

CALIBRATION

1. After configuring the dip switches, connect the input to a calibrated thermocouple source. Connect the output to the actual device load (or a load approximately equivalent to the actual device load value) and apply power.

NOTE: To maximize thermal stability, final calibration should be performed in the operation installation, allowing approximately 1 to 2 hours for warm up and thermal equilibrium of the system.

2. Set the calibrator to the desired minimum input and adjust the zero potentiometer for the desired minimum output.

3. Set the calibrator to the desired maximum input and adjust the span potentiometer for the desired maximum output.

4. Repeat steps 2 and 3, if necessary for best accuracy.

TABLE 1: Thermocouple type switch settings (SW2, positions 8, 9, 10)

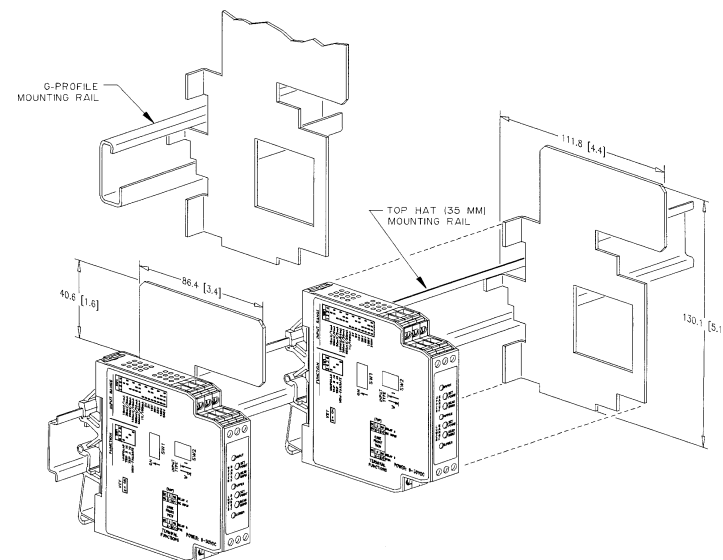
TYPE	8	9	10
B	■	■	■
E	■	■	
J	■		
K	■		
R		■	■
S		■	
T			■

KEY

■ = ON

TABLE 2: Range switch settings used in conjunction with Table 6 (SW2, positions 4, 5, 6, and 7)

RANGE	4	5	6	7
1	■			
2	■	■	■	
3		■		■
4	■	■		
5	■		■	■
6	■	■	■	■
7	■			■
8	■			
9		■	■	■
10		■	■	
11			■	■
12		■	■	
13			■	■
14	■	■		
15			■	■
16				■



Note 1: All modules are designed and tested to operate in ambient temperatures from 0 to 55°C, when mounted on a horizontal DIN rail. When five or more modules are mounted on a vertical rail, circulating air or model DRG-HS01 Heat Sink is recommended.

TABLE 3: Thermocouple burnout detection switch settings (SW2, position 1, 2)
Note: SW2 position 3 is not used.

BURN OUT	1	2
NOT ALLOWED	■	■
UPSCALE		■
DOWNSCALE		■
NONE		

TABLE 4: Output switch settings (SW1, position 1-8)

	1	2	3	4	5	6	7	8
0-5V	■	■	■	■				
0-10V	■		■	■				
0-1mA		■	■	■				
4-20mA					■	■	■	
0-20mA	■	■			■	■	■	

TABLE 5: Accuracy

TC Type	Temp. Range °C (°F)	Accuracy
J	-200 to 750°C (-328 to 1382°F)	±2.0 °C (±3.6°F)
K	-200 to -140°C (-328 to -220°F)	±5.0 °C (±9.0°F)
K	-140 to 1250°C (-220 to 2282°F)	±2.0 °C (±3.6°F)
K	1250 to 1370°C (2282 to 2498°F)	±4.0 ° (±7.2°F)
E	-150 to 1000°C (-238 to 1832°F)	±2.5 °C (±4.5°F)
T	-150 to 400°C (-238 to 752°F)	±3.0 °C (±5.4°F)
R	50 to 1760°C (122 to 3200°F)	±6.0 °C (±10.8°F)
S	50 to 1760°C (122 to 3200°F)	±6.0 °C (±10.8°F)
B	500 to 1820°C (932 to 3308°F)	±5.0 °C (±9.0°F)

Table 6: Thermocouple Range Settings

TC TYPE	RANGE	TEMPERATURE RANGE	
B	6	500°C to 1820°C (932 to 3308°F)	
	7	1000°C to 1820°C (1832 to 3308°F)	
	8	500°C to 1000°C (932 to 1832°F)	
	11	1500°C to 1820°C (2732 to 3308°F)	
	12	750°C to 1000°C (1382 to 1832°F)	
	2	-18°C to 1000°C (0 to 1832°F)	
E	3	-18°C to 500°C (0 to 932°F)	
	4	-18°C to 250°C (0 to 482°F)	
	5	-18°C to 125°C (0 to 257°F)	
	8	500°C to 1000°C (932 to 1832°F)	
	9	250°C to 500°C (482 to 932°F)	
	10	125°C to 250°C (257 to 482°F)	
	12	750°C to 1000°C (1382 to 1832°F)	
	13	375°C to 500°C (707 to 932°F)	
	14	-150°C to 750°C (-238 to 1382°F)	
	15	-150°C to 250°C (-238 to 482°F)	
	16	-150°C to 0°C (-238 to 32°F)	
	J	2	-18°C to 750°C (0 to 1382°F)
		3	-18°C to 500°C (0 to 932°F)
		4	-18°C to 250°C (0 to 482°F)
		5	-18°C to 125°C (0 to 257°F)
		8	500°C to 750°C (932 to 1382°F)
9		250°C to 500°C (482 to 932°F)	
10		125°C to 250°C (257 to 482°F)	
13		375°C to 500°C (707 to 932°F)	
14		-200°C to 750°C (-328 to 1382°F)	
15		-200°C to 250°C (-328 to 482°F)	
16		-200°C to 0°C (-328 to 32°F)	
K		1	-18°C to 1370°C (0 to 2498°F)
		2	-18°C to 1000°C (0 to 1832°F)
		3	-18°C to 500°C (0 to 932°F)
		4	-18°C to 250°C (0 to 482°F)
		5	-18°C to 125°C (0 to 257°F)
	7	1000°C to 1370°C (1832 to 2498°F)	
	8	500°C to 1000°C (932 to 1832°F)	
	9	250°C to 500°C (482 to 932°F)	
	10	125°C to 250°C (257 to 482°F)	
	12	750°C to 1000°C (1382 to 1832°F)	
	13	375°C to 500°C (707 to 932°F)	
	14	-200°C to 750°C (-328 to 1382°F)	
	15	-200°C to 250°C (-328 to 482°F)	
	16	-200°C to 0°C (-328 to 32°F)	
	R,S	1	50°C to 1760°C (122 to 3200°F)
		2	50°C to 1000°C (122 to 1832°F)
3		50°C to 500°C (122 to 932°F)	
4		50°C to 250°C (122 to 482°F)	
7		1000°C to 1760°C (1832 to 3200°F)	
8		500°C to 1000°C (932 to 1832°F)	
9		250°C to 500°C (482 to 932°F)	
10		125°C to 250°C (257 to 482°F)	
11		1500°C to 1760°C (2732 to 3200°F)	
12		750°C to 1000°C (1382 to 1832°F)	
13		375°C to 500°C (707 to 932°F)	
3		-18°C to 400°C (0 to 752°F)	
4		-18°C to 250°C (0 to 482°F)	
5		-18°C to 125°C (0 to 257°F)	
9		250°C to 400°C (482 to 752°F)	
T		10	125°C to 250°C (257 to 482°F)
	13	375°C to 400°C (707 to 752°F)	
	14	-150°C to 400°C (-238 to 752°F)	
	15	-150°C to 250°C (-238 to 482°F)	
	16	-150°C to 0°C (-238 to 32°F)	

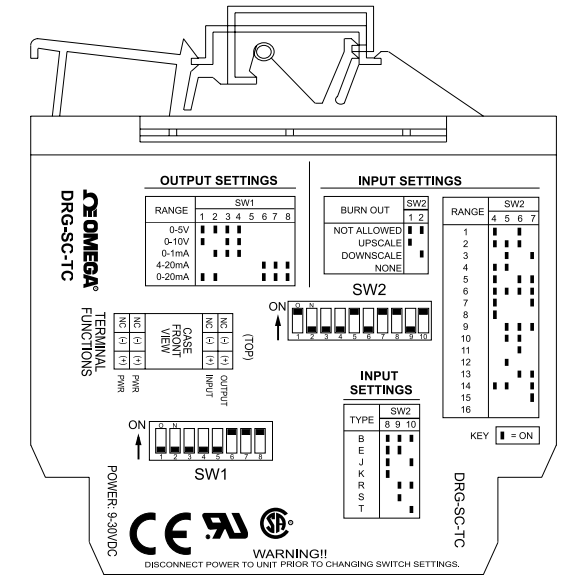


Figure 1: DRG-SC-TC Factory Calibration: J-Type, 0-500°C, 4-20mA, Upscale

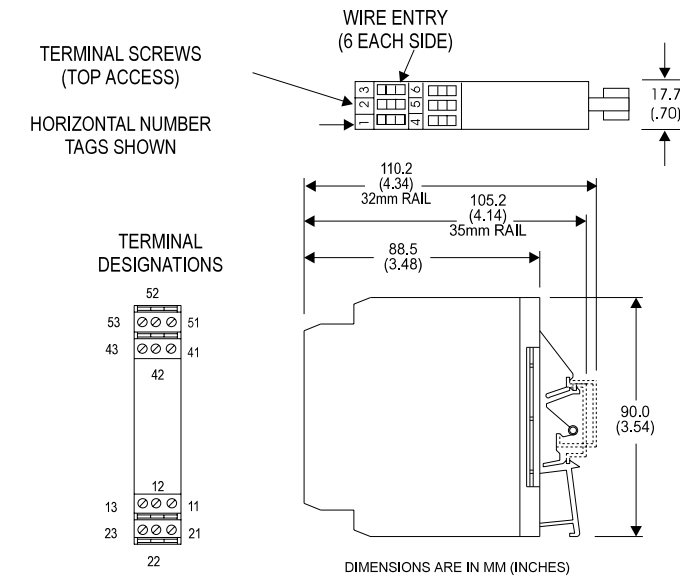


Figure 2: Mechanical dimensions for DRG-SC-TC

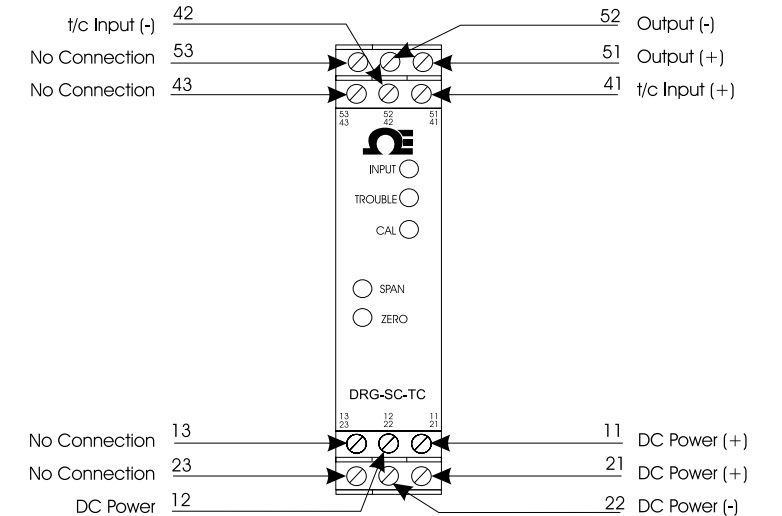


Figure 3: Wiring Diagram for DRG-SC-TC