

RF Monitoring Products

8455 / 8475 SERIES CELLGUARD™ POWER / VSWR MONITORS

- Precision Power and VSWR Measurements via Integral High Directivity Coupler and Imbedded Microprocessor.
- True RMS Power Measurement over a 26 dB Dynamic Range – up to 600 watts average power with multiple frequencies.
- Prime System Power Measurement with the Accuracy and Linearity needed for Precise System Setup.
- TTL Alarms for High VSWR and Low Power (CCH channel monitor).
- Continuous VSWR Measurements for Tracking Antenna Performance and Predicting Failures.
- Remote and Local Operation of Single and Multiple Units over the RS485 Bus – Access to all Functions and Controls with Ability to Log Power, VSWR and Alarm Status.



DESCRIPTION

The Narda CellGuard Series of Power/VSWR Monitors can be readily employed to monitor transmitter antennas in cellular, ESMR, SMR, PCS and Paging Applications.

TRANSMITTER POWER/VSWR MONITORS

Narda CellGuards are precise in-line instruments which continually measure forward and reflected power and calculate actual VSWR. They are designed for use in analog and digital systems and employ low-loss, high-directivity couplers in conjunction with high-sensitivity detectors and built-in microprocessors. An RS485 bus is provided for remote control and communications. Power and VSWR are displayed on a virtual power meter display as shown in figure 1.

These three models are very similar to the 8450 Series on page 100 but do not include the LCD display and form-C relay. The individual 8455 monitors are approximately 4.5" x 3.5" x 4.0" in size and employ Narda precision type connectors. The electrical interface is through the 9-PIN D Connector.

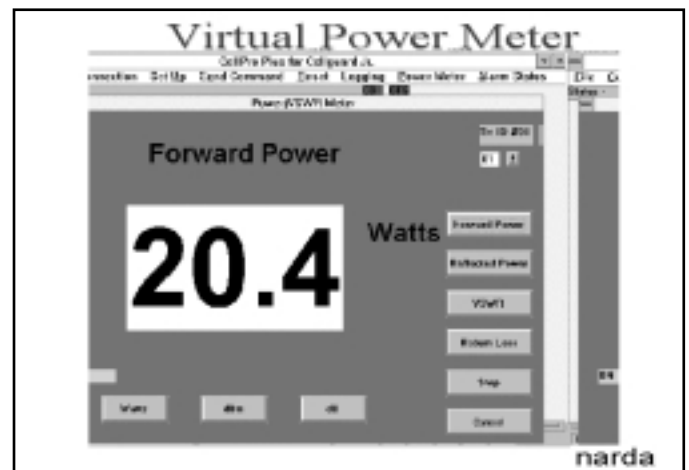


Figure 1 - Virtual Power Meter

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PCS MODELS: 8475 SERIES

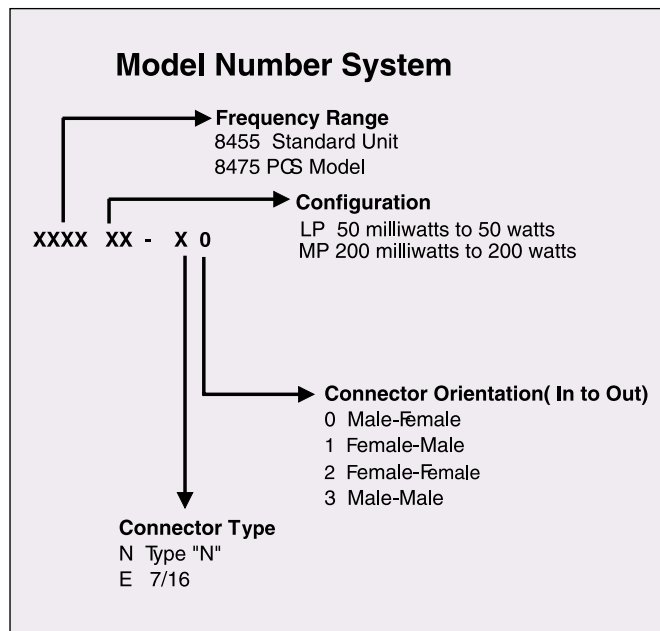
These models are identical in function to the 8455 series except that they are designed for the PCS frequencies of 1800 to 2200 MHz.

The above units are standard configurations available from stock. Custom units can be provided for quantity requirements that can be configured with the aid of the model number system on this page.

MONITORING MULTIPLE ANTENNAS ON THE RS485 BUS

Up to six antennas at a single cell site can be monitored on the RS485 bus. Individual monitors are connected to Narda's Model 70230 which provides the necessary DC power, a Form-C relay alarm with LED for each antenna and a RS232 interface, see page 109. Each unit on the bus has a unique ID and can be individually polled. The use of the RS485 bus assures precise measurement and control since it is a balanced system that eliminates errors resulting from EMI and other interference. The information retrieved can be displayed on a local PC for subsequent processing or it can be transmitted by modem to a remote location. The following information is provided on the bus for each antenna:

- Low Transmit Power Alarm Signal
- VSWR Alarm Signal
- Transmitted Forward Power
- Transmitter Reflected Power
- Transmitter VSWR



CELLGUARD SOFTWARE

CELLPRO Plus software is designed to monitor multiple CellGuards on the single bus. It operates in a Windows 3.1, Window 95 or Windows NT environment. The program is ideal for both local monitoring or remote applications and can accommodate a variety of communications interfaces. It can be installed on either a local PC interfacing with the Model 70230 or on a remote PC connected via modems and a telephone line.

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SPECIFICATIONS

8455 / 8475 SERIES CELLGUARD™

ELECTRICAL

MODEL	8455 SERIES			8475 SERIES
	8455LP-N0	8455MP-N0	8455-N0	8475LP-E0
FREQUENCY RANGE	800 to 980 MHz			1930 to 1990 MHz
POWER MEASUREMENT RANGE	125 mW to 50 W	500 mW to 200 W	1.5 W to 600 W	315 mW to 50 W
MAXIMUM INPUT POWER	600 w @ 2:1 VSWR			50 W CW
POWER MEASUREMENT ACCURACY 23°C 0 TO 50°C	±.3 dB ±.5 dB			±.3 dB ±.5 dB
INSERTION LOSS	.2 dB max			.2 dB max
INSTRUMENT VSWR (INPUT / OUTPUT)	1.07:1 max.			1.10:1 max.
VSWR MEASUREMENT RANGE	1.2:1 to 3.0:1			1.2:1 to 3.0:1
COUPLER DIRECTIVITY	25 dB typical			25 dB typical
VSWR ACCURACY	+.5 / -.3 @ 2.00:1			+.5 / -.3 @ 2.00:1

ENVIRONMENTAL

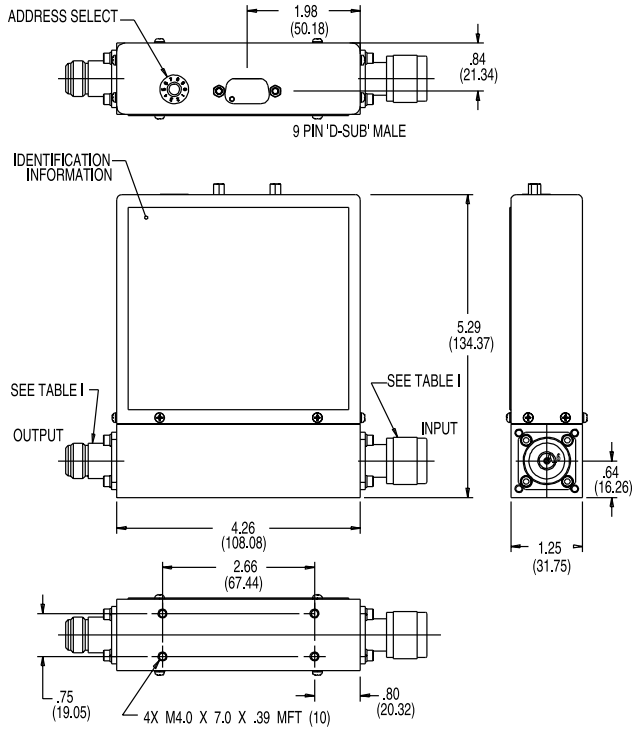
TEMPERATURE RANGE	0 to 50°C
HUMIDITY	0 to 95% RH Non-condensing
ALTITUDE	0 to 10,000 ft.

MECHANICAL

DISPLAY	Virtual on PC	
RF CONNECTORS INPUT OUTPUT OPTIONS	Type "N" Male Type "N" Female "7/16"	"7/16" Male "7/16" Female "N"
MULTI-PIN CONNECTOR	9-pin "D", See Outline	
SIZE	See Outline	
WEIGHT	1.0 lbs max	

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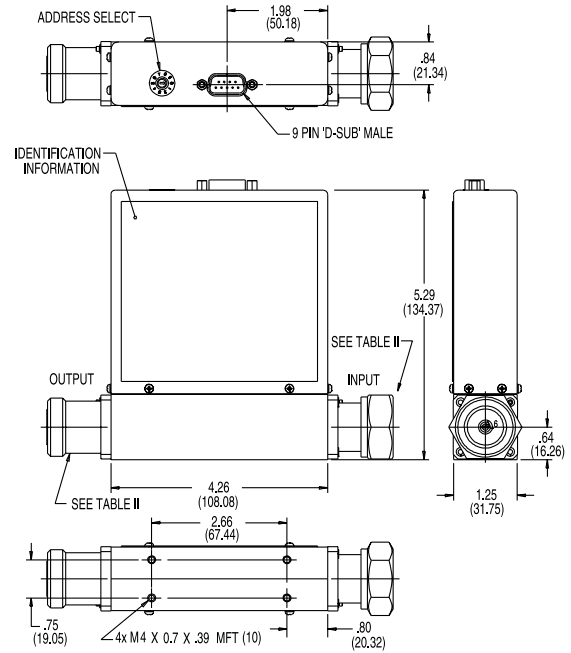
OUTLINE DRAWINGS



VERSION	INPUT CONNECTOR	OUTPUT CONNECTOR
-N0 (SHOWN)	N MALE	N FEMALE
-N1	N FEMALE	N MALE
-N2	N FEMALE	N FEMALE
-N3	N MALE	N MALE

DIMENSIONS: INCHES (mm)
TOLERANCES: .XX ±.03

8455

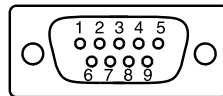


VERSION	INPUT CONNECTOR	OUTPUT CONNECTOR
-E0 (SHOWN)	7/16 MALE	7/16 FEMALE
-E1	7/16 FEMALE	7/16 MALE
-E2	7/16 FEMALE	7/16 FEMALE
-E3	7/16 MALE	7/16 MALE

DIMENSIONS: INCHES (mm)
TOLERANCES: .XX ±.03

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BACK VIEW OF MATING CONNECTOR 9 PIN "D" SHELL



OUTPUT CONNECTOR DESIGNATION

DESCRIPTION/FUNCTION	PIN NO.
+24V RET	5
+24V RET (MUST BE GROUNDED)	9
ANALOG VOLT RET	4
+24V	3
+24V	7
NC	1
VOUT	2
RS485-6	6
RS485-7	8