to the variation responded when variation 0 is requested and/or in class 0, 1, 2, or 3 scans. Default variations are configurable; however, default settings for the configuration parameters are indicated in the table above.
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.)
3. Writes of Internal Indications are only supported for index 7 (Restart IIN1-7)

Table 7 – Implementation (4 of 4)



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