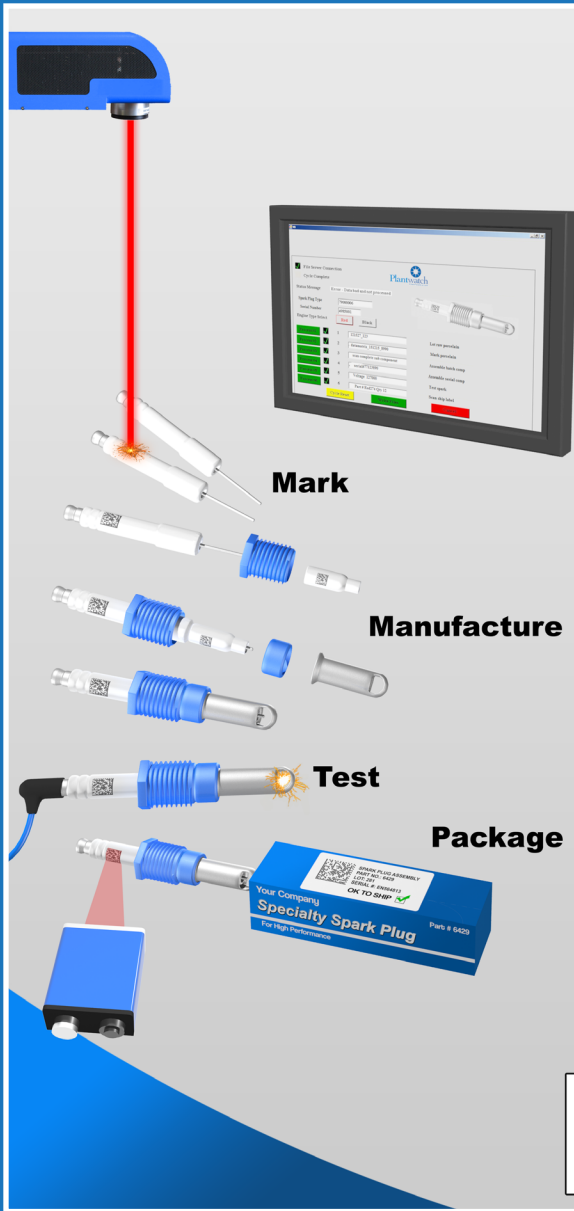




ERP Traveler #5528634

Spark Plug Assembly		
QTY: 300	Operation	Result
LOT No. 281	Mark	✓
PART No. 6429	Assy Bolt	✓
	Assy Sparker	✓
	Test	✓
	Label	✓
	Pack	✓

Mark

Manufacture

Test

Package



SPARK PLUG ASSEMBLY  
PART NO.: 6429  
LOT: 281  
SERIAL #: EN564813  
**OK TO SHIP** ✓

Finally An Easy, User Configurable, Plant Data System.

Comments from Plantwatch® users:

“Nice... We will definitely be using this again!”

- Jim Krause, Louca, Auburn Hills MI  
(after 3 day implementation of Traceability Cell for ZF Lemforder)

“HTE has installed two systems for our head assembly lines and we have been pleased with both installations. I will not hesitate to use HTE’s Plantwatch® on future projects”

- Brian Reed Cummins, Jamestown NY

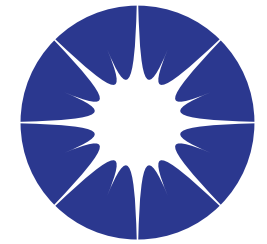
“Our customer TRW required traceability. Plantwatch® married the serialized steering shafts to the heat lot code and was up and running in two days.”

- Jason Diebold, Heat Treating Technologies Inc, Lima OH

“We found the price point and richness of the tool to exceed our requirements.”

- Christopher Gribben, MTD

“So easy an end user can do it”  
“Full Featured, Powerful & Simple”



# Plantwatch®

Industrial Automation Software



Manufactured by  
**HTE, Inc.**

1100 N. Opdyke Rd. • Auburn Hills, MI 48326-2637  
(248) 371-1918

Plantwatch Users



- Current state of each part on the plant floor
- When materials were consumed and what part consumed them
- Timestamps for everything
- Quality inspections
- All process parameters associated with an individually identified part, such as gauging and torque data
- Enforce proper product build

Plantwatch® is an easy to use Track, Control and Visualize System

- Develop your app in one day
- No integrator required
- Make changes when you want
- Customer compliance/Product genealogy
- Error proof assembly / Eliminate build errors
- Improve quality
- Label execution system

[www.plantwatchtraceability.com](http://www.plantwatchtraceability.com)

## Application Examples

Plantwatch application software gives users the flexibility to quickly build their unique application. Most applications are built and deployed in a few days to provide machine control, data collection, assembly inspection / error proofing, label print/verify management and process metrics with a core focus on control and track-and-trace. Plantwatch is a link to tie ERP and databases to the plant floor automation as well as control that automation. A fully automated solution that controls all line equipment including printers, marking equipment, scanners, cameras, PLC's and conveyors while managing all the data and providing a user interface.

### Job Tracking System

Tracks WIP by having the operators scan in their ID, station and job number.

Tracks job through three stations.

Operator interface shows current status and location.

Reports shows historical process status and location as well as labor data for each production order.

### Plant Wide Track and Trace

Plantwatch merges data from several locations to generate traceability on aluminum castings.

High pressure aluminum caster places process data into Sybase dBase. Metal source, ladel #, pressure.

Xray places data into a access database.

Serialized parts are aggregated into batches and heat treated. Time and temperature are attached to the batch.

Plantwatch collects all data and stops any parts that did not pass xray from getting batched for furnace while creating serialized part genealogy from entire process.

### Line Control and Data Acquisition

Plantwatch controls an automated inspection station with indicator lights, safety buttons, light curtains and inspection cameras to perform error proofing of a fuel injector nozzle.

Monitors RFTags to determine if the correct fixture is being used.

Collects data from a laser barcode marking/grading system for customer compliance.

Interacts with laser marker and line PLC.

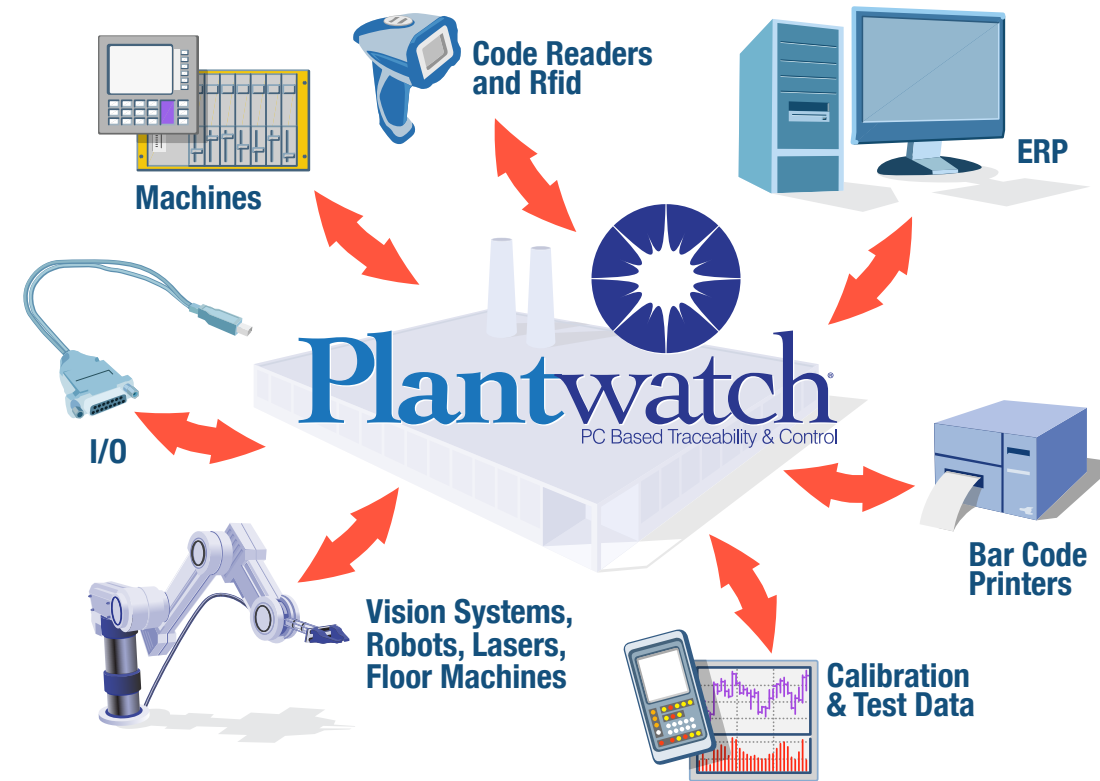
### Inventory Replenishment

Monitors scan data from 30 ethernet bar code scanners. Keeps track of counts for each production order, keeping the data in SQL server database to control inventory replenishment.

### Label Execution System

Plantwatch controls bar code label printer to print label, validate content of bar code is correct as well as grades the bar code to appropriate ISO standards. If label fails it is retracted, marked out and then reprinted.

Database stores inspection results for historical look up.



**Easily configured, learn it in one day!**

*Plantwatch® systems are so understandable that you can learn everything you need to know in one day!*

**Quickly deploy a system that controls, communicates and stores data from any process.**

- Connects to any device via e-net, serial, OPC or discrete I/O
- Create your own animated graphic screens for GUI
- Error proofing, control and traceability throughout your process with drop down menus and easy to use graphic builder
- Serialized or lot based operations can be tracked to provide real time and historical genealogy data
- Error proofing with process control reduces build errors
- Bi-directional connectivity to hardware devices and databases allows real time process data to be married to work in process and finished product.

**Configuration is Fast and Easy!**

Plantwatch® provides traceability, error proofing and control throughout your manufacturing process. Drop down menus and a simple graphics editor allow you to quickly connect and deploy Plantwatch® applications. Building your own system with Plantwatch®'s simple configuration allows for quick changes and expansion on your schedule, no integrator required! Serialized or Lot based operations can be monitored, controlled and logged to provide you with valuable real time and/or historical information. Error proofing with process control reduces build errors and ensures correct product routing. Bi-directional connectivity to plant devices/systems allows process data to be married to a final product's historical genealogy. This enables manufacturers to easily quarantine and/or recall suspect product.

### Some of Plantwatch® Logic Actions

#### Database Browser

The Database Browser action allows you to interact with any ODBC/SQL database. You can insert, delete, update or select records from any table within the database. These tool can be configured with clauses to limit the records affected. Multiple records can be affected at one time with the Array feature.



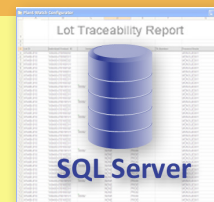
#### File Manager

The file manager action interacts with files available to the local computer/network. You can copy, rename, create or delete files as well as create and remove directories. You can also check for the existence of a specific file or directory.



#### Traceability

Each part/lot's attributes along with process parameters, consumed materials and time date are stored in a SQL database. The documented schema allows analytical reports to be created for forward and reverse genealogy.



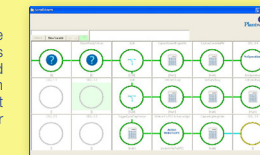
#### Graphics

Plantwatch® has a user friendly flexible graphics system where the user can create their desired screens with inputs, outputs, buttons, images and more.



#### Control

Plantwatch® allows you to make logical application decisions with its powerful Logic Chart engine, and then cause the appropriate action to occur. The action could be start motor through a 24 volt signal for example.



#### Connectivity

Plantwatch® can communicate with a multitude of systems:

- RS232
- I/O
- Ethernet
- OPC
- Structured text file

All easily interfaced to Plantwatch®.

