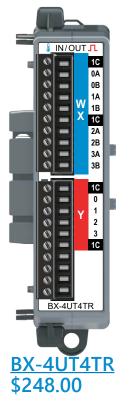
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# 1-800-633-0405 **BX-4UT4TR** Universal Temp. Input/ Relay Output



Universal Temperature Input/ Relay Output Expansion Module 4-pt Universal Temperature Input 4-pt Relay Form A (SPST) Output

#### **BX-RTB10** Terminal Blocks Included. The BX-RTB10-1 or BX-RTB10-2 (purchased separately) can also be used.



NOTE: This device does not support **ZIP**Link Wiring Systems

| Input Channels         4 Differential           Commons         1           Input Impedance         >5MQ           Resolution         24bit.01% Or F)           See Data Range Specifications table         1           All Channel Update Rate         1s max (4 thermocouples enabled)           Sample Duration Time         175ms           Open Circuit Detection Time         Within 5s           Maximum Ratings         -0.3 V to +5.3 V, <15mA           Common Mode Rage         -0.3 V to +5.3 V, <20mA           Common Mode Rejection         100db@0C, 130db@60Hz           Conversion Method         Sigma-Delta, 24-bit           Thermocouple Input Ranges         Type J: -210° to 1200°C         [-346° to 2302°F]           Type K:         -266° to 1000°C         [-445' to 2302°F]           Type K:         -266° to 1000°C         [-445' to 2327°F]           Type K:         -50° to 1768°C         [-645' to 272°F]           Type K:         -266° to 1000°C         [-445' to 1324°F]           Type K:         -266° to 1000°C         [-445' to 752°F]           Type K:         -266° to 1000°C         [-445' to 752°F]           Type K:         -266° to 1000°C         [-445' to 752°F]           Type K:         -266° to 1000°C         [-  | Universal Tempe               | Universal Temperature Input Specifications   |  |  |  |  |
|--|-------------------------------|--|--|--|--|--|
| Commons         1           Input Impedance         >5MΩ           Resolution         24-bit, 0.1°(C or F)<br>See Data Range Specifications table           All Channel Update Rate         1s max (4 thermocouples enabled)<br>700ms max (4 thermocouples enabled)           Sample Duration Time         175ms           Open Circuit Detection Time         Within 5s           Maximum Ratings         -0.3 V to +5.3 V, <15mA           Common Mode Range         -0.3 V to +5.3 V, <15mA           Common Mode Rejection         100dBg@Cl.30dBg@CHz           Conversion Method         Sigma-Delta, 24-bit           Thermocouple Parameters         Type J: -210° to 1200°C [-446° to 2192°F]<br>Type K: -266° to 1302°C [-446° to 2502°F]           Type K: -50° to 1788°C [-58° to 3300°C [-445° to 2502°F]         Type R: -50° to 1788°C [-58° to 3214°F]           Type R: -50° to 1788°C [-58° to 3308°F]         Type R: -50° to 1788°C [-58° to 3308°F]           Type R: -50° to 1788°C [-58° to 3308°F]         Type R: -50° to 1788°C [-58° to 3308°F]           Type R: -50° to 1788°C [-58° to 3308°F]         Type R: -50° to 1788°C [-58° to 3308°F]           Type R: -50° to 1788°C [-58° to 3308°F]         Type R: -50° to 1788°C [-58° to 3308°F]           Type R: -50° to 1788°C [-58° to 3308°F]         Type R: -50° to 1788°C [-58° to 3308°F]           Type R: -50° to 1788°C [-445° to 7824°F]         Type R: -50° to 1788°C [-445° to 7824°F  |                               |  |  |  |  |  |
| Resolution         24-bit, 0.1°(C or F)<br>See Data Range Specifications table           All Channel Update Rate         1s max (4 thermocouples enabled)<br>700ms max (4RTD/NTXmV enabled)           Sample Duration Time         175ms           Open Circuit Detection Time         Within 5s           Maximum Ratings         -0.3 V to +5.3 V, 415mA           Common Mode Rejection         100dB@DC, 130dB@60Hz           Conversion Method         Sigma-Delta, 24-bit           Thermocouple Parameters         Type J: -210° to 1200°C         [-346° to 2192°F]           Type K: -265° to 1030°C         [-445° to 2302°F]         Type K: -265° to 1030°C         [-445° to 2302°F]           Type B: -265° to 1000°C         [-445° to 2302°F]         Type K: -265° to 1076°C         [-58° to 3214°F]           Type B: -265° to 1000°C         [-445° to 2302°F]         Type K: -50° to 1768°C         [-58° to 3214°F]           Type B: -50° to 1768°C         [-58° to 3214°F]         Type B: -50° to 1768°C         [-58° to 3214°F]           Type B: -50° to 1768°C         [-58° to 3214°F]         Type B: -50° to 1768°C         [-68° to 3214°F]           Type B: -50° to 1768°C         [-58° to 3214°F]         Type B: -30° to 1768°C         [-68° to 3214°F]           Type B: -50° to 1768°C         [-58° to 3214°F]         Type B: -30° to 1760°C         [-445° to 752°F]   |                               | 1  |  |  |  |  |
| Resolution         See Data Range Specifications table           All Channel Update Rate         1s max (4 thermocouples enabled)           Sample Duration Time         175ms           Open Circuit Detection Time         Within 5s           Maximum Ratings         -0.3 V to +5.3 V           Common Mode Range         -0.3 V to +5.3 V           Common Mode Rejection         1004B@DC, 1304B@60Hz           Conversion Method         Sigma-Delta, 24-bit           Thermocouple Input Ranges         Type J: -210° to 1200°C         [-445° to 2302°F]           Type K: -265° to 1000°C         [-445° to 2332°F]         Type K: -265° to 1000°C         [-445° to 2332°F]           Type B: -50° to 1768°C         [-58° to 3214°F]         Type R: -50° to 1768°C         [-58° to 3214°F]           Type S: -50° to 1768°C         [-58° to 3214°F]         Type R: -50° to 1768°C         [-58° to 3214°F]           Type R: -50° to 1768°C         [-58° to 3214°F]         Type R: -50° to 1768°C         [-58° to 3214°F]           Type R: -50° to 1768°C         [-58° to 3214°F]         Type R: -50° to 1768°C         [-58° to 3214°F]           Type R: -50° to 1768°C         [-58° to 3214°F]         Type R: -3125 to 125 mVDC         0 to 1.0 VDC           Cold Junction Compensation         Automatic         Automatic         Maximum Inaccuracy-         10,  | Input Impedance               | >5MΩ   |  |  |  |  |
| All Channel Opdate Rate         700ms max (4RTD/NTX/mV enabled)           Sample Duration Time         175ms           Open Circuit Detection Time         Within 5s           Maximum Ratings         -0.3 V to +5.3 V           Common Mode Range         -0.3 V to +5.3 V           Common Mode Rejection         100dB@DC, 130dB@60Hz           Conversion Method         Sigma-Delta, 24-bit           Thermocouple Parameters         Type J:         -210° to 1200°C         [-445° to 2502°F]           Type K:         -265° to 130°C         [-445° to 2502°F]         Type N:         -265° to 130°C         [-445° to 2502°F]           Type R:         -50° to 1768°C         [-58° to 3214°F]         Type N:         -265° to 130°C         [-445° to 2512°F]           Type R:         -50° to 1768°C         [-58° to 3214°F]         Type S:         -50° to 1768°C         [-58° to 3214°F]           Type S:         -50° to 1768°C         [-45° to 250°C]         100° to 3214°F]         Type S:         -3125 to 125m VDC         -3125 to 125m VDC           Cold Junction Compensation         Automatic         Automatic         Automatic           Maximum InaccuracyVoltage         ±250µV         200µV         RTD/Thermistor Parameters           Input Ranges<br>(RTD Types)         10, 50, 100, 200, 500, 1000Ω Pt         <  | Resolution                    |  |  |  |  |  |
| Open Circuit Detection Time         Within 5s           Maximum Ratings         -0.3 V to +5.3 V.           Common Mode Range         -0.3 V to +5.3 V           Common Mode Rejection         100dB@DC, 130dB@60Hz           Conversion Method         Sigma-Dela, 24-bit           Thermocouple Parameters         Type J: -210° to 1200°C         [-346° to 2192°F]           Type K: -265° to 1300°C         [-445° to 2372°F]         Type K: -265° to 1300°C         [-445° to 2372°F]           Type N: -265° to 1300°C         [-445° to 2372°F]         Type R: -56° to 1768°C         [-58° to 3214°F]           Type N: -265° to 1300°C         [-445° to 2372°F]         Type R: -56° to 1768°C         [-58° to 3214°F]           Type N: -265° to 1300°C         [-445° to 2372°F]         Type R: -56° to 1020°C         [104° to 3308°F]           Type R: -56° to 120°C         [-445° to 2372°F]         Type R: -265° to 400°C         [-445° to 2372°F]           Cold Junction Compensation         Automatic         -31.25 to 125 mVDC         0 to 1.0 VDC           Cold Junction Compensation         Automatic         Maximum Inaccuracy-         ±(0.2°C + 3% of °C reading)           Maximum Inaccuracy-Voltage         ±250 k2 M @ 25°C: -40° to 150°C [-40° to 302°F]         200 Ni           Input Ranges         10, 50, 100, 200, 500, 100000 PI         Platinum RTD 0.00572 Curve: -  | All Channel Update Rate       |  |  |  |  |  |
| Maximum Ratings         -0.3 V to +5.3 V, <15mA  | Sample Duration Time          | 175ms  |  |  |  |  |
| Common Mode Range         -0.3 V to +5.3 V           Common Mode Rejection         100dB@DC, 130dB@60Hz           Conversion Method         Sigma-Delta, 24-bit           Thermocouple Parameters         Type J: -210° to 1200°C         [-346° to 2192°F]           Type K: -265° to 1372°C         [-445° to 2372°F]         Type K: -265° to 1300°C         [-445° to 2372°F]           Type R: -50° to 1768°C         [-58° to 3214°F]         Type R: -50° to 1768°C         [-58° to 3214°F]           Type R: -50° to 1768°C         [-58° to 3214°F]         Type R: -265° to 400°C         [-445° to 3308°F]           Type R: -50° to 1768°C         [-58° to 3214°F]         Type R: -265° to 400°C         [-445° to 3308°F]           Type R: -265° to 400°C         [-445° to 3308°F]         Type R: -265° to 400°C         [-445° to 3308°F]           Type R: -265° to 400°C         [-445° to 3308°F]         Type R: -265° to 400°C         [-445° to 752°F]           Linear Voltage Input Ranges         -31.25 to 31.25 mVDC         -31.25 to 125mVDC         -31.25 to 125mVDC           Cold Junction Compensation         Automatic         Maximum Inaccuracy–         ±(0.2°C + 3% of °C reading)           Maximum Inaccuracy–         ±(0.2°C + 3% of °C reading)         100°C [-40° to 3002°F]         10°C [-40° to 500°C [-40° to 3002°F]           Input Ranges         10, 50, 100, 20, 20, 500, 10000  | Open Circuit Detection Time   | Within 5s  |  |  |  |  |
| Common Mode Rejection         100dB@DC, 130dB@60Hz           Conversion Method         Sigma-Delta, 24-bit           Thermocouple Parameters         Type J:<br>Type K: -265° to 1302°C         [-346° to 2192°F]           Type K: -265° to 1302°C         [-445° to 2502°F]         Type K: -265° to 1302°C         [-445° to 2372°F]           Type K: -265° to 100°C         [-445° to 2372°F]         Type K: -265° to 100°C         [-445° to 2372°F]           Type K: -50° to 1768°C         [-58° to 3214°F]         Type S: -50° to 1768°C         [-58° to 3214°F]           Type S: -50° to 1768°C         [-58° to 300°C         [-445° to 752°F]         Type S: -50° to 100°C         [-445° to 752°F]           Linear Voltage Input Ranges         -31.25 to 31.25 mVDC         -31.25 to 10° VOC         -31.25 to 10° VOC           Cold Junction Compensation         Automatic         Maximum Inaccuracy—         ±(0.2°C + 3% of °C reading)           Maximum Inaccuracy—         ±(0.2°C + 3% of °C reading)         1000000 Pt         Platinum RTD 0.00385 European Curve:           Input Ranges<br>(RTD Types)         10, 50, 100, 200, 500, 1000Ω Pt         Platinum RTD 0.00385 European Curve:         200°° C           Input Ranges<br>(RTD Types)         10, 50, 100, 200, 500, 100072 Curve:         3 kΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           Sk@ @ 25°C:         40° to 150°C [-40° to 302°F]         3 k  | Maximum Ratings               | -0.3 V to +5.3 V, <15mA  |  |  |  |  |
| Conversion Method         Sigma-Delta, 24-bit           Thermocouple Parameters         Type J: -210° to 1200°C [-346° to 2192°F]<br>Type K: -265° to 1300°C [-445° to 1832°F]<br>Type K: -265° to 1300°C [-445° to 1832°F]<br>Type R: -265° to 1000°C [-445° to 2372°F]           Thermocouple Input Ranges         Type R: -50° to 1768°C [-58° to 3214°F]<br>Type R: -50° to 1768°C [-58° to 3214°F]           Type S: -50° to 1768°C [-58° to 3214°F]         Type R: -50° to 1768°C [-58° to 3214°F]           Type S: -50° to 1768°C [-58° to 3214°F]         Type S: -50° to 1768°C [-58° to 3208°F]           Type S: -50° to 1768°C [-58° to 3208°F]         Type T: -265° to 400°C [-445° to 752°F]           Linear Voltage Input Ranges         -31.25 to 31.25 mVDC -31.25 to 125mVDC           -31.25 to 31.25 mVDC         -31.25 to 125mVDC           -31.25 to 62.5 mVDC         -31.25 to 125mVDC           -31.25 to 62.5 mVDC         -0 to 1.0 VDC           Cold Junction Compensation         Automatic           Maximum Inaccuracy-         ±(0.2°C + 3% of °C reading)           Maximum Inaccuracy-         ±250µV           RTD/Thermistor Parameters         10, 50, 100, 200, 500, 1000Ω Pt           Input Ranges<br>(RTD Types)         1200 Ni           NT120 Nickel RTD 0.006772 Curve:<br>-200° to 850°C [-40° to 150°C [-40° to 302°F]           10k-AN Type 3 @ 25°C: -40° to 150°C [-40° to 302°F]           3 kQ @ 25°C: -40° to 150°C [-40° to 302°F]   | Common Mode Range             | -0.3 V to +5.3 V   |  |  |  |  |
| Thermocouple Parameters           Type J:         -210° to 1200°C         [-346° to 2192°F]           Type K:         -265° to 1372°C         [-445° to 2502°F]           Type K:         -265° to 1372°C         [-445° to 2372°F]           Type K:         -265° to 1300°C         [-445° to 2372°F]           Type R:         -50° to 1768°C         [-58° to 3214°F]           Type S:         -50° to 1768°C         [-58° to 3214°F]           Type B:         -40° to 1820°C         [444° to 3308°F]           Type B:         -50° to 1768°C         [-58° to 3214°F]           Type S:         -50° to 1768°C         [-445° to 752°F]           Linear Voltage Input Ranges         -31.25 to 62.5 mVDC         -31.25 to 125 mVDC           Thermocouple Linearization         Automatic         Automatic           Maximum Inaccuracy–         ±(0.2°C + 3% of °C reading)         ±250µV           Input Ranges         10, 50, 100, 200, 500, 1000Ω Pt         Platatinum RTD 0.00385 European Curve:<br>-200° to 850°C [-40° to  | Common Mode Rejection         | 100dB@DC, 130dB@60Hz   |  |  |  |  |
| Thermocouple Input Ranges         Type J:<br>Type K:<br>Type K:<br>-265° to 1300°C         [-445° to 2502°F]<br>(-445° to 2372°F]<br>Type R:<br>-265° to 1300°C           Type N:<br>Type R:<br>-50° to 1768°C         [-58° to 3214°F]<br>Type R:<br>-50° to 1768°C         [-58° to 3214°F]<br>Type R:<br>-50° to 1768°C           Type R:<br>Type R:<br>-50° to 1768°C         [-58° to 3214°F]<br>Type R:<br>-50° to 1768°C         [-445° to 2502°F]           Linear Voltage Input Ranges         -31.25 to 182°C         [-445° to 752°F]           Linear Voltage Input Ranges         -31.25 to 31.25 mVDC         -31.25 to 125mVDC           Cold Junction Compensation         Automatic         0 to 1.0 VDC           Cold Junction Compensation         Automatic         Maximum Inaccuracy–           thermocouple         ±(0.2°C + 3% of °C reading)         ±(0.2°C + 3% of °C reading)           Maximum Inaccuracy–<br>Thermocouple         ±250µV         100, 50, 100, 200, 500, 1000Ω Pt           Input Ranges<br>(RTD Types)         10, 50, 100, 200, 500, 1000Ω Pt         Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-40° to 500°F]           Linear Input Ranges         10, 50, 100, 200, 500, 1000Ω Pt         Platinum RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]           Thermistor Input Ranges         2.252 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           SkQ @ 25°C: -40° to 150°C [-40° to 302°F]         3 kQ @ 25°C: -40° to 150°C [-40° to 302°F]           SkQ @ 25°C: -40° to 150°C [-40° to 302°F] | Conversion Method             | Sigma-Delta, 24-bit  |  |  |  |  |
| Type K:         -265° to 1372°C         Î-445° to 2302°F]           Type E:         -265° to 1000°C         [-445° to 1332°F]           Type N:         -265° to 1300°C         [-445° to 1332°F]           Type N:         -265° to 1300°C         [-445° to 1332°F]           Type N:         -50° to 1768°C         [-58° to 3214°F]           Type S:         -50° to 1768°C         [-445° to 752°F]           Linear Voltage Input Ranges         -31.25 to 31.25 mVDC         -31.25 to 125mVDC           -31.25 to 62.5 mVDC         0 to 1.0 VDC         Cold Junction Compensation         Automatic           Maximum Inaccuracy-<br>Thermocouple         ±(0.2°C + 3% of °C reading)         #10.50, 100, 200, 500, 10000 Pt           Maximum Inaccuracy-Voltage         ±250µV         #100, 100, 200, 500, 10000 Pt           Input Ranges<br>(RTD Types)         10, 50, 100, 200, 500, 10000 Pt         Platinum RTD 0.00872 Curve:<br>-80° to 260°C [-112° to 500°F]           Input Ranges<br>(RTD Types)         1200 Ni         N120 Nickel RTD 0.00672 Curve:<br>-80° to 150°C [-40° to 302°F]           SkQ @ 25°C:         -40° to 150°C [-40° to 302°F]   | Thermocouple Parameters       |  |  |  |  |  |
| Linear Voltage Input Ranges         -31.25 to 62.5 mVDC         0 to 1.0 VDC           Cold Junction Compensation         Automatic           Thermocouple Linearization         Automatic           Maximum Inaccuracy-<br>Thermocouple         ±(0.2°C + 3% of °C reading)           Maximum Inaccuracy-<br>Voltage         ±250µV           RTD/Thermistor Parameters         10, 50, 100, 200, 500, 1000Ω Pt<br>Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]           Input Ranges<br>(RTD Types)         120Ω Ni<br>N120 Nickel RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]           Linearization Input Ranges         2.252 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           Thermistor Input Ranges         RTD 10, 100, 120, 200: 1mA<br>RTD 500: 500µA<br>RTD 10, 100, 120, 200: 1mA<br>RTD 1000: 250µA           RTD Excitation Current         NTC 2.252k, NTC 3k: 10µA<br>NTC 2.50k; NTC 10k: 5µA<br>NTC 30k: 1µA           RTD/Thermistor Linearization         Automatic   | Thermocouple Input Ranges     | Type K:         -265° to 1372°C         [-445° to 2502°F]           Type E:         -265° to 1000°C         [-445° to 1832°F]           Type N:         -265° to 1300°C         [-445° to 2372°F]           Type R:         -50° to 1768°C         [-58° to 3214°F]           Type S:         -50° to 1768°C         [-58° to 3214°F]           Type B:         40° to 1820°C         [104° to 3308°F] |  |  |  |  |
| Thermocouple Linearization         Automatic           Maximum Inaccuracy-<br>Thermocouple         ±(0.2°C + 3% of °C reading)           Maximum Inaccuracy-Voltage         ±250µV           RTD/Thermistor Parameters         10, 50, 100, 200, 500, 1000Ω Pt<br>Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]           Input Ranges<br>(RTD Types)         120Ω Ni<br>N120 Nickel RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]           Learning         2.252 kΩ @ 25°C:<br>-80° to 260°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           SkΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           RTD Excitation Current         RTD 10, 100, 120, 200:         1mA<br>RTD 500:           StΩ @ 250µA         10µA           RTD 1000:         250µA           RTD 75k, NTC 10k:         5µA<br>NTC 30k:         1µA           RTD/Thermistor Linearization         Automatic  | Linear Voltage Input Ranges   |  |  |  |  |  |
| Maximum Inaccuracy-<br>Thermocouple         ±(0.2°C + 3% of °C reading)           Maximum Inaccuracy-Voltage         ±250µV           RTD/Thermistor Parameters         10, 50, 100, 200, 500, 1000Ω Pt<br>Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]           Input Ranges<br>(RTD Types)         10, 50, 100, 200, 500, 1000Ω Pt<br>Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]           Thermistor Input Ranges         120Ω Ni<br>N120 Nickel RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]           Thermistor Input Ranges         2.252 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           Thermistor Input Ranges         RTD 10, 100, 120, 200:<br>RTD 500:<br>RTD Excitation Current           RTD 10, 100, 120, 200:<br>RTD 1000:<br>250µA         1mA<br>RTD 500:<br>S00µA<br>RTD 1000:<br>250µA           NTC 2.252k, NTC 3k:<br>NTC 30k:<br>NTC 30k:<br>NTC 30k:<br>1µA           RTD/Thermistor Linearization         Automatic  | Cold Junction Compensation    | Automatic  |  |  |  |  |
| Thermocouple         ±(0.2 °C + 3 % 01 °C reading)           Maximum Inaccuracy–Voltage         ±250μV           RTD/Thermistor Parameters         10, 50, 100, 200, 500, 1000Ω Pt<br>Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]           Input Ranges<br>(RTD Types)         120Ω Ni<br>N120 Nickel RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]           Learning         2.252 kΩ @ 25°C:<br>-40° to 150°C [-40° to 302°F]           Thermistor Input Ranges         2.252 kΩ @ 25°C:<br>-40° to 150°C [-40° to 302°F]           Thermistor Input Ranges         RTD Thermistor Linearization           RTD Excitation Current         RTD 10, 100, 120, 200:<br>RTD 100;         1mA<br>RTD 500;<br>S00µA           RTD 1000;         250µA           NTC 2.52k, NTC 3k;         10µA           NTC 30k;         1µA           RTD/Thermistor Linearization         Automatic  | Thermocouple Linearization    | Automatic  |  |  |  |  |
| RTD/Thermistor Parameters           Input Ranges<br>(RTD Types)         10, 50, 100, 200, 500, 1000Ω Pt<br>Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]           120Ω Ni<br>N120 Nickel RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]         120Ω Ni<br>N120 Nickel RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]           Thermistor Input Ranges         2.252 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           Thermistor Input Ranges         8.25°C: -40° to 150°C [-40° to 302°F]           RTD Excitation Current         RTD 10, 100, 120, 200:<br>RTD 10, 100, 120, 200:         1mA<br>RTD 500:<br>500µA<br>RTD 1000:           RTD Thermistor Excitation Current         NTC 2.252k, NTC 3k:<br>NTC 50, NTC 10k:         10µA<br>NTC 5µA<br>NTC 30k:           RTD/Thermistor Linearization         Automatic  |                               | ±(0.2°C + 3% of °C reading)  |  |  |  |  |
| Input Ranges<br>(RTD Types)         10, 50, 100, 200, 500, 1000Ω Pt<br>Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]           120Ω Ni         120Ω Ni           N120 Nickel RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]         2.252 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]         3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           Thermistor Input Ranges         2.252 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]         3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]         3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           8TD Excitation Current         RTD 10, 100, 120, 200: 1mA           RTD 500: 500µA         S00µA           RTD 1000: 250µA         YTC 5k, NTC 3k: 10µA           NTC 2.252k, NTC 3k: 10µA         NTC 5µA           RTD/Thermistor Linearization         Automatic   | Maximum Inaccuracy–Voltage    | ±250µV   |  |  |  |  |
| Input Ranges<br>(RTD Types)         Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]           120Ω Ni         120Ω Ni           N120 Nickel RTD 0.00672 Curve:<br>-80° to 260°C [-112° to 500°F]           2.252 kΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           3 kΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           3 kΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           3 kΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           10k-AN Type 3 @ 25°C:         -40° to 150°C [-40° to 302°F]           30 kΩ @ 25°C:         -40° to 150°C [-40° to 302°F]           8TD Excitation Current         RTD 10, 100, 120, 200:           RTD 1000:         250µA           RTD 1000:         250µA           NTC 2.52k, NTC 3k:         10µA           NTC 5k, NTC 10k:         5µA           NTC 30k:         1µA           RTD/Thermistor Linearization         Automatic   | RTD/Thermistor Parameters     |  |  |  |  |  |
| Image: Thermistor Input Ranges         2.252 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>5 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>10k-AN Type 3 @ 25°C: -40° to 150°C [-40° to 302°F]<br>30 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>30 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]           RTD Excitation Current         RTD 10, 100, 120, 200:<br>RTD 1000: 250µA         1mA<br>RTD 1000: 250µA           Thermistor Excitation Current         NTC 2.252k, NTC 3k:<br>NTC 5k, NTC 10k: 5µA         10µA           RTD/Thermistor Linearization         Automatic   |                               | Platinum RTD 0.00385 European Curve:<br>-200° to 850°C [-328° to 1562°F]<br>120Ω Ni<br>N120 Nickel RTD 0.00672 Curve:  |  |  |  |  |
| RTD Excitation Current         RTD 500:<br>RTD 1000:         500μA<br>250μA           Thermistor Excitation Current         NTC 2.252k, NTC 3k:<br>NTC 5k, NTC 10k:         10μA<br>5μA<br>NTC 30k:           RTD/Thermistor Linearization         Automatic   | Thermistor Input Ranges       | 2.252 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>3 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>5 kΩ @ 25°C: -40° to 150°C [-40° to 302°F]<br>10k-AN Type 3 @ 25°C: -40° to 150°C [-40° to 302°F]  |  |  |  |  |
| Thermistor Excitation Current         NTC 5k, NTC 10k:         5μA           NTC 30k:         1μA           RTD/Thermistor Linearization         Automatic   | RTD Excitation Current        | RTD 500: 500µA   |  |  |  |  |
|  | Thermistor Excitation Current | NTC 5k, NTC 10k: 5µA   |  |  |  |  |
| Maximum Inaccuracy ±0.2°C  | RTD/Thermistor Linearization  | Automatic  |  |  |  |  |
|  | Maximum Inaccuracy            | ±0.2°C   |  |  |  |  |

#### **Module General Specifications** Weight 98g [3.5 oz] Heat Dissipation 3.6 W 2.5 W **Backplane Power Consumption** Agency Approvals UL 61010-2 File E185989, Canada and USA Software Version Required Do-more! Designer 2.7 or later

#### **IMPORTANT!**



## 1-800-633-0405 **BX-4UT4TR** Universal Temp. Input/ Relay Output

| Voltage Relay Output Specifications                              |  |  |  |  |  |
|--|--|--|--|--|--|
|  | <u>BX-4UT4TR</u>                           |  |  |  |  |
| Outputs per Module   | 4  |  |  |  |  |
| Commons  | 1  |  |  |  |  |
| Maximum Current per Common                                       | 8A   |  |  |  |  |
| Nominal Voltage  | 5-48VDC, 24-240VAC                         |  |  |  |  |
| Operating Voltage Range  | 5-60VDC, 18-264VAC                         |  |  |  |  |
| Peak Voltage   | 60VDC, 264VAC                              |  |  |  |  |
| Minimum Output Current   | 0.1 mA @ 24VDC                             |  |  |  |  |
| Maximum Output Current   | 2A   |  |  |  |  |
| Maximum Inrush Current   | 5A for 50ms                                |  |  |  |  |
| Maximum Leakage Current  | 1µA  |  |  |  |  |
| ON Voltage Drop  | 0.2 V maximum                              |  |  |  |  |
| Fuses, Overcurrent Protection                                    | N/A  |  |  |  |  |
| OFF-ON Response  | <10ms                                      |  |  |  |  |
| ON-OFF Response  | <10ms                                      |  |  |  |  |
| Relay Cycle Life<br>Mechanical Endurance<br>Electrical Endurance | 5 Million Operations<br>120,000 Operations |  |  |  |  |
| Status Indicators  | Logic Side, Green                          |  |  |  |  |

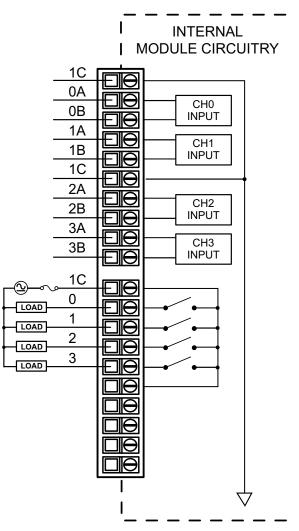
| Data Range Specifications  |  |  |                              |  |  |  |
|--|--|--|------------------------------|--|--|--|
|  |  | Resolution                                     |                              |  |  |  |
| Thermocouple Selection   | Temperature Range                            | WXn  | RXn                          |  |  |  |
| Туре Ј   | −210 to 1200 °C<br>−346 to 2192 °F           |  |                              |  |  |  |
| Туре К   | −265 to 1372 °C<br>−445 to 2502 °F           |  |                              |  |  |  |
| Type E   | −265 to 1000 °C<br>−445 to 1832 °F           |  |                              |  |  |  |
| Type R   | −50 to 1768 °C<br>−58 to 3214 °F             | Degrees x10 (One Implied Decimal) <sup>1</sup> | 24-Bit Floating <sup>1</sup> |  |  |  |
| Type S   | −50 to 1768 °C<br>−58 to 3214 °F             |  |                              |  |  |  |
| Туре В   | 40 to 1820 °C<br>104 to 3308 °F <sup>3</sup> |  |                              |  |  |  |
| Туре Т   | −265 to 400 °C<br>−445 to 752 °F             |  |                              |  |  |  |
| Voltage Selection  | Voltage Range                                | WXn <sup>2</sup>                               | RXn                          |  |  |  |
| -31.25 to 31.25 mVDC   | Bipolar 31.25 mVDC                           | 0.95 µV per count (-32768 to 32767)            |                              |  |  |  |
| -31.25 to 62.5 mVDC  | Bipolar 62.5 mVDC                            | 1.9 µV per count (-16384 to 32767)             | User Scaled                  |  |  |  |
| -31.25 to 125 mVDC   | Bipolar 125 mVDC                             | 3.8 µV per count (-8192 to 32767)              | User Scaled                  |  |  |  |
| 0 to 1.0 VDC   | Unipolar 1.0 VDC                             | 30.5 µV per count (0 to 32767)                 |                              |  |  |  |
| RTD Selection  | Temperature Range                            | WXn  | RXn                          |  |  |  |
| 10, 50, 100, 200, 500, 1000Ω Pt<br>Platinum RTD 0.00385 European Curve | −200 to 850 °C<br>−328 to 1562 °F            |  |                              |  |  |  |
| 120Ω Ni<br>N120 Nickel RTD 0.00672 Curve                               | −80 to 260 °C<br>−112 to 500 °F              | Degrees x10 (One Implied Decimal) <sup>1</sup> | 24-Bit Floating <sup>1</sup> |  |  |  |
| Thermistor Selection   | Temperature Range                            | WXn  | RXn                          |  |  |  |
|  |  |  |                              |  |  |  |
| Thermistor 2.252 kΩ @25°C  |  |  |                              |  |  |  |
|  |  |  |                              |  |  |  |
| Thermistor 2.252 kΩ @25°C  | -40 to 150 °C                                | Degrees x10 (One Implied Decimal) <sup>1</sup> | 24-Bit Floating <sup>1</sup> |  |  |  |
| Thermistor 2.252 kΩ @25°C<br>Thermistor 3kΩ @25°C                      | −40 to 150 °C<br>−40 to 302 °F               | Degrees x10 (One Implied Decimal) <sup>1</sup> | 24-Bit Floating <sup>1</sup> |  |  |  |

1. Temperatures reported in rounded integer to WXn and as scaled floating point 24bits resolution to RXn.

Raw Counts = -32768 to 32767.
 Maximum value displayed in WXn is 32767. RXn will display the full range of 3308.0.

# 1-800-633-0405 **BX-4UT4TR** Universal Temp. Input/ Relay Output

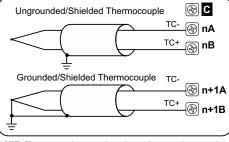
Universal Temperature Input/Relay Output Wiring



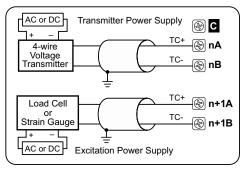
### For the latest prices, please check AutomationDirect.com. 1-800-633-0405 **BX-4UT4TR** Universal Temp. Input/ Relay Output

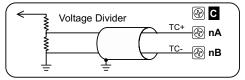
#### **Universal Temperature Input Circuits**

#### Thermocouple and Voltage Sensors



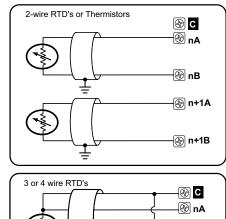
NOTE: Thermocouple extension wire and proper thermocouple terminal blocks must be used to extend thermocouples. AutomationDirect thermocouple wire is recommended.



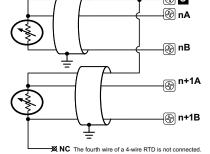


NOTE: Shield should be connected only at one end, to ground at the source device.

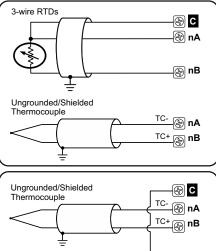
TC+ Ð For maximum accuracy: Jumper unused inputs. TC-Ð

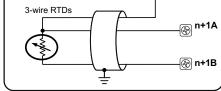


**Resistive and Thermistor Sensors** 



#### **Mixed Resistive and Thermocouple Sensors**





#### Notes for maximum accuracy:

- 1. All wires to an RTD must be equal length and type. Refer to RTD manufacturer's recommendations.
- 2. Do not use cable shield as sensing wire. 3. When applicable, connect shield to
- <u>nA</u> RTD common only, otherwise connect to module common only. Do not connect shield to both ends. n<u>B</u>
- 4. Jumper unused inputs.

**BRX - Programmable Controller** 

tBRX-153

# 1-800-633-0405 For the lates BRX Analog Expansion Modules

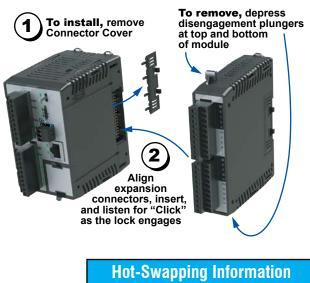
## Overview

One of the unique features of the BRX platform is its ability to expand its capability to fit your application solution. One of the ways the BRX platform can do this is by using expansion modules that conveniently "snap-on" to the side of any BRX MPU. Once the expansion module has been snapped in place and is added to the project, it instantly adds I/O to the MPU with little to no additional setup required.

The analog expansion modules give you the ability to add analog I/O as needed and are identified as an analog input module, temperature input module, or analog output module. On the front panel of the analog I/O expansion modules, a color scheme and a symbol are used to denote the module type.

Analog modules are available with current inputs or outputs, unipolar/bipolar voltage inputs or outputs, thermocouple inputs, RTD inputs and thermistor inputs. Input/output combination modules are also available.

With the exception of temperature input modules, the modules ship without wiring terminals. This allows you to select the termination style that best fits your application. Several wiring options are available, including screw terminal connectors, spring clamp terminal connectors and pre-wired **ZIP**Link cable solutions.



Note: This device cannot be Hot Swapped.

## **General Specifications**

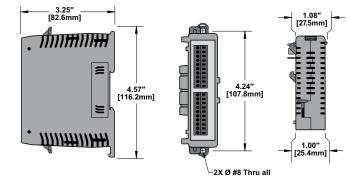
All BRX analog input and output modules and temperature input modules have the same general specifications listed in the table below.

| G   | General Specifications  |  |  |  |  |  |
|---|---|--|--|--|--|--|
| Storage Temperature   | -20° to 70°C [-4° to 158°F]   |  |  |  |  |  |
| Humidity  | 5% to 95% (non-condensing)  |  |  |  |  |  |
| Environmental Air   | No corrosive gases permitted  |  |  |  |  |  |
| Vibration   | IEC60068-2–6 (Test Fc)  |  |  |  |  |  |
| Shock   | IEC60068-2-27 (Test Ea)   |  |  |  |  |  |
| Enclosure Type  | Open Equipment  |  |  |  |  |  |
| Noise Immunity  | NEMA ICS3-304   |  |  |  |  |  |
| EU Directive  | See the "EU Directive" topic in the BRX Help File   |  |  |  |  |  |
| Agency Approvals<br>(unless otherwise<br>noted on<br>individual module<br>specifications) | UL 61010-1 and UL 61010-2-201 File E139594, Canada and<br>USA<br>CE (EN 61131-2 EMC, EN 61010-1 and EN 61010-2-201<br>Safety) |  |  |  |  |  |

| Operating   | Operating Temperature Range  |                              |  |  |  |  |
|---|------------------------------|------------------------------|--|--|--|--|
| Operating<br>Temperature  | 0° to 45°C<br>[32° to 113°F] | 0° to 60°C<br>[32° to 140°F] |  |  |  |  |
| Module  | Module R                     | evision*                     |  |  |  |  |
| BX-08AD-1   |                              |                              |  |  |  |  |
| BX-08AD-2B  | Rev A                        | Rev B                        |  |  |  |  |
| <u>BX-04THM</u>   | (Prior to May 2018)          | (After May 2018)             |  |  |  |  |
| BX-08DA-1   |                              |                              |  |  |  |  |
| <u>BX-08DA-2B</u>   | Rev B<br>(Prior to May 2018) | Rev C<br>(After May 2018)    |  |  |  |  |
| All other Analog<br>and Temperature<br>Expansion Module<br>part numbers | N/A                          | Rev A<br>(After May 2018)    |  |  |  |  |

\* Module Revision can be found in the last letter (last or second-to-last character) of the module serial number.

## Dimensions



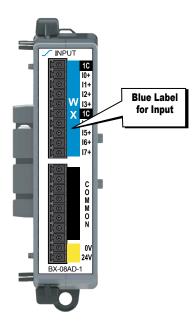


**NOTE:** When removing an expansion module, make sure there is room for the module to slide away from the system. Failure to do so will result in difficulty removing the module.

# BRX Analog Expansion Modules

### **Analog Input Modules**

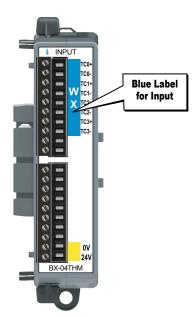
Nine (9) analog input modules are available, with current or voltage inputs. Analog input module faceplates have a blue terminal bar to distinguish them as inputs, with symbols  $\checkmark$  or  $\checkmark$  to signify current or voltage, respectively.



| Analog Input Modules |        |  |        |          |  |  |  |
|----------------------|--------|--|--------|----------|--|--|--|
| Part Number          | Points | Points Input Type Resolution                 |        |          |  |  |  |
| <u>BX-04ADM-1</u>    | 4      | Current Sink<br>0–20 mA, 4–20 mA             | 14-bit | \$182.00 |  |  |  |
| <u>BX-04AD-1</u>     | 4      |  |        | \$230.00 |  |  |  |
| <u>BX-08AD-1</u>     | 8      | Current Sink<br>0–20 mA. 4–20 mA             | 16-bit | \$255.00 |  |  |  |
| <u>BX-16AD-1</u>     | 16     | 0 20 110 (, 4 20 110 (                       |        | \$363.00 |  |  |  |
| BX-04AD-2B           | 4      | Voltage                                      |        | \$230.00 |  |  |  |
| BX-08AD-2B           | 8      | ± 10VDC, ± 5VDC,                             | 16-bit | \$255.00 |  |  |  |
| <u>BX-16AD-2B</u>    | 16     | 0–5 VDC, 0–10 VDC                            |        | \$363.00 |  |  |  |
| <u>BX-04AD-3</u>     | 4      | Current Sink<br>0–20mA, 4–20mA               | 16-bit | \$193.00 |  |  |  |
| <u>BX-08AD-3</u>     | 8      | Voltage<br>±10VDC, ±5VDC,<br>0–5VDC, 0–10VDC | TO-DIL | \$225.00 |  |  |  |

## **Temperature Input Module**

Six (6) temperature input modules are available, with thermocouple, RTD, and/or thermistor inputs. The thermocouple input modules can also be configured for millivolt-level voltage inputs, and the RTD input module can also be configured for resistance input. Temperature module faceplates have a blue terminal bar to distinguish them as inputs, and \$ symbol to signify temperature.



| Temperature Input Modules       |   |  |          |  |  |  |
|---------------------------------|---|--|----------|--|--|--|
| Part Number Points Input Type F |   |  |          |  |  |  |
| BX-04THM                        | 4 | Thermocouple   | \$241.00 |  |  |  |
| <u>BX-08THM</u>                 | 8 | Thermocouple   | \$269.00 |  |  |  |
| BX-06RTD                        | 6 | RTD  | \$255.00 |  |  |  |
| <u>BX-08NTC</u>                 | 8 | Thermistor   | \$269.00 |  |  |  |
| <u>BX-04UT</u>                  | 4 | Universal Temperature (Thermocouple,<br>RTD, Thermistor supported) | \$223.00 |  |  |  |
| <u>BX-08UT</u>                  | 6 | Universal Temperature (Thermocouple,<br>RTD, Thermistor supported) | \$248.00 |  |  |  |

# BRX Analog Expansion Modules

### Temperature/Analog Combo Module

Three (3) combination modules are available, with thermocouple, RTD or universal temperature inputs and current sourcing outputs. The thermocouple input modules can also be configured for millivolt-level voltage inputs, and the RTD input module can also be configured for resistance input. The Input/Output faceplate terminal bar is in blue and red, making it easy to distinguish between inputs and outputs, and the l and  $\checkmark$  symbols signify temperature and current, respectively.

| En Te                  | Temperature Input / Analog Output Combo Modules |        |   |   |          |  |
|------------------------|---|--------|---|---|----------|--|
|                        | F   | oints  | frank Trans                                 | Output Turns  |          |  |
| R0+ Part Number<br>R0- | Input   | Output | Input Type                                  | Output Type   | Price    |  |
| 10<br>R1+<br>R1-<br>20 | <b>-1</b> 4                                     | 4      | Resistance<br>Temperature<br>Detector (RTD) | Current Source<br>0–20mA, 4–20mA  | \$472.00 |  |
| R2+<br>R2-<br>3C       | <b>-1</b> 4                                     | 4      | Thermocouple                                | Current Source<br>0–20mA, 4–20mA  | \$472.00 |  |
| R3-<br>R3-<br>4C       | <u> </u>  | 4      | Universal<br>Temperature                    | Current Source: 0–20mA, 4–20mA<br>Voltage:±10VDC, ±5VDC, 0–5VDC,<br>0–10VDC | \$436.00 |  |



12+

13+

 S
 5C

 0V
 0V

 24V

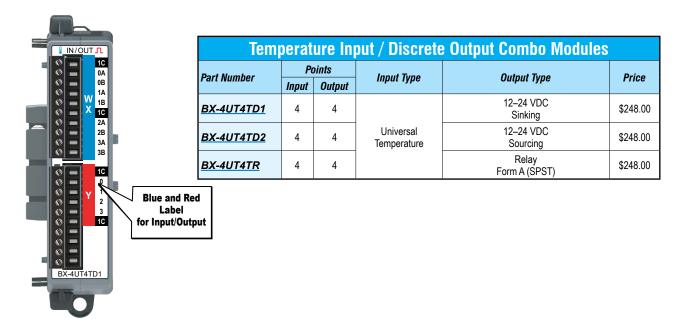
 BX-4RTD4DA-1

Blue and Red

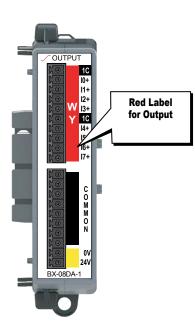
Label

for Input/Output

Three (3) combination modules are available with universal temperature inputs and DC sinking, sourcing or relay outputs. The thermocouple inputs can also be configured for millivolt-level voltage inputs, and the RTD inputs can also be configured for resistance input. The Input/Output faceplate terminal bar is in blue and red, making it easy to distinguish between inputs and outputs, and the  $\$  and  $\Pi$  symbols signify temperature and discrete signals, respectively.



# 1-800-633-0405 For the lates BRX Analog Expansion Modules



## **Analog Output Modules**

Six (6) analog output modules are available, in current and voltage outputs. Analog output module faceplates have a red terminal bar to distinguish them as outputs, with symbols  $\checkmark$  or  $\checkmark$  to signify current or voltage, respectively.

| Analog Output Modules |        |  |          |  |  |  |
|-----------------------|--------|--|----------|--|--|--|
| Part Number           | Points | Output Type                                  | Price    |  |  |  |
| <u>BX-04DA-1</u>      | 4      | Current Source                               | \$269.00 |  |  |  |
| BX-08DA-1             | 8      | 0–20 mA, 4–20 mA                             | \$350.00 |  |  |  |
| BX-04DA-2B            | 4      | Voltage                                      | \$269.00 |  |  |  |
| <u>BX-08DA-2B</u>     | 8      | ± 10VDC, ± 5VDC,<br>0–5 VDC, 0–10 VDC        | \$350.00 |  |  |  |
| <u>BX-04DA-3</u>      | 4      | Current Source<br>0–20mA, 4–20mA             | \$244.00 |  |  |  |
| <u>BX-08DA-3</u>      | 8      | Voltage<br>±10VDC, ±5VDC,<br>0–5VDC, 0–10VDC | \$311.00 |  |  |  |

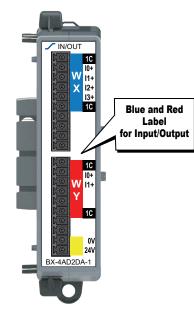
## Analog Combo Input / Output Modules

Six (6) analog input/output combo modules are available with current or voltage inputs and outputs. The Input/Output faceplate terminal bar is in blue and red, making it easy to distinguish between inputs and outputs. Symbols  $\checkmark$  and  $\checkmark$  signify current and voltage, respectively.

| Analog Combo Input / Output Modules |        |        |  |  |          |  |
|-------------------------------------|--------|--------|--|--|----------|--|
| Part Number                         | Points |        |  | Output Tuno                                  | Drico    |  |
| Part Number                         | Input  | Output | Input Type                                   | Output Type                                  | Price    |  |
| <u>BX-2AD2DA-1</u>                  | 2      | 2      | Current Sink                                 | Current Source                               | \$309.00 |  |
| BX-4AD2DA-1                         | 4      | 2      | 0–20mA, 4–20mA                               | 0–20mA, 4–20mA                               | \$378.00 |  |
| BX-2AD2DA-2B                        | 2      | 2      | Voltage                                      | Voltage                                      | \$309.00 |  |
| BX-4AD2DA-2B                        | 4      | 2      | ±10VDC, ±5VDC,<br>0–5VDC, 0–10VDC            | ±10VDC, ±5VDC,<br>0–5VDC, 0–10VDC            | \$378.00 |  |
| <u>BX-2AD2DA-3</u>                  | 2      | 2      | Current Source<br>0–20mA, 4–20mA             | Current Source<br>0–20mA, 4–20mA             | \$284.00 |  |
| BX-4AD4DA-3                         | 4      | 4      | Voltage<br>±10VDC, ±5VDC,<br>0–5VDC, 0–10VDC | Voltage<br>±10VDC, ±5VDC,<br>0–5VDC, 0–10VDC | \$349.00 |  |

| Expansion Module Support by Controller |                     |  |  |  |
|--|---------------------|--|--|--|
| Controller Type                        | # Expansion Modules |  |  |  |
| BX-DM1E-M                              | 8                   |  |  |  |
| BX-DM1-10                              | 8                   |  |  |  |
| BX-DM1E-10                             | 8                   |  |  |  |
| BX-DM1-18                              | 8                   |  |  |  |
| BX-DM1E-18                             | 8                   |  |  |  |
| BX-DM1-36                              | 8                   |  |  |  |
| BX-DM1E-36                             | 8                   |  |  |  |
| BX-DMIO*                               | 8                   |  |  |  |
| BX-EBC100*                             | 8                   |  |  |  |
| BX-MBIO*                               | 8                   |  |  |  |

\* Remote I/O controllers do not support Motion Control and Communications Modules.



# BRX Wiring Termination Options

## **Terminal Block Connectors**

The terminal block connectors are provided in kits of multiple connectors that are ordered as a single part number. There are 2 different types of kits to choose from; one kit for the five (5), eight (8) and 12-point discrete, and one kit for the analog modules and 16-point discrete modules. The five (5), eight (8) and 12-point discrete module kits each have (3) 5-pin 5mm connectors. The 8-point modules will use only 2 of the 5-pin connectors. The five (5) and 12-point modules will use all three connectors. The analog and 16-point digital module kits include (2) 10-pin 3.81 mm connectors.

# Terminal Block Connectors, 5, 8 and 12-Point Discrete Modules

Terminal Block Kits for 5-point, 8-point and 12-point Expansion Modules



BX-RTB08 (Kit - 3 pieces)



BX-RTB08-1 (Kit - 3 pieces)



BX-RTB08-2 (Kit - 3 pieces)

| Terminal Block Specifications 5-, 8- & 12-Point Type |                             |  |                                 |  |  |  |  |
|--|-----------------------------|--|---------------------------------|--|--|--|--|
| Part Number<br>Single Block<br>Set of 3 Blocks       | <u>BX-RTB05</u><br>BX-RTB08 | <u>BX-RTB05-1</u><br>BX-RTB08-1              | <u>BX-RTB05-2</u><br>BX-RTB08-2 |  |  |  |  |
| Price (Single Block)                                 | \$9.00                      | \$7.50                                       | \$8.50                          |  |  |  |  |
| Price (Kit)  | \$16.00                     | \$15.00                                      | \$16.00                         |  |  |  |  |
| Connector Type                                       | Screw Type -<br>90-degree   | Spring Clamp Type -<br>180-degree            | Screw Type -<br>180-degree      |  |  |  |  |
| Wire Exit  | 180-degree                  | 180-degree                                   | 180-degree                      |  |  |  |  |
| Pitch  | 5.0 mm                      | 5.0 mm                                       | 5.0 mm                          |  |  |  |  |
| Screw Size   | M2.5                        | N/A  | M2.5                            |  |  |  |  |
| Screw Torque<br>Recommended                          | < 3.98 lb∙in<br>[0.45 N∙m]  | N/A  | < 3.98 lb∙in<br>[0.45 N∙m]      |  |  |  |  |
| Screwdriver<br>Blade Width                           | 3.5 mm                      | 3.5 mm                                       | 3.5 mm                          |  |  |  |  |
| Wire Gauge<br>(Single Wire)                          | 28–12 AWG                   | 28–14 AWG                                    | 28–12 AWG                       |  |  |  |  |
| Wire Gauge<br>(Dual Wire)                            | 28–16 AWG                   | 28–16 AWG<br>(Dual Wire Ferrule<br>Required) | 28–16 AWG                       |  |  |  |  |
| Wire Strip Length                                    | 0.3 in [7.5 mm]             | 0.37 in [9.5 mm]                             | 0.3 in [7.5 mm]                 |  |  |  |  |
| Equiv. Dinkle P/N                                    | 5ESDV-05P-BK                | 5ESDSR-05P-BK                                | 5ESDF-05P-BK                    |  |  |  |  |

# Terminal Block Connectors, Analog Modules and 16-Point Discrete Modules

| Terminal Block Specifications 16-Point Type |                          |  |                          |
|---|--------------------------|--|--------------------------|
| Part Number                                 | <u>BX-RTB10</u>          | <u>BX-RTB10-1</u>                            | BX-RTB10-2               |
| Price (Kit)                                 | \$22.50                  | \$25.00                                      | \$23.50                  |
| Connector Type                              | Screw Type<br>90-degree  | Spring Clamp Type<br>180-degree              | Screw Type<br>180-degree |
| Wire Exit                                   | 180-degree               | 180-degree                                   | 180-degree               |
| Pitch                                       | 3.81 mm                  | 3.81 mm                                      | 3.81 mm                  |
| Screw Size                                  | M2                       | N/A  | M2                       |
| Screw Torque<br>Recommended                 | <1.77 lb∙in<br>[0.2 N∙m] | N/A  | <1.77 lb·in<br>[0.2 N·m] |
| Screwdriver<br>Blade Width                  | 2.5 mm                   | 2.5 mm                                       | 2.5 mm                   |
| Wire Gauge<br>(Single Wire)                 | 28–16 AWG                | 26–18 AWG                                    | 30–16 AWG                |
| Wire Gauge<br>(Dual Wire)                   | 28–18 AWG                | 30–20 AWG<br>(Dual Wire Ferrule<br>Required) | 30–18 AWG                |
| Wire Strip Length                           | 0.24 in [6mm]            | 0.35 in [9mm]                                | 0.26 in [6.5 mm]         |
| Equiv. Dinkle P/N                           | EC381V-10P-BK            | ESC381V-10-BK                                | EC381F-10P-BK            |

**NOTE:** <u>BX-RTB10</u> terminal blocks are included with Temperature Input modules.

Terminal Block Kits for Analog and 16-point Discrete Expansion Modules



BX-RTB10 (Kit - 2 pieces)



BX-RTB10-1 (Kit - 2 pieces)



BX-RTB10-2 (Kit - 2 pieces)