



High Accuracy Decade Box

DBX-1-0.01

\$495

Basic Unit
(0.01% Accuracy)



- ✓ High Stability
- ✓ Excellent Frequency Characteristics
- ✓ Available in Single Through 11 Decade Units
- ✓ Basic Accuracy of 0.01% (available in 0.02%, 0.05% and 0.1% accuracies)
- ✓ Zero Resistance under 1 M Ω per Decade
- ✓ High Performance Solid Silver Alloy Contact Switches with Low Capacitance and Low Loss
- ✓ Resistance from 1 m Ω to 111 M Ω
- ✓ Noninductive or Low Inductance Resistors
- ✓ High Accuracy
- ✓ Low Zero Resistance
- ✓ Low Temperature Coefficient
- ✓ Rack Mounting Available
- ✓ Special and Custom Configurations Available

The OMEGA®DBX Series are tight tolerance laboratory-grade decade boxes for applications requiring a cost-effective, high-performance resistance decade box.



6 decade DBX high accuracy decade box, DBX-6-0.1, \$2089, shown smaller than actual size. See page K-99 for ordering information.

Specifications

Accuracy: $\pm(0.01\% + 2 \text{ m}\Omega)$ after subtraction of zero resistance, at 23°C

Zero Resistance:

<1 m Ω per decade, at dc

Maximum Voltage to Case:

2000 V peak

Switch Type: 11 positions, "0"-"10"; multiple solid silver alloy contacts

Switch Capacitance:

<4 pF per switch, low loss

Terminals:

Low thermal emf beryllium copper binding posts with standard 3/8-inch spacing plus shield terminal; connections from the rear of the instrument are available with "-RO" option. Solderable terminals for single decade units.

OMEGACARE™ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE™ covers parts, labor and equivalent loaners.

Mechanical Specifications

Model	Dimensions	Weight
1 decade	7.7 W x 7.7 H x 8.4 cm D (3 x 3 x 3.3")	0.45 kg (1.0 lb)
2-4 decades	37.5 W x 8.9 H x 10.2 cm D (14.8 x 3.5 x 4")	1.7 kg (3.8 lb)
5 decades		2.0 kg (4.3 lb)
6 decades		2.2 kg (4.8 lb)
7 decades	43.9 W x 8.9 H x 10.2 cm D (17.3 x 3.5 x 4")	2.4 kg (5.3 lb)
8 decades		2.6 kg (5.7 lb)
9 decades		5.1 kg (11.2 lb)
10 decades	48.3 W x 17.8 H x 19.7 cm D (19 x 7 x 7.8")	5.3 kg (11.7 lb)



Specifications

Decade	Resistance	Stability	Long Term	Temperature	Max	Maximum	Maximum
Resistance	Per Step	(\pm ppm/year)	Stability	Coefficient	Power	current	voltage
			(\pm ppm/3 years)	(\pm ppm/ $^{\circ}$ C)	(W/step)	(per decade)	(per step)
10 m Ω	1 m Ω	100	700	50	0.025	5 A	5 mV
100 m Ω	10 m Ω	50	350	30	0.2	4.5 A	40 mV
1 Ω	100 m Ω	30	50	20	0.6	1.6 A	0.16 V
10 Ω	1 Ω	10	25	20	0.6	0.8 A	0.8 V
100 Ω	10 Ω	10	25	15	0.6	0.25 A	2.5 V
1 k Ω	100 Ω	10	25	5	0.6	80 mA	8 V
10 k Ω	1 k Ω	10	25	5	0.5	23 mA	23 V
100 k Ω	10 k Ω	10	25	5	0.5	7 mA	70 V
1 M Ω	100 k Ω	10	25	5	0.5*	2.3* A	230 V*
10 M Ω	1 M Ω	10	25	10	0.5*	0.7* A	700 V*
100 M Ω	10 M Ω	25	40	10	0.1*	0.1* mA	1000 V*

*Subject to maximum of 2000 V.



Single Decade DBX unit, shown smaller than actual size

Single Decade Units

Single decade units are available with resistance as low as 1 m Ω per step to as high as 10 M Ω per step. These units satisfy many system applications requiring only a single decade while maintaining all the quality features of the DB series.

Each decade is enclosed in an aluminum case which can serve as a shield. It may be panel mounted and integrated with additional units to form potentiometer circuits or other configurations.

Each unit consists of low inductance resistors in series, with a high performance solid silver alloy contact switch.

High Accuracy Decade Box



Accessories

Suffix	Price	Description
-RM	\$179	Rack mount
-RO	59	Rear output
-K	289	Kelvin terminals
-H	99	Handles
-NIST	80	NIST certificates, no points
-NISTP	220	NIST certificate with 10 points per decade

Recalibration with NIST certificate: \$250.

Recommended Reference Book: Principles and Methods of Temperature Measurement, ME-0750, \$285. See Section Y for Additional Books.



Single Decade DBX unit.

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To Order (Specify Model Number)

Model No.* (0.01% Accuracy)	Price	No. of Decades	Resolution (Ω)	Total Res. (Ω)	Model No.* (0.01% Accuracy)	Price	No. of Decades	Resolution (Ω)	Total Res. (Ω)
DBX-1-0.001	\$575	1	0.001	0.01	DBX-4-10	\$1689	4	10	111.1 k
DBX-1-0.01	495	1	0.01	0.1	DBX-4-100	1789	4	100	1.111 M
DBX-1-0.1	560	1	0.1	1	DBX-4-1K	2289	4	1 k	11.11 M
DBX-1-1	599	1	1	10	DBX-4-10K	2689	4	10 k	111.1 M
DBX-1-10	595	1	10	100	DBX-5-0.001	\$1889	5	0.001	111.11
DBX-1-100	519	1	100	1 k	DBX-5-0.01	1889	5	0.01	1.1111 k
DBX-1-1K	536	1	1 k	10 k	DBX-5-0.1	1889	5	0.1	11.111 k
DBX-1-10K	536	1	10 k	100 k	DBX-5-1	1889	5	1	111.11 k
DBX-1-100K	580	1	100 k	1 M	DBX-5-10	1989	5	10	1.1111 M
DBX-1-1M	756	1	1 M	10 M	DBX-5-100	2589	5	100	11.111 M
DBX-1-10M	925	1	10 M	100 M	DBX-5-1K	3189	5	1 k	111.11 M
DBX-2-0.001	\$789	2	0.001	0.11	DBX-6-0.001	\$2089	6	0.001	1.111 11 k
DBX-2-0.01	789	2	0.01	1.1	DBX-6-0.01	2089	6	0.01	11.1111 k
DBX-2-0.1	789	2	0.1	11	DBX-6-0.1	2089	6	0.1	111.111 k
DBX-2-1	789	2	1	110	DBX-6-1	2289	6	1	1.111 11 M
DBX-2-10	789	2	10	1.1 k	DBX-6-10	2689	6	10	11.1111 M
DBX-2-100	789	2	100	11 k	DBX-6-100	3389	6	100	111.111 M
DBX-2-1K	789	2	1 k	110 k	DBX-7-0.001	\$2289	7	0.001	11.111 11 k
DBX-2-10K	849	2	10 k	1.1 M	DBX-7-0.01	2289	7	0.01	111.1111 k
DBX-2-100K	1189	2	100 k	11 M	DBX-7-0.1	2489	7	0.1	1.111 111 M
DBX-2-1M	1645	2	1 M	110 M	DBX-7-1	2989	7	1	11.111 11 M
DBX-3-0.001	\$1489	3	0.001	1.11	DBX-7-10	3589	7	10	111.1111 M
DBX-3-0.01	1489	3	0.01	11.1	DBX-8-0.001	\$2489	8	0.001	111.111 11 k
DBX-3-0.1	1489	3	0.1	111	DBX-8-0.01	2689	8	0.01	1.111 111 1 M
DBX-3-1	1489	3	1	1.11 k	DBX-8-0.1	3289	8	0.1	11.111 111 M
DBX-3-10	1489	3	10	11.1 k	DBX-8-1	3789	8	1	111.111 11 M
DBX-3-100	1489	3	100	111 k	DBX-9-0.001	\$2889	9	0.001	1.111 111 11 M
DBX-3-1K	1589	3	1 k	1.11 M	DBX-9-0.01	3589	9	0.01	11.111 111 1 M
DBX-3-10K	1789	3	10 k	11.1 M	DBX-9-0.1	3989	9	0.1	111.111 111 M
DBX-3-100K	2389	3	100 k	111 M	DBX-10-0.001	\$3889	10	0.001	1.111 111 11 M
DBX-4-0.001	\$1689	4	0.001	11.11	DBX-10-0.01	4189	10	0.01	111.111 111 1 M
DBX-4-0.01	1689	4	0.01	111.1	DBX-11-0.001	\$4489	11	0.001	11.111 111 11 M
DBX-4-0.1	1689	4	0.1	1.111 k					
DBX-4-1	1689	4	1	11.11 k					

* For 0.02% accuracy, substitute "DBQ" in model no. in lieu of "DBX" and deduct 5% from price.

For 0.05% accuracy, substitute "DBA" in model no. in lieu of "DBX" and deduct 10% from price.

For 0.1% accuracy, substitute "DBB" in model no. in lieu of "DBX" and deduct 20% from price (Accuracy: $\pm[0.1\% + 4 \text{ m}\Omega]$)

Ordering Example: DBX-6-0.1, decade box, 111.111 k total resistance, \$2089. OCW-3 OMEGACARESM extends standard 2-year warranty to a total of 5 years (\$350), \$2089 + 350 = \$2439.

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