DAVIS DERBY

MINEWATCH

PC 21 modules

- ATEX M1 certified intrinsically safe
- Distributed intelligence for effective plant control and monitoring
- Cost effective solution minimises hardware and cable costs
- Units can be up to 500 metres apart enabling the intelligence to be distributed
- Extremely flexible to allow a wide range of applications
- Expandable to suit future changes
- The PLC ladder logic software is user programmable
- Modules can be reprogrammed on site

The intrinsically safe ATEX M1 certified Minewatch PC 21 system comprises a range of modules which can be linked together via CAN bus data links to provide a modular system for environmental monitoring and mine plant monitoring and control applications. One of the modules has a long range telemetry link to enable computer based remote control and monitoring via a data link for SCADA applications.

Data Links

The Minewatch PC 21 system includes a range of modules which can be interconnected for a large number of applications via either a high speed cluster CAN bus data link allowing up to eight modules to be connected to form a cluster, or a low speed CAN bridge data link for long range networking which allows up to eight clusters to be connected.

The Minewatch PC 21 modules

There are three types of Minewatch PC 21 module which can be interconnected in a variety of ways as follows:

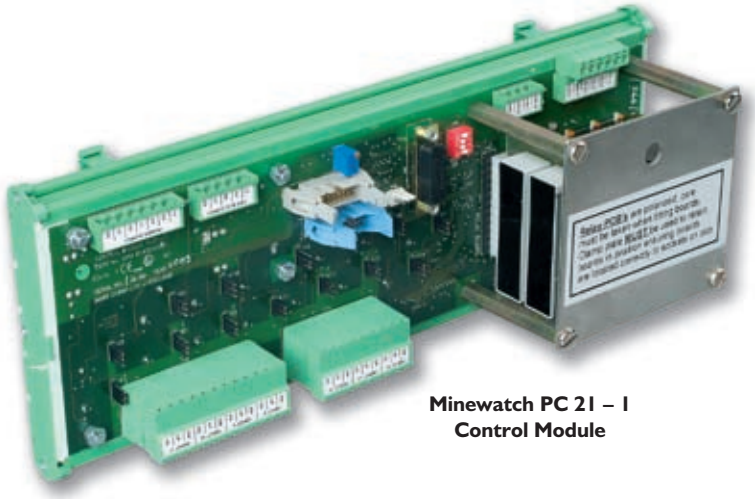
Minewatch PC 21-1 Control module

The PC 21-1 Control module is used to interface with mine plant. In common with all the Minewatch PC 21 modules it is intrinsically safe and is powered from a 12 volt intrinsically safe power supply. This can be a separate power supply, or from a common power supply feeding several modules via the cluster CAN bus.

The Minewatch PC 21-1 module is housed in a suitable enclosure and equipped with the necessary terminals for connecting the incoming and outgoing cables. It has up to 14 digital or analogue inputs, up to six voltage free changeover relay contact outputs and up to two optional voltage or current analogue outputs.

The module can be fitted with an optional 2 line 16 character LCD local display assembly which also has four buttons to navigate the various display screens.

There are two CAN bus data link outputs, one is a high speed 125kbs cluster data link to enable up to seven other modules to be connected, with up to 500 metres of cable linking the modules. This cluster data link can be used to connect to a PC 21-2D display module, a PC 21-2T data transmission module and a number of additional PC 21-1 control modules to form a cluster of up to eight modules in total.



Minewatch PC 21 – 1 Control Module

The second data link is a low speed 10 kbs CAN bridge link enabling up to eight clusters to be interconnected with up to 5km of cable.

Minewatch PC 21 – 2D Display Module

Minewatch PC 21-2D Display Module

The PC 21 2D Module provides the user interface, it is equipped with a 16 line 21 character LCD display and a 4 x 4 key pad. The keypad enables navigation of various displays to interrogate the module and the cluster to which it is connected.

The Minewatch PC 21-2D has eight switch inputs intended for start and stop buttons etc.

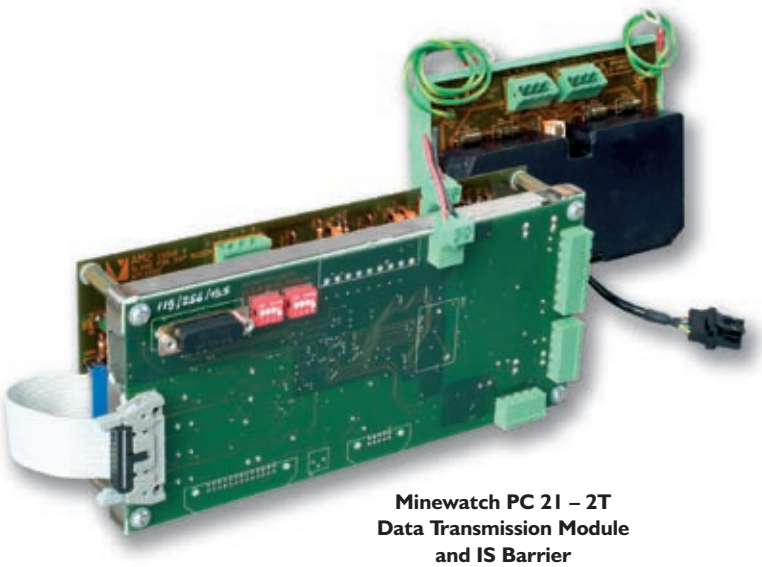
In common with other Minewatch PC 21 modules, the PC 21-2D module is powered from a 12 volt dc intrinsically safe power supply. This can be a separate power supply, or from a common power supply feeding several modules via the cluster CAN bus.

Minewatch PC 21-2 T Transmission Module

The PC 21-2T module is equipped with an intrinsically safe barrier and telemetry modem to provide a long range telemetry link to a SCADA system to provide remote control and monitoring facilities. The telemetry link is designed to use 4 core twisted pair telephone cable and is capable of operating over distances of up to 10km. Up to fifteen PC 21-2T modules can be connected to a single telemetry ring or spur.

The Minewatch PC 21-2T module also has a cluster CAN bus data link enabling it to be connected to a cluster of up seven other modules, typically a PC 21-2D display module and a number of PC 21-1 control modules.

In common with other Minewatch PC 21 modules, the PC 21-2T module is powered from a 12 volt dc intrinsically safe power supply. This can be a separate power supply, or from a common power supply feeding several modules via the cluster CAN bus.



Minewatch PC 21 – 2T Data Transmission Module and IS Barrier

Programming Unit with Memory Module

Module Programming

Each module has three programs, the master boot program, the operating system and the application program, this application program is programmed using ladder logic which can be modified by the user.

A programming package comprising computer software, a manual and a programming unit is available from Davis Derby.

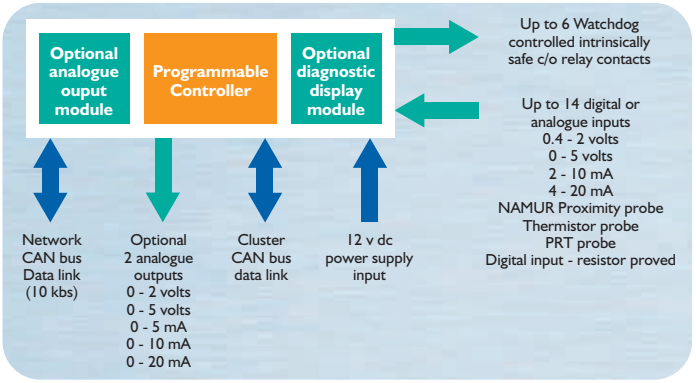
New or modified application programs are written using the PC software, the completed software is down loaded to a Memory Module via a Memory Module programming unit.

This module is then temporally plugged in to the installed PC 21 modules to reprogram them. The programming module can then be removed and stored for future use.

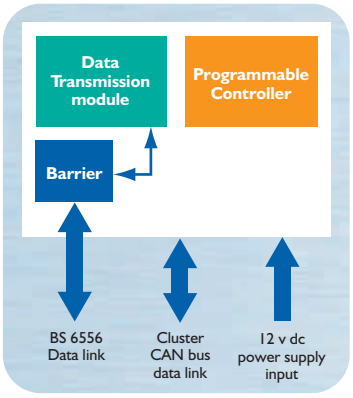
Minewatch Module Packaging

The Minewatch PC 21 modules described in this brochure can be connected together to form a cluster as shown. Modules can be installed into purpose designed enclosures for specific applications. Further details of these units is provided in the PC 21 Control and Monitoring Units brochure which is available on request.

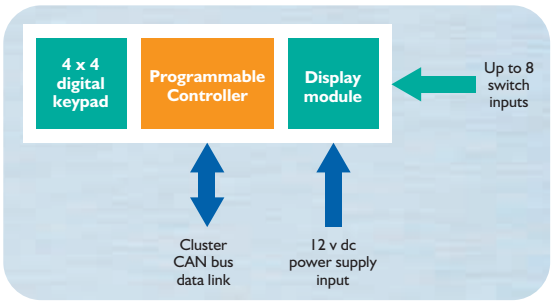
The PC 21 modules can also be installed in control centres and other equipment produced by other manufacturers.



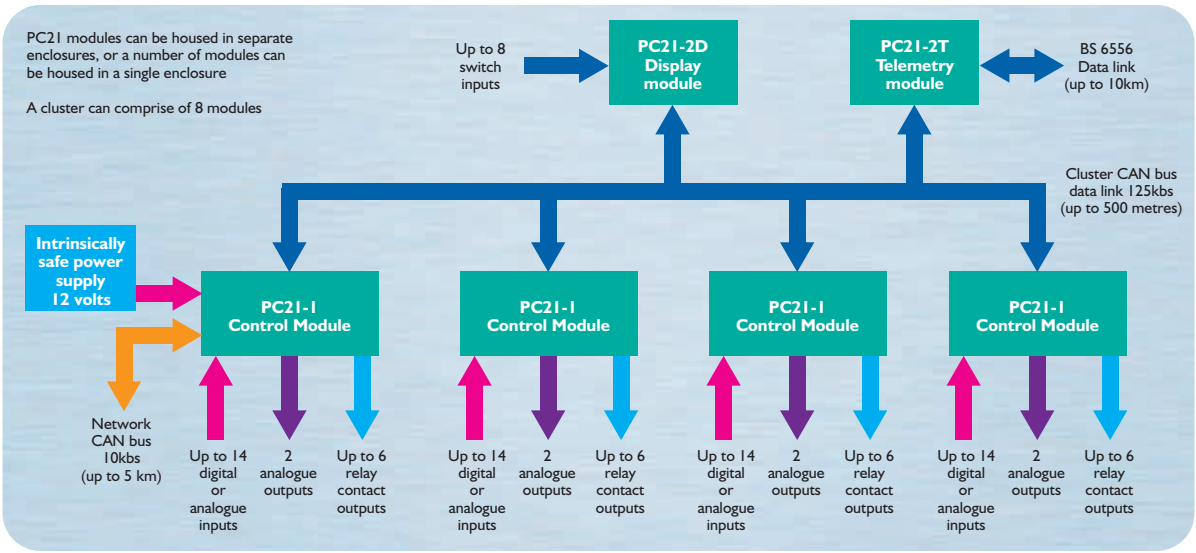
Minewatch PC 21 – 1 Control Module



Minewatch PC 21 – 2T
Data Transmission Module



Minewatch PC 21 – 2D Display Module



Typical Minewatch PC 21 Module Cluster

Prices

Prices can be supplied for any item in this brochure on request.

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MINEWATCH

Davis Derby is a world leader in the design, manufacture and installation of Control and Monitoring Systems for the Mining & Extractive Industries