TECHNICAL NOTE NO. 11

2003-11-11

Setting blocking functions on the M3000

When setting up alarms on the M3000 it is sometimes useful to be able to set up an alarm blocking function. For example, most pressure alarms from an engine must be blocked until the engine has reached its normal speed. Without blocking the M3000 would report pressure alarm while the engine is off duty (not running).

If the M3000 has an EPROM Date of 250303 (25th March, 2003) or newer, two blocking functions are available, which means that you can block on two different conditions. If the EPROM date is older only one blocking function is available.

The first alarm blocking function can be activated using the M3092 Programmer. The General Parameter "Block" should be activated and the alarms to block should be set using a "Blocking Flag" in the Alarm section.

The second blocking function must at the moment be entered from the M3000 front panel keyboard. In a later revision of the M3092 Programmer it will also be possible to activate the second blocking function from the programme.
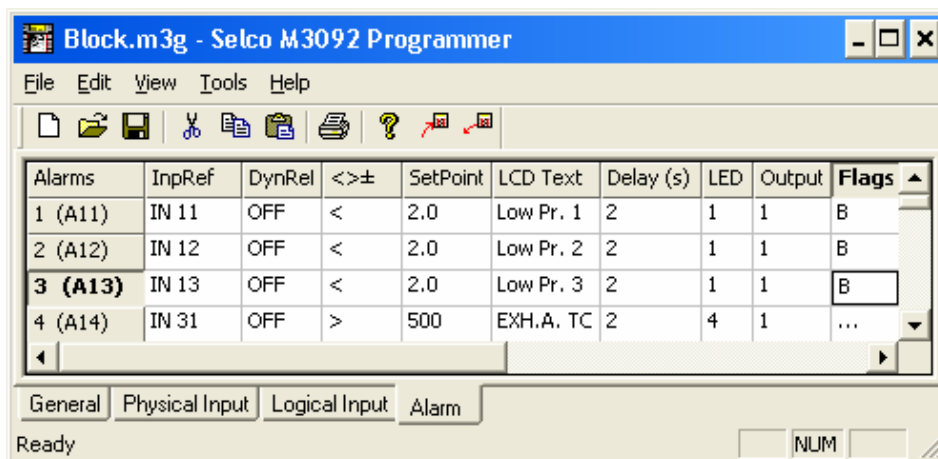
First alarm blocking function

In the General Pane the "Block" parameter can be set. In order to set the parameter from the program the M3000 must be dated 190301 (19 March 2001) or newer. If the date is older than that, the parameter must be entered from the font panel keyboard as described in the M3096 User's Manual.
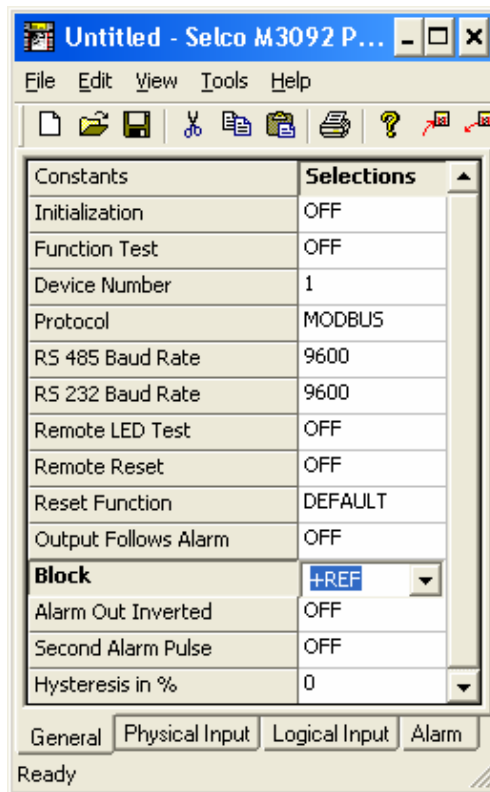
Selecting "+REF" or "-REF" will make the alarm block function available. Selecting "+REF" will cause all alarms with a "Block" flag to be blocked, when input 1 of group 8 (IN81) is connected to + of the supply voltage. Selecting "-REF" will cause alarms with a blocking flag to be blocked, when input 1 of group 8 (IN81) is connected to GND.
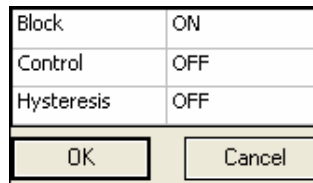
There are three "flags" which can be set ON or OFF using the "Flags" parameter in the alarm section. The "Block" flag represents the status of the alarm blocking function. The related alarm will be blocked by the first block control input when it is set to "ON". Input terminal 1 of group 8 is the first block control input as described above.

Alarms	InpRef	DynRel	<>±	SetPoint	LCD Text	Delay (s)	LED	Output	Flags
1 (A11)	IN 11	OFF	<	2.0	Low Pr. 1	2	1	1	B
2 (A12)	IN 12	OFF	<	2.0	Low Pr. 2	2	1	1	B
3 (A13)	IN 13	OFF	<	2.0	Low Pr. 3	2	1	1	B
4 (A14)	IN 31	OFF	>	500	EXH.A. TC	2	4	1	...

Second alarm blocking function

If the M3000 has an EPROM Date of 250303 (25th March, 2003) or newer a second alarm blocking function can be entered from the M3000 front panel keyboard (later it will be incorporated in the M3092 software).

This alarm blocking function is made available when setting the value of constant 18 in group "A" different from "0". Setting the constant to "1" will cause all alarms with a "Block 2" flag to be blocked, when input 1 of group 7 (IN71) is connected to + of the supply voltage. Setting the constant to "2" will cause alarms with a "Block 2" flag to be blocked, when input 1 of group 7 (IN71) is connected to GND.

The "Block2" flag represents the status of the second alarm blocking function. The related alarm will be blocked by the second block control input when this flag is set. Input terminal 1 of group 7 is the second block control input as described above.

This flag is bit number 3 of the "Flags" parameter. The 8 bits of the "Flag" parameter are numbered 0 to 7, number 0 being the bit furthest to the right.

Step-by-step procedure

In the following it is described how to activate the second alarm blocking function from the keyboard by setting General A18 to 1 and how set to the "Block 2" flag for Alarm no. 1.

Setting General Constant 18:

1. On the rear side, switch from alarm mode to programming mode ("PROG"). The LEDs on the front will now all go on steady light.

2. Press the M key on the front. The unit is now in a configuration mode, where you can alter various configuration parameters of the M3000. This configuration will be stored in the E²PROM. The display will now read:

   > Prg Gr:1 Inp:1
   > InpTp   20mA

3. Press the ↓ key in order to go from group 1 to group A.

   > Prg Gr:A Const
   > No:00 +   0.

4. Use the C key in order to go to the Number field:

   > Prg Gr:A Const
   > No:00 +   0.

5. Press the ↑ key a number of times in order to go to "Const No 18":

        Prg Gr:A Const
        No:18   +   0.

6. Use the C key in order to go to the next field:

        Prg Gr:A Const
        No:18 +   0.

7. Use the numeric keys in order to change the constant to 1 (for +REF):

        Prg Gr:A Const
        No:18 +   1.

Setting the "Block 2" flag for Alarm no. 1:

1. Press the M key twice. The display will now read:

        Prg Gr:1 Inp: 1
        InpTp   20mA

2. Use the C key in order to go to the Input field:

        Prg Gr:1 Inp:1
        InpTp   20mA

3. Press the ↑ key a number of times until the display reads:

        Prg Gr:1 Alr:1
        Text: Low Pr. 1

4. Use the C key in order to go to the Parameter field:

        Prg Gr:1 Alr:1
        Text: Low Pr. 1

5. Press the ↑ key a number of times until the display reads:

        Prg Gr:1 Alr:1
        Flags 00000000

6. Use the C key in order to go to the Flag bits:

        Prg Gr:1 Alr:1
        Flags 00000000

7. Use the ← key in order to go to bit 3:

        Prg Gr:1 Alr:1
        Flags 00000000

8. Press the ↑ key in order to change bit 3:

       Prg   Gr:1   Alr:1
       Flags 0000<u>1</u>000

9. On the rear side of the unit now switch back to alarm mode ("ALARM"). The LEDs on the front will now go off.

10. On the front, press the M key twice. The unit is now back in alarm mode.

The M3000 is now ready for use with the second alarm blocking function.

Erik Mikkelsen
Product Manager