

## **UG-25+ 5418-2879 Rev. A Firmware Release**

### **Explanation of Software Changes**

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#### **General**

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Woodward has released application firmware 5418-2879 rev. A as an upgrade to 5418-2879 rev. NEW for all UG-25+ controls. This application note describes the changes made. Refer also to product manual 26330 for product details inclusive of all firmware releases. The latest UG-25+ Service Tool (Version 2.3) is required for the new firmware and is compatible with all UG-25+ controls (Woodward part number 9927-1366).

#### **Description of Firmware Changes**

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The new firmware is based on the existing firmware (5418-2879 rev. NEW), with changes listed herein. All of the listed changes are included with a firmware upgrade.

##### **1) Improved Speed Setpoint Resolution for Very Slow Rates**

The accuracy of the actual ramp rate for very slow rates (<4 grpm/sec) was significantly improved and the adjustment range was changed to 0.2 to 500 grpm/sec on the Raise Ramp Rate, Lower Ramp Rate, Max Analog Rate, and Start Target Speed Rate. The previous rate range was 1 to 1000 grpm/sec for the Raise/Lower/Analog rates and 0.2 to 200 grpm/sec for the Start Target Speed Rate.

To allow for lower speed setpoint ramp rates, scaling changes were made to improve the ramp rate resolution at low rates for these settings; however, these changes are all handled internally and do not affect operation or functionality of the unit. The internal scaling of these rate settings is 16 times higher in this new code to provide added resolution for values less than 4 grpm/sec. The Service Tool automatically converts these settings to the new scaling when loading an old configuration into a unit with this new firmware.

##### **2) Fault Detection and Indication Improvements**

The logic for the Unit Healthy Status discrete output and front panel LED was updated to include indications for voltage sense failure, internal temperature sensor failure, and over-temperature (de-rated operation). These same diagnostic conditions, when detected, force the UG-25+ into a shutdown state.

#### **Compatibility with Existing Controls**

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The new firmware, 5418-2879 rev A, will operate with all existing UG-25+ controls. Version 2.3 of the UG-25+ Service Tool (9927-1366) is required for the new firmware and is compatible with all UG-25+ controls. Configuration files created for previous firmware revisions (5418-2317 NEW, 5418-2317 A, and 5418-2879 NEW) are automatically converted when loaded into a control with the latest firmware (5418-2834 A). Configurations for the 5418-2879 A are not compatible with the older firmware.

#### **Firmware Identification**

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The UG-25+ control firmware version can be viewed from the Identification tab on the Service Tool.

#### **How to Upgrade**

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The UG-25+ firmware can be field upgraded, but requires specialized software tools and must be performed by authorized Woodward personnel. If you have any questions about this issue or wish to upgrade, please contact one of our Woodward facilities and refer to this Application Note number.

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