СИСТЕМЫ УПРАВЛЕНИЯ

Руководство пользователя

на Field Device Manager

FDM

Honeywell | Connected Plant

Field Device Manager R500

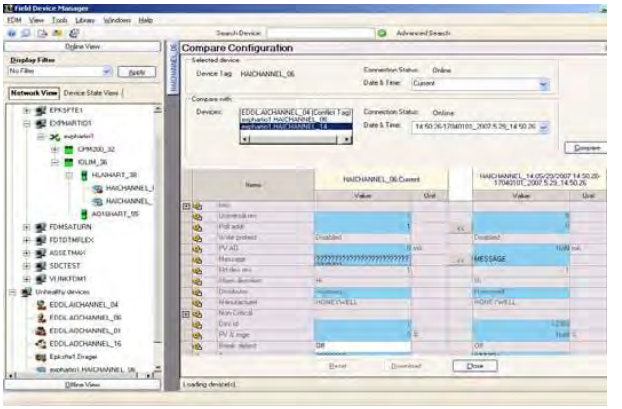
Product Information Note

Honeywell's Field Device Manager (FDM) provides a comprehensive solution for managing smart devices. Field Device Manager is the essential tool to help operations be more proactive about maintenance and avoid costly failures. Experion® PKS – The Knowledge to Make it Possible.

The emergence of the Industrial Internet of Things (IIoT) - sometimes used interchangeably with other terms such as Smart Manufacturing, Industrie 4.0, Digitization, and Connected Enterprise - represents a digital transformation of manufacturing that shifts the source of competitive advantage away from physical machinery and towards information. By delivering meaningful information where and when it is needed most across the enterprise, IIoT opens up new possibilities for safety, productivity, organizational responsiveness and ultimately, profitability.

One of the key elements of this digital transformation is extensive access to the wealth of information available in field devices. These field devices and equipment with supporting digital technologies have become widely adopted in the process industries and have proven to provide significant benefits to customers. Digital devices and equipment provide a great deal of data about the health of the device and its operating environment. This data can lead to several useful applications that prevent losses or disruptions, enhance quality and reliability, and reduce maintenance costs.

Field Device Manager provides plant instrument engineers, technicians and maintenance personnel with an optimized environment that simplifies tasks and enables remote management of smart instruments. FDM provides an open architecture that enables use of smart diagnostic data in any device from any vendor.



Easily compare HART device configurations with FDM

FEATURES & BENEFITS

Tight Integration

- Experion PKS
- Safety Manager
- RTU2020
- Control Edge PLC
- One Wireless Network
- Asset Sentinel
- TPS networks
- HART Multiplexers
- 3rd Party Apps

Open Protocol Support

- HART Host registered-first product to pass!
- Foundation Fieldbus
- Profibus DP and PA
- ISA100 Wireless
- Wireless HART
- DE protocol
- EDDL, FDT, FDI support
- Device Library

Data Management

- Device Configuration, online and offline
- Instrument Database
- History and Audit Trail
- Compare Devices
- Bulk Operations
- Device Documentation
- Import/Export/Print
- Migration Tool

Security and Access

- Role-based User Management
- Device Access Control
- Single Sign On
- Diagnostics
- Backup and Restore
- PVST Planner

Search and Views

- Advanced Search
- Quick Search
- Dashboard
- Plant Area View
- Station Maintenance View
- Display Filters
- Quick View
- Online vs Offline

FDM Simplifies Maintenance Tasks

FDM simplifies maintenance tasks by providing an intuitive user interface optimized for use by instrumentation engineers and technicians. The user interface and its supported functions are consistent regardless of whether the device is connected to Experion HART and Foundation Fieldbus I/O, Safety Manager Universal Safety I/O, HART hardware multiplexers, HART modems, Honeywell RTU2020 HART I/O,
OneWireless/ISA100 Wireless, Wireless HART, Honeywell DE (Digitally Enhanced) Protocol devices, and PROFIBUS networks.
FDM automatically highlights instruments that have faults or need diagnosis in a separate menu. Faults are identified automatically, without the need for special setup.

The Offline Configuration feature allows you to complete the device configuration offline without the device being physically present and lets you later download the configuration at the click of a mouse.

With FDM, no database building or point engineering is required. Simply configure the communication networks, and FDM automatically:

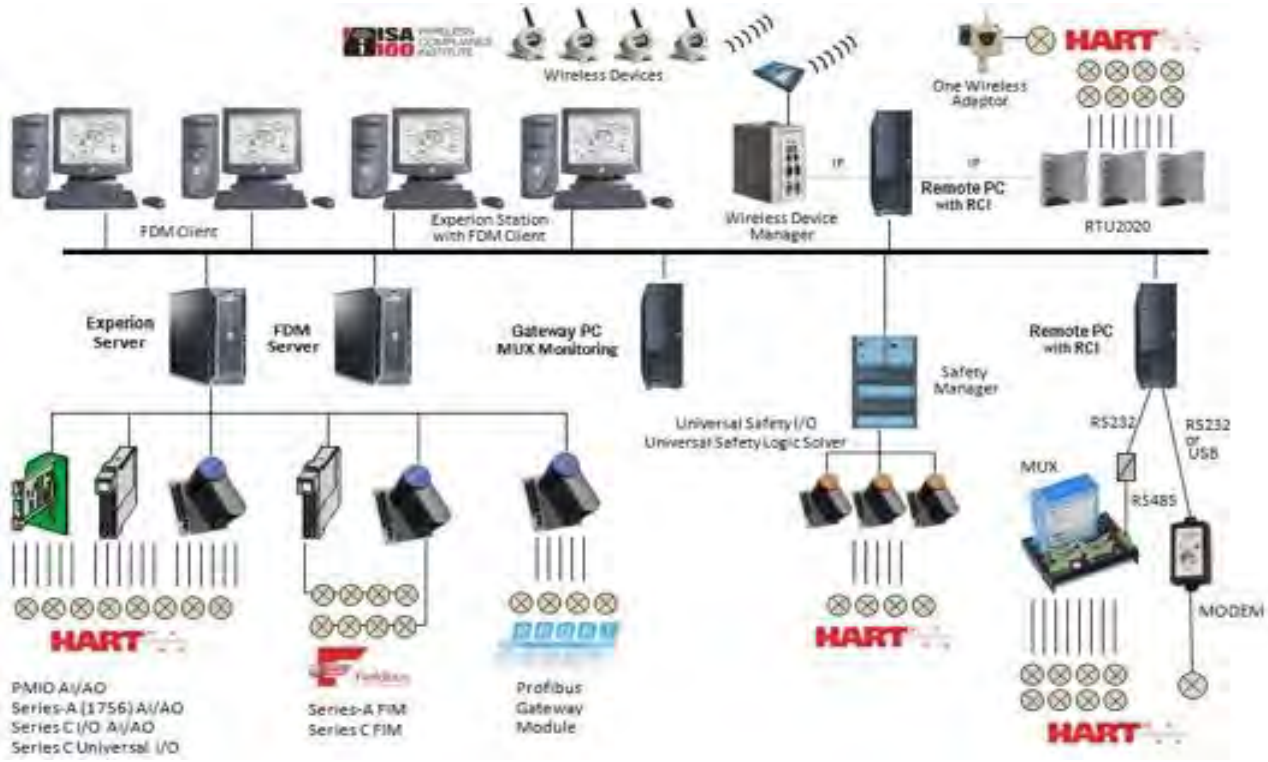
- Detects smart devices and adds them to the database
- Uses information accessed from the actual, connected HART, Foundation Fieldbus, PROFIBUS or Wireless device to establish the database record and automatically assign the correct device template
- Saves time by eliminating the need to build templates and assign them to devices
- Historizes data, allowing maintenance personnel to compare:
    - Configuration of one device with another device, or
    - Historical configuration of the same device or another device.

FDM Saves Time

FDM saves time in the field and in configuration. FDM provides the ability to perform common tasks on instruments remotely, thereby saving costly and time-consuming field trips that would otherwise be required.

FDM also simplifies and reduces effort normally involved in plant debugging processes by providing clear and accurate status of devices within the control room/maintenance shop.

Features such as document linking and device diagnostic detail provide additional aid to maintenance.



FDM can work with all your smart instrumentation

Tight Experion Integration

FDM tightly integrates with Experion HART-enabled I/O modules and Foundation Fieldbus Interface Modules (FIMs), conveniently connecting to the Experion server over the network. It likewise connects with Safety Manager Universal Safety I/O or Universal Safety Logic Solver modules. No special termination panels, hardware multiplexers, or wiring are needed. Full support is provided for both Experion and Safety Manager system redundancy. FDM Station Maintenance View features detailed device views of HART and Foundation Fieldbus devices from within an Experion Flex Station. This provides seamless integration of information throughout the enterprise. Changes made to FF device parameters from FDM through vendor-provided DTMs are logged in the Experion journal.

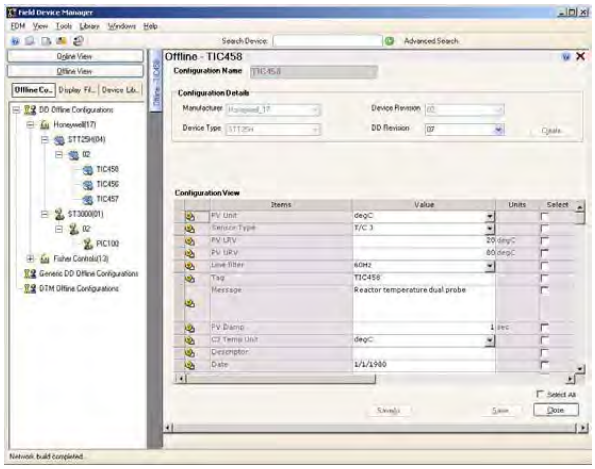
Field Device Manager provides plant instrument engineers, technicians and maintenance personnel with an optimized environment that simplifies tasks and enables remote management of smart instruments.

With complete command and control of all your field instruments throughout the plant, FDM saves time and helps improve overall asset effectiveness.

Open and Standards-Based

FDM supports Electronic Device Description Language (EDDL) and Field Device Tool/Device Type Manager (FDT/DTM) technologies, two open industry standards for device integration. It provides a solution that works with registered HART, Foundation Fieldbus and PROFIBUS devices available worldwide.

EDDL files provide a standard device integration technology supported by the HART Communication Foundation (HCF), the Fieldbus Foundation (FF), and the ISA100Wireless Compliance Institute. They are created by and are available from the device vendors. They describe all device functions and diagnostics, thereby providing full access to the smart device intelligence. For HART, FDM supports HART 5, 6 and 7 as well as the latest HART EDDL enhancements, including advanced graphical features, data storage and manipulation features and advanced window and data organization constructs. FDM's HART host capabilities are based on the HART Communication Foundation's (HCF) reference host, SDC 625 standard, so any device registered with HCF works with FDM.



Offline configuration of a HART device

FDM also comes preloaded with all the latest EDDL files available, and it can be brought up-to-date easily with newly available devices. FDM provides access to all common features. For HART devices, it can work when a DD file is not available.

FDM's FDT/DTM (Field Device Tool/Device Type Manager) support enables the use of manufacturer-created specialized software (DTMs) for HART, Foundation Fieldbus and PROFIBUS devices as well as gateways. DTMs are created for complex devices, such as valves, to provide advanced functionality which might not be as easily managed via EDDL files. The FDT standard specifies the interface between the host software, like FDM, and the vendor-specific DTMs. A DTM can provide a rich graphical interface and simplify complex operations like valve diagnostics and flow meter curves. FDM provides the full benefit of this advanced vendor created software in the familiar FDM environment.

FDM supports easy addition of both EDDLs and DTMs into its library, eliminating the wait for a new software release when a new device or version is used. By supporting both EDDL and FDT/DTM standards, FDM eliminates the need for multiple software tools.

FDM simplifies startup by providing an easy-to-use interface for common tasks. Wizard-like menu-driven methods guide you through common tasks

like loop tests, calibration procedu res and range updates. FDM supports powerful and complex features like valve stroke tests of control valves, flow diagnostics, or drift analysis with the same ease as common tasks like loop tests or calibration procedures.

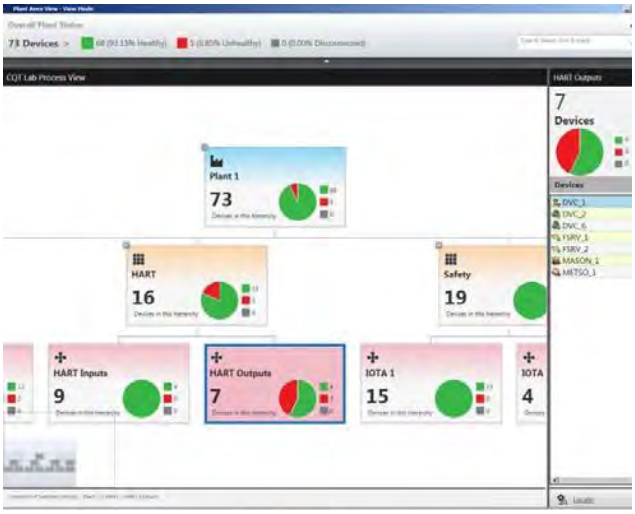


Figure 1 FDM Plant Area View helps focus attention on problem areas

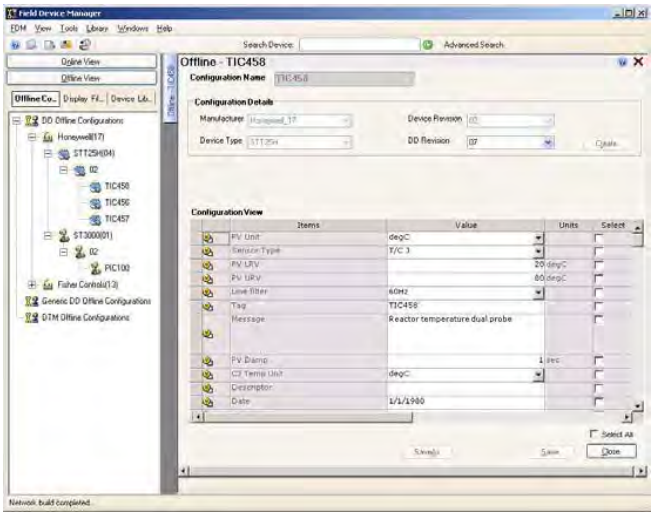
Plant Area View for High Level Navigation

Plant Area View enables you to view and monitor smart devices based on geographical location or any logical grouping category. It is versatile and time-saving, with up to four hierarchical levels, and can represent virtual grouping within a plant, instrument types, or individual technician job assignment preferences. You can create as many customized
“views” as you want. With Plant Area View, you can:

- View devices mapped to a particular group
- View a summary of health and connection status
- Filter devices by their health or connection status
- Quickly locate a device in the FDM Client View from

using handy pie charts at various levels

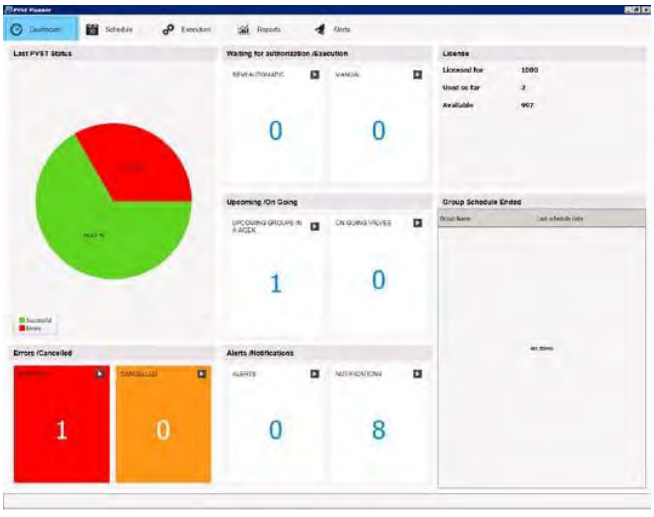
the plant area view



Offline configuration of a HART device

Partial Valve Stroke Test (PVST) Planner

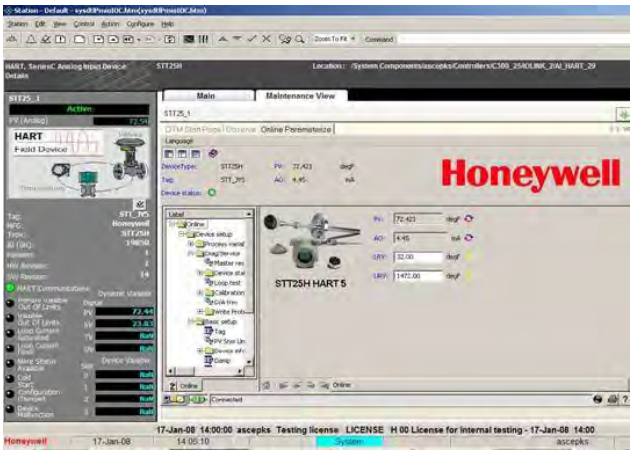
Partial Valve Stroke Testing, or PVST, increases confidence in safety instrumented systems by periodically testing safety shutdown valves, also known as emergency shutdown (ESD) valves. The valves are automatically tested to detect failure modes related to valve sticking and valve response time, thus insuring that safety and control valves will operate properly when needed. FDM’s optionally licensed PVST Planner feature allows the user to schedule testing to be done automatically, semi-automatically, or manually, on qualified HART devices with test results stored for documentation purposes.



The PVST Planner Dashboard shows ESD valve test status at a glance

A Flexible, Secure Environment

FDM provides a secure environment with password- and login- protection. FDM's flexible role-based security environment allows system administrators to define user roles and privileges according to each plant's specific procedures. FDM supports single sign-on based on the Windows login ID of the user. To prevent disruptions caused by unauthorized access or human error, FDM provides a unique Device Access Control feature whereby write access to any device, set of devices, or entire network can be managed under password protection. This is especially critical for safety-connected devices. When used with Experion PKS, FDM can prevent changes from being made to



FDM Station Maintenance View is integrated with Experion Station and provides convenient device access from the Operator console

devices that are on-process. Similarly, when used with Safety Manager Universal Safety I/O, FDM prevents changes from being made to devices that are under Safety Lock.

FDM's powerful audit trail capability logs all device changes with the date and time, the identification of the person who made the change and the reason for the change.

Flexible Third-Party Integration

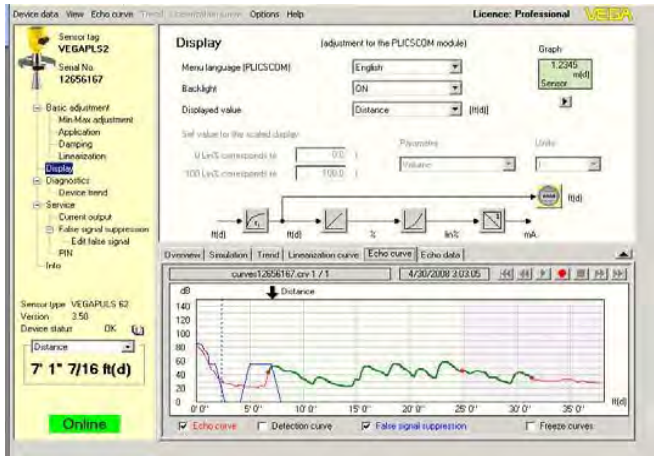
FDM can integrate with HART devices connected to any control or safety system through HART hardware multiplexers (MUXs). It provides the same functions and features as devices connected to Experion-connected HART-enabled I/O. The HART data and alarms from devices connected to these systems can be integrated into Experion from FDM. This allows the Experion operator to be aware of device problems. Additionally, FDM's powerful export-import capabilities make migration of existing databases simple and less intensive.

FDM R450 supports DE Protocol in TPS Systems

Maximize the Benefits of Smart Instrumentation

FDM offers businesses these key benefits:

- Versatility — Supports all parameters and methods supported by smart instruments, contributing to better efficiency, higher productivity and simpler troubleshooting.
- Accessibility — Provides full access to device parameters, configuration and diagnosis procedures. Effective diagnostic information helps improve maintenance prioritization and plant reliability.
- Predictability — FDM helps predict problems early by unlocking the power of smart instrumentation and making it available to plant personnel. It mitigates plant incidents and trips by preventing unplanned instrument failures.



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