Type 1787 Current Sense Resistor Networks

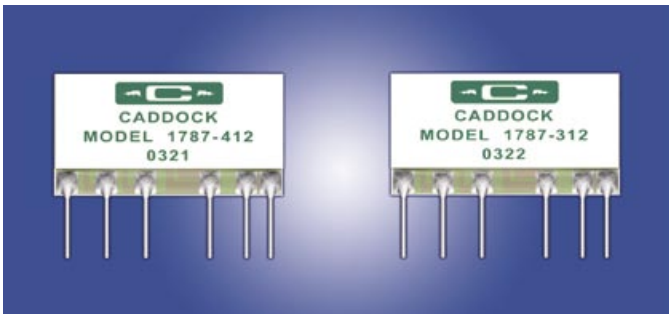
Accurate Current Sensing in Multi-Range Instrumentation

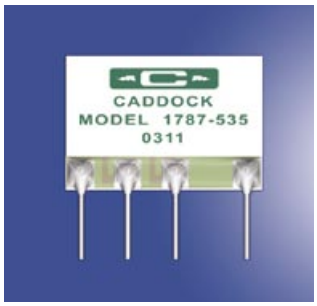
Type 1787 Current Sense Resistor Networks utilize Caddock's Micronox® resistance films and advanced high thru-put laser manufacturing capabilities to achieve many vital advantages in precision current measurement circuits, including laboratory and bench-type digital instrumentation:

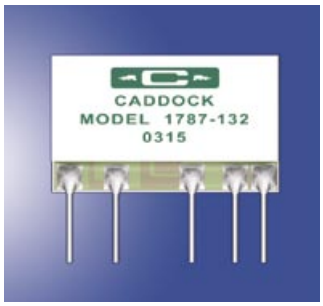
- The thin-profile single-package configuration replaces as many as four discrete current sense resistors.
- The monolithic construction and standardized lead spacing simplify installation.
- Caddock Micronox® resistance films provide exceptional stability for improved long-term measurement accuracy.

Twelve standard models in five network arrangements provide the specific accuracy and resistance values required for a wide range of current measuring instruments and circuits.

Prototype quantities of most models of the Type 1787 Current Sense Resistor Networks are available either from stock or within 6 weeks after receipt of order.







Model No.	Resistance Values				Power Rating Watts				Max. Power Rating Watts Total Pkg.	Fig.	Absolute Tolerance % (1)	Maximum Absolute TC ppm/°C (2)	Absolute Stability Max. % Change in Resistance Value	
	R_A	R_B	R_C	R_D	R_A	R_B	R_C	R_D					Load Life (3)	Shelf Life (4)
1787-31	999.9 Ω	99.9 Ω	9.9 Ω	0.9 Ω	0.25	0.25	0.50	1.0	1.0	1	0.25	80	0.05	0.03
1787-312	999.9 Ω	99.9 Ω	9.9 Ω	0.9 Ω	0.25	0.25	0.50	1.0	1.0	1	0.10	80	0.03	0.02
1787-41	1,000 Ω	100 Ω	10 Ω	1 Ω	0.25	0.25	0.50	1.0	1.0	2	0.25	80	0.05	0.03
1787-412	1,000 Ω	100 Ω	10 Ω	1 Ω	0.25	0.25	0.50	1.0	1.0	2	0.10	80	0.03	0.02
1787-5	999 Ω	99 Ω	9 Ω	N/A	0.25	0.25	0.75	N/A	0.75	3	0.25	50	0.04	0.02
1787-53	999 Ω	99 Ω	9 Ω	N/A	0.25	0.25	0.75	N/A	0.75	3	0.10	50	0.02	0.01
1787-535	999 Ω	99 Ω	9 Ω	N/A	0.25	0.25	0.75	N/A	0.75	3	0.05	50	0.02	0.01
1787-6	1,000 Ω	100 Ω	10 Ω	N/A	0.25	0.25	0.75	N/A	0.75	4	0.25	50	0.04	0.02
1787-64	1,000 Ω	100 Ω	10 Ω	N/A	0.25	0.25	0.75	N/A	0.75	4	0.10	50	0.02	0.01
1787-645	1,000 Ω	100 Ω	10 Ω	N/A	0.25	0.25	0.75	N/A	0.75	4	0.05	50	0.02	0.01
1787-13	99.9 Ω	9.9 Ω	0.9 Ω	N/A	0.25	0.50	1.0	N/A	1.0	5	0.25	100	0.05	0.03
1787-132	99.9 Ω	9.9 Ω	0.9 Ω	N/A	0.25	0.50	1.0	N/A	1.0	5	0.10	100	0.03	0.02

(1) **Absolute Tolerance:** Tolerance of R_A, R_B, R_C, or R_D when measured in accordance with proper Figure No.

(2) **Absolute Temperature Coefficient:** Temperature coefficient of R_A, R_B, R_C, or R_D from 0°C to +70°C, referenced to +25°C.

(3) **Load Life:** Stability of R_A, R_B, R_C, or R_D with full power applied individually for 2,000 hours at +70°C.

(4) **Shelf Life:** Stability of R_A, R_B, R_C, or R_D for six months at shelf conditions.

Storage Temperature: -55°C to +85°C.

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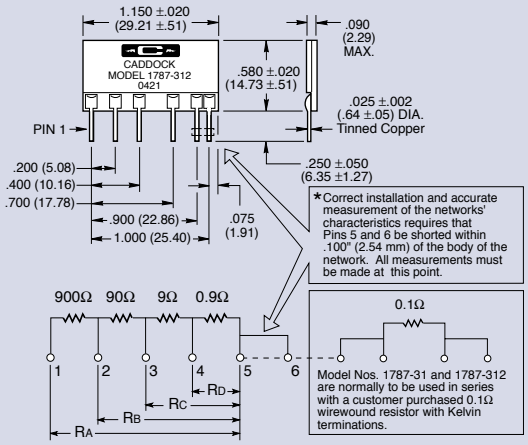
Type 1787 Current Sense Resistor Networks

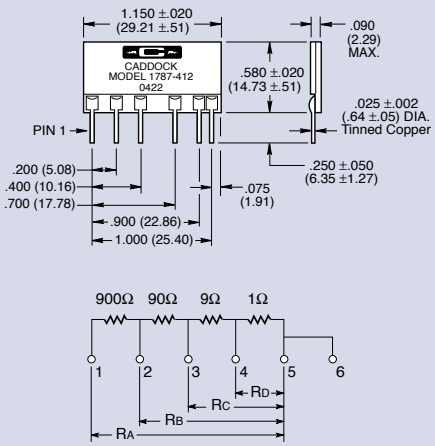
Figure 1 - Model Nos. 1787-31 and 1787-312



Model Nos. 1787-31 and 1787-312 Measurement Connections

Resistances		Kelvin Connections			
"R"	Total Value	Sense Lead P_1	Current Lead C_1	Current Lead C_2	Sense Lead P_2
R_A	999.9 Ω	Pin 1	Pin 1	Pin 5 *	Pin 6 *
R_B	99.9 Ω	Pin 1	Pin 2	Pin 5 *	Pin 6 *
R_C	9.9 Ω	Pin 1	Pin 3	Pin 5 *	Pin 6 *
R_D	0.9 Ω	Pin 1	Pin 4	Pin 5 *	Pin 6 *

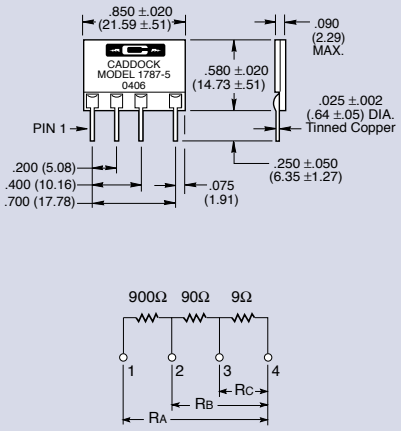
Figure 2 - Model Nos. 1787-41 and 1787-412



Model Nos. 1787-41 and 1787-412 Measurement Connections

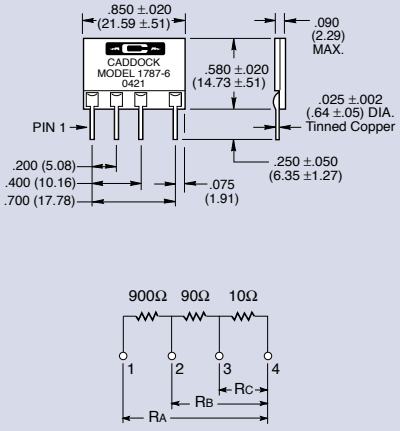
Resistances		Kelvin Connections			
"R"	Total Value	Sense Lead P_1	Current Lead C_1	Current Lead C_2	Sense Lead P_2
R_A	1,000 Ω	Pin 1	Pin 1	Pin 5	Pin 6
R_B	100 Ω	Pin 1	Pin 2	Pin 5	Pin 6
R_C	10 Ω	Pin 1	Pin 3	Pin 5	Pin 6
R_D	1 Ω	Pin 1	Pin 4	Pin 5	Pin 6

Figure 3 - Model Nos. 1787-5, 1787-53, and 1787-535



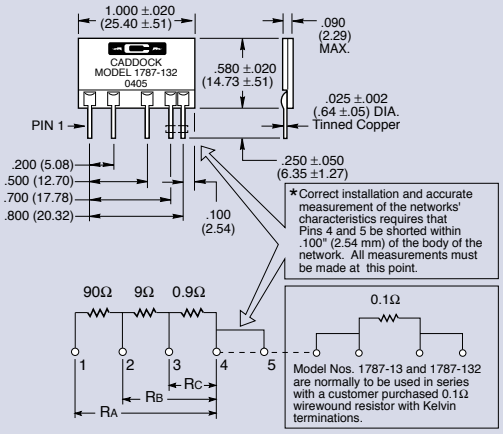
Resistances	
"R"	Total Value
R_A	999 Ω
R_B	99 Ω
R_C	9 Ω

Figure 4 - Model Nos. 1787-6, 1787-64, and 1787-645



Resistances	
"R"	Total Value
R_A	1,000 Ω
R_B	100 Ω
R_C	10 Ω

Figure 5 - Model Nos. 1787-13 and 1787-132



Model Nos. 1787-13 and 1787-132 Measurement Connections

Resistances		Kelvin Connections			
"R"	Total Value	Sense Lead P_1	Current Lead C_1	Current Lead C_2	Sense Lead P_2
R_A	99.9 Ω	Pin 1	Pin 1	Pin 4 *	Pin 5 *
R_B	9.9 Ω	Pin 1	Pin 2	Pin 4 *	Pin 5 *
R_C	0.9 Ω	Pin 1	Pin 3	Pin 4 *	Pin 5 *

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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
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