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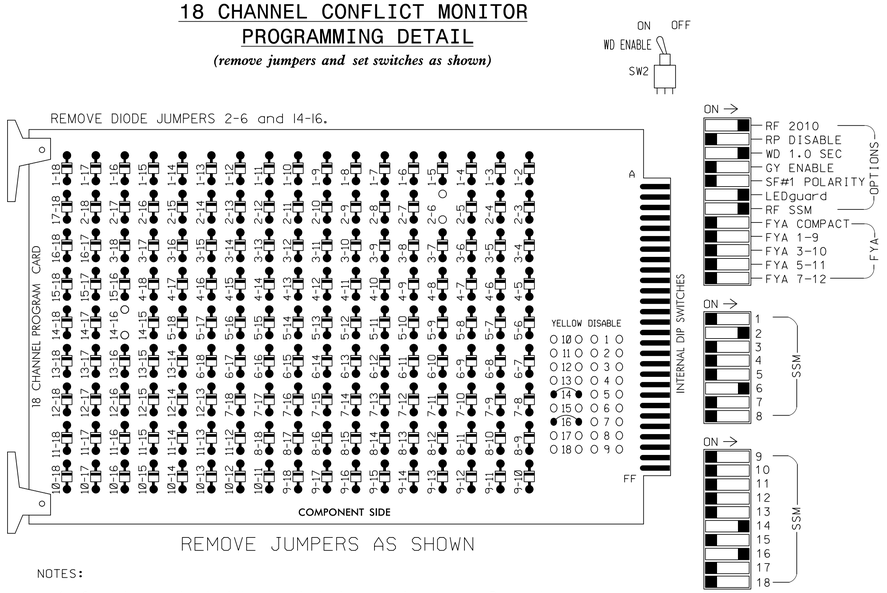
PROJECT REFERENCE NO.	SHEET NO.
U-5907	SIG. 5.1

18 CHANNEL CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



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. Integrate monitor with Ethernet network in cabinet.

■ = DENOTES POSITION OF SWITCH

NOTES

1. To prevent "flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans. Insert yellow flash program blocks for load switches S2 and S8.
2. Enable simultaneous gap-out for all phases.
3. Program Phase 2 and 6 for Rest In Walk.
4. Program phases 2 and 6 for Ped Recall.
5. Program phases 4 and 8 for PED > CLR RED.

EQUIPMENT INFORMATION

CONTROLLER.....2070LX
CABINET.....332 w/AUX
SOFTWARE.....ECONOLITE ASC/3-2070
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S2,S6,S8,S12
PHASES USED.....2,2PED*,4*,4PED,6,6PED*,8*,8PED
OVERLAPS .....NONE

* For timing purposes only

OPERATIONAL NOTES

1. In order for the controller to perform the Pedestrian Hybrid Beacon (HAWK signal) sequence, special logic programming is necessary. Refer to sheet 2 for the Econolite ASC/3-2070 Logic Processor Programming Detail.
2. For operational purposes, Phase 2 and Phase 6 both run dummy pedestrian phases that are required to produce the correct HAWK signal sequence. There are no Phase 2 or Phase 6 pedestrian heads.
3. The only Phase 6 load switch output that is being used drives one of the red signal faces of each signal head.
4. The Logic Processor flashes Phase 2 Yellow during the Phase 2 pedestrian clearance phase, and Phase 2 Yellow drives the solid Yellow signal faces during Phase 2 vehicle Yellow clear.
5. The Phase 2 and Phase 6 Red outputs drive the solid Red displays during Phase 2 and 6 Red. The Logic Processor flashes the Phase 2 and Phase 6 Red outputs in a wig-wag pattern during Phase 4+8 Ped Clear and thru Phase 4+8 vehicle Yellow and Red clear.
6. The controller must be programmed for Ped Clear Thru Red for Pedestrian Phases 4 and 8 so that the Red displays continue to flash during Phases 4 and 8 Yellow Clear and Red clear.
7. Make sure that all Phase 2 and Phase 6 timings match each other, and that all Phase 4 and Phase 8 timings match each other.
8. The Ped 4 push button is programmed to call Ped 4 and Ped 8, and the Ped 8 push button is programmed to call Ped 8 and Ped 4.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	NU	21,22 61,62	NC	NU	NC	P41, P42	NU	21,22 61,62	NC	NU	NC	P81, P82	NU	NU	NU	NU	NU	NU
RED		128						134										
YELLOW		129						*										
GREEN		*						*										
RED ARROW																		
YELLOW ARROW																		
FLASHING YELLOW ARROW																		
GREEN ARROW																		
✋						104						110						
🚶						106						112						

NU = Not Used

NC = Not Connected

* Denotes install load resistor. See load resistor installation detail this sheet.

INPUT FILE POSITION LAYOUT

(front view)

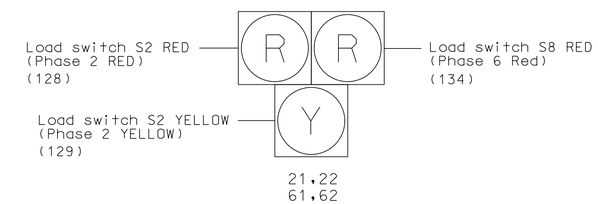
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	NOT USED	NOT USED	FS DC ISOLATOR
	L												Ø4 PED DC ISOLATOR	Ø8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

SIGNAL HEAD WIRING DETAIL

(wire signal heads as shown)

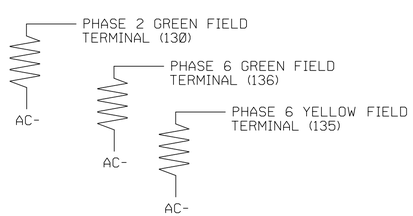


LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

ACCEPTABLE VALUES

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND TIME	DELAY TIME	ADDED INITIAL	DETECTOR TYPE
PED PUSH BUTTONS										
P41,P42	TB8-5,6	I12L	69	PED 4	4/8 PED					
P81,P82	TB8-8,9	I13L	70	PED 8	4/8 PED					

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: DAVI-1
DESIGNED: July 2023
SEALED: 9/19/2023
REVISED: N/A

Electrical Detail - Final Design
Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared For:

The Town of Davidson
College Town. Lake Town. Your Town.

Griffith Street
Pedestrian Hybrid Beacon
West of Sloan Street/
Beaty Street

Division 10 Mecklenburg Davidson

PLAN DATE: July 2023	REVIEWED BY: KP Baumann		
PREPARED BY: SP Pennington	REVIEWED BY:		
REVISIONS		INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 044434 ENGINEER KEVIN P. BAUMANN

DocuSigned by:
9/19/2023
SIGNATURE DATE

SIG. INVENTORY NO. DAVI-1

PLANS PREPARED IN THE OFFICE OF:
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9/19/2023 9:17:09 AM susan.pennington K:\RAL_TPTO_SIGNALS\011036360_U-5907 Potts-Sloan Ext\54 - Signal Designs\5.1 DAVI-1_2023e.dgn