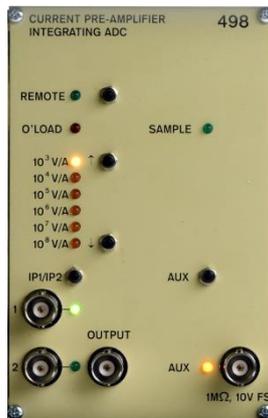


498 Hybrid AC Current Pre-amplifier-DC Nano ammeter Module Brochure



Overview

The 498 dual channel hybrid AC current pre-amplifier-DC nano ammeter module has been designed to provide a simple solution to two specific signal detection challenges in one module.

In the AC mode, the 498 is deployed as a pre-amplifier for lock-in amplifiers employing current source detectors, i.e. photomultipliers and photodiodes.

In DC mode, the 498 nano ammeter represents the main detection electronic. Offering short-circuit detector operation and an impressive six decades of gain, wide dynamic range measurements with excellent linearity can be realised.

The 498 can be operated from the front panel or fully automated over the USB interface. Over-load and under-load flags are included to enhance optimal remote operation.

Core benefits

- ✓ Incorporates both current pre-amplifier and nano ammeter
- ✓ High gain accuracy and stability
- ✓ Single module for two detector systems
- ✓ Low noise

Features

- ◆ Dual width module housed within the 417/417T unit
- ◆ Dual input lock-in pre-amplifier
- ◆ Dual input nano ammeter
- ◆ Virtual ground input
- ◆ Front panel control
- ◆ Fully programmable via USB 2.0 interface

498 Hybrid AC Current Pre-amplifier-DC Nano ammeter Module Specifications

| | Model | 498 Hybrid AC Current Pre-amplifier-DC Nano ammeter Module |
|---|---|--|
| Electrical | Channel 1 input | Current input to trans-impedance amplifier |
| | Channel 2 input | Current input to trans-impedance amplifier |
| | Gain Ranges | 108-103 V/A |
| | Maximum Current Input | 10mA |
| | Gain Accuracy | 0.01 |
| | Gain Stability | 200ppm/°C |
| | Output Stability | 5ppm/°C to 500ppm/°C depending on sensitivity |
| | Linearity | < 0.025% departure from linearity from zero to full scale |
| | ADC Resolution | 4½ digit BCD (0 to 19999) i.e. > 14 bit resolution |
| | ADC Integration Time | 100ms |
| | Input Impedance | Virtual earth |
| | Frequency Response 103 V/A Range (-3dB) | > 1MHz |
| | Frequency Response 104 V/A Range (-3dB) | 1MHz |
| | Frequency Response 105 V/A Range (-3dB) | 260kHz |
| | Frequency Response 106 V/A Range (-3dB) | 30kHz |
| | Frequency Response 107 V/A Range (-3dB) | 23kHz |
| Frequency Response 108 V/A Range (-3dB) | 4kHz | |
| Interface & Mechanical | Interface | USB via 417/417T Unit (I2C) |
| | Control | Front panel/ USB |
| | Front Panel Controlled Features | Input select, gain range select |
| | Dimensions | Dual width module, 3U high |
| | Connector | BNC |
| | Display | Digital display of 417-unit, channel A |

Ordering Information

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| S400_498 | 498 Hybrid AC Current Pre-amplifier-DC Nano ammeter Module |
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