

# Models DS 1463, DS 1464

RESISTANCE STANDARDS & INSTRUMENTS

- DS 1463 and DS 1464 are decade resistor boxes (TEGAM Models DB877 and DB62) in a canister configuration
- Stacked dials minimize panel space
- Rapid setting, convenient in-line reading
- Precision wire-wound resistors throughout
- Silicone-treated ceramic switch wafers
- Stainless steel shafting and detents

## Dekastat Coaxial-Dial Decade Resistor Standards

These Dekastat coaxial-dial decade resistors are highly accurate and stable. They contain three or four decades of precision resistors. Dekastats are designed for use at DC and audio frequencies, and can be used at even higher frequencies with slightly reduced accuracy.

High accuracy is assured by the use of TEGAM precision resistor elements. These resistors are single continuous filament wound on mica cards using wire having a very low temperature coefficient. All Dekastat units are adjusted to initial accuracy specifications after a special aging process.

All units feature the TEGAM Dekadial coaxial dial arrangement, combining exceptionally fast, simple dial setting with convenient in-line reading of the resistance value. The dials operate independently with continuous 360-degree rotation in either direction. A special detent design provides crisp location of dial position. The exclusive use of stainless steel for shafting and detents assures long and trouble-free mechanical life.

The ceramic switch wafers are silicone-treated for improved insulating qualities. The dual switch contacts are of solid silver-alloy for long life, precision adjustment and mechanical terminations. A precious metal slide provides for smooth contact rotation.

All resistors and switches are insulated from case, while a terminal is provided for connection to case. The case itself can be guard-driven for higher voltage applications. A rigid support structure shock-mounted within a heavy-wall extruded aluminum dust cover protects the unit against mechanical injury and vibration, assuring outstanding performance even under severe operating conditions.

Standard values of these Dekastat decade resistors are listed in the specifications, and the accompanying table gives ratings for individual decades. Other resistance values for most models are available on special order. Contact the factory for prices and availability of these special order items.

MODEL DS 1463



MODEL DS 1464



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# Models DS 1463, DS 1464

DEKASTAT COAXIAL-DIAL DECADE RESISTOR STANDARDS

## Specifications

Ratings per step for each decade (Models DS 1463 and DS 1464)

Smallest Step ( $\Omega$ )	Incremental Accuracy		Coefficients		Measurement Duty** Maximum Ratings	
	Initial (%)	Long-Term (%)	Temperature (ppm/ $^{\circ}$ C)	Power (ppm/mW/step)	Power (mW/step)	Current (mA)
10 k	0.02	0.03	5	0.3	500	7
1 k	0.02	0.03	5	0.3	500	23
100	0.02	0.03	5	0.3	500	71
10	0.03	0.03	15	0.9	500	230
1	0.1	0.12	20	1.2	500	710
0.1	1.0	1.0	60	6	250	1600
0.01	10	10	400	60	160	4000
1*	0.5 div	1 div			40	200
0.1*	1 div	1.5 div			5	230

\*Interpolating rheostat ( $\Omega$ /dial division)

\*\*Intermittent use such that temperature rise of the resistor will not appreciably exceed that which would occur in free air.

### DS 1463 Dekastat Decade Resistor

#### Accuracy

Accuracy of resistance increments is given in the accompanying table. Accuracy of resistance change from zero setting is given below.

Initial:  $\pm(0.01\% + 0.5 \text{ dial division})$ ;  
 $\pm(0.01\% + 1 \text{ dial division})$  with 10.5 $\Omega$  rheostat

Long-Term:  $\pm(0.02\% + 1 \text{ dial division})$ ;  
 $\pm(0.02\% + 1.5 \text{ dial division})$  with 10.5 $\Omega$  rheostat

#### Short-term Switching Repeatability

$\pm 0.2$  dial division;  $\pm 0.5$  dial division with 10.5 $\Omega$  rheostat (typical)

#### Number of Decades

Three plus rheostat

Total R	Smallest Step Each Decade			
12k $\Omega$	Rheo 0.1 $\Omega$	10 $\Omega$	100 $\Omega$	1k $\Omega$
120k $\Omega$	Rheo 1 $\Omega$	100 $\Omega$	1k $\Omega$	10k $\Omega$

#### Breakdown Voltage

1000V peak to case

#### Resistance at Zero Setting

100m $\Omega$  maximum at 1.2k $\Omega$ ; 50m $\Omega$  at 120k $\Omega$

#### Dimensions

Diameter: 3 in. (7.6cm)

Depth: 8.5 in. (24cm)

Depth (beyond panel): 6.9 in. (17.5cm)

#### Weight

2.2 lbs (1kg) net

### DS 1464 Dekastat Decade Resistor

#### Accuracy

Accuracy of resistance increments is given in the accompanying table. Accuracy of resistance change from zero setting is given below.

Initial:  $\pm(0.01\% + 7\text{m}\Omega)$

Long-Term:  $\pm(0.02\% + 10\text{m}\Omega)$

#### Short-term Switching Repeatability

$\pm 0.6\text{m}\Omega$  (typical)

#### Number of Decades

Four

Total R	Smallest Step Each Decade				
1.2k $\Omega$	0.1 $\Omega$	1 $\Omega$	10 $\Omega$	100 $\Omega$	
12k $\Omega$	1 $\Omega$	10 $\Omega$	100 $\Omega$	1k $\Omega$	

#### Breakdown Voltage

1000V peak to case

#### Resistance at Zero Setting

Approximately 20m $\Omega$

#### Dimensions

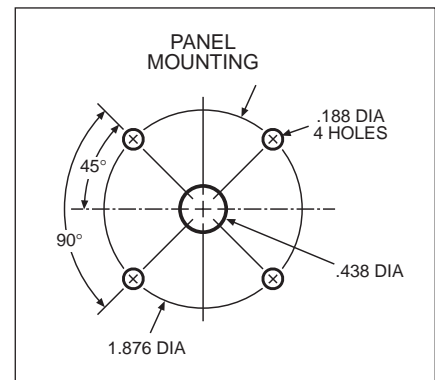
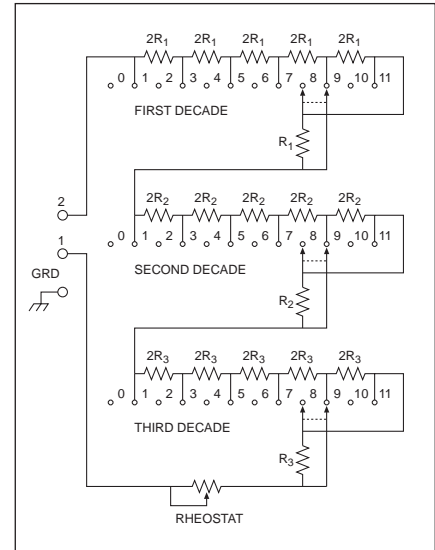
Diameter: 3 in. (7.6cm)

Depth: 8.5 in. (24cm)

Depth (beyond panel): 6.9 in. (17.5cm)

#### Weight

2.2 lbs (1kg) net



## Standard Equipment

Models DS 1463 and DS 1464 come with an 8893 Instruction Sheet.

## Calibration & Technical Services

For warranty and remedial repair, calibration services and spare parts, or for additional information on TEGAM sales and service offices around the world, contact us at 440-466-6100 (ph) or 440-466-6110 (fx).



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