SPECIFICATIONS FOR NEW PSU SOFTWARE DEVELOPMENT

1) NEW SET OF FUNCTIONS

New software set of functions are:

-R65 night flash in blue or amber or blue+amber

-R65 day flash in blue or amber or blue+amber

-ICAO flash in blue or amber or blue+amber

-CRUISE mode in blue or amber

-WHITE FRONT steady

-WHITE ALLEY RIGHT steady

-WHITE ALLEY LEFT steady

-SEQUENTIAL scrolling right

-SEQUENTIAL scrolling left

-SEQUENTIAL scrolling from center to both sides

-SEQUENTIAL alternating flash left/right

-SEQUENTIAL full flashing on/off

-R65 night flash special pattern blue+red

-R65 day flash special pattern blue+red

2) ACTIVATION/DEACTIVATION OF FUNCTIONS USING CANBUS

The previous functions can be activated/deactivated using the following canbus commands (X → don't care):

-R65 blue flash in night mode can be turned on using the following canbus message

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x02	X	X	X	X	X	X

-R65 blue flash in day mode can be turned on using the following canbus message

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x01	X	X	X	X	X	X

-Blue cruise mode can be turned on using the following canbus message

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x03	X	X	X	X	X	X

-Special pattern R65 Blue+Red in night mode can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0b00100010	X	X	X	X	X	X

-Special pattern R65 Blue+Red in day mode can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0b00100001	X	X	X	X	X	X

-ICAO Blue pattern can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0b01000001	X	X	X	X	X	X

-To turn Blue flash OFF use the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x00	X	X	X	X	X	X

-R65 Amber night flash mode can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x00	0x02	X	X	X	X	X

-R65 Amber day flash mode can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x00	0x01	X	X	X	X	X

-ICAO amber flash mode can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0b01000000	0x01	X	X	X	X	X

-Cruise in amber can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x00	0x03	X	X	X	X	X

-R65 flash in blue+amber night mode can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x02	0x02	X	X	X	X	X

-R65 flash in blue+amber day mode can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x01	0x01	X	X	X	X	X

-ICAO flash in blue+amber mode can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0b01000001	0x01	X	X	X	X	X

-To turn OFF amber flashing, use the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	0x00	0x00	X	X	X	X	X

-WHITE front steady can be turned ON using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	X	X	0x01	X	X	X	X

-WHITE front steady can be turned OFF using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	X	X	0x00	X	X	X	X

-WHITE alley left can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	X	X	X	0x02	X	X	X

-WHITE alley right can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	X	X	X	0x01	X	X	X

-WHITE alley left+right can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	X	X	X	0x03	X	X	X

-WHITE alley can be turned OFF using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	X	X	X	0x00	X	X	X

-SEQUENTIAL ALTERNATING LEFT/RIGHT can be turned ON with one of the following commands:

(both are VALID):

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	X	X	X	X	0x01	X	X

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x506	8	0x41	X	X	X	X	X	X	0x04

The following response message should be sent back to the controller:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x500	8	0x56	0xFF	X	X	X	X	X	0x04

-SEQUENTIAL ALTERNATING can be turned OFF with one of the following commands

(both are VALID):

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x504	8	0x54	X	X	X	X	0x00	X	X

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x506	8	0x41	X	X	X	X	X	X	0x00

The following response message should be sent back to the controller:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x500	8	0x56	0xFF	X	X	X	X	X	0x00

-SEQUENTIAL SCROLLING RIGHT can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x506	8	0x41	X	X	X	X	X	X	0x03

The following response message should be sent back to the controller:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x500	8	0x56	0xFF	X	X	X	X	X	0x03

-SEQUENTIAL SCROLLING LEFT can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x506	8	0x41	X	X	X	X	X	X	0x01

The following response message should be sent back to the controller:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x500	8	0x56	0xFF	X	X	X	X	X	0x01

-SEQUENTIAL SCROLLING FROM CENTER TO BOTH SIDES can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x506	8	0x41	X	X	X	X	X	X	0x02

The following response message should be sent back to the controller:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x500	8	0x56	0xFF	X	X	X	X	X	0x02

-SEQUENTIAL FULL FLASHING can be activated using the following command:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x506	8	0x41	X	X	X	X	X	X	0x05

The following response message should be sent back to the controller:

ID	DLC	D0	D1	D2	D3	D4	D5	D6	D7
0x500	8	0x56	0xFF	X	X	X	X	X	0x05

3) ACTIVATION/DEACTIVATION OF FUNCTIONS USING ANALOG INPUTS

The previous functions can be activated/deactivated also using a combination of analog inputs:

	IN101	IN102	IN103	IN104	IN105	IN106	IN107	IN108
R65 Blue Night mode	ON	OFF	OFF	OFF	X	X	X	X
R65 Blue Day mode	OFF	ON	OFF	OFF	X	X	X	X
Cruise Blue	OFF	OFF	ON	OFF	X	X	X	X
R65 Amber night mode	OFF	OFF	OFF	ON	X	X	X	X
R65 Amber day mode	OFF	ON	OFF	ON	X	X	X	X
Cruise amber	OFF	OFF	ON	ON	X	X	X	X
R65 Blue+Amber Night mode	ON	OFF	OFF	ON	X	X	X	X

R65 Blue+Amber day mode	ON	OFF	ON	ON	X	X	X	X
ICAO blue	OFF	ON	ON	OFF	X	X	X	X
ICAO amber	OFF	ON	ON	ON	X	X	X	X
ICAO blue+amber	ON	OFF	ON	OFF	X	X	X	X
R65 blue flash+red night mode	ON	ON	OFF	ON	X	X	X	X
R65 blue flash+red day mode	ON	ON	ON	OFF	X	X	X	X
WHITE front	X	X	X	X	ON	OFF	OFF	OFF
WHITE alley left	X	X	X	X	OFF	ON	OFF	OFF
WHITE alley right	X	X	X	X	OFF	OFF	ON	OFF
WHITE front+alley left	X	X	X	X	ON	ON	OFF	OFF
WHITE front+alley right	X	X	X	X	ON	OFF	ON	OFF
WHITE alley left+alley right	X	X	X	X	OFF	ON	ON	OFF
SEQUENTIAL scrolling left	X	X	X	X	ON	OFF	OFF	ON
SEQUENTIAL scrolling center sides	X	X	X	X	ON	OFF	ON	ON
SEQUENTIAL scrolling right	X	X	X	X	OFF	OFF	ON	ON
SEQUENTIAL alternate	X	X	X	X	OFF	ON	OFF	ON

flashing

SEQUENTI AL flashing full	X	X	X	X	ON	ON	ON	ON

4) PINOUT DIAGRAM
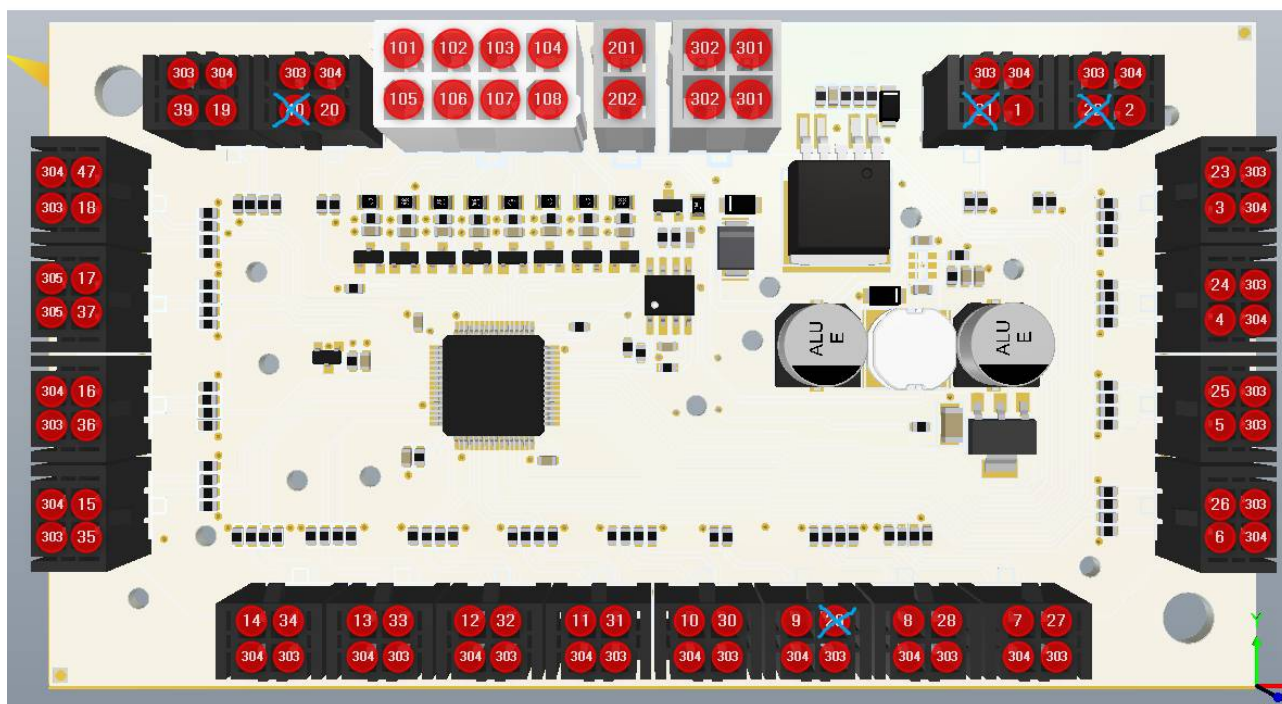
PIN	FUNCTION		PIN	FUNCTION
20	FLASH BLUE/AMBER left side		10	FLASH BLUE/AMBER right side
19	FLASH BLUE/AMBER left side		30	FLASH BLUE/AMBER right side
39	FLASH BLUE/AMBER left side		9	FLASH BLUE/AMBER right side
47	FLASH BLUE/AMBER left side		8	FLASH BLUE/AMBER right side, sequential modulo 5
18	FLASH BLUE/AMBER left side		28	FLASH BLUE/AMBER right side, sequential

			modulo 6
17	FLASH BLUE/AMBER, ALLEY WHITE LEFT	7	FLASH BLUE/AMBER right side, sequential modulo 7
37	FLASH BLUE/AMBER, ALLEY WHITE LEFT	27	FLASH BLUE/AMBER right side, sequential modulo 8
16	FLASH BLUE/AMBER left side, WHITE FRONT	6	FLASH BLUE/AMBER right side, flash RED
36	FLASH BLUE/AMBER left side, WHITE FRONT	26	FLASH BLUE/AMBER right side, flash RED
15	FLASH BLUE/AMBER left side, flash RED	5	FLASH BLUE/AMBER right side, WHITE FRONT
35	FLASH BLUE/AMBER left side, flash RED	25	FLASH BLUE/AMBER right side, WHITE FRONT
14	FLASH BLUE/AMBER left side, sequential modulo 1	4	FLASH BLUE/AMBER, ALLEY WHITE RIGHT
34	FLASH BLUE/AMBER left side, sequential modulo 2	24	FLASH BLUE/AMBER, ALLEY WHITE RIGHT
13	FLASH BLUE/AMBER left side, sequential modulo 3	3	FLASH BLUE/AMBER right side
33	FLASH BLUE/AMBER left side, sequential modulo 4	23	FLASH BLUE/AMBER right side
12	FLASH BLUE/AMBER left side	2	FLASH BLUE/AMBER right side
32	FLASH BLUE/AMBER left side	1	FLASH BLUE/AMBER right side
11	FLASH BLUE/AMBER left side		
31	FLASH BLUE/AMBER left side		