



New Generation Pakscan Master Station

Improving upon the successful Pakscan IIE, the P3 master station is the latest innovation from Rotork to join the Pakscan range of network control equipment.

The P3 master station includes all the benefits of the existing Pakscan IIE with additional capabilities afforded by today's technologies.

Its advanced features include those required by the demands of today's Asset Management philosophy ensuring that Pakscan remains the network of choice for actuator control.

Key Benefits:

- Ethernet connectivity
- Built-in secure web server
- Logging of host messages, Field unit commands and status changes
- E-mail notification of alarm conditions
- Multiple host port connectivity
- Modbus RTU and TCP protocols supported
- On-line actuator parameterisation
- Time synchronisation capability
- Improved asset management
- Intuitive colour graphical HMI
- Multiple language support
- Front access to all terminals
- Single, dual and hot standby options
- Panel and 19" rack mounting options
- Support for up to 240 nodes
- Full Pakscan 2 protocol legacy support



Ethernet Connectivity

Every system comes complete with multiple RJ45 Ethernet connections. The master station can be connected directly to a PC, laptop or LAN due to its auto sensing of the highway baud rate and Rx/Tx lines.

Using the Ethernet ports, the host is able to communicate to the master station using the widely accepted Modbus TCP protocol.

Built-in Secure Web Server

All field unit and network data available at the host is also presented to the web browser function, accessible via the Ethernet ports. This allows simple and easy control over a local intranet, or the Internet. Standard user name and password security is enhanced by cryptographic protection achieved by using HTTPS server support.

Additional Host Security

Further host security measures include, password protection, IP address filtering to allow Modbus TCP access by designated addresses only and the configurable ability to enable/disable control from certain ports.

Host Message / Field Unit Logging

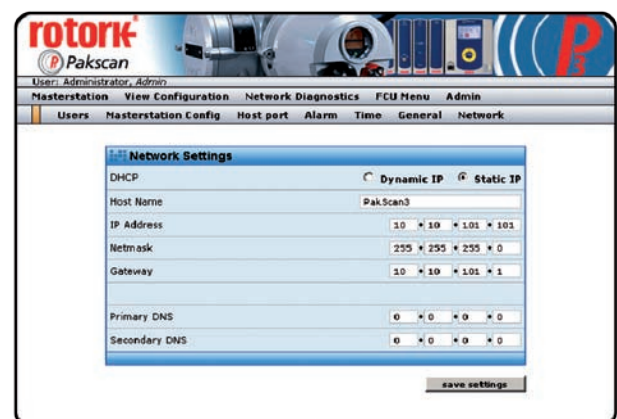
Every host Modbus message is automatically monitored and logged, including the full data field within the Modbus telegram.

All connected field units are constantly monitored. Changes of field status feedback are logged along with all digital and analogue commands to the actuators.

Logged data is viewable via the HMI or web pages. Data viewed via the web pages can also be stored for future reference.



Web Browser Opening Screen



Ethernet Settings

Intuitive Colour Graphical HMI

The CPU module HMI can be used for both configuring the master station as well as providing local control station capability for monitoring and controlling loop connected devices.

An icon and text based menu system is used to show the dynamic system status and facilitates the setting of any parameter. Extensive diagnostics ensure that engineers are given the maximum assistance in monitoring performance and identifying any system faults.

Navigation through the icon and text menus and modifications to settings are made using the five-button keypad.

E-mail Notification of Alarm Conditions

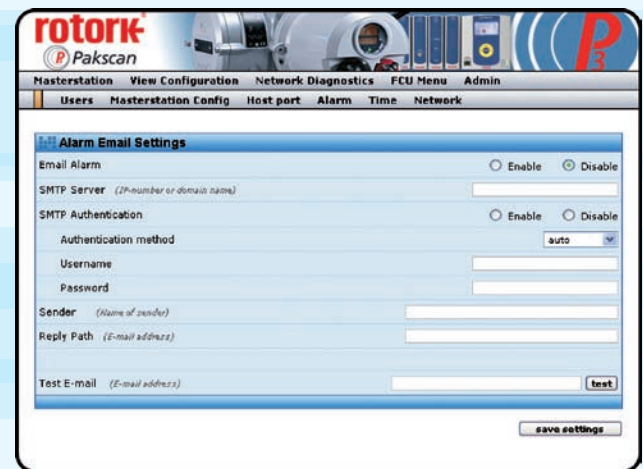
Configurable option to permit automatic e-mail generation upon detection of an alarm condition. The e-mail will contain details of the master station alarm condition or the last event log of the field unit in alarm. Date, time, and site identifier will also be transmitted.

Time Synchronisation Capability

The P3 has a real time clock that can be used to synchronise the master station with all on-site equipment via a Network Time Protocol (NTP) server.

Multiple Language Support

Both the HMI and web pages can be configured to display in a variety of languages including; English, French, German, Italian and Spanish.



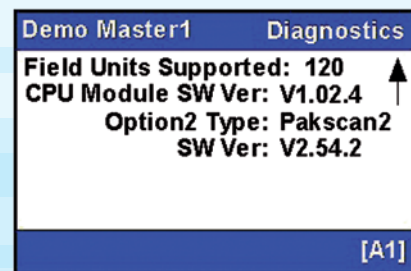
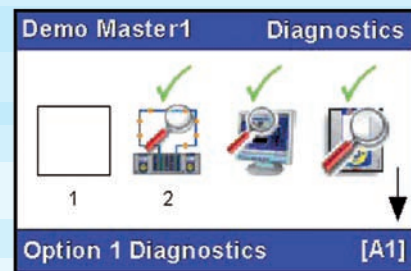
E-mail Notification of Alarm Conditions



Multiple Language Support



CPU module with colour graphical HMI



P3 Diagnostics Screens



Ports on CPU Module

Front Access to All Terminals

Years of experience gained in supplying cabinet mounted equipment has enabled Rotork to simplify the connections to field devices, host equipment and the mains power supply. All are now accessible from the front, making installation simple and quicker. The mains input is via an IEC connector, the Ethernet via RJ45 sockets, serial comms via 9 way D type sockets and the Pakscan loop connections via screw terminals.

Multiple Host Port Connectivity

Every system comes complete with dual Host Ethernet connections and one configuration port Ethernet connection. Using Modbus TCP via the Ethernet ports, up to 10 hosts can access the master station concurrently.

Legacy dual serial ports (switch selectable RS232 or RS485) are also included as standard offering Modbus RTU support with proven interface compatibility to all major DCS and PLC vendors.

All host interface ports have LED status indicators to act as a simple visible aid for host communications status and fault diagnosis. Communications parameters are easily configurable via screens on either the HMI or web pages.

Database Support for up to 240 Nodes

Every P3 has a database capacity for up to 240 nodes. The P3 master station has been designed with the future in mind, its modular design ensures that future options for host and field networks can be easily included.

Compatible with all Pakscan Equipment

The P3 continues the Pakscan legacy of having four in-built database formats allowing seamless integration of P3 onto any existing Pakscan site.

Complete backwards compatibility with all actuators controlled by Pakscan IIE field units. Up to 240 field units may be connected over a 20km loop.

Fully compatible with Rotork's In-vision SCADA system.



Ports on Backplane



Full MOV Control and Monitoring

Every Pakscan actuator can be fully monitored, controlled and re-parameterised via both the web server and the HMI screen.

On-line Actuator Parameterisation

Remote parameterisation of all field unit variables (except for the address which must remain unique) is achieved from the master station, via the HMI or web browser on a local or remote PC. Parameters can be changed on-line with no system interruption and without the need to visit the actuator.

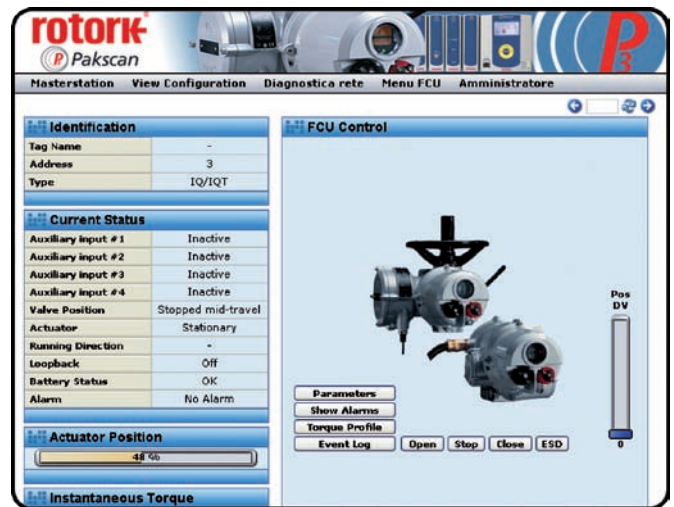
Status and Alarm Indication

Current status and alarm indication, updated on a per-scan basis provide a current indication of the field device. Torque profiling provides an accurate indicator of valve performance.

Event Logging

The event logger captures and saves every major change of field unit device status as well as recording both digital and analogue commands.

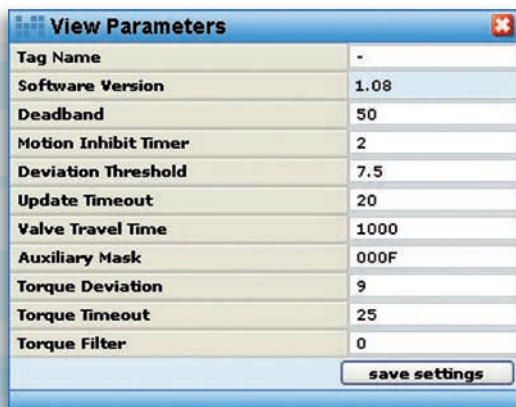
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Web Browser - MOV Control & Monitoring



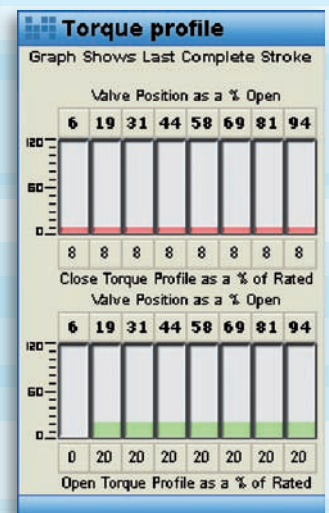
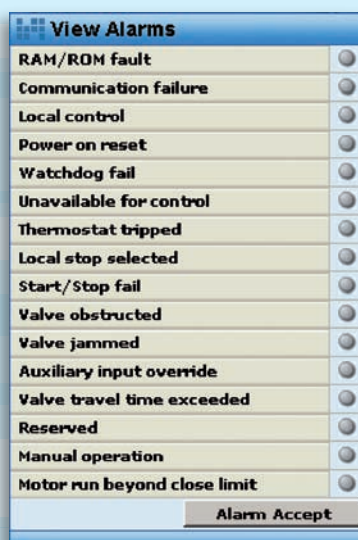
HMI - MOV Control & Monitoring



On-line Actuator Parameterisation



Event Logging



Alarm and Valve Torque Profile Indication



Pakscan offers the following:

Each network has the capacity for up to 240 actuators distributed over a single 20km 2-wire loop.

Direct reduction in cable costs by using a single twisted pair instead of expensive multicore.

Direct reduction of engineering costs due to network's simple design.

Lower commissioning costs due to faster and easier installation.

Hot standby capability for high integrity systems.

System fault tolerance ensures continuous operation even when a fault exists on the system.

Large number of built-in diagnostic features including communication performance data and fault location indication.

No repeaters necessary.

Priority given to commands to the plant.

No penalty for isolating power to any actuators in the field at any time.

Dual host communication ports on both Ethernet and serial data lines.

No restrictions on inter-node distances.

Intermediate control point that can be used during maintenance of the plant.

Multiple database arrangements for maximum data transfer efficiency.

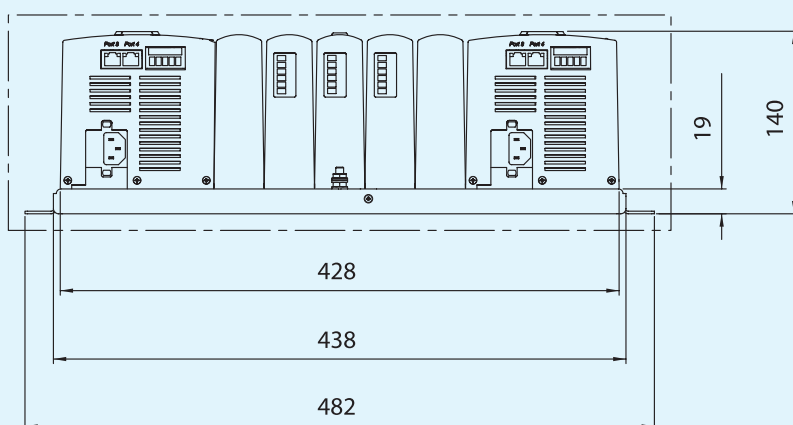
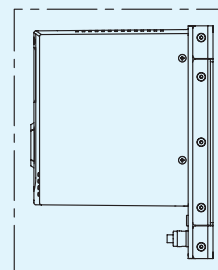
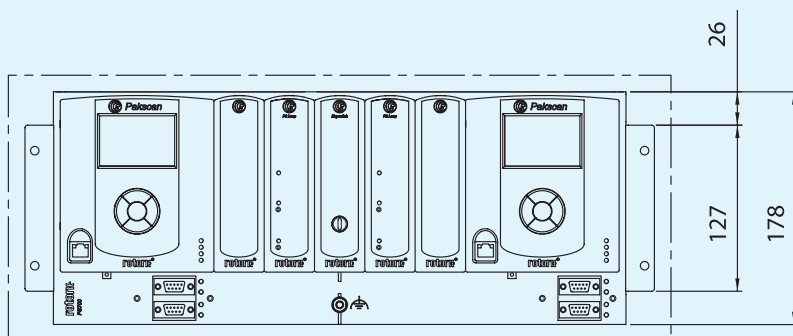
Capable of controlling various field devices including actuators, pumps, heaters and mixers.

Increased information flow providing better asset management.

Industry standard Modbus RTU and TCP protocols to DCS and PLC systems.

Web browser included as standard.

*More than 2500 Pakscan IIe master stations have been sold since 1992.
P3 represents the next stage in Pakscan evolution...*



Pakscan P3 master station
Hot Standby system, back panel mounted

Weights

Hotstandby Master Station:	3750g
Dual Master Station:	3600g
Single Master Station:	2500g
(not including blanking plate and DIN rail)	

Performance Data

Supply voltage:	87 to 265 V ac, 47 to 63 Hz, or 24V dc
Power consumption:	50VA per single master station / 100VA per hot standby master station

Environmental Specification

Operating temp:	0 to 50°C
Storage temp:	-10 to +70°C
Humidity:	5% to 95% RH, non-condensing
Vibration Resistance:	5 to 22.3 Hz 1mm pk-pk, 22.3 to 100Hz 1gn
Shock Resistance:	5gn 11ms
EMC:	BS EN 61326 1997 + Amendment A1 1998 Immunity levels for Industrial Environment. Emission limits, class B.

Host Communications - Ethernet

Connector:	3 x RJ45, 10Base-T or 100Base-Tx (IEEE 802.3)
Protocol:	Modbus TCP for data exchange and TCP/IP for Web Server
IP address:	User set during configuration
Connections:	Max of 10 simultaneous Ethernet connections
Email:	Supports email generation on alarm detection. (Requires SMTP server).

Host Communications - Serial

Connector:	2 x 9 way D-type, female, RS232 or RS485 (switch selectable)
Protocol:	Modbus RTU
Address:	User set during configuration (1 to 247)
Baud rate:	2.4kB, to 115kB
Parity:	Odd, even or none

Loop

Connection:	Screw terminals suitable for 1.5mm ² cables
Current loop:	20mA, 15V max Pakscan protocol.
Loop cable:	Single twisted pair, 500 Ohm max resistance, 3.9µF max capacitance
Field Units:	240 max actuator and general purpose field units

Pakscan supporting documents and software are available for download at www.rotork.com

S000E Pakscan Range General Catalogue
S210E In-Vision PC Based Supervisory Control
Dimensions Available in PDF and DXF format



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