

White Paper

Three Ways to Increase Efficiency with Power the Loop Technology



AMS


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Three Ways to Increase Efficiency with Power the Loop Technology

“The ability to power a hard loop off of the AMS Trex unit is huge. We no longer need to have an additional power supply or loop simulator on hand, whether it’s out in the field or back in our shop. It’s a huge advantage for the technician.”

Joel Holmes, Monsanto

Organizations are relying more than ever on devices that monitor equipment in the field. As a result of the increasing demand for data, the number of devices that a plant needs to manage is constantly increasing. While increased access to diagnostics is a blessing, the increased pressure of maintaining these devices is not always a welcome change for the technicians who are responsible for their installation, configuration, and maintenance.

For technicians to deliver top-tier reliability on critical equipment, they must be given top-tier tools. The right equipment will give technicians more flexibility in both the field and the workshop, helping them to save time and feel more confident about the repairs and configurations performed on a day-to-day basis.

Emerson’s AMS Trex Device Communicator helps technicians achieve faster configuration and troubleshooting on the bench or in the field. With Power the Loop technology, technicians can perform critical diagnosis and configuration tasks without the need for an external power supply or loop simulator - allowing more flexibility and efficiency in daily operations.

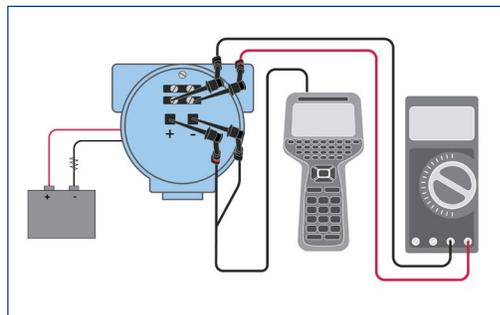
The Cluttered Workshop

A process plant can be a harsh environment; as a result, devices will occasionally need to be returned to the shop for evaluation, repair, or configuration. Unfortunately, connecting to a device in the shop to check configuration and functionality is a cumbersome process that eats up valuable man-hours.

To evaluate a device in the shop, the technician first needs to round up a power supply that is appropriate for the device. This means spending time searching through supply cabinets in order to find the appropriate power source. In addition, the technician needs to verify that the device has adequate loop resistance before hooking up the communicator. All of these steps take time that is frustrating when the plant is operating normally. And if the removal of the device has caused an outage, this time spent rounding up the right parts can be costly.

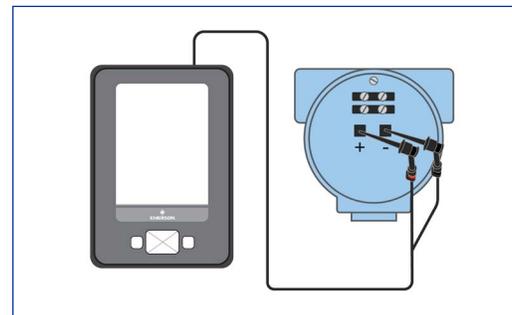
To speed repair and configuration on the bench, technicians need tools that will minimize the external complications of device setup. The Trex communicator's Power the Loop technology enables technicians to configure devices on the bench in a fraction of the time needed with other communicators.

Power the Loop functionality allows users to access a device simply by connecting to the terminals on the device. The Trex communicator functions without the need for an external power supply and provides loop resistance on both sets of connectors. When a user plugs an unpowered device into the Trex communicator, the communicator's intuitive interface anticipates the action and notifies the user to connect the device to the powered terminals. When the lead set is plugged into the powered terminals, the technician can select the option to provide power, immediately making the device available for configuration or diagnosis.



BEFORE

- Communicator
- DC Power Supply
- Multi-meter
- 250 Ohm resistor



AFTER

- AMS Trex Device Communicator
- ~~DC Power Supply~~ **GONE**
- ~~Multi-meter~~ **GONE**
- ~~250 Ohm resistor~~ **GONE**

With AMS Trex, you only need a single tool to power a device.

Fixing in the Field

Repairing a device in the field, either because it can't be brought back to the shop or because a process is down and time is of the essence, presents its own set of complications. A device in the field has access to a power supply and to adequate loop resistance, but what if the problem is the power supply or wiring?

If a device isn't communicating or operating properly due to a problem in the surrounding infrastructure, but the technician can't remove it from that environment, a lot of time can be wasted trying to diagnose what might be a simple problem. Devices in the field are notoriously difficult to isolate from their surrounding environment, which results in many wasted hours if the environment itself is the problem.

Because technicians are frequently in the field, they need to carry a device that simplifies mobile troubleshooting, rather than complicates it. Eliminating unnecessary tools means removing inefficiencies.

In some cases, discovering what is wrong starts with determining what is not wrong. Problems with power supplies and wiring can be difficult to diagnose, as technicians cannot accurately test devices without power. But dragging a power supply and loop simulator out to the field for every repair just to rule out power issues is cumbersome and frustrating.

With the AMS Trex Device Communicator's ability to power a device in the field, technicians can isolate devices from a problem in the environment. Having the ability to isolate a device in the field means being able to rule out common problems such as power issues, wiring faults, or issues with control system I/O or control loop configuration.



Connecting to loop power on the AMS Trex unit is simple and intuitive for both HART and FOUNDATION Fieldbus devices.

The Configuration Waiting Game

In a new project, power is commonly brought to devices through the control host system. Most of the engineering work must be completed first: plumbing, piping, and wiring are typically installed before technicians can begin configuring devices.

In many cases, instrumentation arrives long before preparatory work is complete. This instrumentation then sits, waiting for the rest of the project to be completed because devices cannot be configured without power. When the time to configure the transmitters finally comes, they have become a critical path item because the project schedule is nearing its end. With deadlines looming, either device commissioning is rushed or project start-up is delayed.

An “all-hands-on-deck” scramble to commission devices in the late stages of a project means risking project delivery delays. The Trex communicator delivers on Emerson’s Project Certainty initiative, with a design focused on adding flexibility in project scheduling and helping project teams achieve faster startup times.

With Power the Loop, if the instruments are installed, organizations don’t have to wait for the host system installation, or for hardware, I/O, and cabling to be run. Instead of waiting on transmitter configuration at the end of a project, technicians can install and configure devices as soon as they arrive, helping organizations gain flexibility in schedule and workforce.

With the flexibility to configure devices in the field regardless of the infrastructure supporting them, project planners can plan configuration of devices more effectively, spreading it out across the project and allowing late-stage manhours to be used for more pressing concerns, speeding installation and keeping projects on schedule.

Do More with Your Handhelds

Power the Loop technology in the AMS Trex Device Communicator enables technicians to simplify work in the shop and in the field. By reducing the number of tools they need to carry and helping take configuration off the critical path, organizations can use Power the Loop technology to make more efficient use of available man hours and shorten or eliminate process outages resulting in less downtime, lower costs, and increased profitability.

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