AMS Trex™ Device Communicator

- Commission and validate devices faster
- Quickly fix issues in the field with advanced device diagnostics
- Configure and test valves inline
- Improve efficiency with a modern, intuitive user interface
- Intrinsically safe; usable anywhere you need to go

Introduction

The AMS Trex Device Communicator expands the long line of Emerson handheld devices while adding new capabilities that adapt it to consumer expectations for mobile device functionality.

Technicians armed with a Trex communicator won’t waste time bringing devices back to the shop for analysis or reconfiguration. Problems with Foundation Fieldbus and HART devices can be diagnosed in the field while the devices are still installed. Simple issues can be addressed on the spot, avoiding unnecessary, and potentially destructive, invasive physical investigation of the problem.

Technicians need powerful and portable diagnostic tools so they can identify and troubleshoot device issues to minimize process upsets. With a Trex communicator in hand, you can properly diagnose device issues in the field. With the right handheld, maintenance teams will experience significant savings in work hours and peace of mind knowing that problems will be fixed quickly and properly the first time.

Rugged and Reliable

For a communicator to be useful in the field, it must be built to last and ready for anything. The Trex communicator is designed to withstand the harsh conditions in and around manufacturing facilities. The rugged device is easy to hold, yet designed to take the bumps and drops that come from normal use in the plant. In addition, the Trex communicator is protected against moisture and extreme temperatures, allowing you to work regardless of environmental conditions. The sturdy exterior is designed in accordance with Intrinsic Safety standards to limit the buildup of static electrical energy. Unlike consumer-grade mobile devices, the Trex communicator will withstand the abuse of a harsh field environment.

Designed based on user feedback and with field use in mind, the carrying case features an access window that allows you to use the communicator and contains pockets large enough to carry the charger, extra lead sets, or other tools you may need in the field.
The rugged form factor is built for an industrial environment.

**Adjustable Display**

The Trex communicator features a 5.7” resistive touchscreen display for easy use with bulky work gloves. The adjustable backlit screen can be easily changed to save power or adapt to dark environments or bright sunlight, ensuring a crisp display that can always be read - no matter the external conditions.

**An App for That**

The Trex communicator includes Upgrade Studio, a PC application to help keep the Trex unit up-to-date with new software and apps. Upgrade Studio can even connect to multiple devices at once, allowing you to simultaneously upgrade and perform installs on your entire fleets of AMS Trex Device Communicators.

With Upgrade Studio, add critical diagnostic tools to your toolkit and push them out to any number of Trex communicators. With multiple apps available and many more in development, Upgrade Studio will make the Trex communicator your go-anywhere, do-anything device:

- **Field Communicator** – The Field Communicator app delivers a wide range of options for configuring and troubleshooting HART and Foundation Fieldbus devices.
- **Loop Diagnostics** – With the Loop Diagnostic app, you can power the loop in the field and also perform loop troubleshooting and checkouts. The app helps with loop characteristic validation and lets you isolate and troubleshoot wiring issues.
- **Fieldbus Diagnostics** – The Fieldbus Diagnostics app gives you the necessary toolset for troubleshooting and validating Foundation Fieldbus segments.
- **Valvelink Mobile** – With Valvelink Mobile, you can analyze and review valve assembly condition and performance without affecting the process. Configuration and troubleshooting of digital valve controllers has never been more efficient.
- **Trex Help** – The Trex Help app offers a searchable help guide, putting key information on operation and troubleshooting at your fingertips.

**Designed for Use**

Designed for comfortable, one-handed, all-day operation in the field, the Trex communicator is packaged in an evenly-balanced form factor with a rugged hand strap so you can easily hold it, even when working in tight spaces. It comes standard with 32 GB of application memory, providing plenty of space to customize it with the apps of your choice. With built-in Bluetooth, USB, and WiFi connectivity, you can move data to and from the communicator using the connectivity option that is most convenient. With numerous communication options, your communicator has never been more connected.

The communicator’s robust lithium-ion power module will keep it running for hours, well over a full shift, even when it is being used to power other devices in the field.

**Intrinsically Safe**

The Trex communicator is built to go wherever you may need to be. Unlike consumer mobile devices that cannot be taken into hazardous areas without shutting down the process or pulling a hot work permit, the Trex unit meets global Intrinsic Safety requirements:

- ATEX
- CSA (US/Canada)
- IECEx
- FISCO

Gain freedom and flexibility with a communicator that can go anywhere you need to, when you need to, without worrying if the device will put you at risk.
Manage loop health easily with the Trex communicator.

**Power the Loop**

The Trex communicator includes built-in functionality to power a device. Simply connect the communicator to an instrument to power it. Technicians no longer waste time rounding up a power supply or confirming adequate loop resistance before testing, speeding configuration on the bench.

Power the loop functionality allows device configuration in the field on new projects—even before power and I/O infrastructure are in place. Transmitter configuration no longer needs to be the last step of new projects. Configure transmitters before the host system, wiring, piping, and other project elements arrive, keeping transmitter configuration from being a critical path item, allowing more flexibility in new project scheduling and leading to faster startups.

Powering devices from the communicator allows you to isolate the device from the rest of the system, helping you identify installation problems like power supply, wiring, I/O card, and configuration issues.

**Powerful Diagnostics**

**Identify Valve Problems**

Valve problems are particularly costly to diagnose and repair. Field technicians are often required to pull a valve to investigate a problem, and removing valves for inspection usually means shutting down the process. Further complicating troubleshooting, technicians often need to disassemble the valve to determine the root cause of the problem. This frequently leads to further damage to the valve, ending in a more time consuming and expensive repair.

Using the ValveLink Mobile app on the Trex unit, you can perform valve diagnostics in the field, including valve signature, dynamic error band, PD one button sweep, and step response, without having to pull the valve or perform invasive troubleshooting steps. ValveLink Mobile works with HART and Foundation Fieldbus Fisher® FIELDVUE™ digital valve controllers and provides an intuitive user interface that is easy to understand and use. The large touchscreen on the Trex communicator makes it easier than ever to see all valve diagnostic details.

The useful carrying case protects your Trex unit in the field and provides storage options for accessory items.
Diagnose Communication Problems

The Trex communicator can configure and troubleshoot Foundation Fieldbus devices and segments in your plant. Use the communicator to create a quality segment by diagnosing the network DC voltage and average noise. Detect power supply problems using the communicator’s power the loop functionality or by monitoring low frequency noise on a segment.

You can also verify whether the DC voltage is correct in HART loops.

The magnetic hanger accessory allows you to attach the Trex unit to a pipe, freeing up your hands for other work.

Specifications

<table>
<thead>
<tr>
<th>Processor, Memory, and Operating System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Microprocessor</strong></td>
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<tr>
<td><strong>Memory Internal Flash</strong></td>
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<tr>
<td><strong>Operating System</strong></td>
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<tr>
<td><strong>RAM</strong></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Physical</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight</strong></td>
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<tr>
<td><strong>Display</strong></td>
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<tr>
<td></td>
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<tr>
<td><strong>Keypad</strong></td>
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<thead>
<tr>
<th>AC Adapter</th>
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<tbody>
<tr>
<td><strong>Battery</strong></td>
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<tr>
<td><strong>Operating Time</strong></td>
</tr>
<tr>
<td><strong>Charge Time</strong></td>
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<tr>
<td><strong>LEDs</strong></td>
</tr>
<tr>
<td><strong>Battery Charger Options</strong></td>
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</tbody>
</table>
## Connections

<table>
<thead>
<tr>
<th>Connections</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB</td>
<td>Micro USB Connector. USB 2.0. Remove the USB cable from the Trex unit before connecting to a device.</td>
</tr>
<tr>
<td>Battery Charger</td>
<td>Barrel Round Plug Tip</td>
</tr>
</tbody>
</table>

## Wireless

<table>
<thead>
<tr>
<th>Wireless</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless Approvals</td>
<td>FCC, CE, RED and IC Approvals. Certified for use in over 100 countries</td>
</tr>
<tr>
<td>Bluetooth</td>
<td>2.1. Range up to 10 m</td>
</tr>
<tr>
<td>Wi-Fi</td>
<td>802.11 b/g. Range up to 33 m</td>
</tr>
<tr>
<td>NFC</td>
<td>Active NFC. Range up to 20 cm</td>
</tr>
</tbody>
</table>

## Communication Modules

### Device Communicator Communication Module

<table>
<thead>
<tr>
<th>Communication Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HART terminal</td>
<td>Enables HART device communication. Connectors: Two Banana Jack Plugs. Optional Internal Resistor: 250 or 500 Ohm</td>
</tr>
<tr>
<td>Fieldbus (FF) terminal</td>
<td>Enables FOUNDATION Fieldbus device communication. Connectors: Two Banana Jack Plugs</td>
</tr>
</tbody>
</table>

### Device Communicator Plus Communication Module

<table>
<thead>
<tr>
<th>Communication Module</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HART terminal</td>
<td>Enables HART device communication. Connectors: Two Banana Jack Plugs. Optional Internal Resistor: 250 or 500 Ohm</td>
</tr>
<tr>
<td>HART + pwr terminal</td>
<td>Enables HART communication with the Trex unit, and provides power to one HART device in a bench setup. Connectors: Two Banana Jack Plugs. Includes HART power supply, resistors (167 Ohm), current control, and ammeter. Current Range: 3 - 22.5 mA</td>
</tr>
<tr>
<td>mA terminal (external ammeter)</td>
<td>Measures current on a 4-20 mA current loop. Connectors: Two Banana Jack Plugs. Current Range: Up to 22.5 mA. Resolution: 0.1 mA</td>
</tr>
<tr>
<td>Fieldbus (FF) terminal</td>
<td>Enables FOUNDATION Fieldbus device communication. Connectors: Two Banana Jack Plugs</td>
</tr>
<tr>
<td>FF + FF pwr terminal</td>
<td>Provides power to one FOUNDATION Fieldbus device in a bench setup. Connector: One Banana Jack Plug (Power conditioner included). Current Range: 0 - 38 mA</td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Usage</td>
<td>-20°C to +55°C (-4°F to 131°F).</td>
</tr>
<tr>
<td></td>
<td>For IS approval: -20°C to +50°C (-4°F to 122°F)</td>
</tr>
<tr>
<td>Charge</td>
<td>+10°C to +45°C (50°F to 113°F)</td>
</tr>
<tr>
<td>Storage with power module</td>
<td>-20°C to +50°C (-4°F to 122°F) (less than 1 month)</td>
</tr>
<tr>
<td>Storage without power module</td>
<td>-20°C to +60°C (-4°F to 140°F)</td>
</tr>
<tr>
<td>Enclosure Rating</td>
<td>IP54</td>
</tr>
<tr>
<td>Shock</td>
<td>The unit shall survive a 1-meter, all sides and corners drop test onto concrete.</td>
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<table>
<thead>
<tr>
<th>Upgrade Studio Requirements</th>
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<tbody>
<tr>
<td>Installation</td>
<td>Windows 7 Professional Service Pack (SP1) 1 (32 and 64-bit)</td>
</tr>
<tr>
<td></td>
<td>Windows 10 Professional</td>
</tr>
<tr>
<td></td>
<td>512 MB of free disk space</td>
</tr>
<tr>
<td></td>
<td>A Windows user account with Administrator privileges</td>
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## Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Product Description</th>
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<tbody>
<tr>
<td>TREX</td>
<td>Base Trex Platform&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Communication Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Device Communicator communication module</td>
</tr>
<tr>
<td>L</td>
<td>Device Communicator Plus communication module&lt;sup&gt;(2)&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>HART Application</td>
</tr>
<tr>
<td>F</td>
<td>HART + Foundation Fieldbus Applications&lt;sup&gt;(3)&lt;/sup&gt;</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Power Module Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Rechargeable Li-Ion Power Module</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Product Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>KL</td>
<td>ATEX, CSA (US/Canada) and IECEx Intrinsically Safe (includes FISCO as applicable)</td>
</tr>
<tr>
<td>NA</td>
<td>No Approval</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Radio Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Wireless&lt;sup&gt;(4)&lt;/sup&gt;</td>
</tr>
<tr>
<td>9</td>
<td>None</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Support&lt;sup&gt;(5)&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>S1</td>
<td>Standard Support (1 Year)&lt;sup&gt;(6)&lt;/sup&gt;</td>
</tr>
<tr>
<td>S3</td>
<td>Standard Support (3 Year)&lt;sup&gt;(6)&lt;/sup&gt;</td>
</tr>
<tr>
<td>P1</td>
<td>Premium Support (1 Year)&lt;sup&gt;(7)&lt;/sup&gt;</td>
</tr>
<tr>
<td>P3</td>
<td>Premium Support (3 Year)&lt;sup&gt;(8)&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Typical HART Model Number:** TREX L H P KL W S3

**Typical HART/Fieldbus Model Number:** TREX L F P KL W P3

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<sup>(1)</sup> Includes AC Adapter, USB Cable, Lead Set with connectors, Hand Strap, Quick Start Guide and Resource DVD. ValveLink Mobile application available at no charge once Trex unit is activated.

<sup>(2)</sup> Includes additional Lead Set with connectors.

<sup>(3)</sup> Includes Foundation Fieldbus Power Plug when ordered with Device Communicator Plus communication module (L).

<sup>(4)</sup> Includes Bluetooth, WiFi, and NFC radios. Available only in countries where spectrum approval has been obtained. See [www.emerson.com/trex](http://www.emerson.com/trex) for additional details.

<sup>(5)</sup> Includes 1 year warranty against manufacturing defects unless otherwise stated.

<sup>(6)</sup> Includes technical support and software updates.

<sup>(7)</sup> Includes Standard Support and coverage against accidental damage.

<sup>(8)</sup> Includes Standard Support, extended coverage against manufacturing defects, and accidental damage.
## Spare Parts Information

<table>
<thead>
<tr>
<th>Spare Parts</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rechargeable Li-Ion Power Module</td>
<td>TREX-0002-1211</td>
</tr>
<tr>
<td>Rechargeable Li-Ion Power Module (with 3 years premium coverage)</td>
<td>TREX-0002-3611</td>
</tr>
<tr>
<td>AC Adapter (includes US, EU, UK, AU outlet plugs)</td>
<td>TREX-0003-0011</td>
</tr>
<tr>
<td>DC Adapter (12v vehicle accessory outlet)</td>
<td>TREX-0003-0022</td>
</tr>
<tr>
<td>AC Outlet Plugs (replacement set includes US, EU, UK, AU)</td>
<td>TREX-0003-0002</td>
</tr>
<tr>
<td>FOUNDATION Fieldbus Power Plug</td>
<td>TREX-FFPA-0001</td>
</tr>
<tr>
<td>Lead Set with connectors</td>
<td>TREX-0004-0001</td>
</tr>
<tr>
<td>Hand Strap (replacement set of 2)</td>
<td>TREX-0005-0002</td>
</tr>
<tr>
<td>Carrying Case (includes hand &amp; shoulder straps)</td>
<td>TREX-0005-0011</td>
</tr>
<tr>
<td>Shoulder Strap (replacement for use with carrying case)</td>
<td>TREX-0005-0009</td>
</tr>
<tr>
<td>Magnetic Hanger</td>
<td>TREX-0005-0004</td>
</tr>
<tr>
<td>USB cable (USB to micro USB)</td>
<td>TREX-0004-0002</td>
</tr>
<tr>
<td>Device Communicator communication module</td>
<td>TREX-PMDC-1211</td>
</tr>
<tr>
<td>Device Communicator communication module (with 3 years premium coverage)</td>
<td>TREX-PMDC-3611</td>
</tr>
<tr>
<td>Device Communicator Plus communication module</td>
<td>TREX-PMDP-1211</td>
</tr>
<tr>
<td>Device Communicator Plus communication module (with 3 years premium coverage)</td>
<td>TREX-PMDP-3611</td>
</tr>
<tr>
<td>Stand (replacement integral to communication module)</td>
<td>TREX-0012-0011</td>
</tr>
<tr>
<td>Quick Start Guide (Multilingual)</td>
<td>TREX-0045-0001</td>
</tr>
<tr>
<td>Resource DVD</td>
<td>TREX-0049-DVD1</td>
</tr>
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</table>

### Applications

<table>
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<tr>
<th>Applications</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>FOUNDATION Fieldbus license - 90 Day Demo</td>
<td>TREX-APFF-0301</td>
</tr>
<tr>
<td>FOUNDATION Fieldbus license - 1 Year Subscription</td>
<td>TREX-APFF-1201</td>
</tr>
<tr>
<td>FOUNDATION Fieldbus license - 3 Year Subscription</td>
<td>TREX-APFF-3601</td>
</tr>
<tr>
<td>FOUNDATION Fieldbus license - Unlimited Subscription</td>
<td>TREX-APFF-PE01</td>
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### Support Renewal

<table>
<thead>
<tr>
<th>Support Renewal</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Support Renewal (1 Year)</td>
<td>TREX-SUST-1211</td>
</tr>
<tr>
<td>Standard Support Renewal (3 Years)</td>
<td>TREX-SUST-3611</td>
</tr>
<tr>
<td>Premium Support Renewal (1 Year)</td>
<td>TREX-SUPR-1211</td>
</tr>
<tr>
<td>Premium Support Renewal (3 Years)</td>
<td>TREX-SUPR-3611</td>
</tr>
</tbody>
</table>

(1) Includes 1 year warranty against manufacturing defects unless otherwise stated.
(2) Includes extended coverage against manufacturing defects and accidental damage.
(3) Ships with integral stand installed.
(4) Contains integral stand and retaining plate in order to attach the stand to the communication module.
(5) Resource DVD includes install for Upgrade Studio application and electronic version of the Quick Start Guide and User Guide.
(6) Applications and licenses are delivered through the Upgrade Studio application.
(7) Standard Support renewal may be purchased at any time.
(8) Premium Support renewal may only be purchased for products that were originally purchased with Premium Support. If support has expired at time of renewal purchase, Trex unit must be sent into service center for verification.