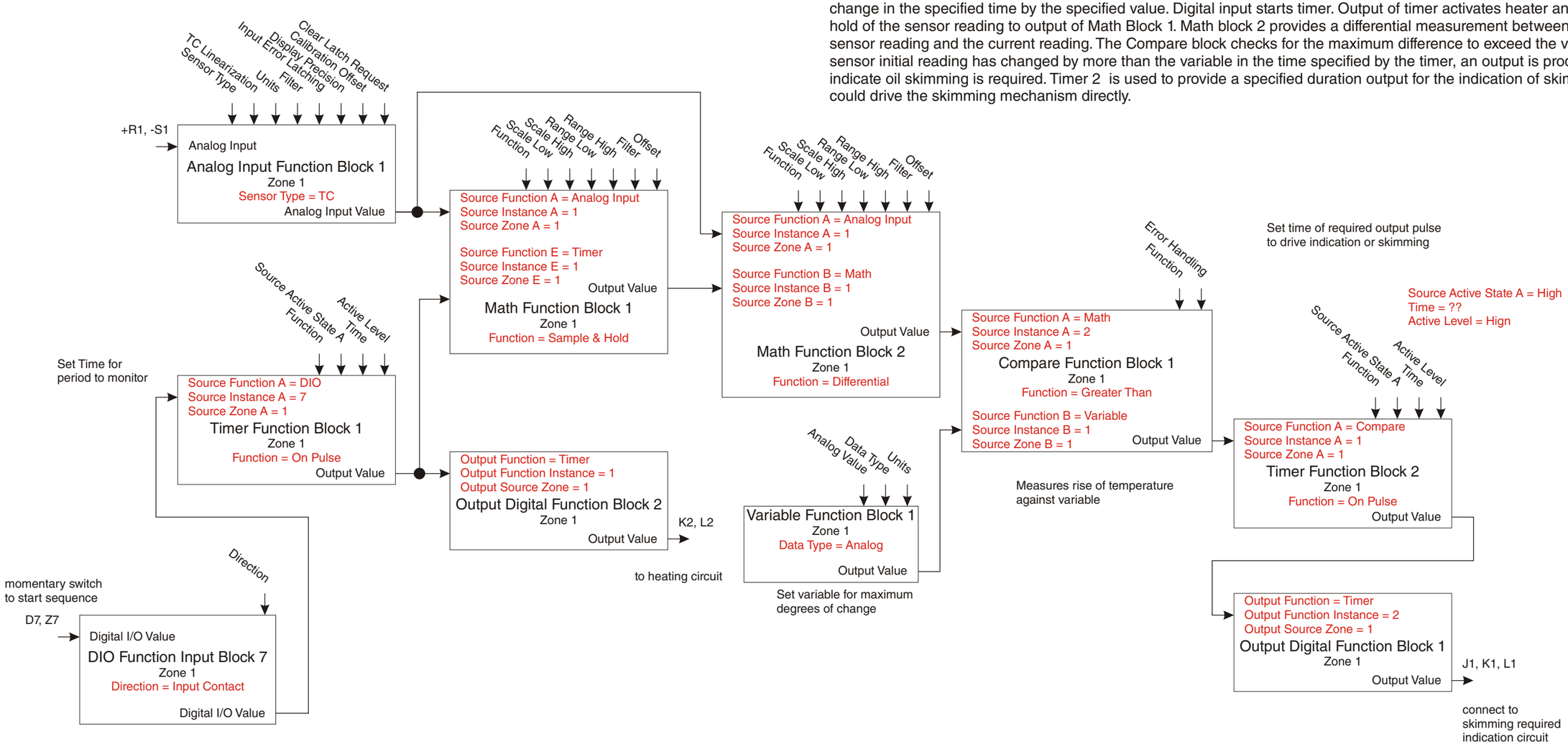
Typical rate alarm diagram

Example 43 - Using function blocks to detect rate changes in process value.

Real world example is where a customer wants to produce an output if the process value changes by a preset value with in a preset time.

Demonstrates use of Analog Input, DIO, Timer, Math, Compare, and Output Digital Function blocks.

Theory of operation: Oil heats quicker around heater than water. If the sensor is covered in water, the temperature will not change in the specified time by the specified value. Digital input starts timer. Output of timer activates heater and provides a hold of the sensor reading to output of Math Block 1. Math block 2 provides a differential measurement between the initial sensor reading and the current reading. The Compare block checks for the maximum difference to exceed the variable. If the sensor initial reading has changed by more than the variable in the time specified by the timer, an output is produced to indicate oil skimming is required. Timer 2 is used to provide a specified duration output for the indication of skimming or could drive the skimming mechanism directly.



Information Flow

EZ-ZONE RM Application Example - using function blocks
Print on 11” x 17” landscape paper for best viewing

User parameter settings in RED
Revision A