

Device Dashboards Help Simplify FOUNDATION™ fieldbus (FF)

Business Benefits

- Reduce skill sets required to configure and troubleshoot measurement instrumentation
- Easily perform long term maintenance

Applications

Project using FOUNDATION fieldbus devices

Customer Profile and Need

- Lead Instrument Engineer
- Instrument Engineers and Technicians
- Project Engineer
- Control Engineer

Reduce FOUNDATION fieldbus project execution time with Device Dashboards.

Challenge

FOUNDATION fieldbus protocol is more than just a communications bus. It is a fully functional control system distributed in the field. Since it is a distributed control system, it has control system attributes including function blocks, block modes, control strategy configuration and linking, and communications scheduling.

A project can be brought in on time and on budget, using FOUNDATION fieldbus capabilities, but staff and subcontractors may lack the knowledge and experience to implement and operate the protocol.

Until now, the user interfaces used to configure, commission, troubleshoot and repair FF devices have all been designed around the field device as a node on a distributed control system first, and a field device second. That means that every time a field device user interacted with a FF field device, they were presented with the architecture, attributes and parameters of a control system node. There may be dozens of screens, each with tens, or even hundreds of parameters. Users had to find the screens and parameters appropriate for field device interactions buried within the control system context. In addition, functions associated with a control systems engineer, such as linking, scheduling,



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alarm management, and mode control, often needed to be performed. Sometimes data entry needed to take place in a specific order, or parameters would not be accepted or updated. Finally, the blocks, screens, and parameters could be in completely different order from device to device. The inconsistency and overwhelming number of parameters displayed was not necessary and confusing.

With most FOUNDATION fieldbus devices, the instrument personnel must deal with process control parameters and capabilities traditionally managed by control systems personnel. As a result, work done by field device personnel and by control systems engineers has combined. Work practices, roles and responsibilities, and knowledge and skills all need to be adjusted, both to execute the project and to run the operating site. Without the right skills project delays, cost overruns, and difficulty running and maintaining the site can occur.

Device Dashboard

Solution

Device Dashboards from Emerson solve these challenges by allowing the instrument technician or instrument engineer to configure, calibrate, trouble-shoot and maintain a FOUNDATION fieldbus device in much the same way they do a HART® or conventional device.

The control system attributes and actions of the device are substantially masked, or handled by the Device Dashboard software. The instrument engineer or technician often doesn't need to navigate to multiple screens on multiple blocks because the Device Dashboard consolidates the needed parameters onto a single screen. In addition, the instrument technician no longer needs to know the exact order of parameter entry because the Device Dashboard presents the parameters for entry in the order needed, and waits for successful completion of one step before proceeding to the next one.

Now the instrument engineer or technician can interact with FOUNDATION fieldbus devices with the same confidence as with devices using other protocols. In addition, the amount of training and new skills needed is dramatically reduced.

Learning requirements, time to accomplish work, and human error are all dramatically reduced. This leads to shorter project schedules, reduced resource loading, a faster startup, fewer downstream problems, and reduced project costs.

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