

4500 Series Monitoring System

General Overview

The 4500 series monitoring system is based upon a 19 inch 3U high rack assembly which can contain a mixture of different modules to achieve particular monitoring functions. The system is powered by a 4508 power supply module fed by either 110 or 240v AC.

The 4508 power supply is a single card construction with a 96 way multiple connector. This mates with a similar socket on the backplane PCB assembly which is mounted across the rear of the rack system. Various connection options are available to use with the basic rack system and they are explained more fully in the section dealing with the model 4524 rack assembly. The connections from the 4500 Series system to the outside world are via ribbon cable connectors mounted on the rack assembly backplane PCB.

Module Fitting

When manufactured systems are to be supplied with monitors dedicated to particular slot position in the rack assembly, this is achieved by using a red keyed connector which ensures that a module cannot be placed in the wrong slot. In the general case, any type of module except for a power supply or a serial interface module can be inserted into position 1-13. Slot 14 is reserved for a 4506 serial interface module (if required) and the 4508 power supply will always occupy the extreme right hand position, slot 15.

System Configuration

In normal circumstances a 4500 series system will be assembled to suit a particular customer's requirement and will have the appropriate modules fitted prior to shipment. Of the various modules available. All are separately described within this instruction manual. Each is described as though it were a standalone product, but of course it cannot be used on its own without the connection capability of the module 4524 rack assembly.

Selection of Filter Components

Some of the 4500 series of monitors have internal filters which restrict their measurement band width to frequencies are of interest.

Scaling

Modules are scaled to suit the customer's specific requirements.

Linking Table

Modules in the 4501, 4502,4509,4510,4515 ranges have links fitted to the boards which are specific to the type of the module.

Module Address Codes (where fitted)

When assembled as a system, modules are assigned address of 1 to 13. numbering from left to right when viewed from the front. Users may set internal switches to other addresses, but must take care to ensure that no two modules are set to the same address. Where no serial interface module is specified for the system, the address code switches and associated components may not be fitted.

4500 Series Monitoring System
Model 4502 Dual Thrust
Monitor

The model 4502 thrust monitor is a single PCB assembly for use with the model 4524 rack assembly and can be allocated to any position (1-13) in the rack assembly. It should however, normally only be fitted in the position dedicated for its purpose. This being regulated by the positioning of the keyed connector assemblies on the rear panel and rear edge of the module.

The 4502 is generally configured for use with an eddy current probe transducer system having a sensitivity of 200mV/mil.

A 4-20 mA electrically isolated signal is available for driving remote systems with the sensitivity (ie. its full scale operation) determined by gain selection components at the time of manufacture.

As the 4502 is always used with eddy current probe systems the transducer supply voltage is normally selected at -24V and provides sufficient power for driving the series 1800 or 1900 eddy current probe systems from CML.

The status of the eddy current probes and derivers is continuously monitored in the module with front panel LED's indicating a healthy state as appropriate. The test point on the front panel is normally configured to provide a buffered output of the eddy current probe signal but that will depend upon an appropriate link selection, made internally in the module.