

Formula implementation using Action Rules in Control Solutions i.CanDoIt server:

The formula

$$RT = 1.8*(T2-T1)*F/24$$

may be calculated as follows:

First, we set up two registers to hold our constants as follows:

Rule #	Value	Destination Register #
1	1.800000	1221
2	24.000000	1223

Next we set up a sequence of calculate rules. These are executed in sequential order starting with the first rule, and repeating in round robin fashion.

Rule #	Perform Operation	Using Register #	And/Through	This Register #	Place Result in Register #
1	subtract	1203	and	1201	1207
2	divide	1205	and	1223	1209
3	multiply	1207	and	1209	1211
4	multiply	1211	and	1221	1213

In this example, local register #1201 (R1201) contains T1, R1203 contains T2, and R1205 contains F. The result will be placed in R1213. If the values T1, T2, and F are being read by sensors, substitute the appropriate register numbers.

Rule #1 calculates (T2-T1) and stores interim result in R1207.

Rule #2 calculates F/24 and stores interim result in R1209.

Rule #3 calculates (T2-T1)\*F/24 and stores interim result in R1211.

Rule #4 calculates 1.8\*(T2-T1)\*F/24 and stores final result in R1213.

Be sure to use floating point registers for interim results. If the final result in R1213 needs to be further scaled to control an output, add rules as needed, or write the result to an analog output with its scale factors set appropriately as required by the application.