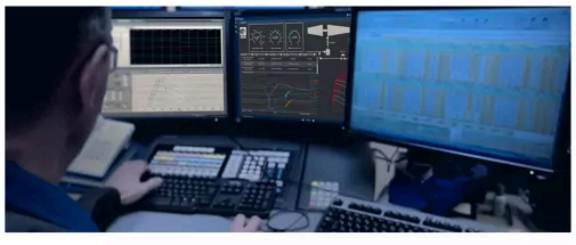
TTCR 16.2 Software Upgrade

Pro Built control systems are supported by Total Train Comprehensive Release (TTCR) upgrades. This update enhances cybersecurity and connectivity, bringing Prodigy, Vanguard S5P, and Vanguard S5 Pro up to the ISA/IEC 62443-4-2 cybersecurity standard.

Overview



Feedback

Enhanced cybersecurity and connectivity for Pro Built control systems delivered through software upgrades.

Overview

Pro Built control systems are supported through system releases called Total Train Comprehensive Release (TTCR). Cybersecurity and connectivity are two of the key areas of increased importance in the industry. This software upgrade brings Prodigy and Vanguard S5P up to the ISA/IEC 62443-4-2 cybersecurity standard and introduces support for Vanguard S5 Pro.

What Is It?

Total Train Comprehensive Release (TTCR) 16.2 is a Pro Built® control system upgrade that delivers significantly enhanced security capabilities for customers with Prodigy and Vanguard S5P control platforms and introduces support for Vanguard S5 Pro. The release continues to support other platforms including Series 3++, Series 5 Vanguard, Vantage GC/XC, Guardian ODS/SDS, and EAS3.

In addition to improving the control system security, TTCR 16.1 adds support for MQTT Sparkplug B client to Prodigy, Vanguard S5P and Vanguard S5 Pro control platforms – paving the way for integration with Next Gen HMI supervisory system. This lightweight Publish/Subscribe (Pub/Sub) protocol enables secure, bandwidth-efficient, and scalable communication that supplements the existing capabilities of these Pro Built platforms.

How Does It Work?

This release adds the following new features through software updates on both the control platforms as well as TrainTools HMI servers. Existing Pro Built hardware can be kept in place – only requiring software download and configuration. Note that this will reboot the controllers and therefore must be carried out while the turbomachinery train is shutdown.

Prodigy and Vanguard S5 pro

- Secure Boot: protect against unauthorized tampering of the embedded operating system
- Encrypted Communication: prevent network sniffing of sensitive data like credentials
- Communication Robustness: defend against denial-of-service attacks
- Security Logs: ensure traceability of security events
- Hardening Options: further harden the device by optionally disabling non-essential functions
- Device user Management: prevent unauthorized access to the device

Vanguard S5P

- Encrypted Communication: prevent network sniffing of sensitive data like credentials

- Communication Robustness: defend against denial-of-service attacks
- Security Logs: ensure traceability of security events
- Hardening Options: further harden the device by optionally disabling non-essential functions
- Device user Management: prevent unauthorized access to the device

TrainTools HMI

- Latest Windows Operating Systems: support Windows Server 2022 and Windows 10 IoT Enterprise LTSC 2021 in addition to Windows Server 2019 and Windows 10 IoT Enterprise LTSC 2019
- Integrated User Management: integrate with Windows authentication (local or domain) for TrainTools application security
- Enhanced Security Controls: manage security keys, controller communication certificates, and device hardening options with ease
- Updated Software Components: leverage the updated Maker Pro IDE and other software with enhancements and bug fixes

What Problems Does It Solve?

- Improves Security: Additional system hardening measures help improve cybersecurity of ICS environments.
- Improves Compliance: Prodigy control platform upgraded to TTCR 16.2 and higher carries ISASecure CSA SL2 certification. This helps you achieve compliance to ISA/IEC 62443 series of cybersecurity standards.

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Feedback