

Technical Information

ControlCare - P View SPV200

Scalable SCADA solution

Web-based automation software



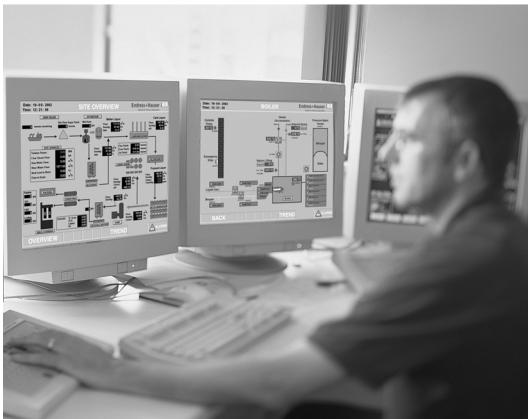
Application

P View is a powerful PC-based visualization program that operates via OPC servers with HART®, Modbus, PROFIBUS®, FOUNDATION Fieldbus™ and many other industrial communication protocols. It supports stand-alone application, client-server operation and Web Access.

P View is part of the Endress+Hauser ControlCare system platform, which also includes e.g. Fieldgates and Field Controllers. It serves as a platform for Endress+Hauser engineered process solutions.

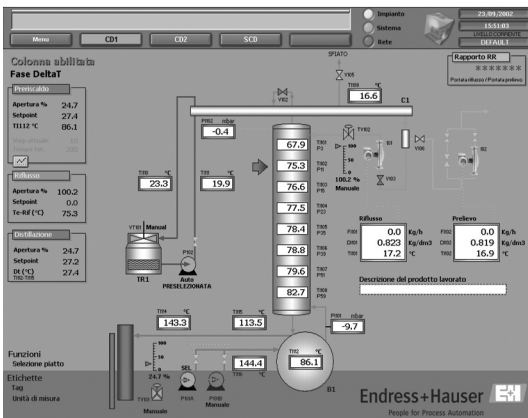
Together with FieldCare, the Endress+Hauser Plant Asset Management Tool, which can easily be integrated into your visualization, you are able to configure and adjust any device parameter. This optional software can be invoked directly from the Graphical User Interface.

P View offers all the possibilities of modern, graphical process visualization.



Features and Benefits

- High-level User Management to protect your plant and application from unauthorised access
- Logging of user actions conforms to requirements of regulated industries (FDA21 CFR11 electronic signature and EU 178 traceability directives)
- Process graphics give general and detail views tailored to your requirements
- Screens in local language increase operational safety
- P View Alarm monitors signals, provides an alarm log and indicates actions where appropriate, e.g. sends an SMS or e-mail
- P View Trend stores process variables for trending and historical analysis
- WebHMI allows flexibility and economy in the design of HMI architecture
- Open standards ensure simple integration and freedom of choice in control equipment
- Optional device configuration (FieldCare) allows the management of Endress+Hauser and third-party devices from operating screens



Function and System Design

Function

P View is a powerful SCADA software that operates as an OPC client. By using this interface the software works with all available communication protocols, e.g. FOUNDATION Fieldbus, HART, Modbus, PROFIBUS. In addition, it offers a connection to most of the PLC and DCS systems on the market.

P View supports stand-alone applications, client-server architecture, Web Server and redundancy for the configuration of your special needs.

Endress+Hauser offers P View with a number of stand-alone OPC Client Applications:

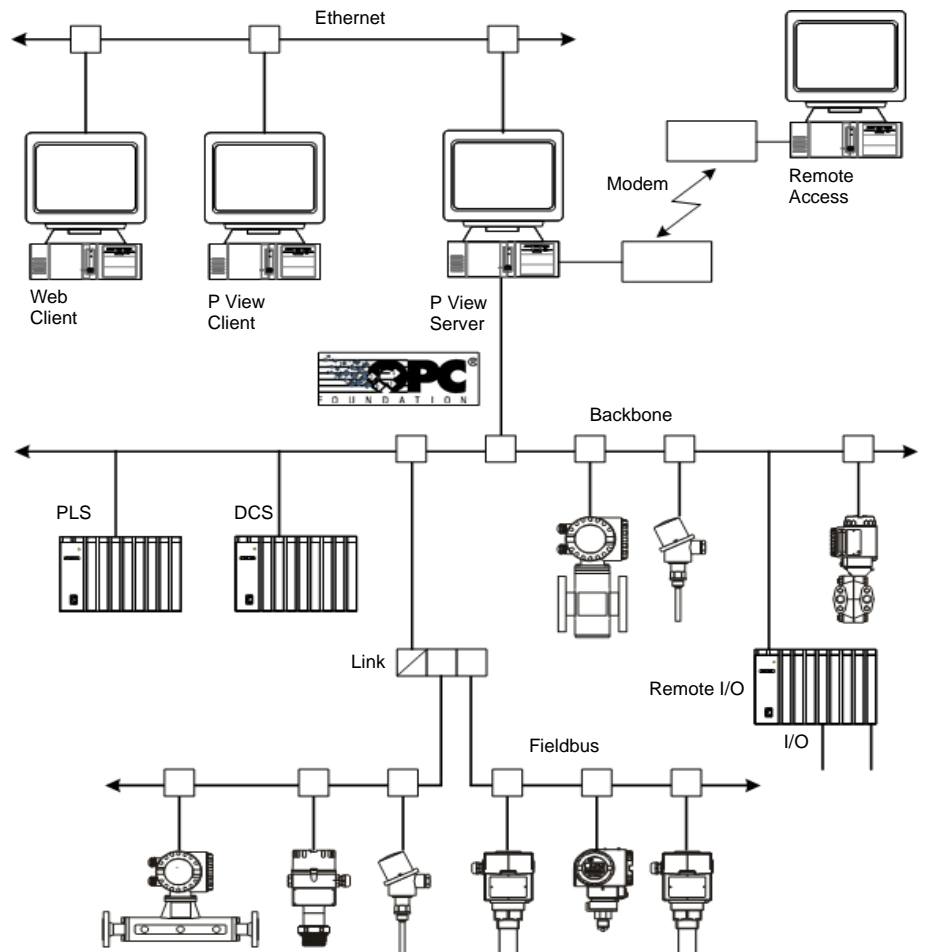
- P View Graph for graphics
- P View Trend for data collection and trending
- P View Alarm for alarming

Each client application is an ActiveX container featuring Internet/intranet-ready object technology and offering Microsoft's Visual Basic® for Applications (VBA) technology. Endress+Hauser client applications communicate directly with an OPC server, which in turn communicates with the hardware devices in the field.

P View is a suite comprising software components that provide a complete solution for HMI/SCADA software applications. In addition to the three main modules above, a several other software modules are available as add-on options.

System architecture

The system comprises a PC which, depending on the options chosen, is connected to the network backbone via a network card or an appropriate interface card. The network is built up using direct connections to devices, linking devices to fieldbus segments or remote I/O to conventional 4...20 mA or HART devices. P View clients and Web Clients can be installed at different locations via Ethernet. An optional modem connection allows remote operation and diagnosis.



System architecture for P View

Additional operating stations

P View allows additional operating stations (clients) to be connected to the central monitoring station (server). Client-server connections are done via Ethernet. There are two types of client available, fat and lean, whereby it is possible to have both in the monitoring system. The clients have to be purchased together with P View basic package. A later extension of P View is possible.

■ **P View Client**

Client stations are connected via Ethernet. They give direct access to the server station and there is no limitation on the number of I/Os nor on the functionality. Clients work with a subset of the P View software but without local OPC data.

■ **Web Client**

As P View has an integrated Web Server connections can be made via Internet Explorer from anywhere in the world to the application running on the server station. The connection can be protected with firewalls and other security mechanisms. There is no special software needed on the client side. The standard internet tools offer the functionality required on the P View server. Only VBA script has to be transformed in VB scripts to run on the Internet.

Human Interface

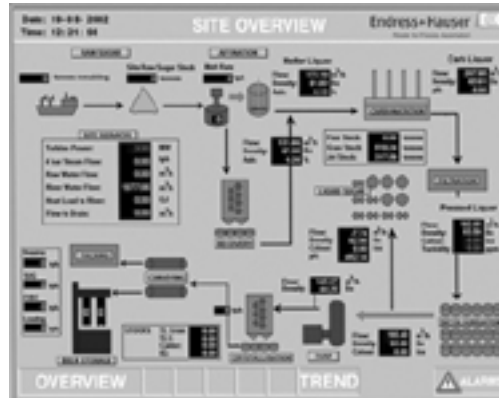
Operation

- Visualization and data archiving via P View software components
- Optional configuration of devices by invoking FieldCare device operation software
- Optional W@M connectivity (Web-enabled Asset Management)
- Connection to Microsoft® Office® applications

Remote operation

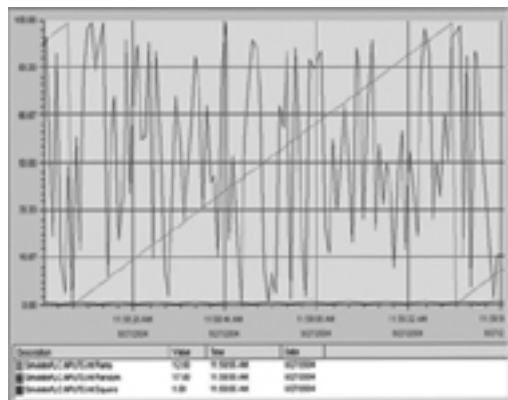
Optional remote operation via Ethernet, with the full functionality on every station including alarms, trend and language switching.

Examples of screens



Application overview / Detail view

Alarm	Site	Condition	Condition	CS	Event Category	Event Time	Event Time
101	Training Area	100	Level of Charge	2	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
102	Training Area	100	Level of Charge	15	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
103	Training Area	100	Level of Charge	27	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
104	Training Area	100	Level of Charge	5	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
105	Training Area	100	Level of Charge	16	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
106	Training Area	100	Level of Charge	28	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
107	Training Area	100	Level of Charge	36	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
108	Training Area	100	Level of Charge	38	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
109	Training Area	100	Level of Charge	7	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
110	Training Area	100	Level of Charge	12	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
111	Training Area	100	Level of Charge	22	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
112	Training Area	100	Level of Charge	31	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00
113	Training Area	100	Level of Charge	35	Level of Charge	10/20/04 10:30:00	10/20/04 10:30:00



Alarm list / Trend display

Software Specification

P View suite

■ P View Graph

Stand-alone OPC client software package for Human Machine Interface, providing a rich set of tools for creating animated graphics. P View Graph combines drawing, operating procedures, quality reporting, and management directly into your operator displays using ActiveX Controls and Visual Basic for Applications (VBA) scripting language.

■ P View Trend

Stand-alone OPC client software package for collecting real-time data, logging data to a database, trending both real-time and historical data, while providing a powerful set of reporting and analysis tools. P View Trend offers an open solution to applications requiring scalable and distributed real-time performance using the latest OPC HDA specification for creating Plug and Play historical data servers and clients

■ P View Alarm

Stand-alone OPC client software package for distributed enterprise-wide alarm and events. It is a complete alarm management system. You can network enterprise-wide alarm management for detecting, sorting, filtering, viewing, reporting, and acknowledging OPC server alarms and events.

P View standard components

■ P View Script

Stand-alone application that allows the creation and management of Visual Basic for Applications (VBA) scripts. P View Script simultaneously performs calculations, manages databases, and executes any operation available in the VBA language to access reports or perform recipe operations.

■ P View Project

Integrates all P View applications into a single, easy-to-manage format at one easily accessible location. It enables the organization of application files, import/export, publishing to web, password protection, report generation and numerous other project-orientated functions.

■ P View VCR

Enables the replay and reanimation of graphical, historical and alarm data. Functions include replay of OPC data, reanimation of graphics, re-plotting of trends, replay of alarms and graphical displays, change of speed, timing and search for key events, tag and expressions.

■ P View Data Mining

Enables visualization from various data sources, such as a Microsoft Access database, in a customizable, user-friendly display format that allows interaction with and manipulation of data. Supports many data sources, including Microsoft Access, Microsoft SQL Server, Microsoft Excel, MSDE, and Oracle.

■ P View OPC Data Spy

Utility for connecting to OPC servers, serving as a test application and a tool for viewing OPC information. It can test OPC Data Access compliance, as well as OPC Alarm and Events compliance. The analysis tools provided aid in quickly trouble-shooting third-party drivers.

■ P View Broker

Proven, high-speed communications utility for applications where P View's standard DCOM communication technology is too slow. It uses TCP/IP and SOAP/XML channels to achieve real-time and secure communications between Web browser clients and WebHMI servers.

■ Dr. DCOM

Utility for helping set up DCOM connections for networked OPC clients and servers.

■ P View Security Server

Manages access rights to users and groups of users within the P View suite of applications in accordance with FDA 21 CFR11 electronic signature and EU 178 tracibility directives. Permits the creating of custom groups, assigning of individuals and restriction of access of individuals to various product features.

■ P View WebHMI

Integrates your HMI application with traditional Web browsers to perform remote and low-cost monitoring of key manufacturing information. Allows not only the viewing of display information but also provides for security, data entry, and real-time interaction with your application.

■ P View Language Server

Allows language can be switched on screen or even changed according to the user profile of your operator. The language you select will be used for the visualization as well for the trend and alarm windows and their headlines.

P View options

- **P View Data Collector**

Provides enabling technology, which includes OPC server-to-OPC server data bridging, OPC aggregation and mission-critical OPC-based redundancy. It allows, for example, the connection of an Allen Bradley OPC server to a Siemens OPC server and easy and seamless sharing of data. Data can also be manipulated through expressions and calculations.

- **P View Alarm Multimedia**

Option to P View Alarm, providing OPC-compliant multimedia technology for remote alarm notification. Various multimedia "agents" are offered, including paging (including SMS/TAP support), two-way paging, phone with call-in and call-out support, e-mail, Fax, voice annunciation of alarms via text-to-speech or recorded .wav files, video, pop-up windows, computer screen marquee and instant messaging.

Pocket P View (optional)

Pocket P View is a full feature HMI/SCADA (text based information via a Web Browser) using Pocket PCs with HMI/SCADA and wireless networking. It provides:

- **Microsoft® Windows® CE Visualization, Trending, and Alarming**

- **Pocket HMI Automation Tools**

A HMI /SCADA suite of modular components for Microsoft® Pocket PC

- **Wireless Connectivity to Plant and Business Data**

- **Data Mining**

With replay of historical data and database queries to Microsoft® SQL Server, MSDE, Microsoft Access and Oracle® databases

- **OPC Real-time Connectivity**

- **Wireless Alarm Management**

- **Analysis and Charting of Historical Data**

Replay historical data via time plots, strip charts, x-y plots etc.

- **Reliable and Secure Communications**

- **Support of Multiple Pocket PC Platforms**

Supports COMPAQ, HP and CASIO running MIPS, ARM and X86 processors

- **Instant Notification of Critical Conditions**

Utilities

- **Symbol Library**

Supports the use of smart symbols in displays: smart symbols contain data-point connections. Available in P View Graph as a dockable toolbar or a floating window inside display files. Allows the creation, renaming, and deletion of category files and symbols within the dockable toolbar, as well as the unlocking of categories with passwords and changings of symbol icons in the view pane.

- **ActiveX ToolBox**

Provides tools for creating custom ActiveX controls and embedding them in ActiveX containers like P View Graph.

- **ActiveX Tool**

OPC-based ActiveX toolkit for creating customised, high-performance ActiveX controls that are true OPC clients.

Supplementary software

- **FieldCare**

Endress+Hauser's Plant Asset Management Tool, which can easily be integrated into your visualization. FieldCare can be used, e.g. for the configuration and adjustment of any device parameter and can be invoked directly from the Graphical User Interface.

- **W@M (Web-enabled Asset Management)**

Connectivity via internet to Endress+Hauser's product data bases with instant access to equipment records, spare-part finder, certificates, download area etc.

- **Microsoft® Office® applications**

System Requirements

Operating system	<ul style="list-style-type: none">■ Microsoft® Windows® 2000 with current SP■ Microsoft® Windows® XP with current SP
Software	<ul style="list-style-type: none">■ Microsoft® Internet Explorer® 6.0 or above■ Microsoft® Data Access Components (MDAC) 2.8
Hardware	<ul style="list-style-type: none">■ Pentium 650 MHz processor or better■ 128 MB RAM minimum■ 256 - 512 MB RAM recommended■ 600 MB free hard-disk space for full installation■ Display 1024 x 768, 256 or more colours

System Capacity

License size	<p>Three sizes of license can be delivered, see Ordering Information:</p> <ul style="list-style-type: none">■ 75 OPC tags■ 150 OPC tags■ 500 OPC tags
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For larger licenses, please contact Endress+Hauser.

Tag counting method	<p>The OPC tags are counted in P View Alarm, P View Trend and P View Graph. The counting is handled as follows:</p> <ul style="list-style-type: none">■ Count the number of OPC tags connected in P View Alarm■ Add the number of OPC tags connected in P View Trend■ Add the number of OPC tags that are monitored in P View Graph<ul style="list-style-type: none">– individual OPC tags are counted once only, irrespective the number of displays in which they are used– usually it is sufficient to count the number in the display with the most OPC tags in it.■ If you want to use pop-up windows add these tags too.
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Ordering Information

Product structure

SPV200 P View SCADA software	
The software includes a Web Server and one Web Client. P View can be installed as "stand-alone" application without using the WebHMI.	
Size	
A	75 OPC tags
B	150 OPC tags
C	500 OPC tags
Y	other
Operator Station	
AFAT client
N	no FAT client
WebHMI	
Aadditional web clients
N	no additional web clients
Alarm Multimedia	
1	E-mail, SMS + PopUp
5	not used
Data Collector	
1	used
2	not used
Report Add-On	
0	not used
1	free definable to according standards
Redundancy	
A	not used
B	per server
Pocket P View	
0	not used
1	server incl. 2 clients
Pocket P View Clients	
Apackage of 5
N	not used
SPV200	

Documentation

Competence Brochure

- ControlCare - P View
Competence Brochure
CP 007S/04/en/09.04
 - FieldCare
Competence Brochure
CP 001S/04/en/04.04
 - ControlCare
Competence Brochure
CP 008S/04/en/09.04
 - From Concept to Commissioning
Competence Brochure
CP 002S/04/en/04.04
-

Fields of Activity

- Process Solutions
Fields of Activities
FA 001S/04/en/04.04
-

Innovations Brochure

- Fieldgate Solutions
Innovations Brochure
IN 005F/00/en/04.04
-

Operating Instructions

- ControlCare - P View
Operating Instructions
BA 041S/04/en/09.04
- ControlCare - P View
Getting Started
BA 042S/04/en/09.04

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