

ENVIRONMENTAL REQUIREMENTS

THRULINE® Wattmeters should be used preferably in a dust and vibration free environment. Measurements should be made at 25°C ± 5°C (77°F ± 9°F) for maximum measurement accuracy.

ITEMS FURNISHED

Series 4600 and 4800 THRULINE® Wattmeters consist of a line section, a meter in a housing and connecting cables.

The line section is a short length of matching 3-1/8 inch coaxial transmission line. The Models 460, 4610-000, 4600-037 and 4610-300 line sections have bolt flanges that are fixed on one end and swivel type on the other. Models 4805, 4802-200, 4805-037 and 4802-300 are unflanged line sections.

The meter is scaled in 5, 10 and 25kW ranges for Models 460, 4610-200, 4805, and 4802-200. Models 4600-037, 4610-300, 4805-037 and 4802-300 are scaled for 15, 30 and 60kW ranges.

A standard ten foot (3 meter) cable/s is supplied with each wattmeter and is equipped with a dc connector plus on one end and lugs on the other. Alternate lengths are available on request. This instruction book is the only other item supplied.

ITEMS REQUIRED

The coaxial transmission line must be equipped with 3-1/8 inch flanged or unflanged connectors to match the line section. Additional elements may be ordered for the desired frequency bands and power levels (See Element Tables, Page viii.)

TOOLS AND TEST EQUIPMENT

Screwdrivers and a crescent wrench or end-wrench for the flange nut and bolt sets are the only tools required for the Series 4600 and 4800 Wattmeters.

SPECIFICATIONS FOR SERIES 4600 AND 4800 THRULINE® WATTMETERS

Impedance	50 ohms nominal
Insertion VSWR	1.05:1.00 maximum
Connectors	
Models 460, 4610-200, 4600-037 & 4610-300..	3-1/8" EIA Flanged
Models 4805, 4802-200, 4805-037 & 4802-300.	3-1/8" Unflanged
Power Range	
Models 460, 4610-200, 4805 & 4802-200.....	1-100kW maximum
Models 4600-037, 4610-300, 4805-037 & 4802-300	1.5-30kW maximum
Frequency Range	
Models 460, 4610-200, 4805 & 4802-200.....	2-1000MHz
Models 4600-037, 4610-300, 4805-037 & 4802-300	50-250MHz
Note - Actual frequency and power ranges are determined by the element used, see Page viii.	
Accuracy	± 5% of full scale
Dimensions	
Flanged Line Section	7-1/32"L (179mm)
Unflanged Line Section	6-1/2"L (165mm)
Meter	3-3/8"L x 5-9/16"W x 6-1/2"H (86 x 141 x 165mm)
Weight	
Flanged Line Section	Approx. 7.25 lbs. (3.3kg)
Unflanged Line Section	Approx. 4.25 lbs. (2.0kg)
Meter	5 lbs. (2.27kg)
Ambient Temperature	25°C ± 5°C (77°F ± 9°F)
Finish	
Meter Housing	Light navy grey baked enamel (MIL-E-15090)
Line Section	Bright silver plate

Continued

SPECIFICATIONS FOR SERIES 4600 AND 4800 THRULINE® WATTMETERS

Table I-1. Element Table for Series 4600 and 4800 THRULINE® Wattmeters

Model Number	Frequency Range MHz	Power Range kW	Scale	Element Table	Connector Type	Sockets
460	2-1000	1-100	5/10/25	3-1/8A	3-1/8" Flg	Single
4610-200	2-1000	1-100	5/10/25	3-1/8A	3-1/8" Flg	Double
4805	2-1000	1-100	5/10/25	3-1/8A	3-1/8" Unfl	Single
4802-200	2-1000	1-100	5/10/25	3-1/8A	3-1/8" Unfl	Double
4600-037	50-250	1.5-30	15/30/60	3-1/8B	3-1/8" Flg	Single
4610-300	50-250	1.5-30	15/30/60	3-1/8B	3-1/8" Flg	Double
4805-037	50-250	1.5-30	15/30/60	3-1/8B	3-1/8" Unfl	Single
4802-300	50-250	1.5-30	15/30/60	3-1/8B	3-1/8" Unfl	Double

Note:

- a. Models 460 and 4805 utilize meter in housing assembly, P/N 6810-009-7 and replacement meter, P/N 2000-030.
- b. Models 4610-200 and 4802-200 utilize meter in housing assembly, P/N 6810-020 and replacement meter, P/N 2000-030.
- c. Models 4600-037 and 4805-037 utilizes meter in housing assembly, P/N 6810-007 and replacement meter, P/N 2000-059.
- d. Model 4610-300 and 4802-300 utilizes meter in housing assembly, P/N 6810-030 and replacement meter, P/N 2000-059.

**TABLE 3-1/8 A
STANDARD ELEMENTS (CATALOG NUMBERS)***

Power Range	Frequency Bands (MHz)					
	2-30	25-60	50-125	100-250	200-500	400-1000
1000W	1000H3	1000A3	1000B3	1000C3	1000D3	1000E3
2500W	2500H3	2500A3	2500B3	2500C3	2500D3	2500E3
5000W	5000H3	5000A3	5000B3	5000C3	5000D3	5000E3
10kW	10KH3	10KA3	10KB3	10KC3	10KD3	10KE3
25kW	25KH3	25KA3	25KB3	25KC3	25KD3	25KE3
50kW	50KH3					
100kW	100KH3					

**TABLE 3-1/8 B
STANDARD ELEMENTS (CATALOG NUMBERS)***

Power Range	Frequency Bands (MHz)	
	50-125	100-250
1500W	1500B3	1500C3
3000W	3000B3	3000C3
6000W	6000B3	6000C3
15kW	15KB3	15KC3
30kW	30KB3	30KC3

*When ordering, specify catalog number and line section model number.