

A Major Advance in RTD Technology!

OMEGA® Thinfilm RTD Elements

Model F3105

\$19

Basic Unit

Features:

| | |
|-----------------------|---|
| Size: | Some are as small as thermistors |
| Shape: | Flat or cylindrical packages |
| Calibration: | $\alpha = .00385$ DIN 43760 curve |
| Accuracy: | Equal to conventional wire-wound units |
| Response: | Better than equivalent size wire-wound units |
| Temperature Range: | -70 to 500°C (-95 to 930°F) |
| Configuration: | Single and dual resistance 100 Ω |

OMEGA introduces the OMEGAFILM® platinum RTD element—an element achieved by employing construction techniques similar to those used to manufacture miniature electronic integrated circuits. The result: a precision element available in sizes considerably smaller than the head of a match. All this in a rugged, accurate, ceramic encased package! Best of all, OMEGAFILM® elements are calibrated to the worldwide accepted DIN 43760 curve ($\alpha=0.00385$), allowing use with standard off-the-shelf instrumentation available from OMEGA and others, both in the United States and abroad.

Accuracy and Specifications:

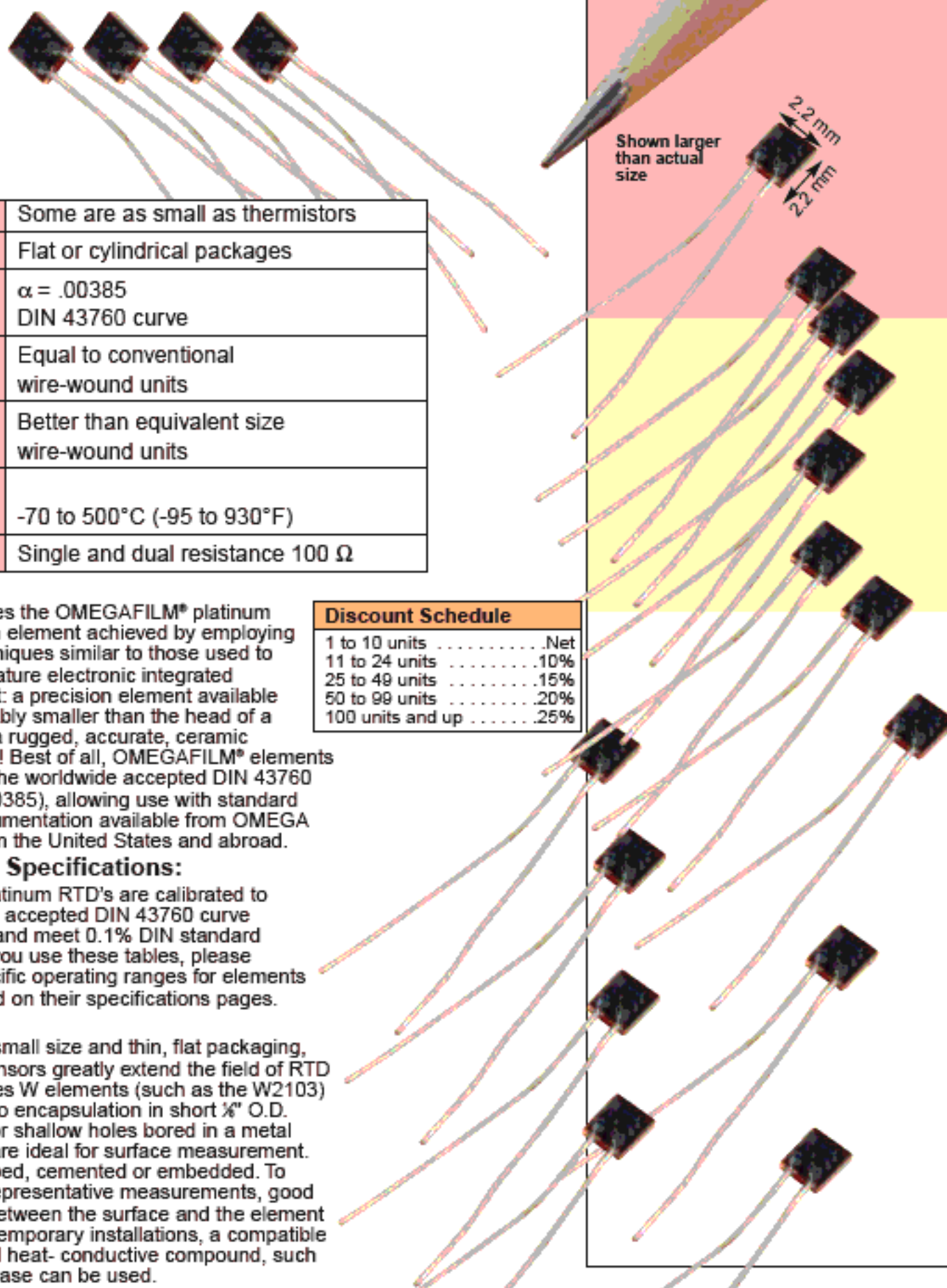
OMEGAFILM® platinum RTD's are calibrated to the internationally accepted DIN 43760 curve ($\alpha=0.00385$) and meet 0.1% DIN standard tolerance. When you use these tables, please note that the specific operating ranges for elements vary and are listed on their specifications pages.

Applications:

Because of their small size and thin, flat packaging, OMEGAFILM® sensors greatly extend the field of RTD applications. Series W elements (such as the W2103) lend themselves to encapsulation in short $\frac{1}{8}$ " O.D. protection tubes or shallow holes bored in a metal casing. Series F are ideal for surface measurement. These may be taped, cemented or embedded. To obtain accurate representative measurements, good thermal contact between the surface and the element is important. For temporary installations, a compatible temperature-rated heat-conductive compound, such as a heat sink grease can be used.

Discount Schedule

| | |
|------------------|------------|
| 1 to 10 units | Net |
| 11 to 24 units |10% |
| 25 to 49 units |15% |
| 50 to 99 units |20% |
| 100 units and up |25% |



OMEGA® Thinfilm RTD Elements



Shown larger than actual size

All RTD elements available with Teflon® insulated lead wire.

Pricing is dependent on lead style, See page with "RTD Elements with Lead Wires Attached" (page C-12).

OMEGAFILM® RTD's can be used with various OMEGA® controllers and digital readout thermometers. The following shows where some of these instruments can be found in this catalog:

| Instrument | Section |
|--------------------------------|---------|
| 1. DP41-RTD series meters | M |
| 2. DP25-RTD digital indicators | M |
| 3. CN77000 series controllers | P |

OMEGA can offer Series W and Series F OMEGAFILM® RTD's encapsulated in hex head machine screws and other metal holders. Please contact OMEGA's Applications Engineering Department about other custom assemblies.

| Discount Schedule | |
|-------------------|--------------|
| 1 to 10 units |Net |
| 11 to 24 units |10% |
| 25 to 49 units |15% |
| 50 to 99 units |20% |
| 100 units and up |25% |

OMEGAFILM® – Platinum RTD Elements (Alpha=.00385)

| Series | Dimensions in millimeters (1 mm = .03937") | Single or Dual | Nominal Resistance (ohms) | Temperature Range | Model Number | Price |
|--------|---|----------------|---------------------------|---|--------------|-------|
| W | | 1 | x 100 | ↑ -50 to 600°C (-58 to 1112°F) ↓ | W2102 | \$32 |
| | | 1 | x 200 | | W2112 | 35 |
| | | 1 | x 400 | | W2122 | 39 |
| | | 1 | x 500 | | W2132 | 39 |
| | | 1 | x 1000 | | W2142 | 48 |
| | | 1 | x 2000 | | W2152 | 97 |
| W | | 2 | x 100 | | W2202 | 58 |
| | | 2 | x 200 | | W2212 | 68 |
| | | 2 | x 400 | | W2222 | 66 |
| | | 2 | x 500 | | W2232 | 61 |
| W | | 1 | x 100 | | W2103 | 36 |
| | | 2 | x 100 | | W2204 | 64 |
| | | | | | | |

STOCKED FOR IMMEDIATE DELIVERY

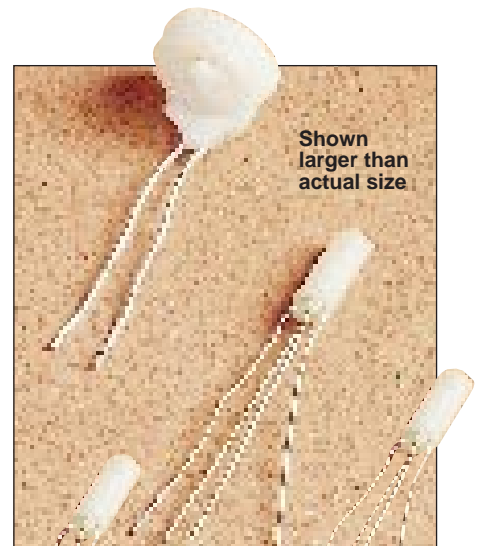
* Length is 17 mm for 1000 and 2000 ohm elements

OMEGAFILM® RTD Elements

Series W. Series W are rugged, ceramic, cylindrically shaped elements for use in the temperature range from -50 to 600°C (-58 to 1112°F). Elements have .015" gold palladium alloy leads approximately 0.4" long, which are strain relieved in the stress free ceramic body. Elements are available in both single and dual configurations with resistances at 0°C (32°F) of 100, 200, 400, 500, 1000 and 2000 ohms. Calibration conforms to standard DIN 43760 with 0.1% resistance tolerance. Resistance vs. Temperature values are shown in the technical section.

Series F. Series F are small, thin, flat ceramic encased elements with strain relieved leads approximately 10 mm (0.4") long. Temperature rating is from -50 to 600°C (-60 to 1110°F). Calibration is to DIN standard 43760, 0.1% tolerance. Available in a single winding configuration with a choice of 100, 500 and 1000 ohm resistance at 0°C (32°F). Series F elements yield a superior approach to accurate, reliable, surface temperature measurement.

Model WS81. The WS81 donut shaped 100 ohm RTD element offers fast, accurate temperature measurement as well as a convenient means of attaching to a surface without cement. These highly versatile units can be secured to a surface by a machine screw and washer or by a rivet. They can also be directly cemented with or without the use of a vertical centering post. Rated temperature is from -50 to 850°C (-58 to 1562°F). Accuracy and speed of response are enhanced by locating the winding deposition only 0.007" beneath the mounting surface. The rugged ceramic body, with firmly strain relieved 0.015" diameter platinum, is designed to withstand high vibration conditions. This versatile 100 ohm unit meets DIN standard 43760, "0.1%" resistance tolerance. Resistance vs. Temperature tables and polynomials are shown in the technical section.



| Discount Schedule | |
|-------------------|----------|
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| 11 to 24 units |10% |
| 25 to 49 units |15% |
| 50 to 99 units |20% |
| 100 units and up |25% |

OMEGAFILM®- Platinum RTD Elements (Alpha=.00385)

| Series | Dimensions in millimeters (1 mm = .03937") | Single or Dual | Nominal Resistance (ohms) | Temperature Range | Model Number | Price |
|--------|---|----------------|---------------------------|---|--------------|-------|
| F | 1 mm Thick | 1 | x 100 | ↑ -50 to 600°C (-60 to 1110°F) ↓ | F3101 | \$19 |
| | | 1 | x 500 | | F3131 | 19 |
| | | 1 | x 1000 | | F3141 | 19 |
| F | 1 mm Thick | 1 | x 100 | | F3102 | 19 |
| | | 1 | x 500 | | F3132 | 19 |
| | | 1 | x 1000 | F3142 | 19 | |
| F | 1 mm Thick | 1 | x 100 | F3105 | 19 | |
| F | | 1 | x 100 | F3107 | 19 | |
| WS | | 1 | x 100 | -50 to 850°C (-60 to 1560°F) | WS81 | 87 |

