2018 Conflict Monitor Programming

The conflict monitor typically used in all NCDOT 2070 installations is the EDI model 2018ECL-NC. The representation at the left is found in the top left corner on all the 2070 start drawings.

The 2018ECL-NC has 18 monitor channels. The default channel to load switch to function relationships are as follows:

Channel	Load Switch	Function
Channel 1	S1	Phase 1
Channel 2	S2	Phase 2
Channel 3	S4	Phase 3
Channel 4	S5	Phase 4
Channel 5	S7	Phase 5
Channel 6	S8	Phase 6
Channel 7	S10	Phase 7
Channel 8	S11	Phase 8
Channel 9	AUX S1	Overlap A
Channel 10	AUX S2	Overlap B
Channel 11	AUX S4	Overlap C
Channel 12	AUX S5	Overlap D
Channel 13	S3	Phase 2 PED
Channel 14	S6	Phase 4 PED
Channel 15	S9	Phase 6 PED
Channel 16	S12	Phase 8 PED
Channel 17	AUX S3	Spare
Channel 18	AUX S6	Spare

The channel to loadswitch relationship is fixed in the cabinet hardware. The loadswitch function can be changed in the controller software. Loadswitches AUX S1-AUX S6 are on the auxiliary output file.

Features:

Ⓐ Remove diode jumper note - for any two movements to be allowed to run concurrently, the corresponding diode jumper must be removed on the monitor card. This includes not only phases that can run concurrently, but also any ped or overlap that can run at the same time. Any permissible combination that does not have the corresponding jumper removed will result in an unwarranted conflict fault and place the intersection in flash. Conversely, removing a jumper representing a movement that should not be allowed creates a dangerous scenario where a true conflict can go undetected. This note lists the jumpers that should be removed on the monitor card.
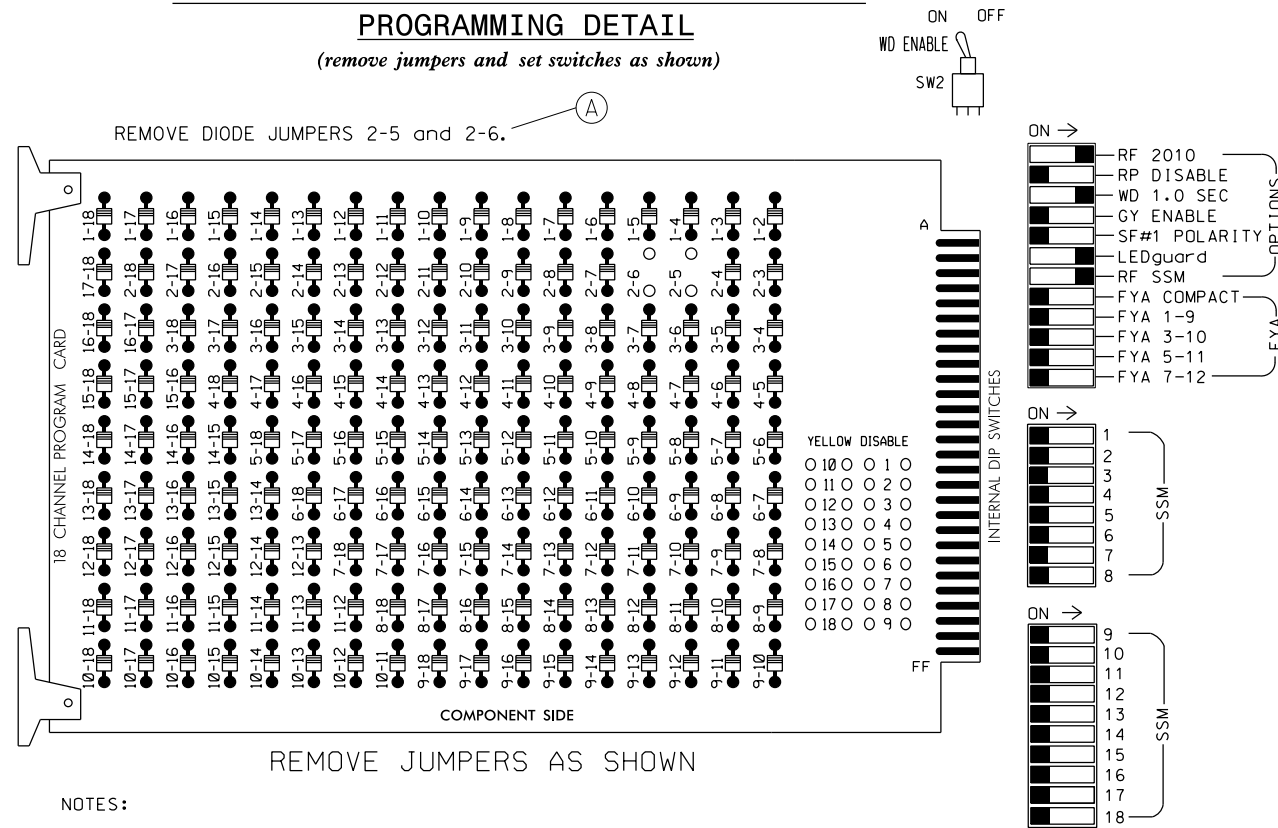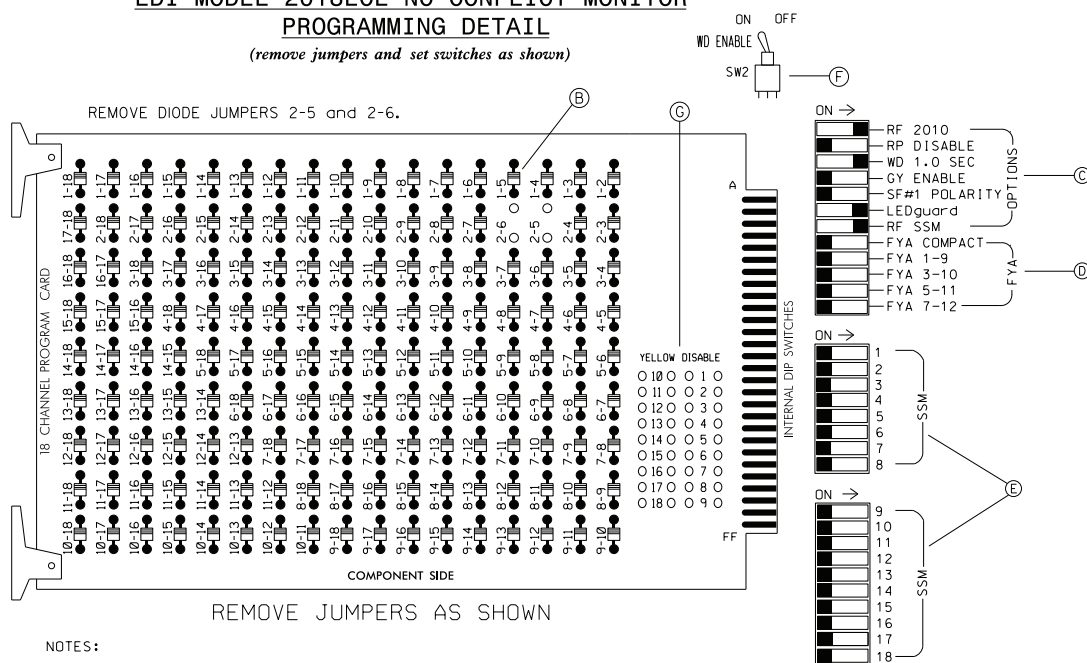

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-5 and 2-6.   Ⓐ

ON OFF
WD ENABLE
SW2

18 CHANNEL PROGRAM CARD

COMPONENT SIDE

REMOVE JUMPERS AS SHOWN

ON →
RF 2010
RP DISABLE
WD 1.0 SEC
GY ENABLE
SF#1 POLARITY
LEDguard
RF SSM
— OPTIONS

FYA COMPACT
FYA 1-9
FYA 3-10
FYA 5-11
FYA 7-12
— FYA

ON →
1
2
3
4
5
6
7
8
— SSM

ON →
9
10
11
12
13
14
15
16
17
18
— SSM

INTERNAL DIP SWITCHES

YELLOW DISABLE

■ = DENOTES POSITION OF SWITCH

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.

2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.

3. Ensure that Red Enable is active at all times during normal operation.

4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

2018 Conflict Monitor Programming

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EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 2-5 and 2-6.

18 CHANNEL PROGRAM CARD

COMPONENT SIDE

REMOVE JUMPERS AS SHOWN

ON   OFF
WD ENABLE
SW2 — F

INTERNAL DIP SWITCHES

ON →
- RF 2010
- RP DISABLE
- WD 1.0 SEC
- GY ENABLE
- SF#1 POLARITY
- LEDguard
- RF SSM

OPTIONS — C

- FYA COMPACT
- FYA 1-9
- FYA 3-10
- FYA 5-11
- FYA 7-12

FYA — D

ON →
1
2
3
4
5
6
7
8

SSM

ON →
9
10
11
12
13
14
15
16
17
18

SSM

E

YELLOW DISABLE
O 10 O O 1 O
O 11 O O 2 O
O 12 O O 3 O
O 13 O O 4 O
O 14 O O 5 O
O 15 O O 6 O
O 16 O O 7 O
O 17 O O 8 O
O 18 O O 9 O

■ = DENOTES POSITION OF SWITCH

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.

2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.

3. Ensure that Red Enable is active at all times during normal operation.

4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

Features (cont.):

(B) Monitor card programming - the electrical detail provides a graphic representation of the monitor card after the appropriate diode jumpers have been removed as described above. This drawing should always match the remove diode jumper note directly above.

(C) Option switches - these dip switches control a variety of optional settings for the 2018ECL-NC monitor. The settings shown at left should be used for all electrical details. For more information on these options, refer to the manufacturer's operations manual.

(D) FYA switches - these switches are used to enable flashing yellow arrow monitoring using overlaps. Refer to the manufacturer's operations manual for more information on these switches.

(E) SSM switches - these switches are used to enable dual indication, red fail, and minimum yellow clearance monitoring on individual monitor channels. In general, any channel that has both a green and a yellow indication in the field should have its SSM switch set to the 'ON' position. Channels used to monitor pedestrian movements, or the green arrow exclusively for a four-section head or four-section FYA head, should be set to the 'OFF' position.

(F) Watchdog enable - enables the controller watchdog monitoring feature. If the monitor fails to sense the logic level signal being toggled by the controller, a 'WDT Error' fault will be triggered. Should always be shown in the 'ON' position.

(G) Yellow disable jumpers - this feature allows the minimum yellow change monitoring to be disabled for a channel being used for a pedestrian movement. Since NCDOT also does not monitor dual indication for peds, the SSM switches for those channels should be set to 'OFF', making the use of the yellow disable jumpers unnecessary.

(H) Notes - these four notes should appear with the conflict monitor programming detail on all 2070 electrical details. For more information on these options and conflict monitor functionality, refer to the manufacturer's operations manual.

2018 Conflict Monitor Programming

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