Track Circuit Controller

Electro Code 5 (EC5) is a fully integrated, PTC-capable DC coded signaling system that delivers reliable performance and proven value. Utilizing the rails to transmit track, block, and aspect information, EC5 offers a cost-effective solution for intermediate signals, electric locks, and seamless integration with relay-based interlockings. Engineered for efficiency, EC5 combines operational flexibility with the safety and reliability expected from KB Signaling.

KB SIGNALING™

Electro Code 5

Highlights

- Demonstrated reliability with over 15,000 units in service worldwide
- Self-contained DC coded signaling system
- Direct drive of I/O and lamps
- One-person digital setup for lamps and track circuits
- Shares modules and tools with ElectroLogIXS VLC and XP4
- Integrated PTC WIU functions

General Description

The EC5 signaling system from KB Signaling incorporates the time-tested Electro Code track circuit technology into a flexible, programmable package that accommodates intermediate color light signal, repeater, electric lock, and end-box applications. Integral PTC compliant WIU functions minimize wayside box counts. Integral support for remote management allows integration into existing and emerging maintenance management systems. Graceful module degradation ensures that a single I/O point failure does not impact other operational modules. The EC5 supports direct drive 12 V I/O, direct interface to coded track circuits, and self-proving lighting control. Vital serial communication ports enable the ElectroLogIXS EC5 to communicate with ElectroLogIXS XP4, VLC, EC5 and VHLC systems.

Customer Benefits

Flexible

The Electro Code 5 system consists of a chassis backplane assembly and plug-in modules with high-density terminal connections for hard wiring the system to wayside signal and track circuit connections. All modules have front-panel indicators that display module health status and function indicators for monitoring active I/O signals. Up to 32 units can be vitally linked through standard IP networks.

Intuitive Setup and Maintenance

Local installation, control, maintenance and troubleshooting are supported through an intuitive Web Graphical User Interface (Web GUI) operating on web-enabled devices. Remote management and control is supported through network standard protocols such SNMP, SSH, and SCP. For security, all remote functions can be restricted to read only or turned off completely.

Proven Performance

The Electro Code 5 system provides excellent product safety and reliability demonstrated through over 15 years of safe and reliable operation and a current installed base of over 15,000 units.

Common Tools

The Electro Code 5 shares modules, design principles, and programming tools with the ElectroLogIXS XP4, ElectroLogIXS VLC, and VHLC products.

Electro Code 5

Advanced Wayside Signal Functions

The Electro Code 5 is designed to increase system availability and simplify installation and maintenance. Design attributes include graceful degradation, assuring single I/O failures will not affect the other operational modules. The Electro Code 5 also includes one-person digital setup for lamps and track circuits, common development software tools, and simplified diagnostics and recorder functions.

Application

Applications are developed on LogicStation™, a suite of application development tools from KB Signaling. The suite provides the project developer with file management, a compiler to generate application equations based on relay logic diagrams, a validator utility to verify compiled files, and a simulator to debug applications prior to installation. This tool set is designed for use with other KB Signaling products including ElectroLogIXS VLC, ElectroLogIXS XP4, and VHLC.

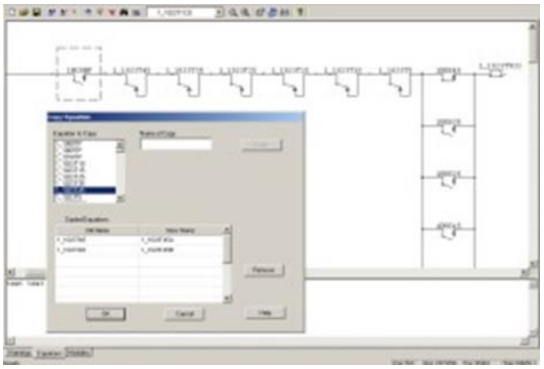
Architecture

The system consists of a chassis backplane assembly, a control display unit, system modules, and application modules with high-density terminal connections located on the front and rear side of the unit for hard wiring the system to wayside signal and track circuit connections.

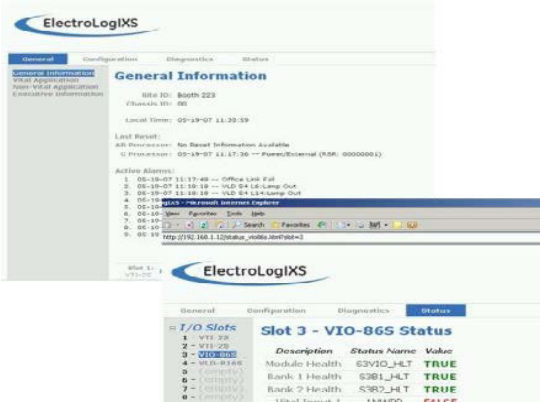
The human/machine interfaces include a rugged control display unit and a Web GUI (Graphical User Interface) displayed on any connected web-enabled device. Both interfaces support system installation, maintenance, and troubleshooting. In addition to the Web GUI, a variety of system management protocols provide user access to statuses, diagnostics, log files, and setup information.

Electro Code 5
VPM-3 Processor

Specifications	
Operating Voltage	9.5 to 16.5 volts DC
Cycle Time	All vital equation evaluations reach stability within 250ms Non-vital equation evaluations reach stability within 100ms
Logic Equations	VPM-3 supports up to 10,000 vital equations and up to 10,000 non-vital equations
Timers	127 vital timers and 1023 non-vital timers
Recorders	512 vital recorders and 512 non-vital recorders
Temporaries	4,096 vital temporaries and 4,096 non-vital temporaries
Track Circuits	Up to four 24,000 foot track circuits @ 3 ohms per 1,000 ft ballast impedance with cab signal control outputs available for each track circuit
Lamp Control	Up to 12 self-proving regulated DC direct lamp drivers (2 modules) per system
Vital I/O	4 inputs and 4 outputs on a dedicated module, as well as 2 inputs on each of 2 track interface modules
Cab Signal	Up to 4 application controlled cab rates (2 per track interface module)
Non-vital links	2 links of 1,000 controls and 1,000 indications1 link of 128 controls and 128 indications
NV Protocols	Genisys, ATCS, BCS, ARES, SCS-128, UCE, LCP, Modbus, CTC over ITCM
Vital Links	Up to 32 remote vital links to VLCs, VHLCs, XP4s, EC5s, or axle counters
Vital Protocols	RP2000, RP2009, FSFB/2
PTC Protocols	EMP Class D, Wireless crossing
Systems Mgmt.	SNMP, SCP, SSH, Telnet, FTP, SNTP, EMP
Event Recorder	100,000 events; 5,000 errors; 1,000 configuration variables



Electro Code 5 Application Development



Electro Code 5 Web GUI

Contact your KB Signaling Business Development Manager
Call 1-800-825-7090, or Email us at aso.techsupport-kb@alstomgroup.com for more information today

KB Signaling
2712 S. Dillingham Rd
Grain Valley, MO 64029
Phone: +1 800-825-7090
www.kb-signaling.com

KNORR-BREMSE
NEW YORK AIR BRAKE
IFE
MERAK
MICROELETTRICA
SELECTRON
EVAC
KB SIGNALING
ZELISKO
RAILSERVICES