

The Trusted Name for Turbomachinery Optimization.



2 Billion
Operating
Hours



10,000+
Machines



40+
OEMs



150+
Turbomachinery
Experts



14 Worldwide
Offices



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CCC VANGUARD

Vanguard S5P

Vanguard S5P® brings the latest technology to the Vanguard turbomachinery control platform.



Built upon 50 years of institutional knowledge and experience in controlling some of the most challenging turbomachinery trains in the world, Vanguard S5P has been designed to reduce total lifecycle cost, optimize production throughput, and reduce maintenance costs.

Plug-in migration solution to extend lifecycle and enhance security and connectivity of your S5 Vanguard

Vanguard S5P offers a plug-in migration solution to extend lifecycle of existing S5 Vanguard control system, which were designed for support of 576 I/O points. Vanguard S5P runs CCC's **ProOS**, similar to Prodigy, with an intuitive programming environment for total train control including sequencing and auxiliary system for your turbomachinery. The following IEC 61131-3 programming language standards are supported:

- Ladder diagram (LD)
- Structured text (ST)
- Sequential function chart (SFC)
- Function block diagram (FBD)
- Instruction list (IL)

S5P Vanguard supports MQTT Sparkplug B communication – paving the way for integration with the next generation of CCC operator HMI software that leverages it. This lightweight Publish/Subscribe (Pub/Sub) protocol enables secure, bandwidth-efficient, and scalable communication that supplements the existing capabilities of your existing S5 Vanguard control system.

Enhanced Redundancy and Diagnostics

Vanguard S5P's runs **ProOS** which improves system availability and maintenance ease-of-use.



Flexible switching

Modular redundancy at every level – from power supplies, to main processors, to I/O processors



Self-learning

Plug-and-play replacement of faulty card without the need to manually load configuration files



Better diagnostics

Higher-resolution archiving with Sequence of Events (SoE)



Extended Life Cycle

Protect your assets with updated hardware and software

Defense-in-depth for some of the most critical assets in your process

Safe, reliable, and efficient operations of turbomachinery trains is critical to process. Vanguard S5P helps you secure these assets with the following industry-leading capabilities:



Encrypted Communication

Prevent network sniffing of sensitive data like credentials



Communication Robustness

Certified for GE Digital Achilles Communications Certification Level 1 to defend against denial of service attacks.



Security Logs

Ensure traceability of security events



Hardening Options

Further harden the device optionally by disabling non-essential functions