



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 MΩ per Decade
- ✓ High Performance Solid Silver Alloy Contact Switches with Low Capacitance and Low Loss
- ✓ Resistance from 1 mΩ to 111 MΩ
- ✓ 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 mΩ 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.

OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM 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	43.9 W x 8.9 H x 10.2 cm D (17.3 x 3.5 x 4")	2.2 kg (4.8 lb)
7 decades		2.4 kg (5.3 lb)
8 decades	48.3 W x 17.8 H x 19.7 cm D (19 x 7 x 7.8")	2.6 kg (5.7 lb)
9 decades		5.1 kg (11.2 lb)
10 decades		5.3 kg (11.7 lb)



Specifications

Decade	Resistance	Stability	Long Term Stability	Temperature Coefficient	Max Power	Maximum current	Maximum voltage
Resistance	Per Step	(±ppm/year)	(±ppm/3 years)	(±ppm/°C)	(W/step)	(per decade)	(per step)
10 mΩ	1 mΩ	100	700	50	0.025	5 A	5 mV
100 mΩ	10 mΩ	50	350	30	0.2	4.5 A	40 mV
1 Ω	100 mΩ	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 kΩ	100 Ω	10	25	5	0.6	80 mA	8 V
10 kΩ	1 kΩ	10	25	5	0.5	23 mA	23 V
100 kΩ	10 kΩ	10	25	5	0.5	7 mA	70 V
1 MΩ	100 kΩ	10	25	5	0.5*	2.3* A	230 V*
10 MΩ	1 MΩ	10	25	10	0.5*	0.7* A	700 V*
100 MΩ	10 MΩ	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

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Single Decade Units

Single decade units are available with resistance as low as 1 mΩ per step to as high as 10 MΩ 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.

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Single Decade DBX unit.

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.



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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: ±[0.1% + 4 mΩ])

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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