Slate Firmware 3.33 Release Notes

The 3.33 update is classified as an incremental update to the SLATE system with some improvements that are clearly visible to the user, but many more enhancements "behind the scenes". The revisions codes in this firmware release includes;

- Annunciator - 0102
- Burner Control - 0106
- Fuel Air Ratio - 0104
- Analog I/O - 0104
- Digital I/O - 0102
- Limit - 0104
- Base Module - 0106

Revision numbering overview

Slate module IDs have three parts separated by dots, for example **BCp.0102.01**

BCp – this identifies the module type: BC = Burner Control. ("p" is always present in released modules, it indicates "product".)

0102 – **parameter/data compatibility and revision code**, described below.

01 – version number. This is changed when software is updated without affecting parameters or design compatibility. Examples are an improvement in signal conditioning or fixing a bug.

The **middle number** is the important one for the design. It is advanced when the module definition is changed in a way that affects module configuration or data reporting. Examples are:

- a new parameter is added
- a new choice is added to an existing parameter
- a new event and its event message is added

The major features added to this system release are:

Base Module Updates

The Base Module changes provide additional resources for user wiresheet programming and application backup.

- User text registers -Added 40 generic text writeable registers that can be used by operators in the field to create their own alerts with their own text created in the field via the HMI.
- Added 20 non-volatile wiresheet data registers
- System backup/restore*
  - o Backup/restore of registers
  - o Backup/restore of network setpoints
  - o Backup/restore of FA curves
  - o Backup/restore of configuration sets
- Save audit log in a readable format
- Light detector gain level
  - o Updated hardware required the capability to set the gain level for the light detector circuit in the Base module.
  - o Three levels of high, medium, and low are added. Medium level is the default setting
- Display RIN in larger characters on Base local display
- Base module pass code security enhancements

 *3.33.20230 Backup/Restore issue, regarding curve sets, is repaired by installing service pack "Export and Import Configurations V1.0"

Burner Control Updates

Additional configuration options have been added to the Burner Control to cover additional Legacy EC78xx sequences.

- Staged Main Valve (MV2) –
- RM7838 semi-automatic light-off sequence
- IAS monitor selection for Prepurge, Ignition, and Run states
- Permit Direct Burner Ignition (DBI) time up to 15 seconds

General System Enhancements and Fixes

- Set default Alert level to OFF for all modules

- Numerous "behind the scenes" enhancements have taken place to improve system stability, security, and usability.

Incremental module modifications from the previous revision

Base Module modifications from SBp.0105.01 to SBp.0106.01

Additions and changes:

- Doubled BACnet binding registers from 20 to 40
- Doubled wiresheet register data registers from 5 to 10
- Added 10 new registers for non-volatile wiresheet data
- Added calendar registers for Month, Day and Year
- Optimizations to improve web page responsiveness and performance
- Improved Modbus TCP reliability
- Updated web certificate to address Chrome security warning; Chrome Compatibility service pack no longer required

New Registers

```
r360  - User text 1
r361  - User text 2
r362  - User text 3
r363  - User text 4
r364  - User text 5
r365  - User text 6
r366  - User text 7
r367  - User text 8
r368  - User text 9
r369  - User text 10
r370  - User text 11
r371  - User text 12
r372  - User text 13
r373  - User text 14
r374  - User text 15
r375  - User text 16
r376  - User text 17
r377  - User text 18
r378  - User text 19
r379  - User text 20
r380  - User text 21
r381  - User text 22
r382  - User text 23
r383  - User text 24
r384  - User text 25
r385  - User text 26
r386  - User text 27
r387  - User text 28
r388  - User text 29
r389  - User text 30
r390  - User text 31
```

```
r391  - User text 32
r392  - User text 33
r393  - User text 34
r394  - User text 35
r395  - User text 36
r396  - User text 37
r397  - User text 38
r398  - User text 39
r399  - User text 40
r477  - Light detector gain
```

New Events

```
9(F) - %s   (Was: User: %s)
```

Burner Control Module modifications from BCp.0105.01 to BCp.0106.01

Additions and changes:

- Staged Main Valve (MV2) –
  - Added an option for staging Main Valve 2 (MV2) output after MV1 to lower total inrush current of two valves.
  - Delay has a configurable time period.
  - Allowed when Delayed MV2 Enable is disabled.
- RM7838 semi-automatic lightoff sequence
  - Emulates 7800 SERIES RM7838 hold for Start switch feature.
  - Start switch is inserted in series with the LPP switch.
  - Start and LPP switches need to stay closed through the ignition states.
- IAS monitor selection for Prepurge, Ignition, and Run states
  - IAS input monitoring selections now include a "Prepurge, Ignition, and Run state" choice.
  - Adding the Run state permits an option for operational input to be necessary during all flame present stages.
- Permit Direct Burner Ignition (DBI) time up to 15 seconds
  - DBI maximum time extended from 4 to 15 seconds.
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New Registers

```
r196  - LPP switch delay
r197  - Staged main valve enable
r198  - Staged main valve delay
```

Changed Register Values

```
r149  IAS/LOI monitoring
         ValueMax changed to: 5     (Was: 4)
```