

BlueLine Control System

Procontrol P13 Retrofit



BlueLine Overview

The BlueLine control system is a control system platform designed, developed and maintained by Alstom, using many years of experience in power plant operation.

The BlueLine Platform is an ideal solution for Power Plants in particular where a Procontrol P13 control system is installed. These aging control systems are becoming harder to maintain and spare parts, if available, are very expensive.



BlueLine Control System

The BlueLine upgrade of an existing control system is more cost effective than replacing the complete control system. This is possible because a BlueLine upgrade keeps the original cabinets, electronic racks and field connection arrangement. Additionally, the BlueLine modules easily coexist with original Procontrol P13 modules providing a low cost alternative for spare parts. BlueLine modules directly replace the P13 modules as they have the same pin-out and take up the same room or less.

An additional benefit of the BlueLine control system is that technicians and operators trained on Procontrol P13 can work with the system with a minimum of training.

BlueLine boards are designed taking full advantage of 21st century surface mount components and digital signal processors on board each module; their only commonality with the Procontrol P13 boards is in their capability to 'talk' on the local bus system.

All these features make Alstom's BlueLine an ideal solution for upgrades, especially where cabinet space and existing wiring limits the installation possibilities.

Engineering Tool (BlueLine Tools®)

Alstom has developed its own Computer Aided Engineering Tool, which is named BlueLine Tools (BLT).

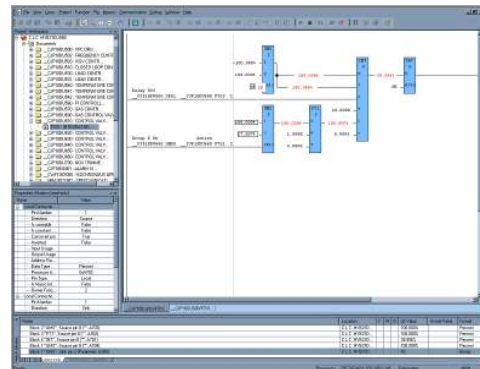
BLT is the engineering software that interfaces with all the BlueLine hardware.

BLT is used to configure and debug the new BlueLine I/O modules. Signal display and simulation from the processors as well as the I/O modules is also achieved using the new software tool.

Communication with the programmable processor is via Ethernet and for I/O modules via a serial based connection.

The software tool has a function block editor style logic developer with a powerful function block library. The relational database for all signals allows signals to be tracked from origination to every termination point.

Robust search utilities make tracking of signals easy, and built-in test routines avoid problems such as tag inconsistencies and double address occupation.



BlueLine Tools Engineering Software

BLT allows users to either import existing Procontrol P13 controller logic directly into the utility or easily build a new controller infrastructure from scratch.

A feature of the software is that it combines both the logic editor and the servicing interface into one package.

This allows information to be equally shared between the two thus provides a better overall view of what's happening while troubleshooting. This includes "on the page" monitoring and simulation capabilities, a "missing, simulated, disturbed signal search," and the ability to show raw values in various formats.

Other notable utilities within the software are the recording and trending tool, and the multiple report generators.

BlueLine Control System		Procontrol P13
BlueLine Module	Description	Replacing P13 Card
70CP01	Programmable Processor	70PR05b-ES 70PR03
70AO01	Output Module for Voltage signals, +/- 10 V (x4)	70AA01a-E
70AO02	Output Module for Current Signals (x4)	70AA02b-E
70BO01	Output Module for Binary Signals, 24 V (x16)	70AB01c-ES
70BO02	Output Module w Contacts up to 60 V, (x16)	70AB02b-E
70AI01	Input Module for Analog Signals (x4) Input Module for 2-wire Transducers (x4)	70EA01b-ES 70EA02a-ES
70AI02	Input Module for Current (x16)	n/a
70AI03	Input Module for Resistance (x4)	70EA03a-E
70AI04	Input Module for Temperature Sensors (x8)	70EA04b-E 70EA05a-E
70BI01	Input Module for 24 V Binary Signals (x16)	70EB01b-E
70BI02	Input Module for Contacts (x16)	70EB02c-ES
70BI03	Input Module for Contacts (x16) with diagnostics	No Equivalent
70BI04	Input Module for Supervised Contacts (x5)	70EB03a
70TD01	Bus Traffic Director	70BV05A-ES
70BE01	Bus End Module	70BA01c-S
70IA01	Bus Isolation Amplifier	70BT01c
70BE02	Bus Access Module	70BA02b
70SI01	Serial Interface Module - word marshalling Modbus Interface Module - non redundant	70BK03b-ES 70BK03c-E 70BK06a-E
70ME01	Modbus ethernet board	No Equivalent
70DH01	Espresso Board for Local Bus	70BK02/FV01
70DH02	Espresso Board for HMI Connectivity (DIN rail)	CK01
70SP01	Speed Input Module, one channel	70EI05
70RK01	Rack 24-Slot	n/a
70FP01	Face Plate Single Slot	n/a
70FP02	Face Plate Double Slot	n/a
70FP06	Face Plate Six Slots	n/a
70FP08	Face Plate Eight Slots	n/a
BLT	BlueLine Tools (BLT) Engineering tool suite Functional blocks based logic developer	Progress2 Progress3
ODC	Operating Data Counter	n/a
IPBGW	Intra-Plant Bus Gateway for HMI connectivity (read only)	PIF Interface Board

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