

Power Meters and Monitors

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Type N (M) and 3.5 mm (M) Integrated Thermocouple and Diode Power Monitors



Features

- Broadband Frequency Coverage
- High Level Outputs
- Simplifies System Designs
- Excellent Stability, Accuracy
- Low Cost

Models

- 426B, 427B, 460B, 462B, 466B, 4491

Model	426B	427B	460B
Low Frequency (GHz)	0.01	0.01	0.01
High Frequency (GHz)	12.4	12.4	12.4
Detection	TRUE RMS AVERAGE	TRUE RMS AVERAGE	TRUE RMS AVERAGE
Dynamic Range	30 dB*	30 dB*	30 dB*
Measurement Range	0.1 uW to 100 mW	1.0 uW to 1.0 mW	1.0 uW to 1.0 mW
Overload (CW) in mW	300 mW	3.0 mW	3.0 mW
Overload (Peak) in W	30W	0.1W	0.1W
Replacement Element	820A	818A	818A
Output Connector	15 PIN MS3116A-14-15P (Mates with MS3116A-14-15S, Narda P/N 30931302)	15 PIN MS3116A-14-15P (Mates with MS3116A-14-15S, Narda P/N 30931302)	185 PIN MS3116A-14-18P (Mates with MS3116A-14-18S, Narda P/N 30931301)
Input Connector	Type "N" Male	Type "N" Male	Type "N" Male
Input VSWR (max)	1.5:1	1.5:1	1.5:1
Zero Offset (Typical)	.005%/Deg.C. on lease sensitive range, 10dB higher on each lower range	.005%/Deg.C. on lease sensitive range, 10dB higher on each lower range	.005%/Deg.C. on lease sensitive range, 10dB higher on each lower range
Linearity	2% of full scale	2% of full scale	2% of full scale
Special Notes:	A	A	A

Special Notes:

A: *Units can be configured for two or three 10 dB ranges for a single 20 dB or 30 dB range.

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Model	462B	466B	4491
Low Frequency (GHz)	0.01	0.01	0.1
High Frequency (GHz)	12.4	12.4	26.5
Detection	TRUE RMS AVERAGE	TRUE RMS AVERAGE	TRUE RMS AVERAGE
Dynamic Range	30 dB*	20 dB*	30 dB*
Measurement Range	100 uW to 100 mW	1 uW to 100 mW	10 uW to 10 mW
Overload (CW) in mW	300 mW	300 mW	30 mW
Overload (Peak) in W	30W	30W	5.0W
Replacement Element	820A	820A	4813
Output Connector	185 PIN MS3116A-14-18P (Mates with MS3116A-14-18S, Narda P/N 30931301)	185 PIN MS3116A-14-18P (Mates with MS3116A-14-18S, Narda P/N 30931301)	185 PIN MS3116A-14-18P (Mates with MS3116A-14-18S, Narda P/N 30931301)
Input Connector	Type "N" Male	Type "N" Male	3.5 male
Input VSWR (max)	1.5:1	1.5:1	1.20:1
Zero Offset (Typical)	.005%/Deg.C. on lease sensitive range, 10dB higher on each lower range	.005%/Deg.C. on lease sensitive range, 10dB higher on each lower range	.005%/Deg.C. on lease sensitive range, 10dB higher on each lower range
Linearity	2% of full scale	2% of full scale	2% of full scale
Special Notes:	A	A	A , B

Special Notes:
A: *Units can be configured for two or three 10 dB ranges for a single 20 dB or 30 dB range.
B: VSWR Input 1.5:1 (50 MHz to 22 GHz)
1.3:1 (75 MHz to 20 GHz)

Type N (M) and 3.5 mm (M) Integrated Thermocouple and Diode Power Monitors**Description**

Narda integrated power monitors are complete, integrated power measurement subsystems which provide an output signal proportional to their RF input level. A system designer need only supply DC power to the RF power monitor for it to measure RMS average power levels. Measurements can be made over the designer's choice of 20 or 30 dB dynamic range with repeatable, accurate performance. All units are designed to operate in hostile RF environments and are sealed to reduce emissions of, and susceptibility to, stray RF signals. Input connectors are precision type "N" or 3.5mm connectors that comply with MIL-C-39012, and output connections are through a MIL-C-26284 type connector for environmental and EMC considerations. This design feature allows these units to be mounted close to high power output stages while maintaining accurate output readings. These power monitors operate from a wide range of supply voltages. Single ended supplies of either 24 to 36 VDC unregulated, or dual supply voltages of 12 to 18 VDC regulated are acceptable for all thermo

couple monitors. However special versions are available to match system supply voltages. These devices may be used as either constant current or constant voltage devices. In a system where variations of the resistance of the DC wiring may be encountered (such as through the slip rings of a rotating antenna system), or where the length of wire would cause a voltage reduction, a constant current source is desirable since any resistance, or resistance fluctuation would not affect the accuracy of the remote readout. In a system where the remote readout might be a high impedance device, such as a PC based data acquisition card the most desirable configuration is a constant voltage source. The choice of either a constant current or constant voltage configuration does not require any change or modification of the internal circuitry of the power monitor. Either configuration is obtained by proper wiring of the external circuitry. The supplied operation and maintenance manual contains numerous examples of external wiring configurations that may be employed.

Environmental Specifications

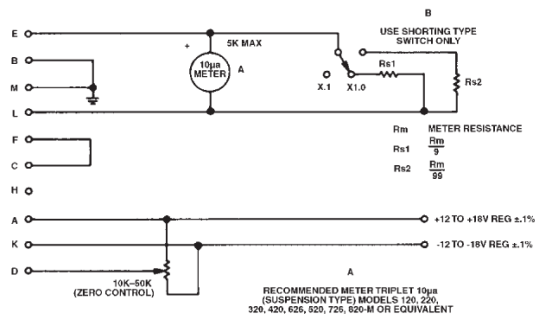
Temperature Range	Operating -55° to +85°C
Humidity	0 to 99% (Non-condensing)
Altitude	0 to 30,000 ft.

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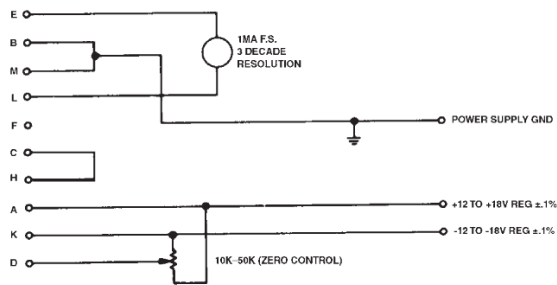
Typical Interconnection Diagrams



Constant Current Dual Supply, 3 Ranges

In this external wiring configuration, the RMS power monitors will generate a 0 to 100 mV output for each 10 dB range (x.1, x1, x10).

If the switch is left in the x.1 range, the RMS monitors will generate 0 to 1V and 0 to 10V if operated in the x1 and x10 power ranges, respectively.



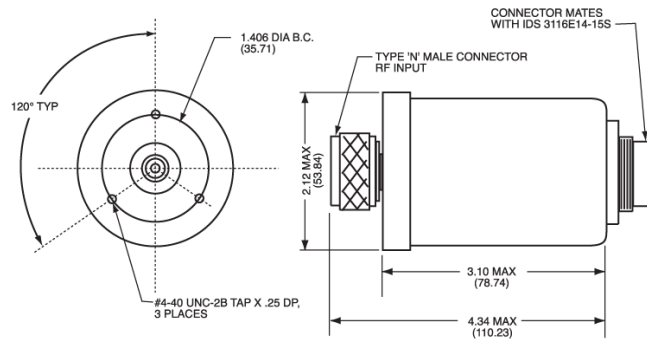
Constant Current Dual Supply Connection Single Range

In this external wiring configuration, the RMS power monitor will generate up to 1 mA of current. When operated in the most sensitive range it will generate 0 to 10 µA, mid range and 0 to 100 µA and in the least sensitive range 0 to 1 mA.

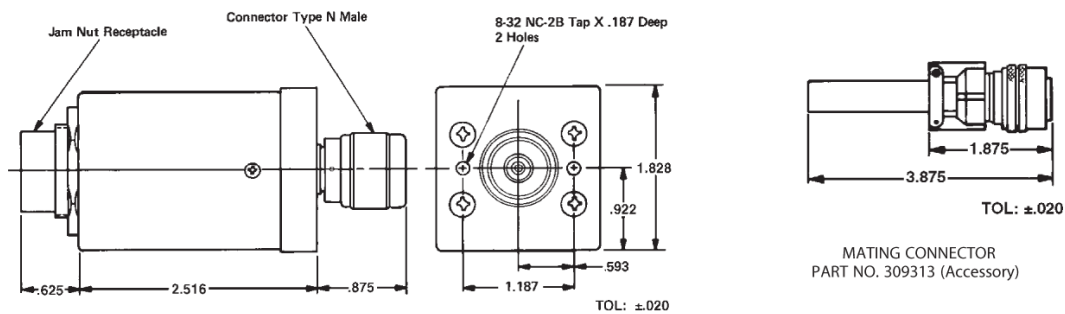
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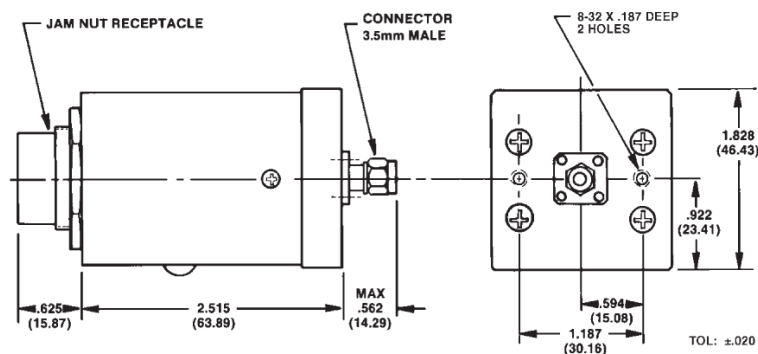
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Dimension are maximum and for reference only. Dimensions in parentheses are in millimeters. Contact the factory for detailed specifications and outline drawing.



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