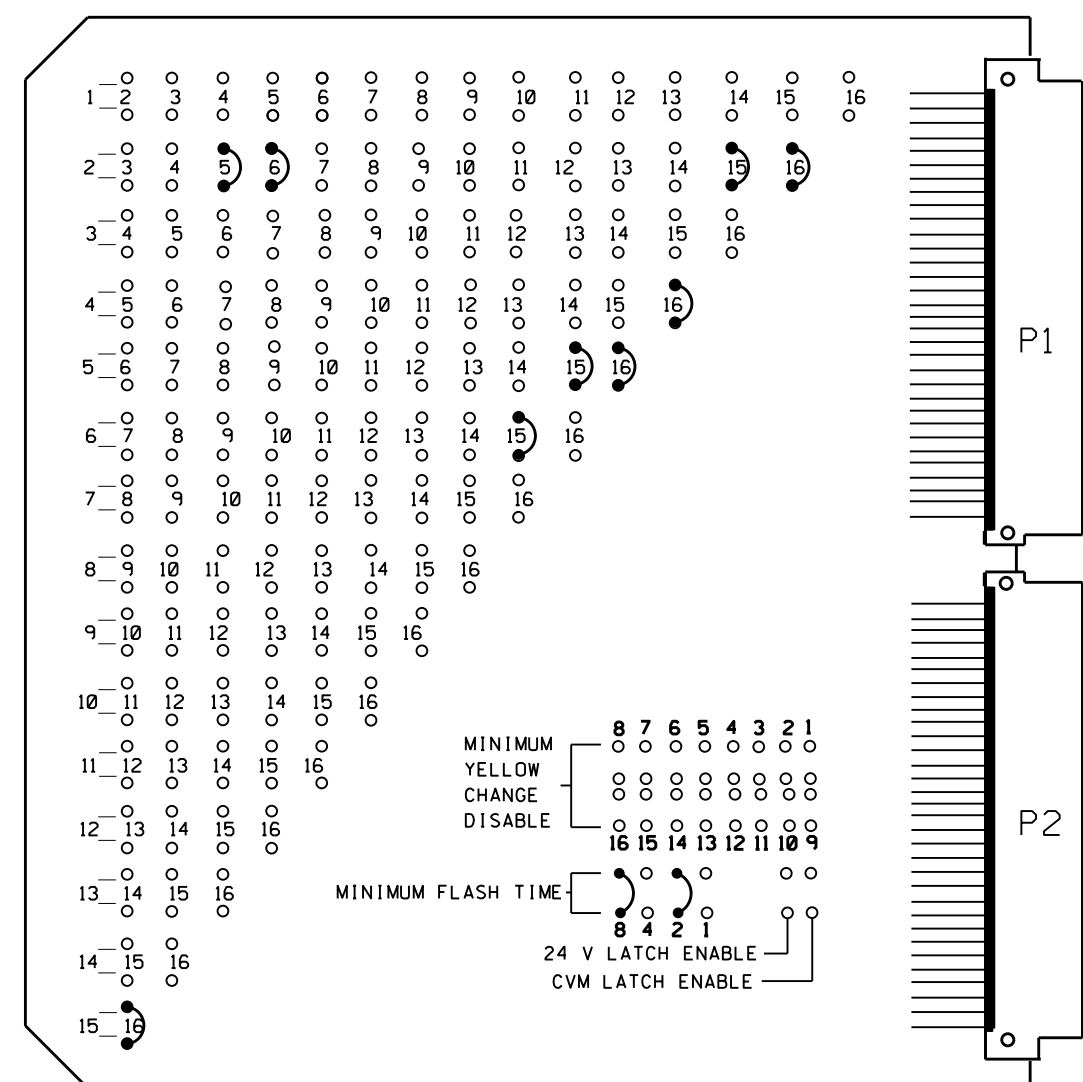


**EDI MODEL MMU2-16LEip
MALFUNCTION MANAGEMENT UNIT
PROGRAMMING DETAIL**

(program card and tables as shown below)



MMU PROGRAMMING CARD

**FIELD CHECK ENABLE
DUAL IND ENABLE
RED FAIL ENABLE**

CHANNEL NUMBER	ENABLE/DISABLE
1	DISABLE
2	ENABLE
3	DISABLE
4	ENABLE
5	DISABLE
6	ENABLE
7	DISABLE
8	DISABLE
9	DISABLE
10	DISABLE
11	DISABLE
12	DISABLE
13	DISABLE
14	DISABLE
15	ENABLE
16	ENABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLC	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	SETTING
CONFIG MODE	B
ENABLE CHANNEL PAIR, FYA	
CH 1-13	OFF
CH 3-14	OFF
CH 5-15	ON
CH 7-16	OFF
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	ON
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

MMU PROGRAMMING NOTE
ENSURE YELLOW CHANGE PLUS RED CLEARANCE MONITORING IS ENABLED FOR ALL CHANNELS.

NOTES

- To prevent "flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
- To prevent red failures on unused monitor channels, tie unused load switch red outputs 1,3,7,8,9,10,11,12,13, and 14 to load switch AC+ by inserting a jumper plug in the unused load switch socket from pin 1 (LS AC+) to pin 3 (RED out). Make sure all flash transfer relays are in place.
- Program controller to start up in phase 2 Green and 6 Green.
- Set power-up flash time to 10 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 0 seconds.
- Enable simultaneous gap-out feature for all phases.
- Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- Program detector call delay and extension timing on the controller, unless otherwise specified.
- Set all detector card unit channels to "presence" mode.
- Program phases 2 and 6 for volume density operation.
- The cabinet and controller are a part of the Cary Signal System.

SIGNAL HEAD HOOK-UP CHART

PHASE	1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED	OLA	OLB	OLC	OLD
SIGNAL HEAD NO.	NU	21,22	NU	41	51★	61,62 63	NU	NU	NU	NU	NU	NU	NU	NU	51★	42,43
RED		2R			*	6R										16R
YELLOW		2Y			*	6Y										
GREEN		2G				6G										
RED ARROW				4R												15R
YELLOW ARROW				4Y												15Y 16Y
FLASHING YELLOW ARROW																15G
GREEN ARROW				4G	5G											16G

NU = Not Used

★ See pictorial of head wiring detail this sheet.

* Denotes install load resistor. See load resistor installation detail on sheet 2.

DETECTOR RACK SET-UP DETAIL

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW.
PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

RACK #1

BIU		SLOT		SLOT		SLOT		SLOT		SLOT		SLOT	
CH1	L3	CH1	L7	CH1	L5	CH1	L9	CH1	L10	CH1	L10	CH1	L10
	∅ 4		∅ 5		∅ 5		∅ 5		NOT USED		NOT USED		NOT USED
CH2	L4	CH2	L8	CH2	L6	CH2	L10	CH2	L10	CH2	L10	CH2	L10
	NOT USED		∅ 5		∅ 2		NOT USED		NOT USED		NOT USED		NOT USED

WIRE LOOPS TO TERMINALS ON LOOP PANEL AS SHOWN IN THE CHART BELOW

PROGRAM CONTROLLER DETECTORS ACCORDING TO THE SCHEDULE SHOWN IN THE CHART BELOW

LOOP NO.	LOOP PANEL TERMINALS
NU	L1A,L1B
NU	L2A,L2B
4A	L3A,L3B
NU	L4A,L4B
5A	L5A,L5B
5A	L6A,L6B
5B	L7A,L7B
5C	L8A,L8B
5D	L9A,L9B
NU	L10A,L10B
NU	L11A,L11B
NU	L12A,L12B
NU	L13A,L13B
NU	L14A,L14B
NU	L15A,L15B
NU	L16A,L16B

CONTROLLER DETECTOR NO.	FUNCTION	TIMING	
		FEATURE	TIME (SEC)
1			
2			
3	∅ 4		
4			
5	∅ 5	DELAY	15
* 6	∅ 2	DELAY	3
7	∅ 5	DELAY	15
8	∅ 5	DELAY	15
9	∅ 5	DELAY	15
10			
11			
12			
13			
14			
15			
16			

ADD JUMPERS FROM: L5A TO L6A, AND L5B TO L6B

* Detector Type - G (remove delay from existing detector card)

SPECIAL DETECTOR NOTE

Install a video detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer-approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans for zones 2A, 2B, 5A, 6A, 6B, and 6C.

For Detection Zone 5A the equipment placement and slots reserved for wired inputs are typical for a NCDOT installation.

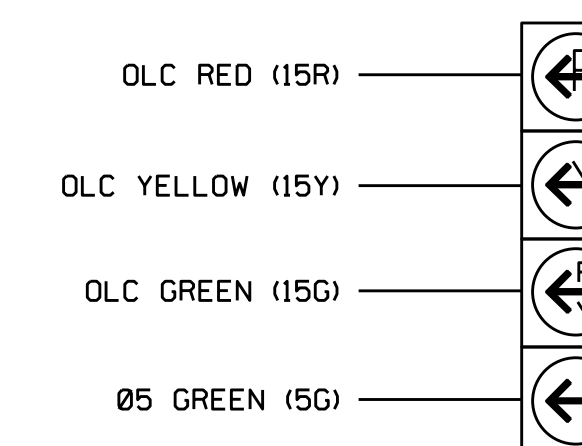
EQUIPMENT INFORMATION

CONTROLLER.....2070EN2
 CABINETNC-8 [TS-2]
 SOFTWAREECONOLITE ASC/3-2070
 CABINET MOUNT.....BASE
 LOADBAY POSITIONS.....16
 LOAD SWITCHES USED.....2,4,5,6,15,16
 PHASES USED.....2,4,5,6
 OLA.....NOT USED
 OLB.....NOT USED
 OLC.....*
 OLD.....4+5

* SEE OVERLAP PROGRAMMING DETAIL ON SHEET 2

FYA SIGNAL WIRING DETAIL

(wire signal head as shown)



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LOAD SWITCH ASSIGNMENT DETAIL

(program controller according to schedule in chart below)

LOAD SWITCH NUMBER	FUNCTION
1	∅ 1
2	∅ 2
3	∅ 3
4	∅ 4
5	∅ 5
6	∅ 6
7	∅ 7
8	∅ 8
9	∅ 2 PED
10	∅ 4 PED
11	∅ 6 PED
12	∅ 8 PED
13	OLA
14	OLB
15	OLC
16	OLD

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-1906T3
 DESIGNED: March 2019
 SEALED: 7/24/2019
 REVISED: N/A

Electrical Detail - Temp 3 (TMP Phase III, Steps A and B)
 Sheet 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR: 	SR 3015 (Airport Blvd.) at SR 1789 (Pleasant Grove Church Rd.)		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
	Prepared in the Office of: 	Division 5 Wake County Cary PLAN DATE: November 2015 REVIEWED BY: PREPARED BY: S. Armstrong REVIEWED BY:	