

rotork® Controls

In-Vision



PC based
supervisory control

Redefining Flow Control

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Rotork is the global market leader in valve automation and flow control. Our products and services are helping organisations around the world to improve efficiency, assure safety and protect the environment.

We strive always for technical excellence, innovation and the highest quality standards in everything we do. As a result, our people and products remain at the forefront of flow control technology.

Uncompromising reliability is a feature of our entire product range, from our flagship electric actuator range through to our pneumatic, hydraulic and electro-hydraulic actuators, as well as instruments, gear boxes and valve accessories.

Rotork is committed to providing first class support to each client throughout the whole life of their plant, from initial site surveys to installation, maintenance, audits and repair. From our network of national and international offices, our engineers work around the clock to maintain our position of trust.

Rotork. Redefining flow control.

Product Overview

In-Vision is a user friendly PC based control and data acquisition software package that perfectly compliments Rotork's Pakscan 2-wire control systems. In-Vision has been specifically designed to provide a SCADA capability for the site MOVs and brings the computer animation and plant visualisation capabilities right to the fingertips of the plant operator. It can be used as the main control system on small scale sites but is generally used as a back-up controller and a maintenance / diagnostic tool.

It requires as a minimum a Pentium processor and SVGA colour screen to show the condition of the process and runs on Windows XP.

Modern facilities require up to date communications right down to plant level. Plant managers demand more information more quickly than ever before. Process operators need full control facilities at all times of the day and night. Maintenance managers want information so that their services can be scheduled economically. To meet these requirements design engineers include field communications networks to allow every piece of critical plant to be controlled and monitored by computer. These computers are assigned to management, operations and maintenance tasks within their own network, exchanging data about the equipment and process under their control. The Pakscan 2-wire communication system provides the vital link between the valve actuator and the supervisory control system such as In-Vision. It is an intelligent, reliable, high integrity, fast and easy to install network between field equipment and control or equipment room. It is specially designed for use with Rotork products.

For more information on the Pakscan range see page 6.



Fully Configured In-Vision, Complete Control

With In-Vision, operators and engineers can review the condition of every actuator connected to the Pakscan system at the click of a mouse. It is designed to be simple and intuitive to use as well as extremely informative with regards to MOV status information. All actions and status changes are permanently archived onto the PC's hard-drive and can be exported in an Excel ".csv" format for ease of viewing.

On larger installations, In-Vision may be used as a permanent companion to the primary control system and can be used to provide the operations department with additional information above and beyond that traditionally displayed on the DCS' HMI screens, which tend to concentrate on a few key parameters.

In-Vision could also be used by the site maintenance department as part of their 'Asset Management' system, since the information relayed from the field allows engineers to review how and when critical plant will be serviced. The data reported will indicate the valve and actuator condition and permit the correct response from the maintenance team.

A fully configured In-Vision provides multiple features including:

- Status screens providing current status condition, alarms and controls for all the field mounted devices as well as the master station.
- Plant overview mimic screens to allow rapid navigation to a particular MOV or group of MOVs
- Comprehensive alarm and event logging.
- Customer defined tag names and service descriptions.
- Full list of all the tag names used in the system.
- Torque profiles for IQ actuators.

Plant Overviews

By carefully constructing the overall site graphics used for the system, overviews of specific areas can be animated to show general conditions.

Detailed examination of specific areas can be brought forward on the screen. Coloured animations can highlight alarm areas or conditions needing attention.

System Status Screens

To assist in maintenance of the plant, every In-Vision system includes status screens providing status and alarm information about the Pakscan system.

These screens show the condition of each actuator and master station in the Pakscan system.

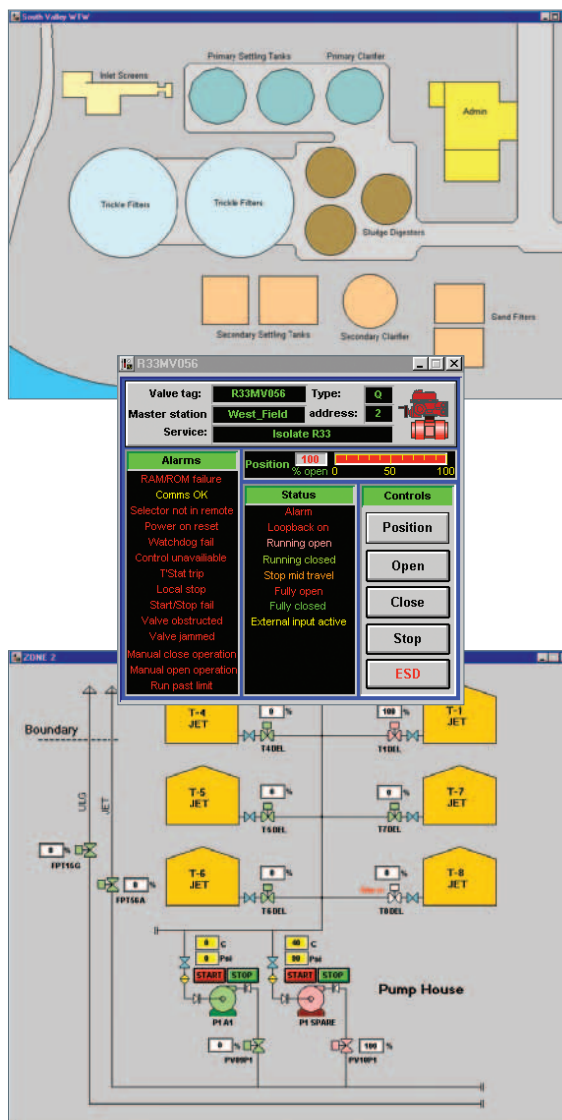
In-Vision MD

Maintenance and Diagnostics.

In-Vision Maintenance and Diagnostics is an optimised version of the standard In-Vision package specifically designed to bring the economic benefits of a tailored maintenance and diagnostic utility to the Pakscan system.

MD has all the asset management monitoring, logging and control features of a full In-Vision system but without the control plant overview mimic screens. Navigation between MOV control panels is achieved by selecting the MOV from a simple drop down tag list.

By using standard screen layouts and text the In-Vision MD package becomes an extremely cost effective maintenance and diagnostic facility. Whilst operators often prefer plant mimic diagrams to make valve alignment and plant control easier, their absence from In-Vision MD makes the tool more straight forward for engineers to use as everything is identified by its tag name.



Historical Logging

Historic Torque Profile – Valve Signature

Asset management is all about knowing the state of the equipment in the plant. With valves the critical measurement is the force required to open or close the valve under operational conditions.

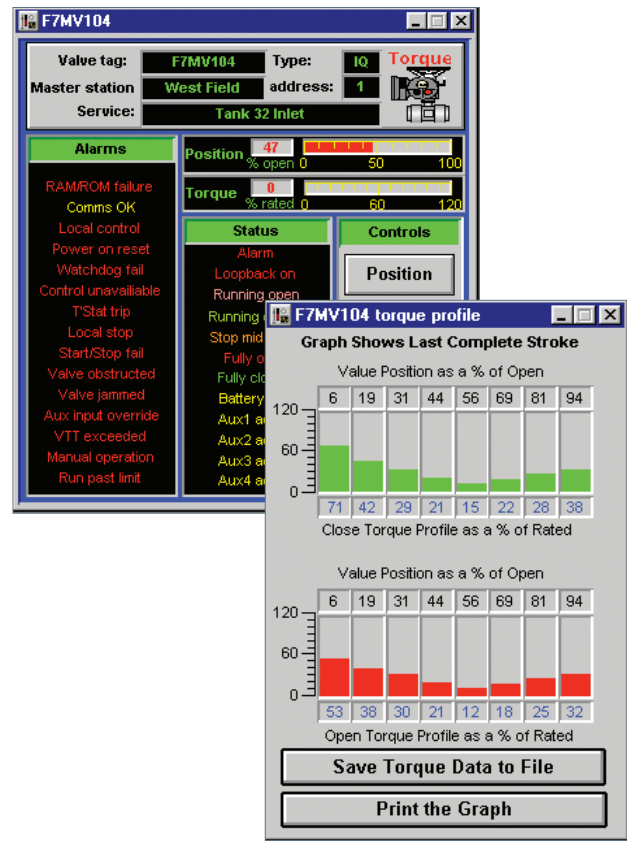
A special feature available for IQ/IQT actuators, on both the full and MD versions of In-Vision, is the additional display of the valve signature profile showing the torque across the valve stroke in both the open and close direction. The display shows the torque required during the last complete valve open and valve close operation over the complete stroke. This feature is optionally included in your In-Vision software and is indicated on the actuator faceplate by the 'TORQUE' label that appears above the actuator graphic.

Clicking the mouse on the actuator graphic will cause the MOV Torque Profile panel to appear. The bar graph shows the valve signature.

The torque data can be:

- Viewed on line
- Saved to file for future reference
- Printed

Note: The Torque Profile data is automatically saved once every 24 hours in a CSV format file. The file can be imported into a spreadsheet or database program for viewing, reporting or record keeping purposes.



Historic Event and Alarm Logging Feature

Historical data about the plant is retained in the event and alarm logs. These files may be viewed, printed or exported to a CSV file for use by other software utilities such as Microsoft Excel™.

Time	Process	Area	Priority	Object	Description
12:10:28.47	\\Sys...	Invision	1	\\Sys...	(R33MV056_cen)
12:10:02.47	\\Sys...	Invision	1	\\Sys...	(R33MV056_mrc)
12:09:59.47	\\Sys...	In.Vision	0	\\Sys...	R33MV056_close_pb was turned off by direct user input.
12:09:59.47	\\Sys...	In.Vision	0	\\Sys...	R33MV056_close_pb was turned on by direct user input.
12:09:45.47	\\Sys...	Invision	1	\\Sys...	(F7MV104_cen)
12:09:42.47	\\Sys...	Invision	1	\\Sys...	(F7MV104_mrc)
12:09:39.47	\\Sys...	In.Vision	0	\\Sys...	F7MV104_open_pb was turned off by direct user input.
12:09:39.47	\\Sys...	In.Vision	0	\\Sys...	F7MV104_open_pb was turned on by direct user input.
12:09:30.47	\\Sys...	In.Vision	0	\\Sys...	West_Field_alarm_accept_pb was turned off by direct user input.
12:09:30.47	\\Sys...	In.Vision	0	\\Sys...	West_Field_alarm_accept_pb was turned on by direct user input.
11:21:35.47	\\Sys...	Invision	9	\\Sys...	(West_Field_fcu_alarm)

Operator control	By using mouse 'action' points and 'on screen' buttons plant actions and screen changes are made. Everything is mouse driven.
Graphic objects	Up to 500 graphic objects can be displayed and controlled.
Animation	Each object displayed can be set to change colour or create a text message.
Reports	Inbuilt historical event and alarm log reports to printer or file.
Alarms	All screens show the number of current active alarms and these may be reviewed in the active alarms log.
Plant Inputs	All the devices connected to the Pakscan system can be displayed including pumps, flow meters, level switches etc.
Compatibility	Fully compatible with Rotork Pakscan 2-wire control systems.

The Rotork Pakscan Range

Pakscan – The vital link

Modern facilities require up to date communications right down to plant level. Plant managers demand more information more quickly than ever before. Process operators need full control facilities at all times of the day and night. Maintenance managers want information so that their services can be scheduled economically.

To meet these requirements design engineers include field communications networks to allow every piece of critical plant to be controlled and monitored by computer. These computers are assigned to management, operations and maintenance tasks within their own network, exchanging data about the equipment and process under their control.

The Pakscan 2-wire communication system provides the vital link between valve actuator and supervisory control. It is an intelligent, reliable, high integrity, fast and easy to install network between field equipment and control or equipment room. It is specially designed for use with Rotork actuators.

Each Pakscan system has three primary elements - field units, the 2-wire loop and a master station. Together they provide the core around which the overall control strategy may be built.

With their high reliability and efficiency, coupled with low maintenance costs, Pakscan networks have proved to be the unrivalled leader in valve actuator communications.

Additional facilities may be added to the systems to give control of other manufacturers' products, to provide specialist operator interface facilities, or to combine with In-Vision, our own SCADA package.

Installed Cost Savings

- Direct reduction in cable costs by using a single twisted pair instead of expensive multicore cable.
- Direct reduction in engineering costs due to the network's simple design.
- Lower commissioning costs due to faster installation.
- Increased plant productivity by reducing down time losses.

Large Plant Capacity

- Single network with up to 240 devices distributed over 20 km loop length.
- No restrictions on inter-node distances.
- Capable of controlling various field devices including actuators, pumps, heaters and mixers.

High Reliability

- Field units integral with and double sealed inside Rotork actuators.
- High levels of surge protection for poor field environments.
- Non-intrusive setting of all parameters.
- Full isolation between the network cable and the field unit or master station.
- Secure communication protocol.
- Complete cable fault protection with redundant field communication paths.
- Optional fully redundant master stations.
- No repeaters necessary.

Simple Integration

- Industry standard Modbus protocol to PLC, DCS or In-Vision.
- Dual host communications capability.
- Proven communication links to all major DCS and PLC suppliers.

High Performance

- Priority given to commands to the plant.
- Full monitoring and control of every field unit and actuator connected.
- Fully compatible with all current Rotork electric actuators.
- Master station monitors full network at all times, relieving the host system.

For more information, contact Rotork or visit www.rotork.com



In-Vision

Computer requirements

- Pentium Class Personal Computer at least 350 Mhz.
- 128 MB RAM.
- Allow for 200 MB free hard drive space.
- CD ROM disk drive.
- Sound card and speakers.
- RS232C or RS485 serial port.
- Mouse (PS2 compatible).
- Minimum screen resolution SVGA (800 x 600 pixel) 16 bit colour, recommended resolution XGA, (1024 x 768 pixel) with 16 bit or 32 bit colour.
- Microsoft Windows XP.

Or Optionally

- Rotork's TSI Touch Screen Interface for further details contact Rotork.

In-Vision system capability

- Run Time Only system.
- Unlimited tag capability.
- Up to 480 valves or other devices per system (240 with torque displays).
- Full animation of valve status, text and graphic.
- Comprehensive Event and Alarm Log.
- Up to 100 mimic diagram graphics.
- Up to 500 pop-up graphic windows.
- Optional sounds for specific event reporting.
- Password security with 10 levels.
- Ability to include plant photographs.
- Dedicated Rotork Pakscan driver.

The In-Vision system is supplied on two CD's, one is the In-Vision Program and the other is your specific Application.





Redefining Flow Control

A dark blue world map with a white grid of latitude and longitude lines, serving as a background for the lower half of the page.

www.rotork.com

A full listing of our worldwide sales and service network is available on our website.

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Scan with your smart phone
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