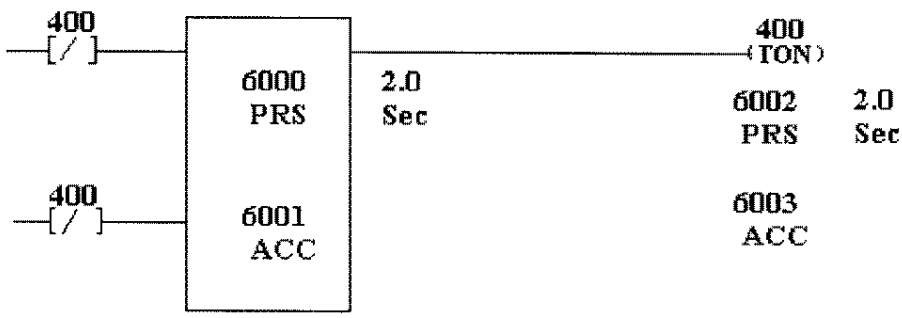
Honeywell
Series 9000 Application Note

(904) **(E)LPM and Logic Processor -Watchdog Monitor**

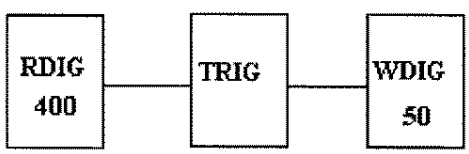
Objective: The S9000 is made up of a Loop Processor module and a Logic Processor module which operate in unison. This application note provides a method to quickly alert the user of a failure of one or both of the processors in the S9000 system.

Resolution: This watchdog monitor routine requires that both the (E)LPM and Logic Processor be operational and scanning to provide a pulse to a real output point which is wired to an external motion detector. Should the motion detector fail to see a pulse within the alloted time, it will open/ close a set of contacts allowing the user to alarm or take control action as necessary.

Ladder Logic: The internal bit address and Timer registers may be selected by the user. The Timer preset values should be equivalent to the cycle time reported by the System Status block in CCC to assure the transition of the (TOF) coil is see by the (E)LPM.



Continuous Control Chart: Monitors the coil address in ladder logic as an input causing a TRIGgered pulse to be sent to a real user selected output point.



(E)LPM and Logic Processor -Watchdog Monitor

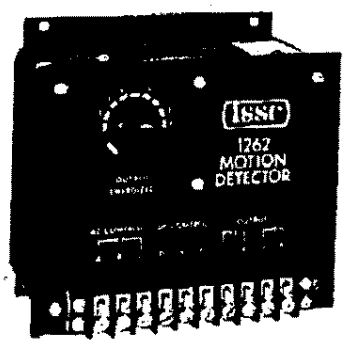
A **Motion Detector** such as an ISSC, model 1262 manufactured by Kansen Electronics (Ph: 717-292-5631) should be used. An adjustable timeout of 2-10 seconds should be sufficient for this application. A relay type output is recommended.

A 120Vac or 12 Vdc digital output (Ex: WDIG 50) from the S9000 will feed the motion detector input with pulses. Should the S9000 fail to pulse the motion detector within the preset time, the motion detector output will open.

MODEL 1262
BASE MOUNT

INDUSTRIAL SOLID STATE MOTION DETECTOR

ISSC®



Underspeed or Overspeed Detector

Output Energizes only when running speed is reached.

AC Control Circuit is compatible with standard mechanical switches, solid state proximity sensors, and 120VAC pulse.

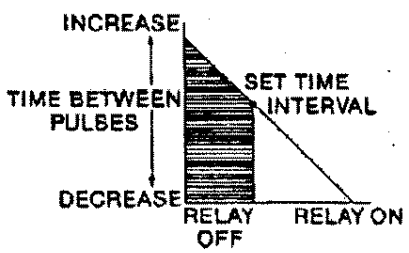
DC Control Circuit is compatible with solid state source or sink proximity sensors.

Adjusting Set Time Interval

An internal timing potentiometer sets the time interval. It is necessary to calculate the period of time between pulses to determine the correct time setting.

1) Determine minimum operating speed. This is the speed at which output energizes. Any greater speed also maintains an energized output. Any slower speed de-energizes the output.
2) Determine pulse/sec ratio provided by minimum operating speed.
   (example: 2 pulses/sec)
3) Determine time interval between pulses.
   (examples: 2 pulses/sec = 1 pulse/.5 sec)
4) Adjust timing potentiometer to a setting *slightly greater* than .5 sec. Minimum operating speed (1 pulse/.5 sec) will provide 2 pulses in a time interval slightly greater than .5 sec and maintain an energized output. Any speed less than the minimum operating speed will not provide two pulses per set time interval, and the unit's output will de-energize.
5) Select a time range (when ordering a 1262) in which the set time interval for minimum operating speed falls midrange. This provides better time setting resolution.
   (example: Set time interval—.55 sec
   Select time range "D"—.06-1.0 sec)

OPERATION



*The output is de-energized when the monitored motion provides less than two pulses per set time interval.
*The output energizes when the monitored motion reaches or exceeds two pulses per set time interval.
*Once energized, the output will not de-energize until the monitored motion drops to less than two pulses per set time interval.
*The output automatically resets (i.e. the output energizes) when the monitored speed again matches two pulses per set time interval.