PRODUCT USER GUIDE

Pulsar Illuminator

Rev: C6

PLEASE READ THIS USER GUIDE BEFORE INSTALLING, OPERATING OR PERFORMING MAINTENANCE ON THE ILLUMINATOR UNIT

c UL us LISTED E357731

CE

FOR INDOOR USE ONLY

WEATHER RESISTANT ENCLOSURE AVAILABLE

LED 50,000 hrs

MADE IN U.K. PREMIUM QUALITY

INTRODUCTION

Thank you for purchasing this UFO illuminator/luminaire.

To ensure that the illuminator is set up optimally and gives a long service life, please read this user guide before installing, operating or performing any maintenance on the unit.

Please keep this User Guide for future reference. This User Guide is laid out in three sections

Installation -details on how to connect your luminaire
Operation - details how to programme and set up your luminaire
Maintenance - maintenance log, troubleshooting guide, technical specification

MODELS COVERED BY THIS USER GUIDE

UFO PUL DMX (PULSAR RGBW integral DMX, 0-10V, 1-10V & manual control)
UFO PUL DMX-R (PULSAR RGBW integral DMX, 0-10V, 1-10V & manual control + RF remote)
UFO PUL DMX-T (PULSAR RGBW integral DMX, 0-10V, 1-10V & manual control + twinkle wheel)
UFO PUL DMX-TR (PULSAR RGBW integral DMX, 0-10V, 1-10V & manual control + RF remote and twinkle wheel

IMPORTANT

This product must be installed in accordance with the applicable installation code, by a person familiar with the construction and operation of the product, and the hazards involved.

These illuminators are not mains dimmable.

The LED array and heatsink in this illuminator can be replaced when it reaches end of life. Contact UFO for details.

Type Y Attachment: If the external flexible cable or cord of this luminaire or associated PSU/driver is damaged, it shall be exclusively replaced by the manufacturer or his service agent or a similar qualified person to avoid a hazard.

Location: Do not locate this illuminator closer than 200mm from any flammable surface.

Clearance / Ventilation: It is imperative that a gap of 200mm is left around the unit. This is to allow air to circulate and prevent overheating. The location must have free ventilation and must not have an ambient temperature higher than that specified for the luminaire.

Mounting: This luminaire comes with an integral mounting plate for securing the unit to a vertical or horizontal surface. Refer to the instruction sheet supplied with the plate.

Warning: Never look directly at the luminaire through the fiber port of the illuminator.

Warning: The luminaire should be positioned so that prolonged staring into the luminaire at a distance closer than 2.7 metres is not expected.

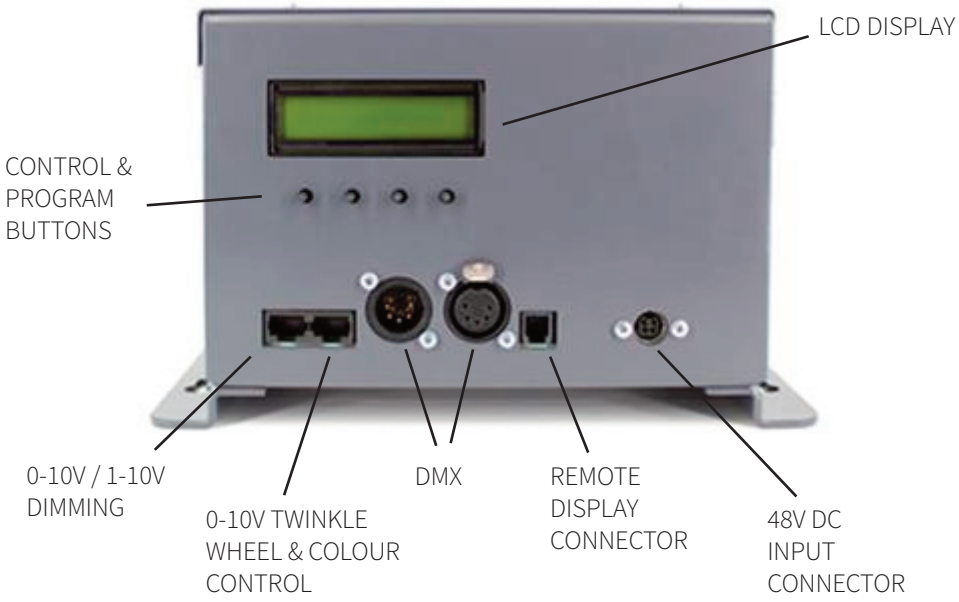
Warning: NEVER hot plug (connect or disconnect while powered up) the DC connector on the rear of the illuminator as this may cause arcing of the DC current and damage the luminaire.

OVERVIEW

The PULSAR is a 150W RGBW LED Illuminator with optional decorative twinkle wheel capability. The PULSAR LED Illuminator driver PCB has all the control functionality fitted as standard. The following control functionality is available via rear panel connections, push buttons and LCD display.

1. Manual dimming using rear panel push button controls with status display
2. 0-10V (current source -receiving) dimming
3. 0-10V (current source –receiving) color change
4. 0-10V (current source –receiving) decorative twinkle wheel speed
5. 1-10V (current sink -sending) dimming
6. DMX dimming – 6 channels (red, green, blue, white, twinkle wheel control, initialise / reset / LED / fan on and off)
7. Manual decorative twinkle wheel motor control
8. Standalone decorative programmes with bi-directional variable wheel speed control
9. Master slave functionality – one PULSAR acting as master controlling slave PULSAR luminaires via DMX links

The PULSAR LED Illuminator is powered from a multifunction, multi-voltage, external 48V Class I LED desk top style power supply unit. This PSU is an IEC input device catering for UK, European and USA mains supplies using the relevant power cord.



CONNECTION - FOR MANUAL OPERATION

There are two connections required – the fiber port and the power supply connections. The fiber port should be connected first before the mains supply. Connect and secure the fiber optic connector into the collar and the front of the unit and secure using the M5 knurled locking screw. Ensure the fiber optic connector is fully inserted before tightening the locking screw.

Never run the luminaire with the fiber optic connector out of the collar.

Plug the 48V DC IEC power supply connector into the IEC PULSAR's 48V DC INPUT socket, and then plug the mains connector into a local mains supply and switch on power.

The mains indicator on the PSU will illuminate and, after the PULSAR has gone through a short initialisation sequence, the illuminator is ready for use.

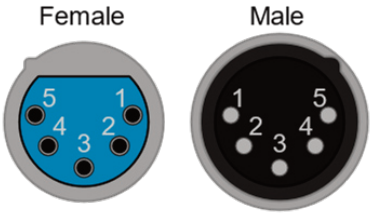
If no light is produced consult the OPERATION and TROUBLESHOOTING sections, later in this manual.

CONNECTION - FOR DMX REMOTE CONTROL & DMX MASTER / SLAVE OPERATION

There are three connections required – the fiber port, the DMX cables and the mains supply cable. The fiber port should be connected first before the mains supply. Connect and secure the fiber optic connector into the collar and the front of the unit and secure using the M5 knurled locking screw. Ensure the fiber optic connector is fully inserted before tightening the locking screw.

Never run the luminaire with the fiber optic connector out of the collar.

Wire up using the DMX cable from the DMX control system. Solder the cables to the 5 pin XLR male and female plug and socket using pin outs as detailed below and plug in to the connectors on the rear of the luminaire.



Pin	Description
1	Ground/Shield
2	Data - (cold)
3	Data + (hot)
4	Not used
5	Not used

Plug the 48V DC IEC power supply connector into the PULSAR's 48V DC INPUT socket, then plug the mains connector into a local mains supply and switch on power. The mains indicator on the PSU will illuminate and, after the PULSAR has completed a short initialisation sequence, the illuminator is ready for use.

If no light is produced consult the OPERATION and TROUBLESHOOTING sections, later in this manual.

DMX NOTES

- Always use an approved DMX cable
- Always "daisy chain" a DMX cable or universe
- Never use a T joint on a DMX cable or universe, unless using and approved interface or splitter
- Never connect more than 30 devices to a single DMX universe unless using and approved interface or splitter
- Always terminate the last device on a DMX universe by connecting a 120 ohm resistor across DMX+ and DMX- across the last output connector
- This is a 6 channel DMX device always leave 5 channels free when addressing multiple PULSAR luminaires i.e. address 001, 007, 013 etc.
- For master/slave operation all slaves must be connected together and to the master PULSAR

If there is no DMX data being received at a PULSAR illuminator the display will indicate "No DMX" as shown in the example below for address 001

CONNECTION - FOR 0-10V (CURRENT SOURCE) OPERATION

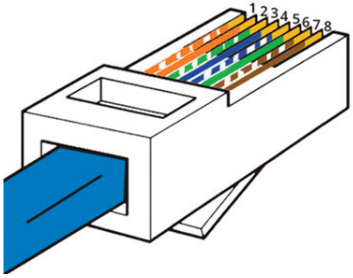
For current source operation, the inputs to the PULSAR require an external control voltage between 0V and 10V DC.

In all PULSAR versions 0-10V control of dimming and color is available via the RJ45 sockets. In Twinkle Wheel PULSAR versions, 0-10V control of the twinkle wheel is also available.

Three/four connections are required for 0-10V control – the fiber port, one or two 0-10V cable(s) and the mains supply cable.
The fiber port should be connected first, before the mains supply. Connect and secure the fiber optic connector into the collar and on the front of the unit and secure using the M5 knurled locking screw. Ensure the fiber optic connector is fully inserted before tightening the locking screw.

Never run the luminaire with the fiber optic connector out of the collar.

Wire up and connect RJ45 plug(s) to the RJ45 connector(s) on the rear of the luminaire using pin outs as detailed below. The left hand RJ45 connector controls dimming, the right-hand connector controls the twinkle wheel motor and color.



Pin	Wire Color
1	White / Orange
2	Orange
3	White / Green
4	Blue
5	White / Blue
6	Green
7	White / Brown
8	Brown

RJ45 CONNECTOR (LEFT HAND) - DIMMING

RJ45 Pin No	Wire Color	Polarity	Function
5	White / Blue	+VE Positive	Positive 0-10V Current Source Dimming
8	Brown	-VE Negative	Negative (0V) Current Source Dimming

RJ45 CONNECTOR (RIGHT HAND) - DECORATIVE WHEEL CONTROL

RJ45 Pin No	Wire Color	Polarity	Function
3	White / Green	+VE Positive	Positive 0-10V Current Source Twinkle Wheel
5	White / Blue	+VE Positive	Positive 0-10V Current Source Color
8	Brown	-VE Negative	Negative (0V) Current Source Twinkle Wheel/Color

CONNECTION - FOR 0-10V (CURRENT SOURCE) OPERATION - CONTINUED

Plug the 48V DC IEC power supply connector into the PULSAR's 48V DC INPUT socket, then plug the mains connector into a local mains supply and switch on power. The mains indicator on the PSU will illuminate and, after the PULSAR has completed a short initialisation sequence, the illuminator is ready for use.

If no light is produced consult the OPERATION and TROUBLESHOOTING sections, later in this manual.

0-10V NOTES

- This is a current source 0-10V control system. The input from the 0-10V controller (source) supplies a varying control voltage between 0 and 10v to the luminaire to control the dimming and/or decorative wheel motors.
- The right-hand RJ45 connector controls both twinkle wheel (applicable models only) and color. Each requires a dedicated 0-10V control channel. If both twinkle wheel and color are to be 0-10V controlled, connect 2x 0-10V control channels to a single RJ45 connector cable (wiring as detailed above).
- A separate 0-10V control channel is required for dimming on the left hand RJ45 connector (i.e. three control channels in total, if all three functions are being 0-10V controlled).
- Always use an approved CAT5 cable.
- Ensure the 0-10V control system is powered up and supplying a control voltage.
- See 0-10V OPERATION section, later in this manual for further details.

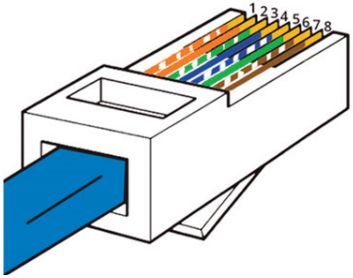
CONNECTION - FOR 1-10V (CURRENT SINK) OPERATION

This is a current sink 1-10V dimming operation. For current sink dimming, the left-hand dimming RJ45 of the PULSAR provides current flow to a remote electronic dimmer. The remote electronic dimmer modifies the current returning to the PULSAR, thus providing remote dimming control.

There are three connections required – the fiber port, the 1-10V cable and the mains supply cable. The fiber port should be connected first before the mains supply. Connect and secure the fiber optic connector into the collar and the front of the unit and secure using the M5 knurled locking screw. Ensure the fiber optic connector is fully inserted before tightening the locking screw.

Never run the luminaire with the fiber optic connector out of the collar.

Wire up and connect an RJ45 plug to the left hand RJ45 connector on the rear of the luminaire using pin outs as detailed below. Note that only the left hand RJ45 connector can be used for current sink dimming.



Pin	Wire Color
1	White / Orange
2	Orange
3	White / Green
4	Blue
5	White / Blue
6	Green
7	White / Brown
8	Brown

RJ45 CONNECTOR (LEFT HAND) - 1-10V CURRENT SINK DIMMING

RJ45 Pin No	Wire Color	Polarity	Function
3	White / Green	+VE Positive	Positive 1-10V Current Sink Dimming
8	Brown	-VE Negative	Negative (0V) Current Sink Dimming

CONNECTION - FOR 1-10V (CURRENT SINK) OPERATION - CONTINUED

Plug the 48V DC IEC power supply connector into the PULSAR's 48V DC INPUT socket, then plug the mains connector into a local mains supply and switch on power. The mains indicator on the PSU will illuminate and, after the PULSAR has completed a short initialisation sequence, the illuminator is ready for use.

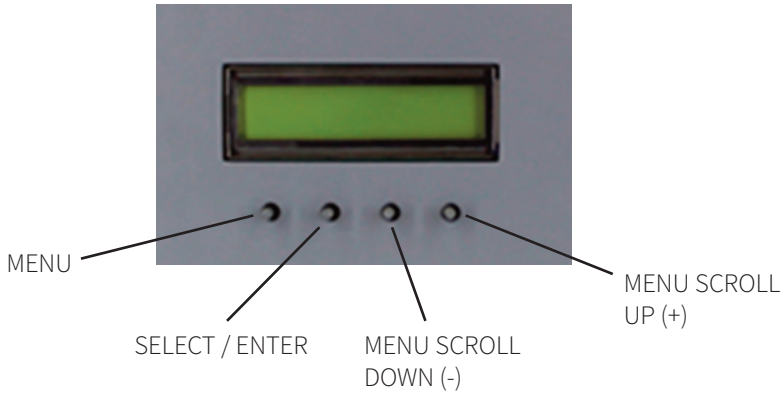
If no light is produced consult the OPERATION and TROUBLESHOOTING sections, later in this manual.

1-10V NOTES

- This is a current sink 1-10V control system. A 10V output from the PULSAR is connected via an external 1-10V current sink dimmer varying the circuit current to control the dimming
- Dimming is controlled between maximum light output and approximately 10% at minimum light output. This minimum value may vary depending on the dimmer used
- Always use an approved CAT5 cable
- Always ensure correct connection polarity
- The PULSAR 1-10V dimming system has been designed around the UFO CVD3 Current Sink Electronic Dimmer (See Accessories in Technical Specification section at end of this document)
- The CVD3 is designed to be fitted to the back of a one gang faceplate

USER CONTROLS

Operation of PULSAR models is carried out via the rear display and associated push button controls as detailed below:



POWER UP

On power up the display screen will firstly display as follows and as detailed below:

- The PULSAR firmware version
- The UFO build version
- The current status of the unit

The UFO build version is programmed at UFO during production as either Standard (no decorative wheel functions) or Twinkle. The build version must be specified when ordering the PULSAR.

STANDARD BUILD VERSION

Pulsar V0.2.011	UFO Standard	Master Dim: 100% PA01
Pulsar Firmware Version	Pulsar Build Version	Pulsar Current Status

DECORATIVE TWINKLE WHEEL BUILD VERSION

Pulsar V0.2.011	UFO Twinkle	Master Dim: 100% PA01
Pulsar Firmware Version	Pulsar Build Version	Pulsar Current Status

NOTES

- When reporting technical issues to UFO always quote the firmware version.
- The current status used as an example above depicts the illuminator configured as a DMX Master, light output 100% (undimmed), program mode PA01 set, this is the factory default setting. See section below.
- Once the luminaire is powered up, user controlled manual functions and all programming features are available via the four rear panel pushbuttons as detailed in the figure above and the in the following Programmable Function Table.

RESET / FACTORY DEFAULT

IMPORTANT NOTE: Once programmed the luminaire will always revert to the user programmed settings when power is recycled. However, if manual RESET is selected as detailed below all previous user program selections will be deleted and the luminaire will revert to the following factory default settings:

DEFAULT FACTORY SETTINGS

Item	Value
DMX Address	001
Control Mode	Master
Program	PA01
Program Step Time	5 seconds
Dimming Level	100%

MENU >> Reset options **>> SCROLL UP/DOWN** Yes **>> ENTER**

MAIN MENU	SUB MENU	DESCRIPTION	INSTRUCTIONS
DMX Address	None	Sets DMX address	Use + & - buttons to display chosen address. Press enter to select
Control Mode	Master	Allows manual control of illuminator	Press enter to select
Control Mode	DMX	Allows DMX control of illuminator	Press enter to select
Control Mode	0-10V	Allows 0-10V (current source) control of illuminator	Press enter to select
Control Mode	1-10V	Allows 1-10V (current sink) control of illuminator	Press enter to select
Control Mode	Radio	Allows RF Remote control of illuminator	Press enter to select
Select Program	PA01 to PA07	If set to Master, allows pre programmed static colors to be displayed - see MANUAL OPERATION, TABLE A, later in this manual	Use + & - buttons to display chosen color. Press enter to select
Select Program	PB01 to PB03	If set to Master, allows pre-programmed snap sequence colors to be displayed	Use + & - buttons to display chosen sequence. Press enter to select
Select Program	PC01 to PC03	If set to Master, allows pre-programmed fade sequence colors to be displayed	Use + & - buttons to display chosen sequence. Press enter to select
Program Step Time	None	If set to Master, sets the amount of time each color will display during a sequence	Use + & - buttons to display chosen time. Press enter to select
Dimming Level	None	If set to Master, allows manual dimming of light output	Use + & - buttons to display chosen light output. Enter to select
Twinkle Speed*	Stop to 4rpm	Allows manual control of decorative wheel speed	Use + & - buttons to display chosen wheel speed. Press enter to select
Reset Options	None	When set to Master, allows unit to be manually reset to factory default settings	Use + & - buttons to display YES or NO. Press enter to select
Temperature	None	Displays temperature of array	None

*Twinkle speed Main Menu option is only available on PULSAR Decorative Twinkle Wheel build versions.

MANUAL OPERATION

All PULSAR models in the range can be manually controlled in a variety of ways as detailed in the Programmable Function Table above as well as in the following sections.

NOTE

- For all manual operation modes, the luminaire must be set to Master mode
- Refer to Programmable Function Table above for Main Menu and Sub Menu availability for each model

MENU >> Control mode **>> SCROLL UP/DOWN** Master **>> ENTER**

MANUAL STANDALONE PROGRAMS

MANUAL DIMMING

With the luminaire in Master Control Mode the luminaire light output can be controlled by the Dim level menu from 0% (no light output) to 100% (maximum light output) as detailed below

MENU >> Dim level **>> SCROLL UP/DOWN AND PRESS ENTER TO SELECT DIMMING LEVEL**

MANUAL STATIC COLOURS & PREPROGRAMMED COLOUR SEQUENCES

With the luminaire in Master Control Mode, pre-programmed static colors and sequences can be selected as detailed below and in following Table A:

MENU >> Select program **>> SCROLL UP/DOWN AND PRESS ENTER TO SELECT COLOR/SEQUENCE**

MANUAL OPERATION

TABLE A - PRE-PROGRAMMED STATIC COLORS AND SEQUENCES

PROG	FUNCTION	EFFECT
PA01	White	White
PA02	Red	Red
PA03	Green	Green
PA04	Blue	Blue
PA05	Yellow	Yellow
PA06	Cyan	Cyan
PA07	Magenta	Magenta
PB01	Snap Color Change (1,2,3,4,5,6,7)	Display color for adjustable time and then 'snap' to next color
PB02	Snap Color Change (2,3,4,5,6,7)	Display color for adjustable time and then 'snap' to next color
PB03	Snap Color Change (1,2,3,4)	Display color for adjustable time and then 'snap' to next color
PC01	Fade Color Change (1,2,3,4,5,6,7)	Display color for adjustable time and then fade slowly to next color
PC02	Fade Color Change (2,3,4,5,6,7)	Display color for adjustable time and then fade slowly to next color
PC03	Fade Color Change (1,2,3,4)	Display color for adjustable time and then fade slowly to next color

The display time for the color sequences PB01 – PB03 and PC01 - PC03 can be controlled by the Program Step Time menu as detailed below:

MENU >> Program step time **>> SCROLL UP/DOWN AND PRESS ENTER TO SELECT DISPLAY TIME**

5 secs	10 secs	30 secs	1 min	2 min	5 min	10 min	30 min	60 min

MANUAL OPERATION

MANUAL TWINKLE WHEEL CONTROL

With the luminaire in Master Control Mode the wheel speed can be controlled by the Twinkle Wheel menu from Stop to 4rpm as detailed below

MENU >> Twinkle speed Stop **>> SCROLL UP/DOWN AND PRESS ENTER TO SELECT DISPLAY TIME**

Stop	0.1rpm	0.2rpm	0.3rpm	0.4rpm	0.5rpm	0.6rpm	0.8rpm	1rpm	2rpm	4rpm

DMX OPERATION

With the luminaire in DMX Control Mode all PULSAR models in the range can be DMX controlled as detailed in the Programmable Function Table above, as well as in the following sections. There are two DMX control methods available:

- DMX controller or control system
- Pulsar Master Slave configuration

DMX CONTROLLER/CONTROL SYSTEM

For all normal DMX operation modes, the luminaire DMX address must be set using the DMX Address menu and the luminaire must be set to DMX in the Control Mode sub menu as shown below.

DMX CONTROL MODE

MENU >> Control mode **>> SCROLL UP/DOWN** DMX **>> ENTER**

DMX ADDRESSING

MENU >> Select program **>> SCROLL UP/DOWN AND PRESS ENTER TO SELECT ADDRESS**

The PULSAR occupies 6 DMX channels as detailed below. When addressing multiple PULSARS:
- If they are to function together on the same DMX channels use the same address for all
- If they are to function independently always leave 5 channels free i.e. address 001, 007, 013 etc.

TABLE B - DMX CHANNELS

CHAN No.	FUNCTION	ADDRESS VALUE	DESIRED EFFECT
01	Red LED Dimming	0-255	0-100% Dimming across range
02	Green LED Dimming	0-255	0-100% Dimming across range
03	Blue LED Dimming	0-255	0-100% Dimming across range
04	White LED Dimming	0-255	0-100% Dimming across range
05	Twinkle Wheel stops at open segment	0-5	No Twinkle/maximum light
05	Twinkle Wheel Rotates Back and Forth	6-255	Twinkle effect - Ssow to fast
06	Normal - LED & Fan On	0-120	LED illuminated & fan running
06	Initialise / Reset	121-200	If held for 10 seconds
06	LED & Fan Off	201-255	LED & fan off after 30 second delay

DMX OPERATION

PULSAR MASTER/SLAVE DMX CONTROL

In PULSAR Master Slave DMX operation, a single PULSAR Master acts as a DMX controller and the slaves connected to it follow the Master luminaire manual controls and pre-programmed static colors and sequences. For Master/Slave to work:

The luminaire selected as Master must be set to Master Control Mode as shown below:

MENU >> Control mode **>> SCROLL UP/DOWN** MASTER **>> ENTER**

The luminaire(s) selected as Slave(s) must be set to DMX control mode as shown below:

MENU >> Control mode **>> SCROLL UP/DOWN** DMX **>> ENTER**

The luminaire(s) selected as Slave(s) must be set to DMX address 001 as shown below:

MENU >> Control mode **>> SCROLL UP/DOWN** DMX address 001 **>> ENTER**

The Slave luminaire(s) will now respond to the Master manual settings and pre-programmed static colors and sequences.

0-10V OPERATION

All Pulsar models in the range can be 0-10V (current source) controlled as described in the Programmable Function Table in the preceding section and as detailed in the following sections and Table C.

For all 0-10V current source operation modes the luminaire must be set to 0-10V in the Control Mode sub menu.

MENU >> Control mode **>> SCROLL UP/DOWN** 0-10V **>> ENTER**

IMPORTANT – 0-10V CONTROL FUNCTION

TWINKLE WHEEL AND COLOR CONTROL

If the PULSAR is in 0-10V control mode and the 0-10V control voltage drops below approximately 1.8V (similarly if the 0-10V controller is disconnected or switched off), control of the twinkle wheel and/or color is transferred to the PULSAR's control settings.

This allows the PULSAR's menu to control these two features if required, even while the unit is in 0-10V mode. The desired twinkle and/or color settings can be set in the PULSAR's menu and will be in control as long as the 0-10V control voltage is <1.8V (or absent).

COLOR CONTROL

With a 0-10V level of > 1.8V, the PULSAR's color output is controlled by the 0-10V controller – see Table C below.

MENU >> Control mode **>> SCROLL UP/DOWN** Control mode 0-10V **>> ENTER**

0-10V OPERATION CONT.

TABLE C - 0-10V COLOURS (ALL VOLTAGES ARE APPROXIMATE)

0-10V Value		Color
From	To	
0.0V	0.6V	Override from Pulsar menu
0.6V	1.8V	Override from Pulsar menu
1.8V	2.1V	Red
2.1V	2.5V	Amber
2.5V	3.1V	Yellow
3.1V	3.7V	Lime
3.7V	4.4V	Green
4.4V	5.0V	Dark Green
5.0V	5.6V	Cyan
5.6V	6.2V	Blue
6.2V	6.9V	Dark Blue
6.9V	7.5V	Indigo
7.5V	8.2V	Magenta
8.2V	8.7V	Pink
8.7V	9.4V	Purple
9.4V	10.0V	White

DIMMING

The 0-10V control channel dims the PULSAR's LED across the 0-10V control range (from no light at 0V to maximum light at 10V).

Important note: If the PULSAR is in 0-10V control mode and no control voltage is present on the dimming input (similarly if the 0-10V controller is disconnected or switched off), the PULSAR will not illuminate.

1-10V OPERATION

All PULSAR models in the range can be 1-10V (current sink) controlled as described in the Programmable Function Table in the preceding section and as detailed in the following sections and Table D

For all 1-10V current source operation modes the luminaire must be set to 1-10V in the Control Mode sub menu.

MENU >> Control mode **>> SCROLL UP/DOWN** Control mode 1-10V **>> ENTER**

TABLE D - 1-10V CHANNELS

CHAN No.	FUNCTION	APPLICABLE TO VERSION	CONTROL STATE	DESIRED EFFECT
01	LED Dimming	Standard & Twinkle	Minimum	10% light output
02	LED Dimming	Standard & Twinkle	Maximum	Maximum light output

NOTE: This is a current sink 1-10V dimming operation. For current sink dimming to work a compatible remote electronic dimmer must be connected to the dimming input.

PULSAR RF REMOTE CONTROL

All PULSAR models in the range can be controlled with an RF Remote Control as described in the Programmable Function Table in the preceding section and as detailed in the following sections.

For RF remote control operation, the luminaire must be set to Radio in the Control Mode sub menu.

MENU >> Control mode **>> SCROLL UP/DOWN** Control mode Radio **>> ENTER**

Description	Details	Notes
Power	2 x AAA batteries	-
Range	30 metres	Measured in free space, may be attenuated by obstructions or other RF devices
Frequency	2.4GHz	Approved for use in UK, USA and Europe

INSERTING THE BATTERIES INTO REMOTE CONTROL UNIT

With the illuminator powered up as described above, remove the rear cover on the remote control unit. Taking care not to touch any of the front buttons, insert the batteries.

If you touch the remote control buttons when inserting the batteries it WILL effect the operation of your remote control. If you do accidentally touch any of the buttons, remove the batteries and start again.

Once the batteries are inserted do not use the remote control for 3 seconds.

FURTHER INFORMATION

The remote control unit is matched with the illuminator at the factory.

If the remote control is not matched or an additional or replacement remote control is required carry out the “Matching Remote to Illuminator” instructions as detailed later in this guide.

If a remote control is to be removed from control of a illuminator carry out the “Unmatching Remote to Illuminator” instructions as detailed later in this guide.

PULSAR RF REMOTE CONTROL

REMOTE CONTROL OPERATION

No.	Description	Function
1	Button	Power on
2	Button	Power off
3	Color Ring	Touch control all colors (white not available)
4	Indicator	Indicates controller active when buttons pressed
5	Button	Increase color cycle speed
6	Button	Increase brightness
7	Button	Decrease brightness
8	Button	Decrease color cycle speed
9	Button	[Mode +] Step up through color cycle programmes
10	Button	[Mode -] Step down through color cycle programmes

MATCHING REMOTE CONTROL UNIT TO ILLUMINATOR

Once the Pulsar is set to Radio mode (see preceding section), switch off power to the Illuminator (DO NOT HOT PLUG DC POWER TO THE UNIT) then turn back on and touch button 5 within 3 seconds. . Once the illuminator has completed its initialisation sequence, the remote control should be matched and will control the illuminator.

UNMATCHING REMOTE CONTROL UNIT FROM ILLUMINATOR

Switch off power to the the Illuminator (DO NOT HOT PLUG DC POWER TO THE UNIT), then replace and touch and hold button 5 within 3 seconds and the Illuminator will “blink” 9 times indicating that the Remote Controller is unmatched from the Illuminator.

Note:
By matching a remote control to several illuminators more than one Illuminator can controlled by the same Remote Control. However, when these illuminators are set to the same color cycle, they will eventually run out of sync with each other (color cycle mismatch)

REMOTE CONTROL MODES AND FUNCTIONS

No.	Mode	Brightness	Speed	Comment
1.	Static white	Adjustable	Non adjustable	Touch color ring then mode + to enter this mode at any time
2	White and colors mixed	Adjustable	Non adjustable	Color ring control. Touch color ring to enter this mode at any time
3	All colors fade	Adjustable	Adjustable	No white
4	RGBW fade	Adjustable	Adjustable	Red, green, blue, white
5	RGBW snap	Adjustable	Adjustable	Red, green, blue, white
6	7 colors snap	Adjustable	Adjustable	White and colors mixed
7	2 colors snap	Adjustable	Adjustable	Red and white
8	2 colors snap	Adjustable	Adjustable	Blue and white
9	2 colors snap	Adjustable	Adjustable	Green and white
10	1 color flash	Adjustable	Adjustable	Red
11	1 color flash	Adjustable	Adjustable	Blue
12	1 color flash	Adjustable	Adjustable	Green
13	1 color flash	Adjustable	Adjustable	White
14	All colors snap/fade	Adjustable	Adjustable	Random

Mode Buttons – Do not work in a loop, i.e. touching the mode+ button will not eventually bring you back to mode 1. To revert to mode 1, either touch mode – button repeatedly to step back up through the mode numbers, or touch color ring then mode+

Color Ring –The color ring can be used to select individual colors by touching the ring and sliding your finger around the ring,

Brightness – brightness can be increased or reduced in any mode using buttons 6 & 7

Cycle Speed – speed of color cycling in modes 3 to 14 can be adjusted using buttons 5 & 8

REMOTE RANGE WALK TEST

Once the illuminator is fully installed carry out a complete range walk test and record the range in the table below.

This information is essential for maintenance purposes to determine if the range/sensitivity is reducing and also to record dead areas within the remote control units range due to RF obstructions and/or RF interference.

Note: Where a illuminator has more than one remote control, reduction in operating range may be experienced when both (or multiple) remote controls are used simultaneously.

Description	Date	Max Range	Notes
Controller 1			
Controller 2			
Controller 3			
Dead Areas			

MAINTENANCE

To ensure a long working life and the safe, reliable operation of the illuminator, it is very important to maintain it properly and ensure it is installed in an appropriate and safe location.

Before performing any maintenance on the illuminator it should be disconnected from the power supply and allowed to cool down.

- The illuminator fans and vents should be blown out with compressed air at least every 12 months, or more often if located in a dusty environment.
- After the illuminator has been installed, check the fans and vents to ensure they are clear of dust and debris. Blow out with compressed air if required.
- The body of the illuminator can be cleaned using a soft damp cloth. Do not use any abrasives on the unit.

Note that a record of all maintenance **MUST** be kept in the table below, indicating what maintenance was undertaken. This must be dated and is required for warranty purposes.

SAFETY GUIDANCE

- A gap of 200mm (8") **MUST** be left around the unit. This is to allow air to circulate and prevent overheating. The location must have free ventilation and must not have an ambient temperature higher than that specified for the luminaire.
- The outer body of the illuminator may become hot - keep away from all combustible materials and **DO NOT** locate this light source within 200mm (8") of any flammable surface.
- The illuminator must not be run without the fiber optic harness fitted.

MAINTENANCE LOG

Date	Maintenance Undertaken

TROUBLESHOOTING - LCD ERROR MESSAGES

DMX 001 No DMX	No DMX signal at illuminator
UFO Error Twink Sens	Twinkle wheel sensor not found
UFO Error Array Temp	Array overheating

TROUBLESHOOTING - ALL MODELS / MODES

Problem	Probable Cause	Possible Solution
Unit is dead. No light output. Mains power indicator on PSU & LCD display are out	Mains supply off	Check supply & reinstate
	Loose connectors	Check if all required plugs & sockets are fully mated
	Blown fuse in plug (UK models only)	Check fuse & replace if necessary. If problem persists and fuse blows again, isolate mains supply and contact UFO
	Mains supply cable faulty	Obtain replacement cable from UFO
Unit is dead. No light output. Mains power indicator on PSU & LCD display are lit. Fans are running	Unit in Master control mode and dimming at 0%	Select Dim level menu option and manually set dimming level to give required light output
	Unit in 0-10V control mode but no 0-10V control voltage present	Check 0-10v control voltage and reinstate
	Unit in 1-10V control mode but no connection to electronic dimmer	Check 1-10V control circuit and reinstate
	Unit in DMX control mode but channel 1 value set a 0	Increase channel 1 DMX controller value
	Failed array or internal component	Contact UFO
Unit is dead. No light output. Mains power indicator on PSU & LCD display are lit. Fans are not running	Unit in DMX control mode but channel 6 value set >200	Reduce channel 5 DMX controller value to 0
	Failed internal component	Contact UFO

TROUBLESHOOTING - MANUAL MODE

Problem	Probable Cause	Possible Solution
No manual control over dimming and/or decorative wheel speed	Unit not in Master control Mode	Set to Master in the Control Mode sub menu
	Internal component failure	Contact UFO

TROUBLESHOOTING - DMX MODE

Problem	Probable Cause	Possible Solution
No DMX control over dimming and other DMX functions "No DMX" displayed	Indicates unit is not receiving a DMX signal from controller or Master Pulsar	Check DMX controller or Master Pulsar settings.
	Faulty DMX cable	Check DMX cabling and repair/replace
No DMX control over dimming and other DMX functions – no DMX address displayed	Unit not in DMX control mode	Set to DMX in the Control Mode sub menu
No DMX control over dimming and other DMX functions –DMX address displayed	DMX address not correctly set	Set correct DMX address
Random/wrong function in DMX control over dimming and other DMX functions DMX address displayed	Incorrect DMX address set probably not enough channel space left between addresses	Set correct DMX address and leave adequate space for 6 channels of DMX between addresses

TROUBLESHOOTING - 0-10V MODE

Problem	Probable Cause	Possible Solution
No control over dimming and/or decorative wheel speed. Unit is dead – no light output. Mains power indicator on PSU and LCD display are lit, fans are running	Unit in 0-10V control mode but no 0-10V control voltage present	Check 0-10v control voltage at controller and reinstate
	Fault on 0-1V cabling, reverse polarity or open circuit	Check 0-10V cabling and repair/replace

TROUBLESHOOTING - 1-10V MODE

Problem	Probable Cause	Possible Solution
Dim level displayed at 5%, remote dimmer control has no effect	Current sink dimmer connected wrong polarity	Check and correct polarity in all remote dimming connections
Dim level displayed at maximum, remote dimmer has no effect	Open circuit on current sink dimmer connection/cabling	Check remote dimmer cabling and repair/replace
	Incompatible current source dimmer	Disconnect remote dimmer and check output with DVM turning dimmer from minimum to maximum – if there is a varying 0-10V voltage on output, change the dimmer for a current sink type
Dim level changes with remote dimming but light output range inaccurate or reduced	Incompatible current sink dimmer	Contact UFO

TROUBLESHOOTING - REMOTE CONTROL MODE

Problem	Probable Cause	Possible Solution
No control over colors or sequences on Remote Control Unit. Remote control indicator on Remote Control Unit lights when buttons pressed - mains power indicator on PSU and LCD display are lit, fans are running	Unit not in Radio control mode	Set to Radio in the Control Mode sub menu
	Remote Control Unit out of range	Operate remote Control Unit close to the Pulsar. Walk test to determine range
	Remote control Unit or RF receive in Pulsar faulty	Contact UFO for replacement
No control over colors or sequences on Remote Control Unit. Remote control indicator on Remote Control Unit not lighting whe buttons pressed - mains power indicator on PSU and LCD display are lit, fans are running	Batteries in Remote Control Unit flat	Replace batteries
	Remote control Unit faulty	Contact UFO for replacement

TECHNICAL SPECIFICATION

Port Connector Size	30mm diameter
Fiber Type	Glass / PMMA
Material	Sheet steel
Finish	Powdercoat grey (RAL 7024)
Dimensions (LxWxH)	227mm (8.9”) x 236mm (9.3”) x 145mm (5.7”)
Operating Environment	Indoors
Min Ambient Temp.	-10°C
Max Ambient Temp.	+50°C
PSU Output	160W
LED Power	50W per color (limited to 130W)
Mains Supply Voltage	100-240V AC, 50-60Hz
Fan	Crossflow
Thermal Protection	On LED PCB thermistor
LED Type	RGBW
Dimming Control	Integral DMX, 0-10V, 1-10V & manual dimming
LED Life	50,000 hours (typical)
RF Remote Frequency	2.4Ghz
RF Remote Range	30 metres depending on environment
RF Remote Power	2 x AAA batteries
PSU Type	Desktop PSU with IEC power chord
Lumen Output	(R)1600 (G)3300 (B)650 (W)4600
Effect Wheel Options	Twinkle wheel

NOTES

DESIGN

SPECIFY

BUILD

INSTALL

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