

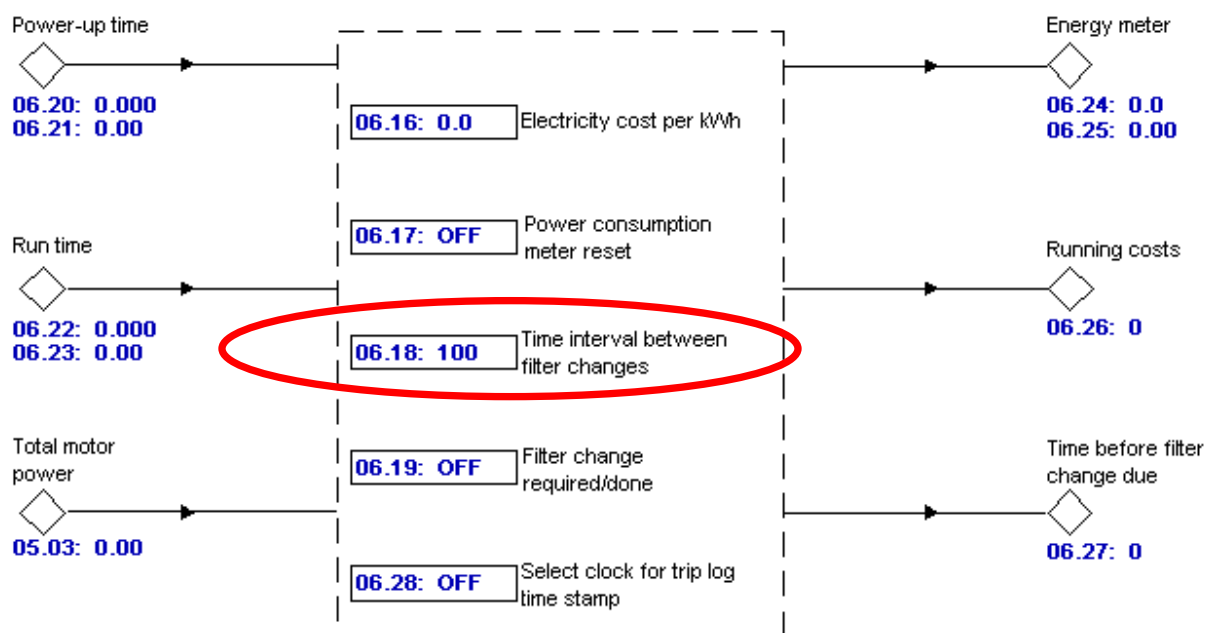
The Application Note is pertinent to our Unidrive SP Drive Family

## Maintenance Due Reminder Alarms

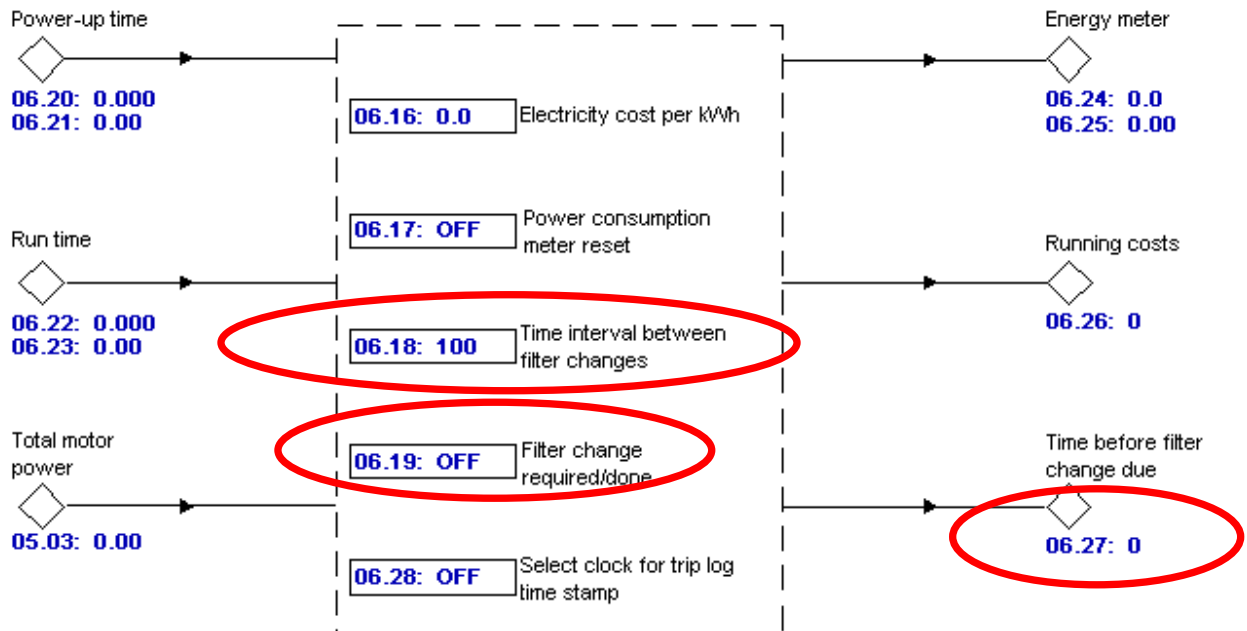
Although every good maintenance group knows the importance and effectiveness of regular, periodic PM ( preventive maintenance ), we find that a built-in feature within our drives to assist with their efforts, is rarely utilized. Menu 6 contains a handy Hour meter that can be preset with a maintenance item and when that number of drive runtime hours has been exceeded, a maintenance alarm can be generated as a reminder. After the required maintenance has been performed, this Timer can be reset to go again in the number of Hours set.

A portion of Menu 6 is shown below. The Hour meter being described is labeled as: **Time Interval between Filter Changes** but this can be used for any maintenance item that is a function of drive runtime- possibly for such things as:

**Belt Wear Check**  
**Belt Dressing/Tension Check**  
**Chain Lubrication Check**  
**Motor Blower Filter Check**  
**Cabinet Filter Check**  
**Air Duct Filter Change Time**  
**Motor or Machine Lubrication Time**



As one can see from the screenshot below, you would set in to parameter #6.18 the number of Hours before a certain maintenance alarm should be generated. After that number of hours has passed, parameter #6.19 will go to a value of On (1) indicating **Maintenance is Due**. During the interval, parameter #6.27 would be decrementing showing the number of hours before maintenance is due. This would be a nice item to display on an HMI display screen for instance- perhaps even as a bar graphed item showing how much time is left out of the total.

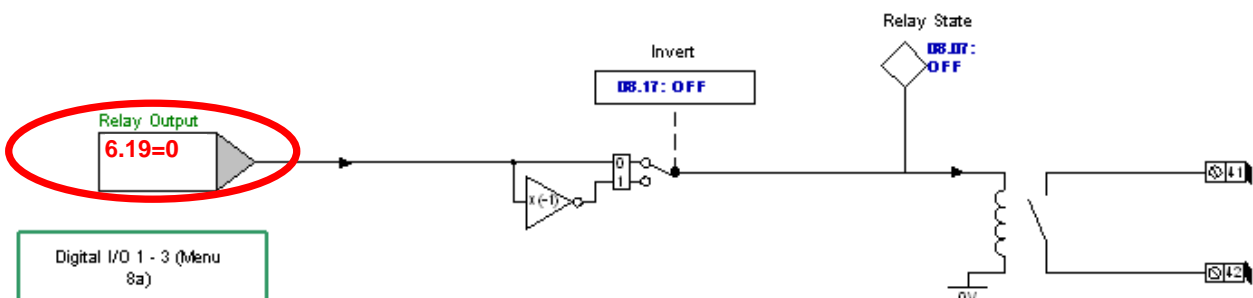


After maintenance is performed one could reset #6.19 back to Off which will reset the Hour meter and #6.27 will be at the number of Hours set in #6.18.

**IMPORTANT** - in order to initially setup this timer, you must enter a non-zero value into #6.18 then toggle #6.19 ( set to On then back to Off ). Parameter #6.27 should go to your number of Hours you set into #6.18.

### How can I use this to light an Maintenance Due Alarm lite ?

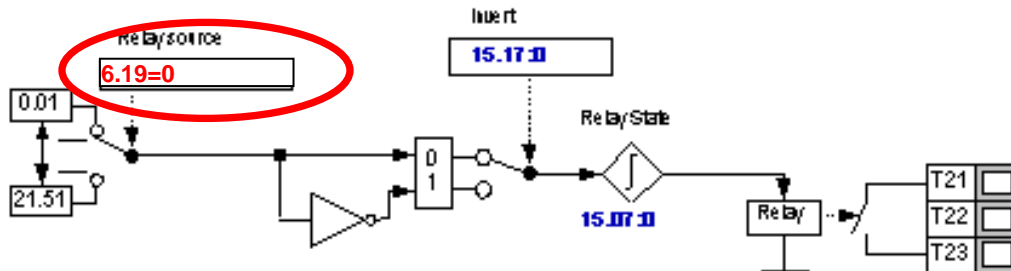
The UndriveSP has a dry relay contact that can be used to turn on a 115vac light which is available on terminals 41 and 42 of the drive – assuming it is not being used for something else. To use this relay contact one would merely assign the relay to the Maintenance Due bit #6.19. In order to test the relay output, one could simply set #6.22 = On to simulate that Maintenance is due.



In this case the dry relay contact would be available on T21 – T23 on the IO Lite Module.

If this relay is already in use, one could install an SM-IO Lite Module and perform a similar assignment.

In this case the dry relay contact would be available on T21 – T23 on the IO Lite Module



## **Creating a Pulsing Contact for Flashing Light or Audible Alarm**

There is no dispute that a blinking light catches an Operators eye better than a steady illumination. Or maybe you would like an audible beeper to indicate when Maintenance is Due. As we illustrated above we could program one of the programmable relay outputs to illuminate a lamp but it would not flash it. Obviously, you could purchase a flasher module of some sort and wire it in to do the job but if you knew how, you could create your own flasher within the drive itself at no additional cost ! No cost is always a preferable solution.

### **Implementation**

What we can do is use the built-in ( rarely utilized ) programmable logic gates within our drives to create what they used to call in the old days – an astable multi-vibrator ( *kind of kinky by today's vernacular* ).

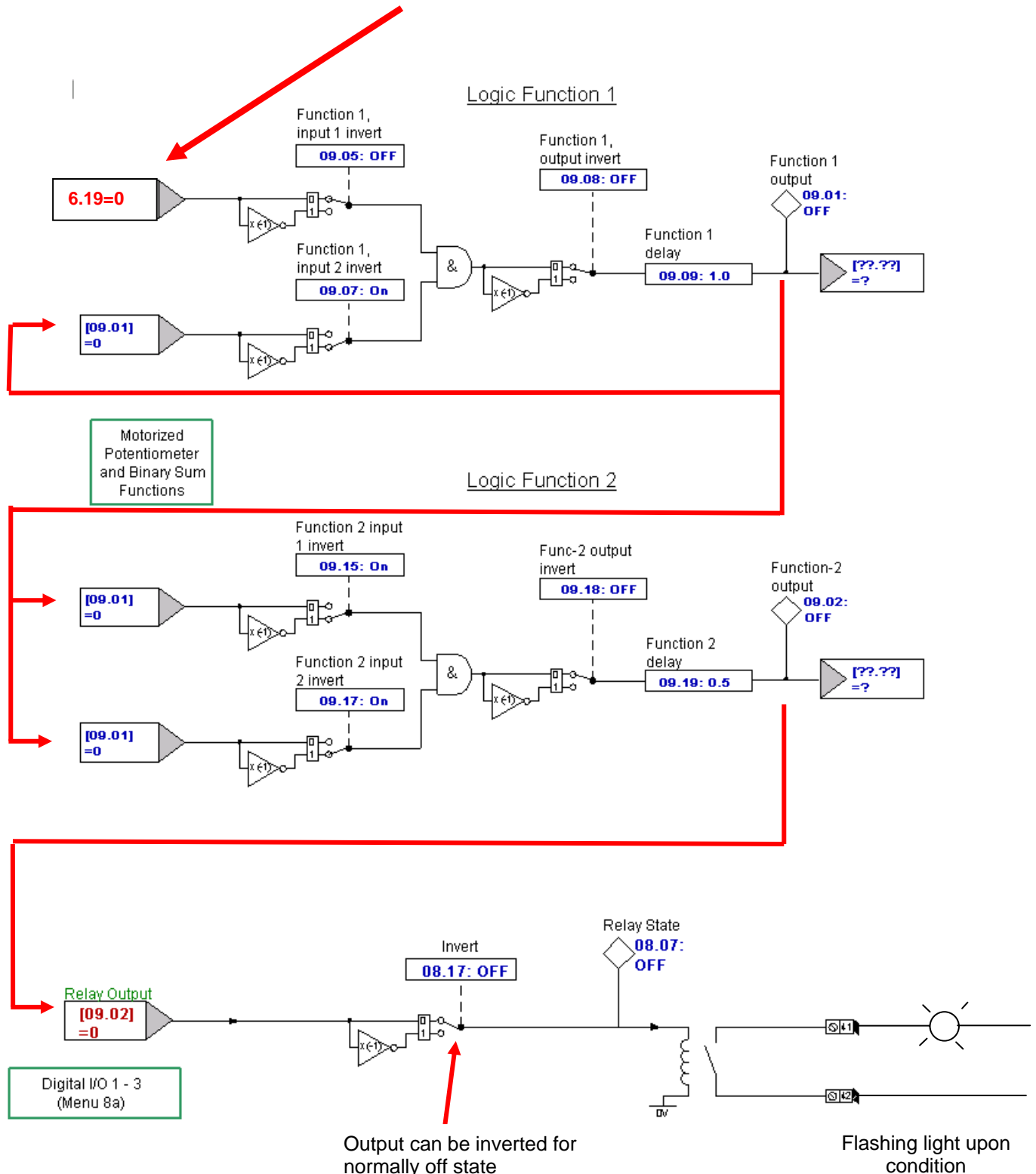
Our Unidrive SP's contain 2 free programmable logic gates with output time delays that can be found in Menu 9. By gating them with the Maintenance Due status signal we wish to create a flashing light for and selecting the proper time delays, we can accomplish our goal.

The following diagrams are screen shots directly out of CTSOft ( available free from our website ). These diagrams outline the scheme that would be used to help you understand the configuration ( should you wish to ). If you don't really care to understand how it works there is a summary table that will allow you to quickly configure this function by simply programming from that table to achieve the flasher function.

CTSOft→ [www.controltechniques.com/ctsoft](http://www.controltechniques.com/ctsoft)

# Creating a Pulsing Contact

Put your bit parameter that indicates the condition you wish to flash ( beep ) here. In this example, we chose to create a blinking warning light to flash when Maintenance is Due.



Obviously, if this relay is already in use, one could install an SM-IO Lite Module and perform a similar assignment. See page 3

In this case the dry relay contact would be available on T21 – T23 on the IO Lite Module.

## Flasher Quick Setup Table

This summary table will allow you to quickly configure a Unidrive SP by simply programming locations directly from that table to achieve the flasher function.

Parameter	Setting	Comment	
#9.04	6.19	Your selected output signal	
#9.05	OFF		
#9.06	9.01	Feedback from output	
#9.07	ON	Invert this input	
#9.08	OFF		
#9.09 <sup>1</sup>	2.0	2 second overall period	Adjustable
#9.14	9.01	Input from Gate 1 Output	
#9.15	ON	Invert this input	
#9.16	9.01	Input from Gate 1 Output	
#9.17	ON	Invert this input	
#9.18	OFF		
#9.19	1.0	1 seconds	Adjustable
Relay Output			Term 41-42
#8.27 <sup>2</sup>	9.02	Output of Gate 2-Flasher	Relay source
#8.17 <sup>3</sup>	On or Off	Invert if necessary	

<sup>1</sup> Normally you would set #9.19 to ½ of #9.09. Parameter #9.09 must be greater than #9.19. Parameter #9.09 must not be equal to #9.19 for proper operation.

<sup>2</sup> This value ( location ) would change if an I/O Lite module were used as that relay source location is different. See page 3

<sup>3</sup> You may need to invert so that the light or beeper is off when maintenance is NOT due.

### Testing

In order to test the Flasher, one could simply set #6.19 = On to simulate that Maintenance is due.

In order to initially setup this timer, you must enter a non-zero value into #6.18 then toggle #6.19 ( set to On then back to Off ). Parameter #6.27 should go to your number of Hours you set into #6.18.

**Questions ?? Ask the Author:**

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