



Product Type: Controllers

Reference: AN2074A

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MUTCD ASC/3 Four-Section PPLT Arrow Signal for Type 12 Mode

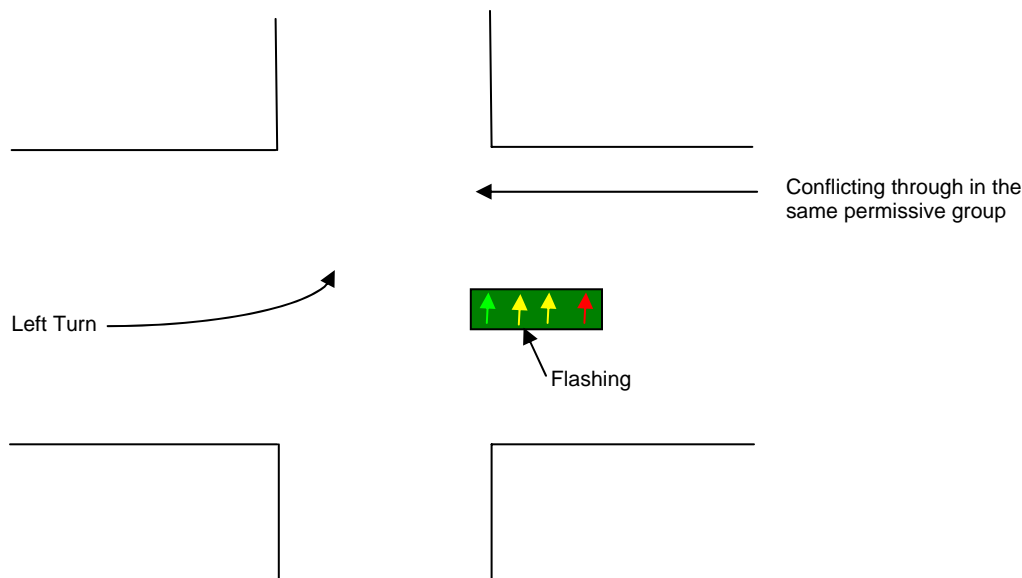
Purpose

Program the ASC/3 Logic Processor to provide MUTCD¹ Type 12 mode-flashing left yellow left turn signal indication.

Introduction

This operation is used for Protected-Permissive Left Turns (PPLT) that are equipped with a four-section left turn arrow signal, as described and illustrated below:

- Red Arrow is on top and is illuminated when the Green, Yellow or Flashing Yellow is not illuminated.
- Yellow arrow is second from the top and is illuminated when the left turn or the conflicting through in the same permissive group is yellow.
- Flashing yellow arrow is third from the top and flashes when:
 - The left turn next and the conflicting through in the same permissive group is timing.
 - The conflicting through in the same permissive group is green.
- Green arrow is on the bottom and is illuminated when the left turn is green.
- The PPLT operation is selected by time-of-day and, when disabled, the left turn signal will only use the protected green, yellow and red arrows associated with the left turn. During the through movement, the signal will display red.
- Backing up from the through movement to the left turn phase is prohibited during the protected /permissive operation.



¹ MUTCD = Manual on Uniform Traffic Control Devices



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Applications

Controller Programming

Program the controller as follows:

Normal 8-phase quad sequence

Enable phase 1-8 (MM-1-2)

Program Overlaps A thru D (MM-2-2):

- Overlap A (OLA) = Included phase 2. The green will be used by the Logic Processor for the flashing yellow arrow for phase 1
- Overlap B (OLB) = Included phase 4. The green will be used by the Logic Processor for the flashing yellow arrow for phase 3
- Overlap C (OLC) = Included phase 6. The green will be used by the Logic Processor for the flashing yellow arrow for phase 5
- Overlap D (OLD) = Included phase 8. The green will be used by the Logic Processor for the flashing yellow arrow for phase 7

TMG	VEH	OVLP...	[A]	TYPE-	OTHER														
PHASES	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6			
INCLUDED	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PROTECT
MODIFIER
PED PRTC
NO SERVE
FLSH GRN
LAG X PH
LAG 2 PH
LAG GRN 0.0 YEL 0.0 RED 0.0 ADV GRN 0.0																			

Overlap A programming (overlaps B thru D are similar.)

Logic Processor Programming

Use screen MM-1-8-2 to program the Logic Processor for Step 1 thru Step 16 (LP1 thru LP16), as shown on the subsequent pages.

You can use other LP steps (for example, LP21 thru LP36) as an alternative to LP1 thru LP16.



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Phase 1

LP 1

IF	OVERLAP GREEN	1 IS ON
AND	PHASE TIMING	2 IS ON
AND	PHASE TIMING	5 IS OFF
AND	LOGIC FLAG	1 IS ON
THEN	SET PHASE PED CLR	2 ON
	DELAY FOR	0.5 SECONDS
	SET LOGIC FLAG	1 OFF
ELSE	SET PHASE PED CLR	2 OFF
	DELAY FOR	0.5 SECONDS
	SET LOGIC FLAG	1 ON

LP 2

IF	OVERLAP YELLOW	1 IS ON
THEN	SET PHASE YELLOW	1 ON
	SET PHASE RED	1 OFF

LP 3

IF	OVERLAP GREEN	1 IS ON
OR	OVERLAP GRN EXT	1 IS ON
AND	PHASE TIMING	5 IS OFF
THEN	SET PHASE RED	1 OFF

LP 4

IF	PHASE TIMING	2 IS ON
THEN	OMIT PHASE	1 ON



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Phase 3

LP 5

IF	OVERLAP GREEN	2 IS ON	
AND	PHASE TIMING	4 IS ON	
AND	PHASE TIMING	7 IS OFF	
AND	LOGIC FLAG	2 IS ON	
THEN	SET PHASE PED CLR	4	ON
	DELAY FOR	0.5 SECONDS	
	SET LOGIC FLAG	2	OFF
ELSE	SET PHASE PED CLR	4	OFF
	DELAY FOR	0.5 SECONDS	
	SET LOGIC FLAG	2	ON

LP 6

IF	OVERLAP YELLOW	2 IS ON	
THEN	SET PHASE YELLOW	3	ON
	SET PHASE RED	3	OFF

LP 7

IF	OVERLAP GREEN	2 IS ON	
OR	OVERLAP GRN EXT	2 IS ON	
AND	PHASE TIMING	7	OFF
THEN	SET PHASE RED	3	OFF

LP 8

IF	PHASE TIMING	4 IS ON	
THEN	OMIT PHASE	3	ON



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Phase 5

LP 9

IF	OVERLAP GREEN	3 IS ON	
AND	PHASE TIMING	6 IS ON	
AND	PHASE TIMING	1 IS OFF	
AND	LOGIC FLAG	3 IS ON	
THEN	SET PHASE PED CLR	6	ON
	DELAY FOR	0.5	SECONDS
	SET LOGIC FLAG	3	OFF
ELSE	SET PHASE PED CLR	6	OFF
	DELAY FOR	0.5	SECONDS
	SET LOGIC FLAG	3	ON

LP 10

IF	OVERLAP YELLOW	3 IS ON	
THEN	SET PHASE YELLOW	5	ON
	SET PHASE RED	5	OFF

LP 11

IF	OVERLAP GREEN	3 IS ON	
OR	OVERLAP GRN EXT	3 IS ON	
AND	PHASE TIMING	1 IS OFF	
THEN	SET PHASE RED	5	OFF

LP 12

IF	PHASE TIMING	6 IS ON	
THEN	OMIT PHASE	5	ON



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Phase 7

LP 13

IF	OVERLAP GREEN	4 IS ON	
AND	PHASE TIMING	8 IS ON	
AND	PHASE TIMING	3 IS OFF	
AND	LOGIC FLAG	4 IS ON	
THEN	SET PHASE PED CLR	8	ON
	DELAY FOR	0.5 SECONDS	
	SET LOGIC FLAG	4	OFF
ELSE	SET PHASE PED CLR	8	OFF
	DELAY FOR	0.5 SECONDS	
	SET LOGIC FLAG	4	ON

LP 14

IF	OVERLAP YELLOW	4 IS ON	
THEN	SET PHASE YELLOW	7	ON
	SET PHASE RED	7	OFF

LP 15

IF	OVERLAP GREEN	4 IS ON	
OR	OVERLAP GRN EXT	4 IS ON	
AND	PHASE TIMING	3 IS OFF	
THEN	SET PHASE RED	7	OFF

LP 16

IF	PHASE TIMING	8 IS ON	
THEN	OMIT PHASE	7	ON

MMU Monitoring

The MMU must be configured for the FYA Type 12 mode of operation with the MMU monitoring the Flashing yellow arrow on the yellow output of the pedestrian load switches.