

PTC WAYSIDE SYSTEMS MANAGEMENT

Datasheet

Project objective

Establish secure remote management of a standalone Wayside Interface Unit (WIU) that requires I/O circuits to interlocking, and integrated WIU designed as a processor daughter PCB that enables integrated PTC WIU functionality directly within the interlocking controller. This capability would provide full compliance with PTC requirements, thus, allow our client to implement a PTC system on Class I railroad.

Updated: 07/26/12 09:58:43 Device: Ansaldo WRU

MICROLOK II

POSITIVE TRAIN CONTROL INTERFACE

Field Devices System Information Locomotive Command Application Upload Configuration Event Logs

System Information		Version Information	
Model Number:	H17067602	EMP Protocol Version:	
PTC Application CRC:	647F	Class D Protocol Version:	
PTC Application Title:	Sample_NoSignal	Class C Protocol Version:	
PTC Application Revision:		Com Software:	2.21
PTC Application Date:	2012-05-08, 16:18	System Executive:	2.21
Microlok Application CRC:	835C	Altera Executable:	2.21
Device Time: (Updated every minute)	07/26/2012 09:58:52	Altera Executable CRC:	694CFBF7
View service manual		Altera Boot Copier:	2.21
Altera Vital Core Health		Altera Boot Monitor:	2.21
Cycles:	24772986	Altera FPGA:	2.21
Xilinx Vital Core Health			
Cycles:	15107		

Result

The developed PTC Wayside Systems Management Software allows for remote management of widely distributed MicroLok II-based wayside devices, in compliance with PTC safety requirements. Various types of WIUs can be remotely configured and monitored in a secure manner from a back office, while any communication disruptions cannot affect the interlocking system stability. This contributed both to PTC implementation for the entire Class I railroad, and the reduction of WIUs' maintenance costs.

Scope of work

- ❖ Communications interface for remote Wayside Units
- ❖ Web User Interface to manage remote hardware. Provide modification of configurable items, and event lists acquisition
- ❖ Delivery of system alarms to a remote agent
- ❖ Secure connection via secure shell and TCP/IP

Activities

- ❖ Functional Requirements Review
- ❖ Architecture Design
- ❖ Software Development
- ❖ Firmware Updates
- ❖ Unit Testing
- ❖ Functional Testing

About the project

Technologies

- ❖ C/C++
- ❖ VHDL
- ❖ SVN
- ❖ C Shell
- ❖ Eclipse
- ❖ GCC
- ❖ Imake
- ❖ Ssh
- ❖ VPN
- ❖ SNMP
- ❖ UML
- ❖ AES128
- ❖ DSA
- ❖ RSA



Project size

- ❖ 2.5 people

Duration



Platform

- ❖ Desktop/Server