Dynatrol DS-32 RTU

System Status Conversion Application Configuration Manual

Version: V1.0

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Table of Contents

1 Overview

The application converts the System Status into Digital Inputs and Analog Inputs so that all other applications can retrieve the System Status information via Digital Inputs and Analog Inputs.

The application enables all the reports for the Digital and Analog Systems Status. Upon receiving the events from the DBM, the application simply updates the corresponding owned Digital Analog and Accumulator values and send the corresponding events to DBM.

The application also converts the communication port Online Offline status into Digital Input values as well.

This application owns one L/P Digital Output point. This point is used to switch the Maintenance or Application for the Maintenance/Application Port. Since the Maintenance/Application Jumper also performs the same function, the last action will dictate the mode of the Maintenance/Application port. At startup, the L/P Digital Output point is aligned with the Maintenance/Application Jumper. After the initialization, the L/P Digital Output point or the Maintenance/Application Jumper will no longer reflect the mode of the Maintenance/Application port. It is the last action of the L/P Digital Output control command or the change of state of the Maintenance/Application Jumper determines the mode of the Maintenance/Application port.

The following summarizes the point mapping:

D01 owned Digital Input points:

Point index	Description
1	• Control Lock Out: 1 = Locked, 0 = Unlocked
2	• Remote/Local Switch Status: 1 = Local, 0 = Remote
3	• Relay Malfunction Status: 1 = Relay Stuck, 0 = Relay Free
4	• Master Trip Relay Status: 1 = On, 0 = Off
5	• Master Close Relay Status: 1 = On, 0 = Off
6	• Analog Reference Status: 1 = Bad Reference, 0 = Good Reference
7	• Midnight Event: Generate a On-Off event to inform other applications that midnight event has occurred
8	• Time Set Event: Generate a On-Off event to inform other applications that a Time Set event has occurred
9	• Not used

10	• Global Freeze Accumulator Event: Generate a On-Off event to inform other applications that a Global Freeze Accumulator event has occurred
11	• Global SOE Buffer Reset Event: Generate a On-Off event to inform other applications that a Global SOE Buffer Reset event has occurred
12	• Global COS Buffer Reset Event: Generate a On-Off event to inform other applications that a Global COS Buffer Reset event has occurred
13	• Not used
14	• Not used
15	• Not used
16	• Not used
17	• Communication Port 1 Status: 1 = Offline, 0 = Online
18	• Communication Port 2 Status: 1 = Offline, 0 = Online
19	• Communication Port 3 Status: 1 = Offline, 0 = Online
20	• Communication Port 4 Status: 1 = Offline, 0 = Online
21	• Communication Port 5 Status: 1 = Offline, 0 = Online

D01 owned Analog Input points:

Point index	Description
1	• RTU Temperature Value
2	• Negative Analog Reference
3	• Zero Analog Reference
4	• Positive Analog Reference
5	• High Speed Accumulator 1 Value in RPM
6	• High Speed Accumulator 2 Value in RPM
7	• High Speed Accumulator 3 Value in RPM
8	• Time Sync Value in +/- Ms
9	• Not used
10	• Not used
11	• Not used
12	• Not used
13	• Not used
14	• Not used
15	• Not used
16	• Not used

D01 owned Accumulator points:

Point index	Description
1	• High Speed Accumulator 1: Value in accumulated counts
2	• High Speed Accumulator 2: Value in accumulated counts
3	• High Speed Accumulator 3: Value in accumulated counts

D01 owned Digital Output point:

Point index	Description
1	• Maintenance/Application Port Switching: 1 = Application, 0 = Maintenance

It should be noted the Maintenance/Application Port Switching Latch/Pulse control point is used in conjunction with the Maintenance/Application Jumper. It is always the last command or event dictates the mode of the communication port. The following summarizes the mode of operations:

1. For configuration without application on the Maintenance/Application Port:
   - Maintenance/Application Jumper is open (0): Local Maintenance (Local Baud rate is used)
   - Maintenance/Application Jumper is Shorted (1): Remote Maintenance (Remote Baud rate is used)
   - Maintenance/Application Latch/Pulse Control Point is OFF (0) or ON (1): Remote Maintenance (Remote Baud rate is used)
2. For configuration with application on the Maintenance/Application Port:
   - Maintenance/Application Jumper is open (0): Local Maintenance (Local Baud rate is used)
   - Maintenance/Application Jumper is shorted (1): Application is activated
   - Maintenance/Application Latch/Pulse Control Point is OFF (0): Remote Maintenance (Remote Baud rate is used)
   - Maintenance/Application Latch/Pulse Control Point is ON (1): Application is activated.

2 Remote Interface Application Table (D01_RIA)

The Remote Interface Application Table (D01_RIA) indicates the total input/output points owned by the D01 DCA application.

- **NumDI**: The total number of Digital Input (DI) points owned by this RIA. This field is always set to 21.
- **NumACC**: The total number of Accumulation (ACC) Input points owned by this RIA. This field is always set to 3.
- **NumBCD**: The total number of Binary Coded Decimal (BCD) Input points owned by this RIA. This field is set to zero always zero (0).
- **NumLP**: The total number of Latch/Pulse (LP) Output points owned by this RIA. This field is set to 1.
- **NumRL**: The total number of Raise/Lower (RL) Output points owned by this RIA. This field is set to zero always zero (0).
- **NumPAT**: The total number of Pattern Control (PAT) Output points owned by this RIA. This field is set to zero always zero (0).
- **NumDPS**: The total number of Double Point Select (DPS) Output points owned by this RIA. This field is set to zero always zero (0).
- **NumTC**: The total number of Trip/Close (TC) Output points owned by this RIA. This field is set to zero always zero (0).
- **NumAI**: The total number of Analog Input (AI) points owned by this RIA. This field is set to zero always 16.
- **NumAO**: The total number of Analog Output (AO) points owned by this RIA. This field is set to zero always zero (0).
- **NumDEV**: The total number of Devices (DEV) owned by this RIA. This field is set to zero always zero (0).