

# Application Note: Math Modules: Monitoring RTDs for Temperature Differential

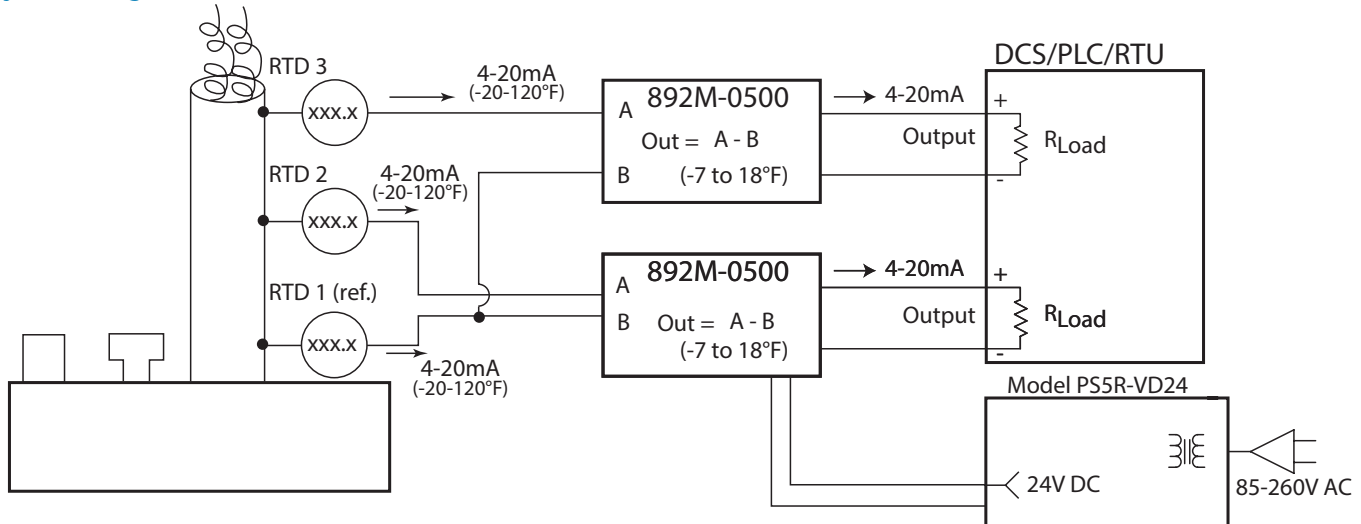
## Defining the Problem:

Monitor three RTD's on a stack and transmit two differential 4-20mA signals representing -7 to 18°F. Each RTD transmitter is calibrated -20 to 120°F.

## Solution:

Model 892M-0500 math module (qty. 3)  
Model 800C-SIP software interface pkg. (qty. 1)  
Model PS5R-VD24 power supply (qty. 1)

### System Diagram:



### Wiring Diagram:

Model No: 892M-0500

Tag No: RTD3-RTD1

Input: 4-20mA

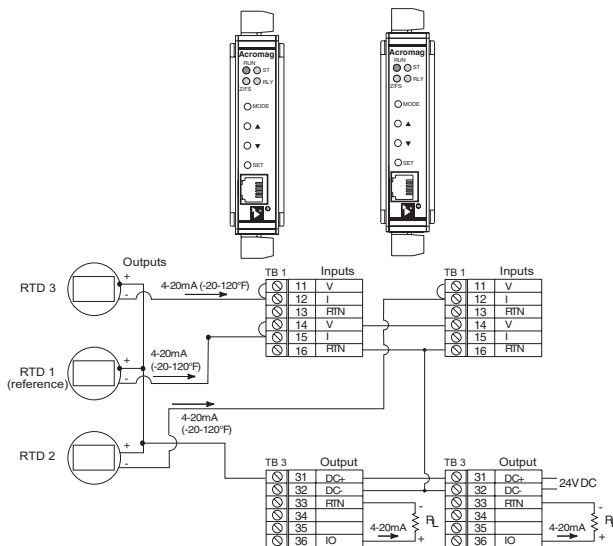
Output: 4-20mA (-7 to 18°F)

Model No: 892M-0500

Tag No: RTD2-RTD1

Input: 4-20mA

Output: 4-20mA (-7 to 18°F)



### Scaling & Equation:

I/O	Equation Symbol	Zero Signal Value	Zero Engr. Units Value	Full Scale Signal Value	Full Scale Engr. Units Value	Engr. Units
Input 1	A	4.0 mADC	-20	20.0 mADC	120	*F
Input 2	B	4.0 mADC	-20	20.0 mADC	120	*F
Output 1		4.0 mADC	-7	20.0 mADC	18	*F

Equation:  
Output 1 = A - B

**Output Equation: A - B**