Honeywell Enraf

TM BOX
Managing your Operations
Global Experience. Locally Applied.

Honeywell Enraf's TM BOX is a state-of-the-art, web-based solution for facilitating, monitoring and controlling the distribution of products in a terminal. It monitors and controls all critical processes to ensure smooth and safe terminal operation, with each module expertly designed and engineered for deployment in the most challenging business environments.

Honeywell Enraf's TM BOX is innovatively designed to meet the standard requirements of small terminals. It also provides a seamless migration path for installed bases having legacy Contrec1010 devices or legacy software solutions like Meterwin. It is simplistic and user friendly to deploy, configure and maintain. It is built on decades of experience in developing integrated safety and security solutions, DCS automation, and leading terminal products, such as Honeywell Enraf's tank gauging, as well as additive, blending and proving solutions.

State-of-the-Art Management

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Downstream Distribution Terminal Benefits

Improved Safety and Security

Maintaining high levels of safety and security for inventory, personnel and the site is the primary concern of any liquid, distribution terminal. TM BOX does so while meeting the latest local and international environmental rules and regulations. Conditions such as product availability, tank status, line up and equipment states are all verified before the fuel pump and valve can be switched on.

The Emergency Shutdown system, meanwhile, ensures a quick shutdown in an emergency during the loading process. TM BOX also monitors all terminal safety measures, such as the grounding of carriers, arm placement, and overspill protection, to achieve the highest possible levels of safety. Features for regulating entry, exit, and loading bay access (compatible with touch keys, proximity cards, RFID, and PIN systems) and built-in validations ensure tighter terminal security.

Homepage

Maximum Accountability and Optimized Inventory

TM BOX captures real-time data on liquid being loaded and in stock.Enhanced real-time monitoring capabilities reduce the frequency of spills and fuel pilferage. Automatic permissive inputs stop the loading process before an incident can occur, while notification of upcoming events gives operating personnel time to react and avoid incidents. Robust reconciliation and handy reports help with analysis and reporting.

With stock management and folio-based reconciliation, TM BOX offers users a truly world-class product to handle the Inventory needs of the terminal. These modules enable business decisions to be made quickly and in a cost effective manner further to a sophisticated Enterprise wide resource-planning system.

Increased Flexibility

TM BOX is built on industry standard Microsoft® Windows technology and seamlessly integrates with Honeywell Experion®HS. This leverages all SCADA capabilities with powerful graphics, alarms, SOE, journals, trends and history.

Enhanced Product Handling

Designed to handle small terminal requirements and provide better product management through smart and simple reconciliation methods, TM BOX can handle truck loading and unloading operations in the terminal and ensure authorization, recording, monitoring, and movement control. The application is also equipped to handle receipts and dispatches making different types of product handling easy, safe and secure.
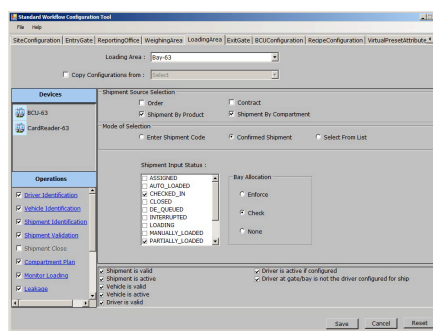
Enhanced Productivity and Manpower Utilization

TM BOX improves productivity by automating most transactions and collecting and storing all terminal status and activity information. Important data is never missed, with events and alarms stored in Experion SCADA. The solution also helps simplify running the terminal through its end of day (EOD), end of shift (EOS) and end of month (EOM) processing capabilities. It is designed to handle variations of terminal operations around the globe, such as carriers type, shipments (by product, order, contract, compartment, etc), and planning (including advanced planning and real-time planning).

With important key performance indicator reports available as standard, terminals can keep tabs on their operations' turnaround time, operating efficiency and other metrics, and quickly identify operational bottlenecks that need attention.

Order Management and Shipment Planning

TM BOX can process both planned and unplanned orders. TM BOX support standard XML file transfer and orders can be received or synchronized from an enterprise resource planning (ERP) system, such as SAP, JD Edwards, Oracle or MEGA, to eliminate laborious manual data re-entry. Orders can also be entered or updated manually if necessary. The order list shows the status of each order – "not scheduled," "partially scheduled" or "fully scheduled." Shipments can also be created, updated or deleted automatically from ERP systems. Vehicles arriving at the terminal, can choose a Shipment or an Order to load. The selection is validated before loading and movement of Vehicle from entry to exit is tracked using different Shipment states like ready, checked in or loading.

Workflow Configuration Tool User Interface – TM BOX

Automation of Work Flows in the Terminal

Users can employ TM BOX to automate workflows, improving productivity as well as terminal safety and security.

To automate workflows primarily among various customers, products, tanks, and users must be configured into the system. This enables the creation of open orders, scheduled open orders and contracts, as well as execution of these orders through shipments (along with stringent validations at each stage).
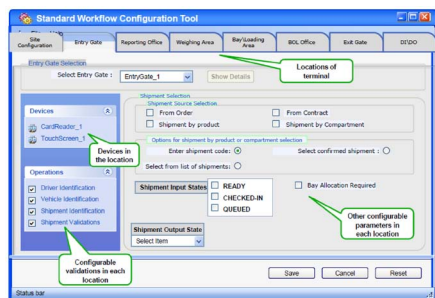
Entry/Exit Validations

Entry and exit of carriers and their drivers in a terminal are closely monitored through various authorization checks based on secure data in TM BOX. Identification devices such as touch keys, PINs, access cards, and RFID sensors perform driver, vehicle and shipment authentication and permission. Traffic lamps and barrier gates are also used to regulate access.

Configuring EOD, EOS and Holidays

TM BOX allows users to configure EOD and EOS timings, setting the timeframe within which carriers are allowed to enter the terminal. Outside these timings, entry is barred. All management reports, including receipt, dispatch and reconciliation, are also generated as per this configuration.

Loading Bay Operations

All loading bay operations (i.e., loading, blending, additive) are automated and monitored to minimize human intervention. Loading is allowed only after safety systems are validated. Batch Control Units (BCU) are used to initiate loading processes. Multiple loading arms (top/bottom) may be utilized to process an order for a particular carrier. Every drop of liquid is accounted for with an audit trail.

Workflow Configuration Tool – Standard TM Box

Weighing Operations

TM BOX provides seamless integration with weigh bridges through Experion SCADA Modbus interface and industry standard logics built into the system. The application supports all weight-based products handled through weigh bridge or mass flow meters.

Data Acquisition and Alarms

With TM BOX, user can collect, display and provide alarms on various process parameters, including loading, device communications, access violations, tank farm, product movements, pumps, MOVs, overrides, fire control, electrics, cathodic protection and equipment condition. Collected data helps with history, identifying trends, analysis, and focuses for training.

Driver and Carrier Authentication

Carrier and its driver information, included as part of TM BOX's master data, helps authenticate driver and carrier entry and access. This information is sent to plant personnel by the customer or their carrier partner. Authentication is completed at various points as applicable, including on entry, and at the reporting office, weighbridge, loading bay, check-in counter, and exit gate.

Role-based Security

TM BOX incorporates a Windows-based authorization procedure to restrict system access based on the user role. A user is granted access according to his or her role and need. Roles created in TM BOX are Operational, Supervisory and Administrative.

Automatic Tank Gauging System Interface

TM BOX interfaces with the automatic tank gauging system through Experion Modbus SCADA Interface, to capture all tank-related parameters. This enables users to easily monitor and manage their tank farm and produce reconciliation reports.
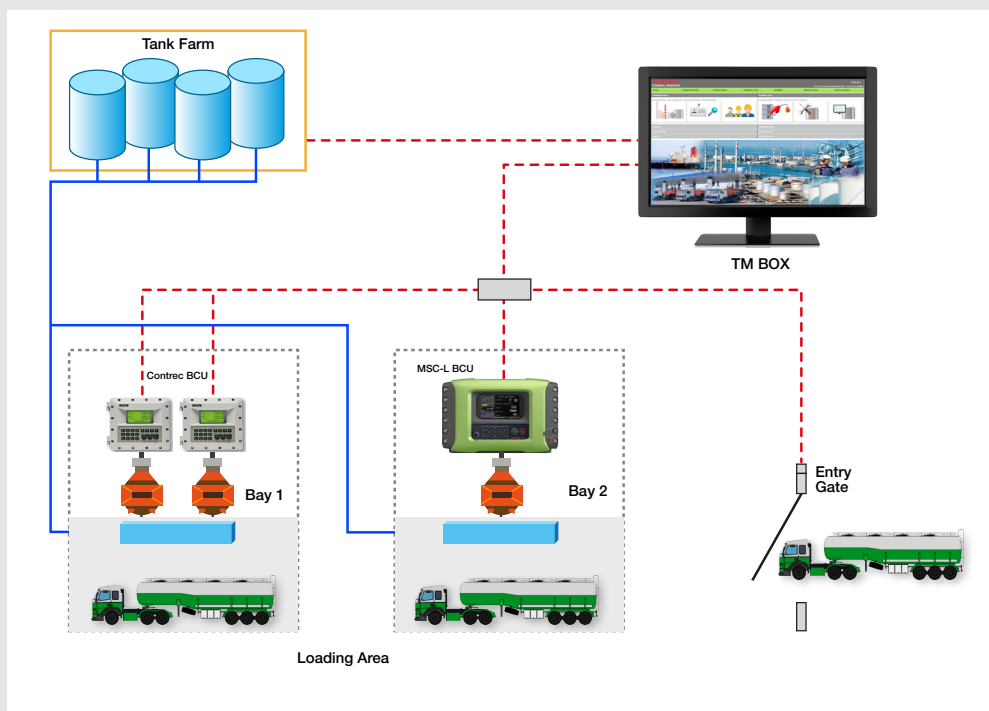
Honeywell's standard product approach allows the site system to migrate to a newer version of TM BOX software with limited disruption to terminal operations. It also makes maintenance and trouble-shooting easier. With support to batch controllers Accuload III, Contrec 1010 BI, BJ, CJ and CB terminals can either choose to migrate batch controller or both batch controller and software, thus providing a flexible migration path.

User Interface and Business Logic

A standard set of user interfaces, consistent and uniform way to access information enables ease of use and built-in business logic enables effective terminal management.

Loading Bay Operations

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Pictorial representation of TM BOX solution deployment - surface transport mode

Wide variety of reports

- Product receipt and reconciliation reports

- Load slips (also called FAN)

- BOL (bill of lading)

- Load details and summaries (sorted by bay, product, customer or stock-owner)

- Product stock reconciliation reports (hourly online or on demand)

- Weigh bridge reports on tare and net weight, including LPG trucks

- Vehicle movement reports (guard house)

- Average loading, waiting duration reports (segregated for each load type)

- Monthly and other MIS reports

- Alarm journal, safety interlocks and trips

- Audit trails

- Proving reports

Configurable Workflow

TM BOX comes with a configurable workflow as a standard product feature. The workflow includes a host of configurable options to enable project engineers to truly "engineer" a workflow solution according to the operational requirements of the site. Irrespective of the number of locations, make and model of batch controllers, transaction planning options & so on, the configurable workflow offers a solution to meet the needs of every TAS deployment under consideration.

Database

Standard practices are followed with strong structure and archive/backup mechanisms. All critical information like loaded data and manual changes are stored and audited to ensure complete integrity of TAS data. The application also offers a tool to load and view the information from the archived database backup and to run corresponding reports. The feature lets terminal's view past operating data and generate reports as required for compliance purposes.

Notifications and Audit Trail

Notification and audit trail feature records all changes or actions undertaken on the software. Appropriate notifications of changes sent to all users improves trouble-shooting for unusual incidents occuring in the distribution terminal.

Accurate and Prompt Reporting

Accurate and well-presented reports improve decision-making. Reports can be exported to various formats, such as Adobe™ Acrobat and Excel™, can be automatically generated according to a schedule and emailed to designated users. For compliance needs and future reference they can also be saved and stored.
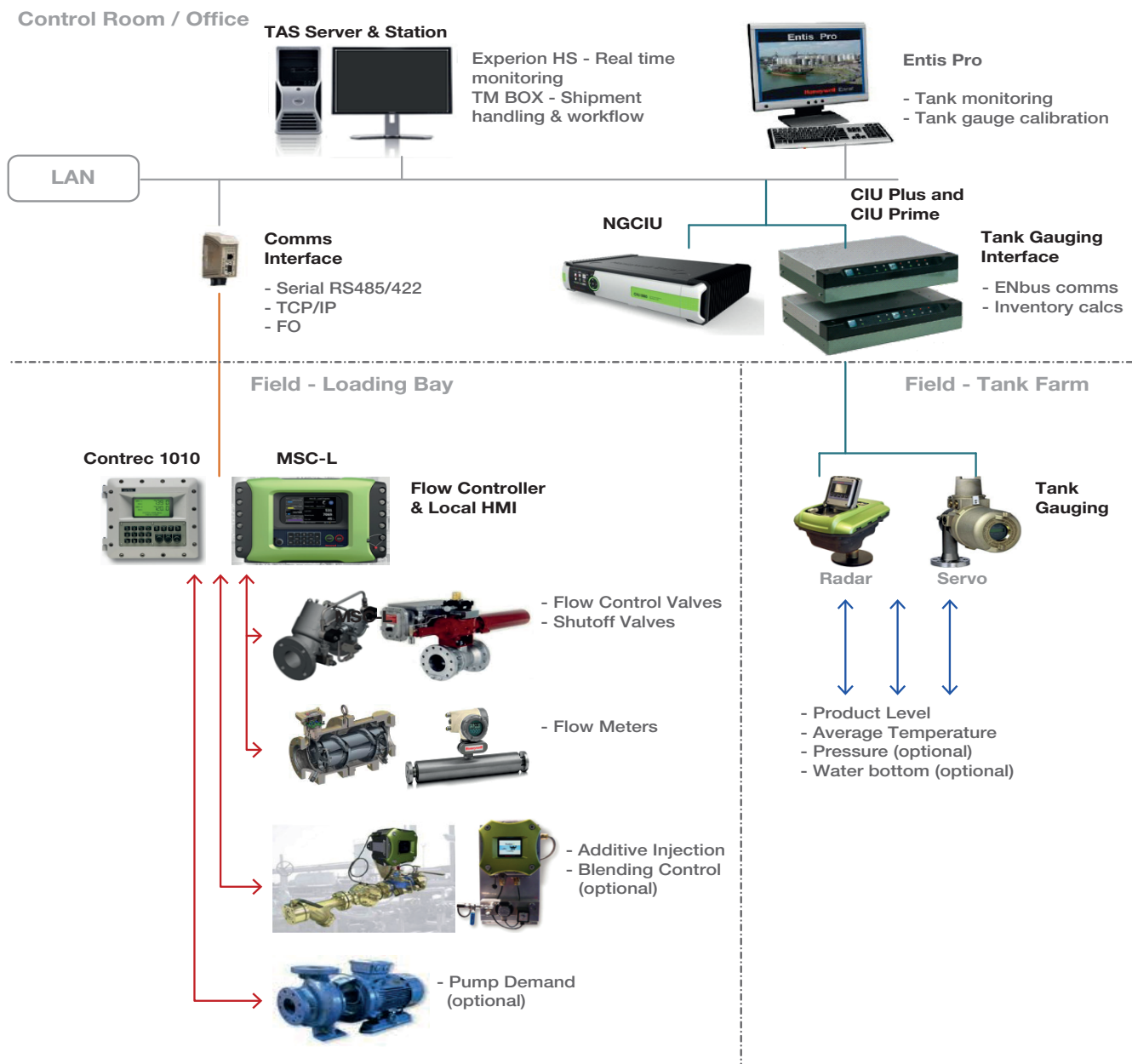
Localization

Can be customized for the country in which it is installed. The customization feature ensures easy adaptation of the software to any downstream distribution terminal, according to the country's language and culture.

Quality Assurance

This product is developed at a CMMI Level 5 certified organization, the highest recognition possible of an organization's software and systems engineering processes. It establishes the company as a quality provider of systems engineering, software engineering, and IT services.

Support Commitments

World class after-sales support is a hallmark of Honeywell. Our proven structure ensures efficient and quick responses to user's service requests.

Control Room / Office

TAS Server & Station

Experion HS - Real time monitoring
TM BOX - Shipment handling & workflow

Entis Pro
- Tank monitoring
- Tank gauge calibration

LAN

Comms Interface
- Serial RS485/422
- TCP/IP
- FO

NGCIU

CIU Plus and CIU Prime

Tank Gauging Interface
- ENbus comms
- Inventory calcs

Field - Loading Bay

Field - Tank Farm

Contrec 1010

MSC-L

Flow Controller & Local HMI

- Flow Control Valves
- Shutoff Valves

- Flow Meters

- Additive Injection
- Blending Control (optional)

- Pump Demand (optional)

Tank Gauging

Radar   Servo

- Product Level
- Average Temperature
- Pressure (optional)
- Water bottom (optional)

Typical System Architecture

TM BOX application uses the Supervisory Control and Data Acquisition (SCADA) functionality of Experion and offers a fully integrated solution for monitoring and order processing of product distribution. The alarms and alerts feature of Experion is also leveraged to ensure safer operation of the terminal.

Wide range of support services:

- Telephone and e-mail support
- Remote diagnosis and trouble-shooting
- Software patches and enhancements
- On-site field support for trouble-shooting
- Routine and preventive maintenance
- Spare parts management
- Database, configuration backup, software version management and site documentation maintenance
- System upgrades and technology refresh programs
- Refresher training programs and test bed maintenance

Honeywell Enraf

Your Terminal Operations Partner

For More Information

To learn more about Honeywell Enraf's
TM BOX Contact your Honeywell Enraf
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