



**Texas
Components
Corporation**

USA Manufacturer of Precision Devices featuring Bulk Metal® Foil*

TXHBRGCAL

(Sub# TX####)

Bridge Shunt Calibration Kit



**Precision Half Bridge Completion Module/Adapter with Multiple Shunt Resistor Modules
for Strain gage and other Bridge Shunt Calibration/Adjustment**

Universal, Plug and Play Design; Ultra Low TCR; Ultra High Precision, Accuracy, and Stability

Tight Tolerance, Low Temperature Coefficient of Resistance (TCR), Low EMF, and Low Voltage Coefficient of Resistance (VCR)

TXCC Resistor Modules and related accessories feature resistors custom constructed from Bulk Metal® Foil and are renowned for their unique combination of unmatched performance in all major technical areas, including:

Temperature Coefficient of Resistance (TCR) **Voltage Coefficient of Resistance (VCR)** **Electrostatic Discharge (ESD)** **Thermal Stabilization** **Response Time**
Power Coefficient of Resistance (PCR) **Thermal Electromotive Force (EMF)** **Tolerance** **Load Life Stability** **Noise**

How are you calibrating your strain gage and other full or half bridge circuits?

Every strain gage and related full or half bridge circuit has to be calibrated, using resistor shunts, to confirm that it is reading properly and accurately in the particular microstrain range intended. The TXHBRGCAL is a completely self contained device that allows for the completion of a half bridge circuit and the use any shunt resistor value to quickly and easily adjust/calibrate strain gage plus bridge completion circuits. Simply a) Connect the TXHBRGCAL to complete your bridge circuit; b) Balance your circuit's measurement and display using the adjustable balance control; c) Plug in the appropriate shunt resistor interface module (TXRMOB) that matches the strain gage type and microstrain range that is the target of measurement, and d) Switch in the shunt, via the included calibration button/switch, and adjust/calibrate the bridge circuit calculations and display to match the exact microstrain value that is equivalent to the chosen resistor shunt. That's it!

TXHBRGCAL Bridge Shunt Calibration Kit features:

- **Easy to use (Fast!** Just plug into the value you want to use. No dials to spin, no settings to miss, no mistakes to make.)
- **Vastly superior accuracy**, long term stability, and TCR (**automatic climate control built-in**)
- **Zero maintenance (Nothing to wear out or keep clean)**
- **Less expensive** (than other methods of calibration - once invested in, a full complement of resistor modules will **save countless hours of calibration time**)
- **Very rugged (Sealed and protected)**
- **Less required calibration** of the shunts (modules actually become **more stable over time!**)
- **Portable** (Very **light weight**, and includes a handy carrying carrying case to transport as many modules as you need at one time)
- **Wide Operating Temperature Range:** **-20°C to +70°C (-4°F to +158°F)** (wider ranges are available)
- **Made in the USA; Lifetime warranty!** (excluding abuse or damage)

SIMPLE OPERATING INSTRUCTIONS

- Connect the TXHBRGCAL to complete your bridge circuit;
- Balance your circuit's measurement and display using the adjustable balance control;
- Plug in the appropriate shunt resistor interface module (TXRMOB) that matches the strain gage type and microstrain range that is the target of measurement, and
- Switch in the shunt, via the included calibration button/switch, and adjust/calibrate the bridge circuit calculations and display to match the exact microstrain value that is equivalent to the chosen resistor shunt.

MODELS

- TXHBRGCAL-120R000:** Includes a 120Ω half bridge completion resistor
TXHBRGCAL-350R000: Includes a 350Ω half bridge completion resistor
TXHBRGCAL-1K00000: Includes a 1KΩ half bridge completion resistor
Custom versions: Available with any resistor value!

PICTURE



Bulk Metal® Foil technology outperforms all other resistor technologies today, making it the clear choice for applications that require **high precision and high stability**. This technology allows for the design and production of strain gage and related products and accessories that would not be possible otherwise. The TXRMOB series of Bulk Metal® Foil resistor modules offers **very low TCR, excellent load life stability, tight tolerance, fast response time, low current noise, low thermal EMF, low power coefficient, and low voltage coefficient** - all in a convenient, sealed, single temperature design with standard 4mm banana jack connections. The TXRMOB series is **virtually insensitive to common destabilizing factors** that can completely undermine the accuracy and usefulness of other resistor types, including and especially those of a decade box. **The resistor element used is a solid alloy that is inherently ultra stable** which, along with the many other additional Bulk Metal® Foil benefits, **allows designers to guarantee the highest degree of accuracy and stability in fixed-resistor applications**. See Table 1 and Table 2 for the most common resistor values used and available. For questions, special applications, and/or unique requirements, **our applications engineering department is on-site and available to help and advise**.

Made in the USA






TABLE 1 – SHUNT CALIBRATION RESISTOR MODULES

DUAL 4mm BANANA PLUG MODULE (0.75" Lead Spacing)

STRAIN GAGE CIRCUIT TYPE/VALUE	MODULE PART NUMBER	EQUIVALENT MICROSTRAIN	RESISTANCE VALUE	TOLERANCE	TEMPERATURE COEFFICIENT OF RESISTANCE (TCR) 32° to +140°F (0° to +60°C)	POWER RATING @ +77°F [+25°C]
120 Ω	TXRMODB-599K88	100	599,880 Ω	± 0.20 %	< ±8 ppm/°F (< ±15 ppm/°C)	0.25W
	TXRMODB-119K88	500	119,880 Ω	± 0.02 %	< ±2.8 ppm/°F (< ±5 ppm/°C)	0.4 W
	TXRMODB-59K880	1000	59,880 Ω	± 0.01 %	< ±0.6 ppm/°F (< ±1 ppm/°C)	0.6 W
	TXRMODB-29K880	2000	29,880 Ω	± 0.01 %		
	TXRMODB-19K880	3000	19,880 Ω	± 0.01 %		
	TXRMODB-14K880	4000	14,880 Ω	± 0.01 %		
	TXRMODB-11K880	5000	11,880 Ω	± 0.01 %		
TXRMODB-5K8800	10000	5,880 Ω	± 0.01 %			
350 Ω	TXRMODB-349K65	500	349,650 Ω	± 0.20 %	< ±8 ppm/°F (< ±15 ppm/°C)	0.25W
	TXRMODB-174K65	1000	174,650 Ω	± 0.02 %	< ±2.8 ppm/°F (< ±5 ppm/°C)	0.4 W
	TXRMODB-87K150	2000	87,150 Ω	± 0.01 %	< ±0.6 ppm/°F (< ±1 ppm/°C)	0.6 W
	TXRMODB-57K983	3000	57,983 Ω	± 0.01 %		
	TXRMODB-43K400	4000	43,400 Ω	± 0.01 %		
	TXRMODB-34K650	5000	34,650 Ω	± 0.01 %		
	TXRMODB-17K150	10000	17,150 Ω	± 0.01 %		
1,000 Ω	TXRMODB-999K00	500	999,000 Ω	± 0.20 %	< ±8 ppm/°F (< ±15 ppm/°C)	0.25W
	TXRMODB-499K00	1000	499,000 Ω	± 0.10 %	< ±2.8 ppm/°F (< ±5 ppm/°C)	0.4 W
	TXRMODB-249K00	2000	249,000 Ω	± 0.02 %		
	TXRMODB-165K66	3000	165,666 Ω	± 0.02 %		
	TXRMODB-124K00	4000	124,000 Ω	± 0.02 %	< ±0.6 ppm/°F (< ±1 ppm/°C)	0.6 W
	TXRMODB-99K000	5000	99,000 Ω	± 0.01 %		
	TXRMODB-49K000	10000	49,000 Ω	± 0.01 %		

TABLE 2 – OTHER AVAILABLE SHUNT AND BRIDGE COMPLETION CIRCUIT MODULES AND RESISTORS

RESISTOR TYPE	PART NUMBER	RESISTANCE VALUE ¹	TOL-ERANCE	RESISTOR TYPE	PART NUMBER	RESISTANCE VALUE ¹	TOL-ERANCE
TXRMODB DUAL BANANA PLUG MODULE (4mm plug, 0.75" lead spacing) 	TXRMODB-50R000	50 Ω	± 0.02 %	TXZ201 MOLDED RESISTOR (22 awg tin+lead leads, 0.15" lead spacing) 	TXZ201-50R000-Q	50 Ω	± 0.02 %
	TXRMODB-60R000	60 Ω	± 0.02 %		TXZ201-60R000-Q	60 Ω	± 0.02 %
	TXRMODB-100R00	100 Ω	± 0.02 %		TXZ201-100R00-Q	100 Ω	± 0.02 %
	TXRMODB-120R00	120 Ω	± 0.01 %		TXZ201-120R00-T	120 Ω	± 0.01 %
	TXRMODB-125R00	125 Ω	± 0.01 %		TXZ201-125R00-T	125 Ω	± 0.01 %
	TXRMODB-175R00	175 Ω	± 0.01 %		TXZ201-175R00-T	175 Ω	± 0.01 %
	TXRMODB-240R00	240 Ω	± 0.01 %		TXZ201-240R00-T	240 Ω	± 0.01 %
	TXRMODB-350R00	350 Ω	± 0.01 %		TXZ201-350R00-T	350 Ω	± 0.01 %
	TXRMODB-500R00	500 Ω	± 0.01 %		TXZ201-500R00-T	500 Ω	± 0.01 %
	TXRMODB-1K0000	1,000 Ω	± 0.01 %		TXZ201-1K0000-T	1,000 Ω	± 0.01 %
	TXRMODB-2K0000	2,000 Ω	± 0.01 %		TXZ201-2K0000-T	2,000 Ω	± 0.01 %
	TXRMODB-5K0000	5,000 Ω	± 0.01 %		TXZ201-5K0000-T	5,000 Ω	± 0.01 %
TH102Z HERMETIC RESISTOR (22 awg tin+lead leads, 0.15" lead spacing, shelf life stability < 2 ppm drift over 6 years!)	TXH102Z-50R000-Q	50 Ω	± 0.02 %	TH102Z HERMETIC RESISTOR (continued) 	TXH102Z-240R00-T	240 Ω	± 0.01 %
	TXH102Z-60R000-Q	60 Ω	± 0.02 %		TXH102Z-350R00-T	350 Ω	± 0.01 %
	TXH102Z-50R000-Q	100 Ω	± 0.02 %		TXH102Z-500R00-T	500 Ω	± 0.01 %
	TXH102Z-120R00-T	120 Ω	± 0.01 %		TXH102Z-1K0000-T	1,000 Ω	± 0.01 %
	TXH102Z-125R00-T	125 Ω	± 0.01 %		TXH102Z-2K0000-T	2,000 Ω	± 0.01 %
	TXH102Z-175R00-T	175 Ω	± 0.01 %		TXH102Z-5K0000-T	5,000 Ω	± 0.01 %

Note: Any custom value, tolerance, or lead spacing is available - as well as mini (2mm) banana plugs. Just tell us what you need!

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