AMETEK
POWER INSTRUMENTS
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AMETEK Power Instruments TR-3000 and DR-300 Software and Firmware Release

AMETEK Power Instruments is pleased to announce the release of new software and firmware for their state-of-the-art Digital Fault Recorder products. While maintaining backward compatibility with older releases and products, the new Display Station install package, version 3.1.92, adds support for the new SCM firmware version 01.14.28 and IM firmware version 00.14.19. The main feature being introduced is Precision Time Protocol (PTP).

Please Note: If the new firmware is installed on any recorders, then all copies of Display Station software must be updated to the new version.

AMETEK Power Instruments needs to track serial numbers for all recorders running this new firmware as it includes a third-party licenced component and AMETEK must comply with contractual obligations. Please provide our team with the serial numbers for any recorders that have been updated by emailing pi.marketing@ametek.com.

Users are encouraged to verify that their firmware files match the SHA-256 Hash Codes contained in this release note to guarantee integrity. Please contact our Service Team if there is any disparity and do not use or distribute the files.

Please contact our Service Team before upgrading if your recorder has any 12 channel analog input modules with FPGA version number beginning with “01”. Modules with FGPA version numbers beginning “00” and “02” may be upgraded using the normal procedure. Analog modules with 6 channels may also be upgraded, regardless of FPGA version. The module type and FPGA version can be verified using the IM Status dialog on the Configuration screen while connected to a recorder.

New Features Include:

- **Precision Time Protocol (PTP):** The AMETEK TR-3000 and DR-300 Digital Fault Recorders are designed to provide highly accurate and reliable time synchronization by supporting multiple timing protocols at the same time, including GPS, IRIG-B, PTP and NTP. They continuously monitor all these sources, evaluating their signal quality, lock status and overall accuracy. Based on this assessment, the TR-3000 and DR-300 automatically select the best available time source. This release adds support for PTP, including the latest revisions of IEEE 1588, IEEE C37.238 Power Profile and IEC/IEEE 61850-9-3 Power Utility Profile. Using PTP-compliant switches, time synchronization messages can be distributed over Ethernet and will provide the accuracy required for applications such as synchrophasors IEC/IEEE 60255-118-1.
  Recorders using SCM version 01.14.22 should be upgraded to 01.14.28 due to a problem when no PTP grandmaster clock is detected.
- **Upgraded Network Media Access Control (MAC):** The network port MACs have been upgraded to support PTP, redundant protocols (HSR/PTP coming in a later release) and 1000/100/10 Mbit communications. RJ45 electrical Ethernet supports autosensing, but optical SFPs can be manually configured for either 1000 or 100 Mbit. Some older SCM hardware will only support 100 Mbit and the option to configure for 1000 Mbit will not be available.
- **Improved Time Synchronization and Improvements for IRIG-B and Internal Clock:** Under certain circumstances, the old firmware version has the potential for data between input modules to become out of sync. This is an important fix and upgrading to the new version is strongly recommended.
- **DC Channels:** Measurement bug introduced with SCM firmware 01.14.10 fixed for DC configured channels.

Display Station install version 3.1.92, SCM firmware version 01.14.28, and IM firmware version 00.14.19 can be obtained from the AMETEK Power Instruments Service Team or Regional Sales Manager.

SCM Firmware 01.14.28 SHA-256 Hash Code =
c3b1e08b301085592575299de000d3dd0d3334a3cc0c282f928c1ef93eb95a93

IM Firmware 00.14.19 SHA-256 Hash Code =
a7b1d56b33782eca19b74879e647539d07db86412d95458f73a85dcc5c3c5d7e