



AN OSRAM BUSINESS

INSTRUCTION MANUAL

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# STORMY STORMY CC

The latest LED technology meets the charm of a classic strobe



**STORMY C71090**  
**STORMY CC C71091**

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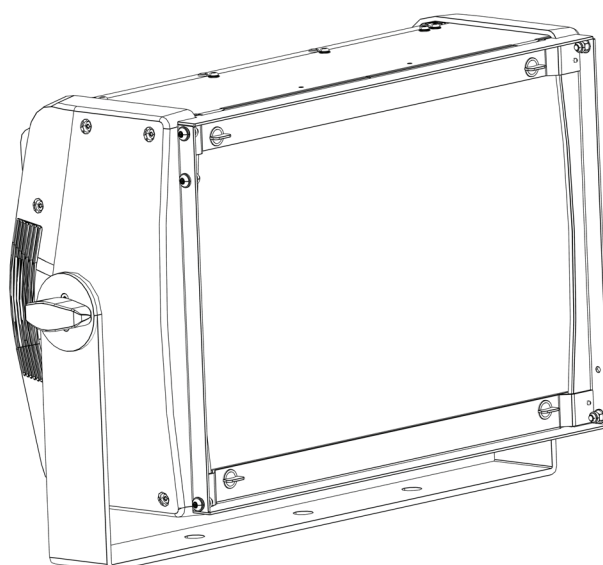
AN OSRAM BUSINESS

PRELIMINARY



# STORMY STORMY CC

The latest LED technology meets the charm of a classic strobe



## **Congratulations on choosing a Clay Paky product!**

We thank you for your choice. Please note that this product and all the others in the rich Clay Paky range, has been designed and manufactured with total quality to ensure excellent performance and best meet your expectations and requirements.



Carefully read this instruction manual and keep in its entirety and keep it safe for future reference.

It is essential to know the information supplied in this manual in order to ensure that the fitting is installed, used and serviced correctly and safely.



CLAY PAKY S.p.A. disclaims all liability for damage to the fitting or to the other property or persons deriving from installation, use and maintenance that have not been carried out in conformity with this instructions manual, which must always accompany the fitting.

CLAY PAKY S.p.A. reserves the right to modify the characteristics stated in this instructions manual at any time and channel list without prior notice.



AN OSRAM BUSINESS



# STORMY STORMY CC

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# 1. SAFETY INFORMATION



$t_a < 40\text{ }^\circ\text{C}$

IP20



$t_c \leq 100\text{ }^\circ\text{C}$



**• Installation**

Make sure all parts for fixing the projector are in a good state of repair. Make sure the point of anchorage is stable before positioning the projector. The safety chain must be properly hooked onto the fitting and secured to the framework, so that, if the primary support system fails, the fitting falls as little as possible. If the safety chain gets used, it needs to be replaced with a genuine spare.

**• Minimum distance of illuminated objects**

The projector needs to be positioned so that the objects hit by the beam of light are at least 0.2 metres (8") from the lens of the projector.

**• Minimum distance from flammable materials**

The projector must be positioned so that any flammable materials are at least 0.20 metres (8") from every point on the surface of the fitting.

**• Maximum ambient temperature**

Do not use the projector if ambient temperature ( $t_a$ ) exceeds 40°C.

**• IP20 protection rating**

The protection rating of the fitting is IP20. The meaning of the protection rating is:

**IP 2 0**

└─ Not protected against dripping water, rain, splashes or jets of water.

└─ Protected against penetration by solid bodies of over 12mm (0.47") in diameter.

**• Protection against electrical shock**

Connection must be made to a power supply system fitted with efficient earthing (Class I appliance according to standard EN 60598-1). It is, moreover, recommended to protect the supply lines of the projectors from indirect contact and/or shorting to earth by using appropriately sized residual current devices.

**• Connection to the power mains**

A qualified electrician must perform connection to the power mains. Check that the mains frequency and voltage correspond to the frequency and voltage for which the projector was designed and indicated on the electrical data label. This label also gives the input power. Refer to the latter to evaluate the maximum number of devices to be connected to the mains to avoid overloads.

The user must determine, in consultation with the supply authority, that the equipment is connected only to a supply with a maximum permissible system impedance  $Z_{max}$ , at the interface point of the user's supply, equal or lower to 0.23  $\Omega$ .

**• External surface temperature**

The maximum temperature that can be reached on the external surface of the fitting, in a thermally steady state, is 100°C (212°F).

**• Maintenance**

Before starting any maintenance work or cleaning the projector, cut off power from the supply mains. After switching off, do not remove any parts of the fitting for at least 10 minutes. The cover must be mounted and, if visibly damaged, they have to be replaced with genuine spares.

**• Photobiological Safety**

CAUTION. Do not look directly at the light source.

Do not look at the light beam with optical devices or any other tool that could cause light convergence.

• This product is intended for the following areas of application: studios, stages, theaters, exhibitions, trade fairs, events, theme parks, entertainment venues, architectural lighting and similar.

• **Not suitable for household illumination.**

• **Not for residential use.**

**• Disposing**

This product is supplied in compliance with European Directive 2012/19/EU - Waste Electrical and Electronic Equipment (WEEE). To preserve the environment please dispose/recycle this product at the end of its life according to the local regulation.

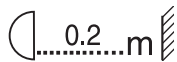
The products to which this manual refers comply with the following European Directives:

- 2006/95/EC - Safety of electrical equipment supplied at low voltage (LVD)
- 2004/108/EC - Electromagnetic Compatibility (EMC)
- 2011/65/EU - Restriction of the use of certain hazardous substances (RoHS)
- 2009/125/EC - EcoDesign requirements for Energy-related Products (ErP)

## 1. INFORMAZIONI SULLA SICUREZZA

### • **Installazione**

Assicurarsi che tutte le parti per il fissaggio del dispositivo siano in buona condizione. Assicurarsi della stabilità del punto di ancoraggio prima di posizionare il dispositivo. La fune di sicurezza deve essere opportunamente agganciata all'apparecchio e fissata alla struttura di sostegno, deve essere installata in modo che, in caso di cedimento del sistema di supporto primario, si abbia la minor caduta possibile dell'apparecchio. Dopo un eventuale intervento la fune di sicurezza deve essere sostituita con il ricambio originale.



### • **Distanza minima degli oggetti illuminati**

Il proiettore deve essere posizionato in modo tale che gli oggetti colpiti dal fascio luminoso siano distanti almeno 0,2 metri (8 ") dalla lente del proiettore.

### • **Distanza minima da materiali infiammabili**

Il proiettore deve essere posizionato in modo tale che i materiali infiammabili siano distanti almeno 0,20 metri (8 ") da ogni punto della superficie dell'apparato.

$t_a < 40\text{ }^\circ\text{C}$

### • **Massima temperatura ambiente**

Non utilizzare il proiettore se la temperatura ambiente ( $t_a$ ) supera i  $40\text{ }^\circ\text{C}$ .

### • **Grado di protezione IP20**

Il grado di protezione del raccordo è IP20. Il significato del grado di protezione è:

IP20

**IP 2 0**

└ Non protetto nei confronti di gocce d'acqua, pioggia, spruzzi o getti d'acqua.

└ Protetto contro la penetrazione di corpi solidi di oltre 12 millimetri (0.47 ") di diametro.



### • **Protezione contro le scosse elettriche**

Il collegamento deve essere fatto a un sistema di alimentazione dotato di un'efficiente messa a terra (apparecchio di Classe I secondo la norma EN 60598-1). Si raccomanda, inoltre, di proteggere le linee di alimentazione dei proiettori dai contatti indiretti e/o cortocircuiti verso terra tramite l'uso di interruttori differenziali opportunamente dimensionati.

### • **Collegamento alla rete di alimentazione**

Le operazioni di collegamento alla rete di distribuzione dell'energia elettrica devono essere effettuate da un installatore elettrico qualificato. Verificare che frequenza e tensione della rete corrispondano alla frequenza ed alla tensione per cui il proiettore è predisposto ed indicate sulla targhetta dei dati elettrici. Sulla medesima targhetta è pure indicata la potenza assorbita. Fare riferimento a quest'ultima per valutare il numero massimo di apparecchi da collegare alla linea elettrica, al fine di evitare sovraccarichi. L'utilizzatore deve assicurarsi, dopo aver consultato il proprio fornitore di energia elettrica, che il dispositivo sia connesso solo ad un'alimentazione con un'impedenza massima ammissibile  $Z_{max}$ , al punto di interfaccia dell'alimentazione utente, pari o inferiore a  $0,23\ \Omega$ .

$t_c \leq 100\text{ }^\circ\text{C}$

### • **Temperatura della superficie esterna**

La temperatura massima raggiungibile sulle superficie esterna dell'apparecchio, in condizioni di regime termico, è di  $100\text{ }^\circ\text{C}$  ( $212\text{ }^\circ\text{F}$ ).



### • **Manutenzione**

Prima di iniziare qualsiasi operazione di manutenzione o pulizia del proiettore togliere la tensione dalla rete di alimentazione. Dopo aver disalimentato il proiettore non rimuovere alcuna parte dell'apparato prima che sia trascorso un tempo di dieci minuti. Le coperture devono essere montate e, se visibilmente danneggiate, devono essere sostituite con ricambi originali.



Gruppo di rischio 1  
Secondo norma EN 62471

### • **Sicurezza fotobiologica**

ATTENZIONE. Non guardare direttamente la sorgente di luce.

Non guardare il fascio di luce con strumenti ottici o altri strumenti che potrebbero causare convergenza di luce.



• Il prodotto è concepito per essere utilizzato nei seguenti ambiti: studi, palchi, teatri, esposizioni, fiere, eventi, parchi a tema, locali di intrattenimento, illuminazione architettonica e simili.



• **Non adatto all'illuminazione domestica.**



• **Non per uso residenziale.**



### • **Smaltimento**

Questo dispositivo è conforme alla Direttiva Europea 2012/19/UE - Rifiuti di apparecchiature elettriche ed elettroniche (RAEE). Nel rispetto dell'ambiente, smaltire/riciclare il prodotto al termine del suo ciclo di vita secondo le disposizioni di legge locali.



I prodotti a cui questo manuale si riferisce sono conformi alle Direttive della Comunità Europea di cui sono oggetto:

- 2006/95/CE - Sicurezza del materiale elettrico fornito a bassa tensione (LVD)
- 2004/108/CE - Compatibilità Elettromagnetica (EMC)
- 2011/65/EU - Restrizione dell'uso di determinate sostanze pericolose (RoHS)
- 2009/125/CE - Specifiche per la progettazione ecocompatibile dei prodotti connessi all'energia (ErP)

## 1. INFORMATIONS SUR LA SÉCURITÉ

### • Installation

Assurez-vous que toutes les pièces de fixation de l'appareil sont en bon état. Assurer la stabilité du point d'ancrage avant de placer le dispositif. Le câble de sécurité doit être correctement engagé à l'appareil et fixé à la structure de support. En outre il doit être installé pour avoir la mineure chute possible de l'appareil, en cas de défaillance du système de support principal. Après une éventuelle intervention le câble de sécurité doit être remplacé avec une pièce de rechange originale.

### • Distance minimum des objets éclairés



Le projecteur doit être placé de manière que les objets touchés par le faisceau lumineux sont distants au moins 0.2 m (8 ") de la lentille du projecteur.

### • Distance minimale des matériaux inflammables

Le projecteur doit être placé de manière que les matériaux inflammables sont distants au moins 0.2 m (8 ") de chaque point de la surface du dispositif.

### • Température maximale ambiante

$t_a < 40 \text{ }^\circ\text{C}$

Ne pas utiliser le projecteur si la température ambiante ( $t_a$ ) dépasse  $40 \text{ }^\circ\text{C}$ .

### • Degré de protection IP20

Le degré de protection de la jonction est IP20. Le sens de l'indice de protection est le suivant:

IP20

IP 2 0

Non protégé contre les gouttes d'eau, la pluie, les pulvérisations ou les jets d'eau.

Protégé contre la pénétration d'objets solides de plus de 12 mm (00:47 ") de diamètre.



### • Protection contre les chocs électriques

La liaison doit être faite à un système d'alimentation ayant d'une mise à la terre efficace (appareil de classe I selon la norme EN 60598-1). En outre, il est recommandé de protéger les lignes d'alimentation des projecteurs contre les contacts indirects et/ou court-circuits à terre en utilisant des interrupteurs différentiels opportunément mesurés.

### • La connexion au réseau électrique

Les opérations de branchement au réseau d'électricité doivent être effectués par un électricien qualifié. Vérifiez que la fréquence et la tension du réseau correspondent à la fréquence et la tension pour lesquelles le projecteur est conçu comme indiqué sur l'étiquette des données électriques. L'étiquette indique également la puissance absorbée. Se référer à cette dernière pour évaluer le numéro maximal de dispositifs qui peuvent être connectés à la ligne électrique, afin d'éviter les surcharges. L'utilisateur doit s'assurer, après la consultation de son fournisseur d'électricité, que l'appareil est connecté uniquement à une alimentation avec une impédance maximale admissible  $Z_{max}$ , au point d'élément d'interface d'alimentation, inférieure ou égale à  $0,23 \Omega$ .

$t_c \leq 100 \text{ }^\circ\text{C}$

### • Température de la surface extérieure

La température maximale atteinte sur la surface extérieure du dispositif est de  $100 \text{ }^\circ\text{C}$  ( $212 \text{ }^\circ\text{F}$ ), dans des conditions du régime thermique.



### • Maintenance

Débrancher le projecteur du réseau d'alimentation avant de commencer toute opération de maintenance ou de nettoyage. Attendez dix minutes après avoir éteint le projecteur avant d'enlever une de ces parties. Les couvertures doivent être montées et si elles sont visiblement endommagées, doivent être remplacées par des pièces de rechange originaires.



Groupe de risque 1  
Selon la norme EN 62471

### • La sécurité photobiologique

ATTENTION. Ne regardez pas directement la source de lumière. Ne regardez pas le faisceau de lumière avec des instruments optiques ou d'autres instruments qui pourraient provoquer la convergence de la lumière.



Le produit est conçu pour être utilisé dans les espaces suivants: bureaux, scènes, théâtres, expositions, foires, événements, parcs à thème, des lieux de divertissement, éclairage architectural et analogues.



• N'est pas approprié pour l'éclairage domestique.



• Pas pour usage résidentiel.



### • Elimination

Cet appareil est conforme à la directive européenne 2012/19/UE - Déchets des équipements électriques et électroniques (DEEE). Pour protéger l'environnement, éliminer/recycler le produit à la fin de son cycle de vie conformément à la législation locale.



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- 2009/125/EC - EcoDesign requirements for Energy-related Products (ErP)

# 1. INFORMATIONEN ZUR SICHERHEIT

**• Installation**

Sicherstellen, dass sich alle Befestigungsteile des Geräts in gutem Zustand befinden. Die Stabilität der Verankerungsstelle vor der Anbringung des Geräts prüfen. Das Sicherheitsseil muss angemessen am Gerät eingehängt und an der Stützstruktur fixiert werden. Es ist so zu installieren, dass die Fallhöhe des Geräts bei einem Versagen des Hauptsupports so gering wie möglich ist. Nach einem eventuellen Eingriff des Sicherheitsseils ist dieses unter Verwendung eines Original-Ersatzteils zu ersetzen.

**• Mindestabstand zu den beleuchteten Gegenständen**



Der Projektor muss so positioniert werden, dass die vom Lichtstrahl getroffenen Gegenstände mindestens 0,2 Meter (8 ") von der Projektorlinse entfernt sind.

**• Mindestabstand zu entzündlichen Materialien**

Der Projektor muss so positioniert werden, dass entzündliche Materialien mindestens 0,20 Meter (8 ") von jedem Punkt der Geräteoberfläche entfernt sind.

**• Maximale Raumtemperatur**

$t_a < 40\text{ }^\circ\text{C}$

Der Projektor darf bei Raumtemperaturen ( $T_a$ ) über  $40\text{ }^\circ\text{C}$  nicht verwendet werden.

**• Schutzart IP20**

Die Schutzart des Anschlusses entspricht IP20. Bedeutung der Schutzart:

IP20

**IP 2 0**

Kein Schutz gegen Tropfwasser, Regen, Spritz- oder Strahlwasser.

Geschützt gegen feste Fremdkörper mit Durchmesser ab 12 mm (0,47 ").



**• Schutz gegen Stromschlag**

Der Anschluss muss an ein wirksam geerdetes Stromversorgungssystem erfolgen (Gerät der Klasse I gemäß EN 60598-1). Darüber hinaus sind die Versorgungsleitungen der Projektoren mit entsprechend bemessenen Fehlerstromschutzschaltern vor indirekten Kontakten bzw. Kurzschlüssen zu schützen.

**• Anschluss an die Stromversorgungsleitung**

Der Anschluss an das Stromversorgungsnetz muss von einem qualifizierten Elektroinstallateur vorgenommen werden. Es ist sicherzustellen, dass die Netzfrequenz und -spannung den Werten entsprechen, für die der Projektor ausgelegt ist und die am Typenschild angeführt sind. Auf diesem Schild ist auch die Leistungsaufnahme angeführt. Um zu beurteilen, wie viele Geräte maximal an die Stromleitung angeschlossen werden können, ohne diese zu überlasten, ist die Leistungsaufnahme zu berücksichtigen. Der Benutzer hat nach der Einholung von Informationen bei seinem Stromanbieter sicherzustellen, dass das Gerät nur an eine Versorgungsleitung mit einer maximal zulässigen Impedanz  $Z_{max}$  an der Schnittstelle der Benutzer-versorgung gleich oder unter  $0,23\ \Omega$  angeschlossen wird.

$t_c \leq 100\text{ }^\circ\text{C}$

**• Temperatur der Oberfläche**

Die Geräteoberflächen können bei Betriebstemperatur eine Höchsttemperatur von  $100\text{ }^\circ\text{C}$  ( $212\text{ }^\circ\text{F}$ ) erreichen.

**• Instandhaltung**



Vor Beginn von Instandhaltungs- oder Reinigungsarbeiten am Projektor ist Versorgungsspannung zu unterbrechen. Nachdem die Stromversorgung zum Projektor abgeschaltet wurde, müssen mindestens zehn Minuten vergehen, bevor irgendwelche Teile vom Gerät genommen werden. Die Abdeckungen müssen eingebaut werden; sollten sie sichtlich beschädigt sein, müssen Sie durch Originalersatzteile ersetzt werden.



**• Fotobiologische Sicherheit**

ACHTUNG! Nicht direkt in die Lichtquelle blicken.

Keinesfalls mit optischen oder anderen Instrumenten, die das Licht bündeln könnten, in den Lichtstrahl blicken.



• Der Strahl ist zur Verwendung in folgenden Bereichen entwickelt: Studios, Bühnen, Theater, Ausstellungen, Messen, Themenparks, Unterhaltungslokale, architektonische Beleuchtung und Ähnliches.



• Nicht für die häusliche Beleuchtung geeignet.



• Nicht für Wohnzwecke.



**• Entsorgung**

Dieses Gerät entspricht der Europäischen Richtlinie 2012/19/EG über Elektro- und Elektronikaltgeräte (WEEE). Das Produkt ist am Ende seiner Lebensdauer gemäß den örtlichen gesetzlichen Vorschriften zu entsorgen/recyclen.



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## 1. INFORMACIÓN SOBRE LA SEGURIDAD

### • Instalación

Asegurarse de que todos los elementos de fijación del dispositivo estén en buenas condiciones. Asegurar la estabilidad del punto de anclaje antes de colocar el dispositivo. La cuerda de seguridad deberá estar enganchada correctamente al aparato y asegurada correctamente a la estructura de soporte. Ésta deberá ser instalada de manera que, en caso de fallo del sistema de apoyo principal, el aparato sufra la menor caída posible. Después de una posible intervención la cuerda de seguridad debe ser reemplazada con un recambio original.



### • Distancia mínima de los objetos iluminados

El proyector deberá colocarse de manera que los objetos tocados por el haz de luz disten al menos 0,2 metros (8") de la lente del proyector.

### • Distancia mínima de materiales inflamables

El proyector deberá colocarse de manera que los materiales inflamables disten al menos 0,20 metros (8") de cualquier punto de la superficie del aparato.

$t_a < 40\text{ }^\circ\text{C}$

### • Temperatura ambiente máxima

No usar el proyector si la temperatura ambiente ( $t_a$ ) es superior a  $40\text{ }^\circ\text{C}$ .

### • Grado de protección IP20

El grado de protección de la instalación es de IP20. El significado del grado de protección es:

IP20

IP 2 0

— No protegido contra gotas de agua, lluvia, salpicaduras o chorros de agua.

— Protegido contra la penetración de cuerpos sólidos de más de 12 milímetros (0.47 ") de diámetro.



### • Protección contra las descargas eléctricas

La conexión deberá hacerse a un sistema de alimentación con toma de tierra eficaz (aparato de Clase I según la norma EN 60598-1). Se recomienda proteger los cables de alimentación de los proyectores de los contactos indirectos y/o cortocircuitos a tierra, mediante el uso de interruptores diferenciales de tamaño adecuado.

### • Conexión a la red eléctrica

Las operaciones de conexión a la red eléctrica deben ser realizadas por un instalador eléctrico cualificado. Compruebe que la frecuencia y el voltaje de la red corresponde a la frecuencia y a la tensión para la que el proyector ha sido diseñado según lo indicado en la placa con las características. En esta placa se indica la potencia de entrada. Consulte ésta última para evaluar el número máximo de aparatos que pueden ser conectados a la línea eléctrica, con el fin de evitar sobrecargas. El usuario debe verificar, tras haber consultado la empresa suministradora de electricidad, que el dispositivo esté conectado únicamente a una fuente de alimentación con un máximo permitido de impedancia  $Z_{max}$ , hasta el punto de la interfaz de alimentación, en o por debajo de  $0,23\ \Omega$ .

$t_c \leq 100\text{ }^\circ\text{C}$

### • Temperatura de la superficie externa

La temperatura máxima que se puede alcanzar sobre la superficie externa del aparato, en condiciones térmicas estables, es de  $100\text{ }^\circ\text{C}$  ( $212\text{ }^\circ\text{F}$ ).



### • Mantenimiento

Antes de iniciar cualquier operación de mantenimiento o limpieza del proyector, desconecte el aparato de la red eléctrica. Tras haber apagado el proyector, no elimine ninguna parte del aparato antes de un período de diez minutos. Las cubiertas deben ser montadas y, si son visiblemente dañadas, deben ser sustituidas por piezas originales.



Grupo de riesgo 1  
Según norma EN 62471

### • Seguridad fotobiológica

ATENCIÓN. No mirar directamente a la fuente de luz.

Non mirar el haz de luz con instrumentos ópticos u otros instrumentos que podrían causar convergencia de luz.



• El producto ha sido diseñado para ser usado en los siguientes espacios: estudios, escenarios, teatros, exposiciones, ferias, eventos, parques temáticos, locales de entretenimiento, iluminación arquitectónica y similares.



• No es adecuado para la iluminación del hogar.



• No es adecuado para uso residencial.



### • Reciclaje

Este dispositivo cumple con la Normativa Europea 2012/19/UE – Residuos de aparatos eléctricos y electrónicos (RAEE). Para proteger el medio ambiente, recicle el producto al final de su ciclo de vida según las disposiciones legales locales.



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## 2. UNPACKING AND PREPARATION

1

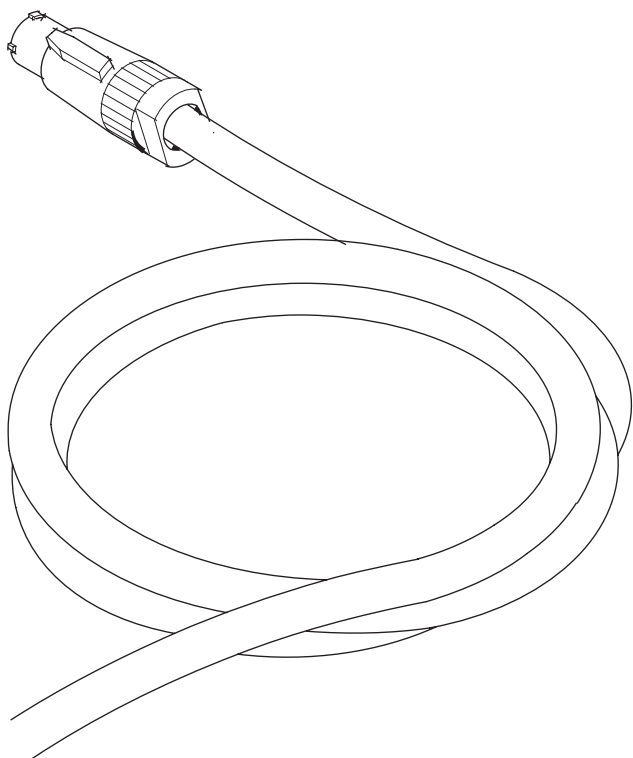


Fig. 1 - Packing content

### 3. INSTALLATION AND START-UP

2

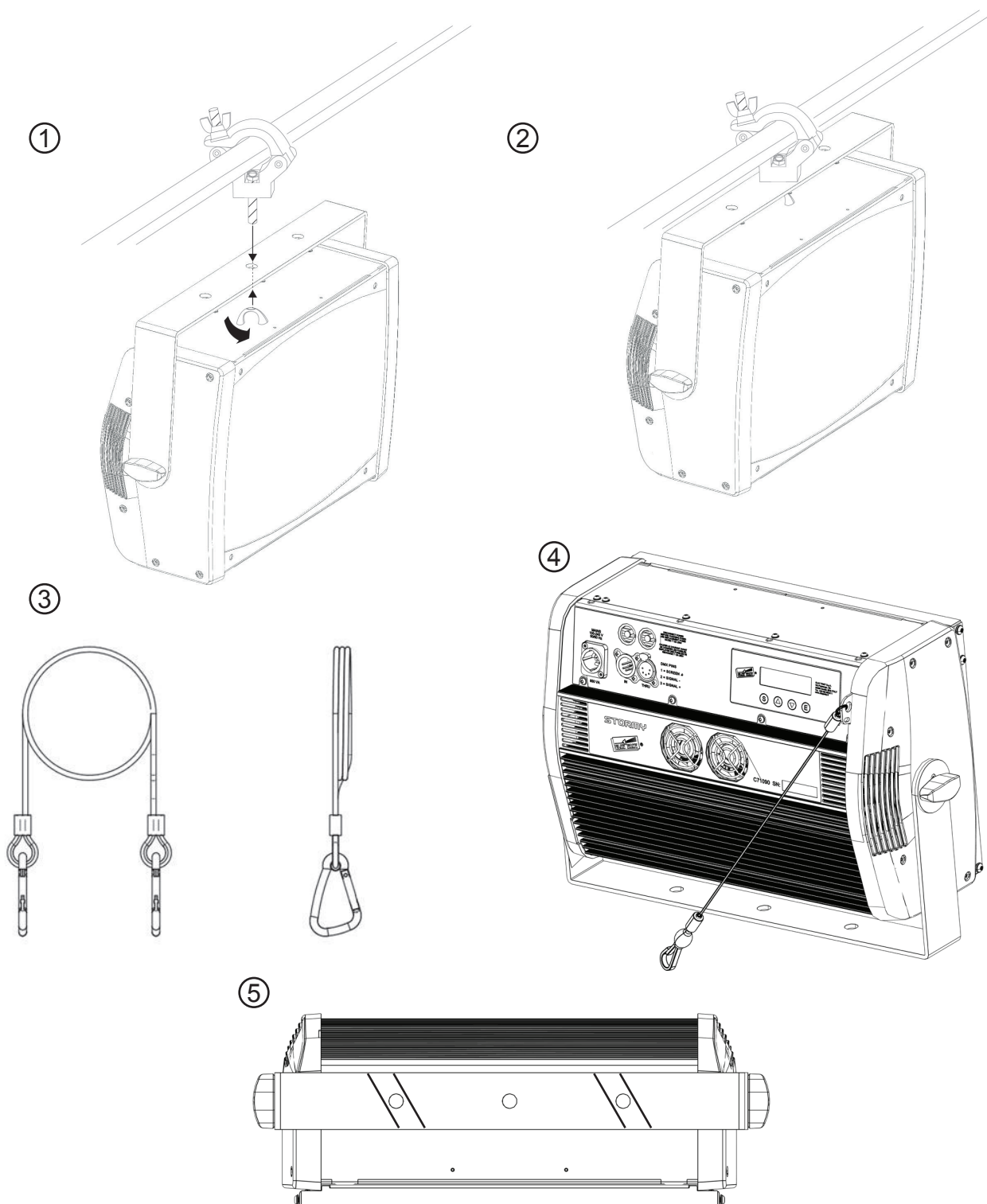


Fig. 2 - Projector installation

The projector can be installed on the floor, on a truss, on the ceiling or wall. **WARNING: the safety chain must be installed except when the projector rests on the floor. (Code 105015/801 available upon request).** This must be secured to the projector support structure and then hooked to the fastening point at the centre of the fixture.

### 3. INSTALLATION AND START-UP

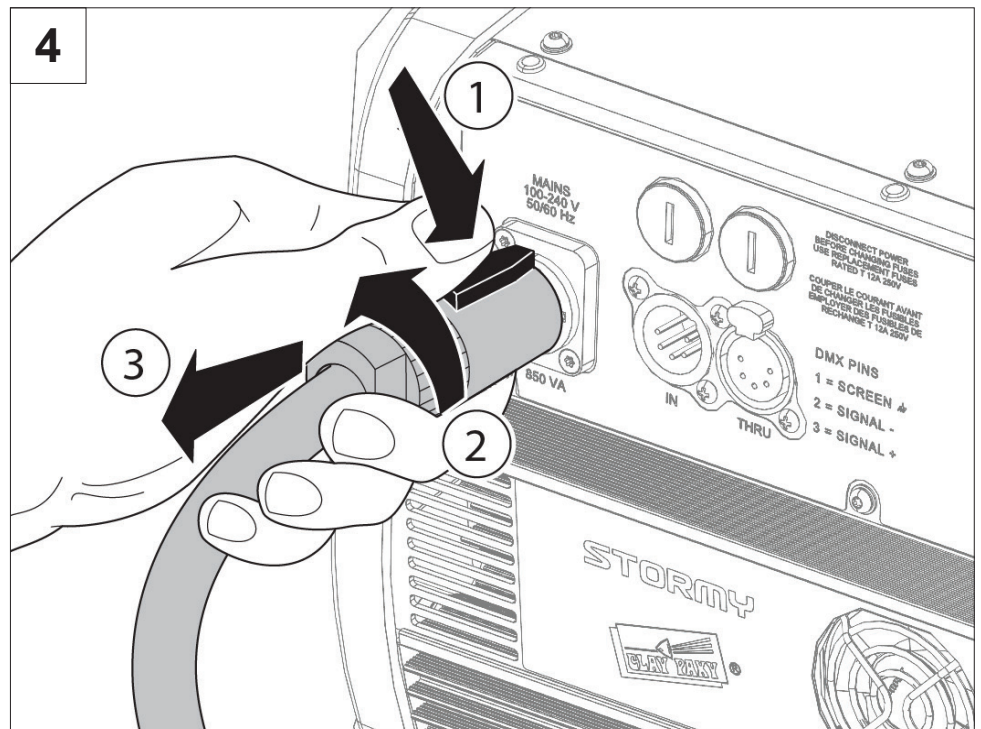
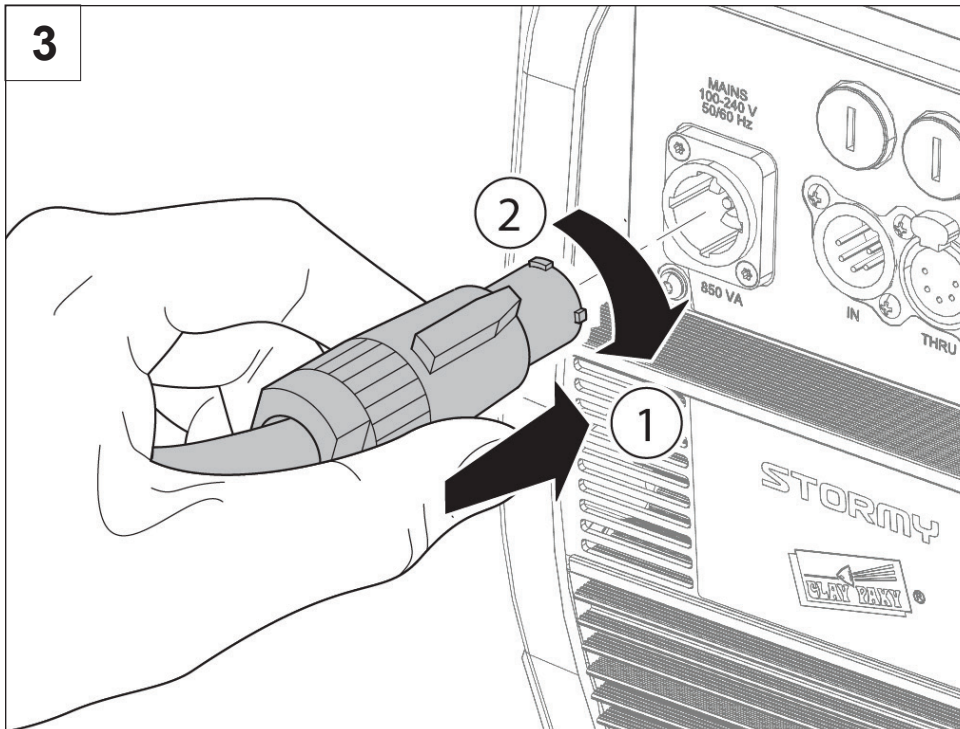
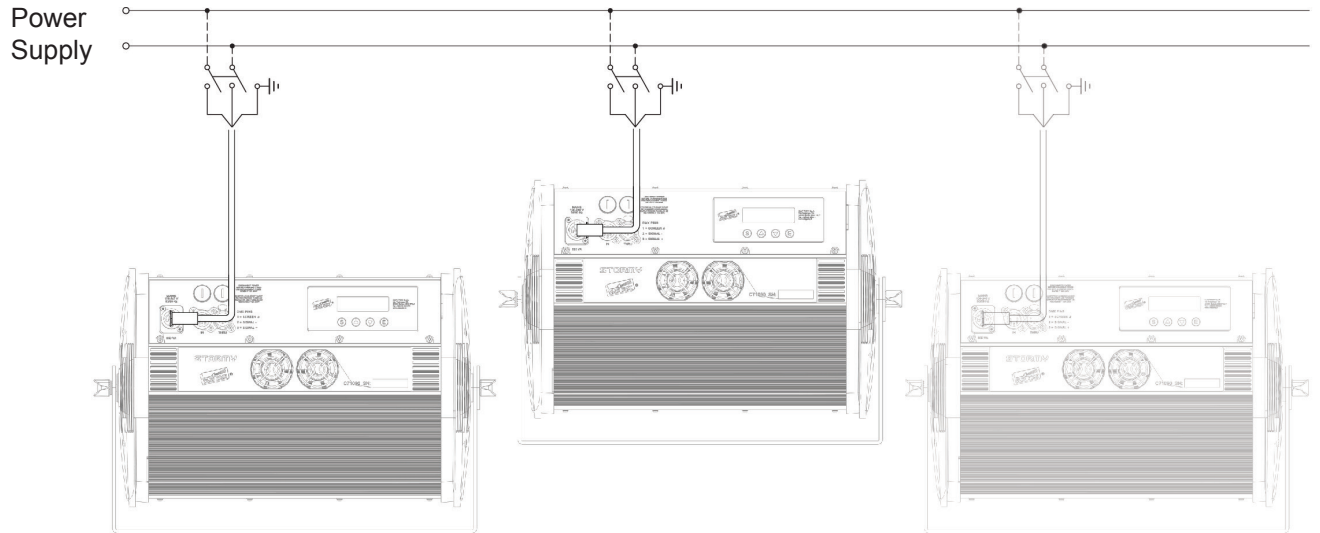


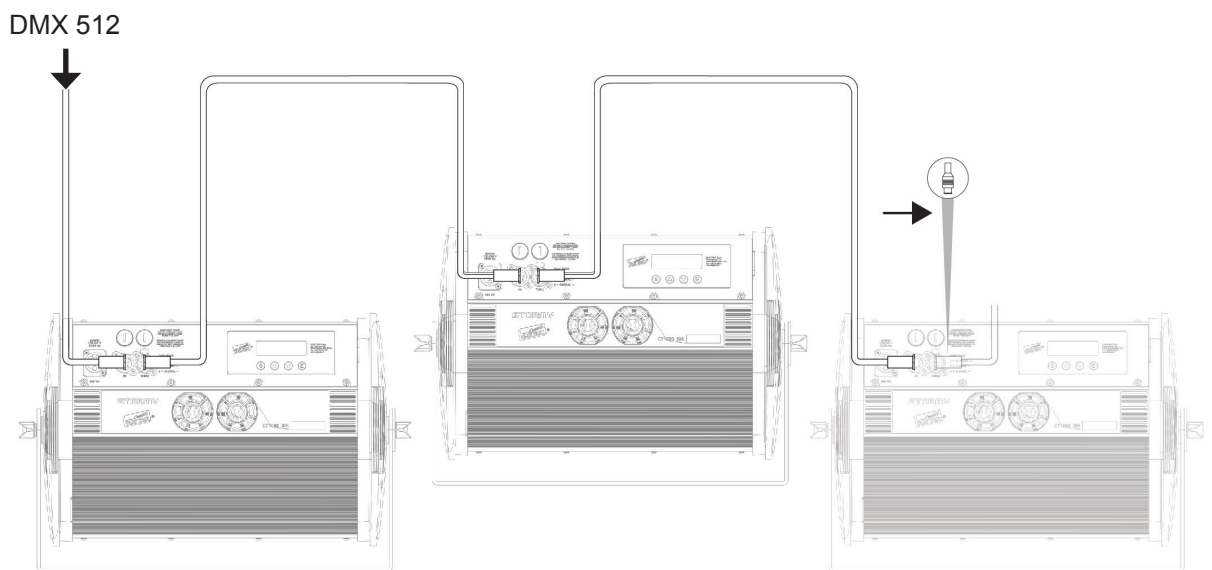
Fig. 3, 4 - Connecting and disconnecting the power cord

## 4. CONTROL PANEL

5



6



DMX 512  
5 PIN

Fig. 5 - Connection to the power mains

Fig. 6 - Connections to the control signal line (DMX)

Use a cable conforming to specifications EIA RS-485: 2-pole twisted, shielded, 120Ω characteristic impedance, 22-24 AWG, low capacity. Do not use microphone cable or other cable with characteristics differing from those specified. End connections must be made using XLR type 3-pin male/female connectors. A terminating plug must be inserted on the last projector with a resistance of 120 (minimum 1/4 W) between terminals 2 and 3.

**IMPORTANT:** The wires must not make contact with each other or with the metal casing of the connectors. The casing must be connected to the shield braid and pin 1 of the connectors.

## 4. CONTROL PANEL

7







### Menu settings status

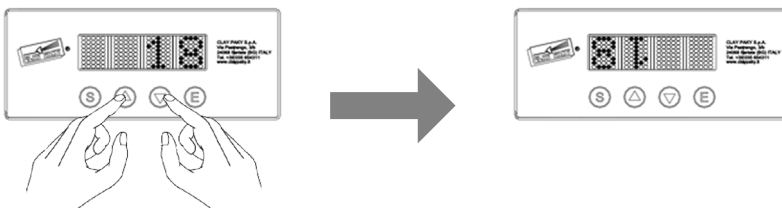
If no button is pressed after a wait period (about 60 seconds) → the display automatically returns to idle status.

Any modified value that has not yet been confirmed with the E key will be cancelled.

### Button functions – Menu SET

<p><b>SELECT</b></p> 	<ul style="list-style-type: none"> <li>• If pressed in idle status: Cyclically switches between idle status and menu settings.</li> <li>• If pressed while setting a menu: Moves to an upper level without changing anything (exits the function)</li> </ul>
<p><b>DOWN</b></p> 	<p>Decreases the value displayed (with auto-repetitions), or passes to the next item on the menu. For quick access to the minimum parameter value, press the UP key while holding down the DOWN key.</p>
<p><b>UP</b></p> 	<p>Increases the value displayed (with auto-repetitions), or passes to the previous item on the menu. For quick access to the maximum parameter value, press the DOWN key while holding down the UP key.</p>
<p><b>ENTER</b></p> 	<p>Confirms the displayed value or activates the displayed function or opens the next menu.</p>

### Display inversion



To activate this function press at the same time UP and DOWN keys while the display is in standby.

The condition is memorized and saved even for the subsequent switching. To return to the initial state repeat the operation again.

Fig. 7 - Switching on the projector

The projector immediately turns on when the power cord is plugged

## 5. MENU SETTING

Main Menu	Level 1	Level 2	Level 3	Choices / Values
SET UP	DMX Address			001-512
	Channel Mod	Standard		
		Xenon		
		Independent		
Extended				
Fixture ID			001-255	
OPTION	Dimmer Curve	Curve 1		
		Curve 2		
	Minimum Ton Value			000-255
	LED mode (Stormy CC only)	Raw		
		Balance		
	Silent Mode	Standard		
		Quiet		
	Display			On / Off
	Settings	Default preset	Reset to default	Yes / No
		User preset 1	Load preset 1	Yes / No
			Save to preset 1	Yes / No
		User preset 2	Load preset 2	Yes / No
Save to preset 2			Yes / No	
User preset 3		Load preset 3	Yes / No	
	Save to preset 3	Yes / No		
INFORMATION	Fixture hours	Total		
		Partial		
	System Version	Strobe firmware		
		Boot firmware		
		Driver firmware		
		CPU board		
		CPU SN		
	Driver diagnostic	LED Temperature	Current	
			Maximum	
			Minimum	
		Driver Temperature	Current	
			Maximum	
			Minimum	
	LED channel		CH1 - CH4 (R-G-B-W)	
	DMX Monitor	Red		000-255bit / 0-100%
		Green		000-255bit / 0-100%
		Blue		000-255bit / 0-100%
White			000-255bit / 0-100%	
Intensity			000-255bit / 0-100%	
Duration			000-255bit / 0-100%	
Rate			000-255bit / 0-100%	
Fans Monitor	Head		Speed xxxx RPM	
MANUAL CONTROL	Reset		Yes / No	
	Channel	Red		000-255bit / 0-100%
		Green		000-255bit / 0-100%
		Blue		000-255bit / 0-100%
		Whjite		000-255bit / 0-100%
		Intensity		000-255bit / 0-100%
		Duration		000-255bit / 0-100%
Rate		000-255bit / 0-100%		
ADVANCED	Access Code <u>1234</u>	Firmware uploader		Yes / No
		Model SetUp	Undefined mode	
			Stormy	
	Stormy CC			

## 5.1 SET-UP MENU

### SET UP - DMX ADDRESS

It allows to set DMX address to be assigned to the projector, it's possible to select a DMX address between 1 and 512.

> **NOTE:** In case of absence of DMX input signal, the displayed projector address flashes.

---

### SET UP - CHANNEL MODE

It allows to set the operation mode of the projector selecting from the following:

- **Standard:** max 7 DMX channels occupied for "Stormy CC" / max 3 DMX channels occupied for "Stormy".
  - **Xenon:** max 4 DMX channels occupied for "Stormy"
  - **Independent:** max 14 DMX channels for "Stormy CC"
  - **Extended:** max 15 DMX channels for "Stormy CC"
- 

### SET UP - FIXTURE ID

It allows to set a "Fixture ID" to be assigned to the projector, for easier identification of the same projector in an installation. It's possible to select a "Fixture ID" between 1 and 255.

## 5.2 OPTIONS MENU

### OPTION - DIMMER CURVE

It allows the selection of one of the following two Dimmer curves:

- **Curve 1**
  - **Curve 2**
- 

### OPTION - MINIMUM TON VALUE

It allows to set the minimum "**T ON**" duration of strobe flash under which it's not possible to come down. It's possible to select a value between 0 and 255.

With the "**Duration**" channel you set the flash duration. At every level of the DMX signal corresponds a duration. The value "**Minimum T ON value**" represents the level of the DMX channel **Duration** under which the TON value does not change.

---

### OPTION - LED MODE

It allows the selection of one of the following two methods of LEDs management

- **Row:** RGBW channels are independent.
  - **Balance:** RGBW components are optimized to have a white color with maximum light output.
- 

### OPTION - SILENT MODE

It allows the selection of one of the following two alternatives:

- **Standard:** Maximum fans' speed; therefore maximum noise level and maximum light output of the LEDs.
- **Quiet:** It reduces the fans' speed and, as a consequence, the noise; the maximum brightness of the LEDs. It reduces also subject to decrease according to the conditions of use (ambient temperature, used effect type).

---

## OPTIONS - **DISPLAY**

The enabled DISPLAY option (ON) allows to reduce the display backlight on the machine, after a 30 seconds in standby mode. To restart is enough to press any key. Select OFF to disable this option.

---

## OPTIONS - **SETTING**

It allows to save in the machine memory 3 different settings of the options menu items and its submenus:

- **User preset 1**
- **User preset 2**
- **User preset 3**

- **Load preset 1, 2 o 3:** It is used to display a previously configuration saved by the user.

- **Save to preset 1, 2 o 3:** It is used to save the current configuration set by the user.

- **Default preset**

It allows to reset to the default values (factory settings) on all the voices of the option menu and of the related submenus.

## 5.3 INFORMATION MENU

### INFORMATION MENU - **FIXTURE HOURS**

It allows to display the projector operating hours (total and partial).

**Total hours:** it counts the number of projector working life hours (from manufacture to date).

**Partial hours:** it counts the number of partial projector working life hours since the last reset up to date.

Press **ENTER** to reset partial projector working life hours, a confirmation message (Are you sure ?) appears on the display. Select **YES** to confirm the cancellation.

---

### INFORMATION MENU - **SYSTEM VERSION**

It allows to display the firmware/hardware versions of installed machine components:

**Strobe firmware:** Strobe application firmware

**Boot firmware:** Safety software

**Driver firmware:** Driver application firmware

**CPU board:** Hardware revision of CPU Board

**CPU SN:** Serial number of CPU Board

---

### INFORMATION MENU - DRIVER DIAGNOSTIC - **LED TEMPERATURE**

It allows to display some details about the functionality of the card/cards and LEDs:

- **Current:** Instantly detected operating temperature
  - **Maximum:** Maximum detected temperature
  - **Minimum:** Minimum detected temperature
- 

### INFORMATION MENU - DRIVER DIAGNOSTIC - **DRIVER TEMPERATURE**

It allows to view some details about the functionality of the driver card for LED:

- **Current:** Instantly detected operating temperature
  - **Maximum:** Maximum detected temperature
  - **Minimum:** Minimum detected temperature
-



#### INFORMATION MENU - DRIVER DIAGNOSTIC - **LED CHANNEL**

It displays the diagnostics from the driver card: for each of the 4 channels a SYSTEM information and a ERROR information is reported (the decoding is specified in the driver's specifications).

---

#### INFORMATION MENU - **DMX MONITOR**

It allows to visualize the DMX input level (in bits or as a percentage) of each channel of the projector (value Between 0 and 255 bit or between 0 and 100%).

---

#### INFORMATION MENU - **FANS MONITOR**

It allows to display the rotation speed (**RPM Speed**) of the fans installed on the machine.  
**Head** = Power Supply fans.

## 5.4 MANUAL CONTROL MENU

#### MANUAL CONTROL - **RESET**

It allows to reset the projector's CPU in case of anomalies.

---

#### MANUAL CONTROL - **CHANNEL**

It allows to set a value in bit to the channels, from the projector control panel for manual control of each effect without the need of a DMX input signal (values between 0 and 255 bits).

## 5.5 ADVANCED MENU

*To access to the Advanced menu (only recommended for experienced users), you need to set the access code 1234.*

#### ADVANCED MENU - **FIRMWARE UPLOAD**

It allows to transfer the firmware from one projector to the others connected to it.

---

#### ADVANCED MENU - **MODEL SETUP**

It allows to change the projector's model set, selecting among the available:

- **Undefined**
- **Stormy**
- **Stormy CC**

## 6. MAINTENANCE

8

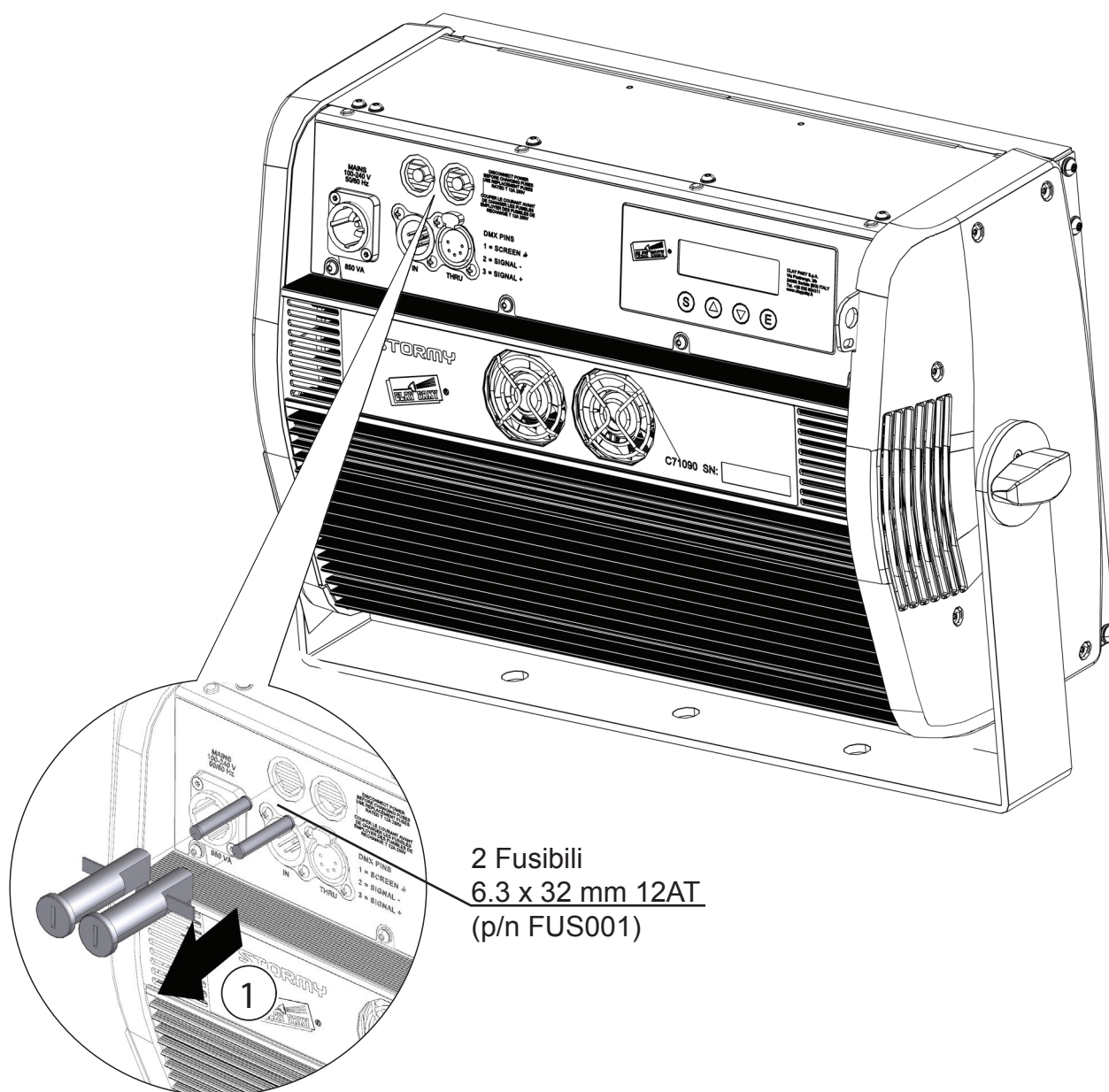


Fig. 8 - Fuses replacing

Each product has 2 fuses associated with the main power cord connection.

## 6. MAINTENANCE

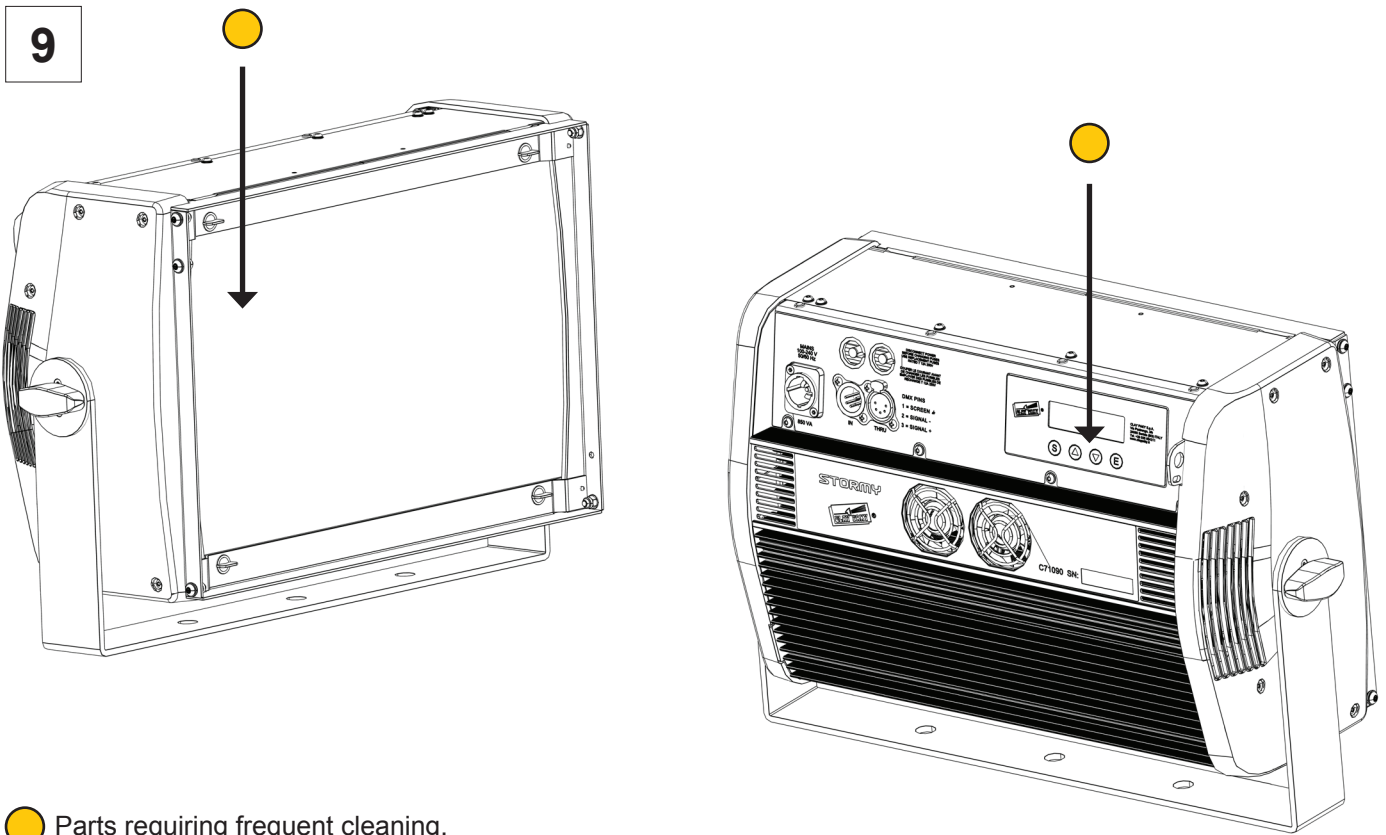


Fig. 9 - Periodic cleaning

To ensure optimal operation and performance for a long time it is essential to periodically clean the parts subject to dust and grease deposits. The frequency with which the following operations are to be carried out depends on various factors such as wear and the work environment quality (air humidity, dust, salinity, etc.). To remove dirt from external parts, use a soft cloth dampened with any liquid glass cleaning detergent.

It is recommended that the projector undergoes an annual service by a qualified technician for special maintenance involving at least the following operations:

- General cleaning of internal parts.
- General visual check of internal parts, cabling, mechanical parts, etc.
- Electrical, photometric and functional checks; eventual repairs.

### **IMPORTANT: Cleaning transparent cover**

Only use neutral soap and water to clean the transparent cover then dry it carefully with a soft, non-abrasive cloth. (WARNING: the use of alcohol or any other detergent could damage the transparent cover.)

## 7. ACCESSORIES

10

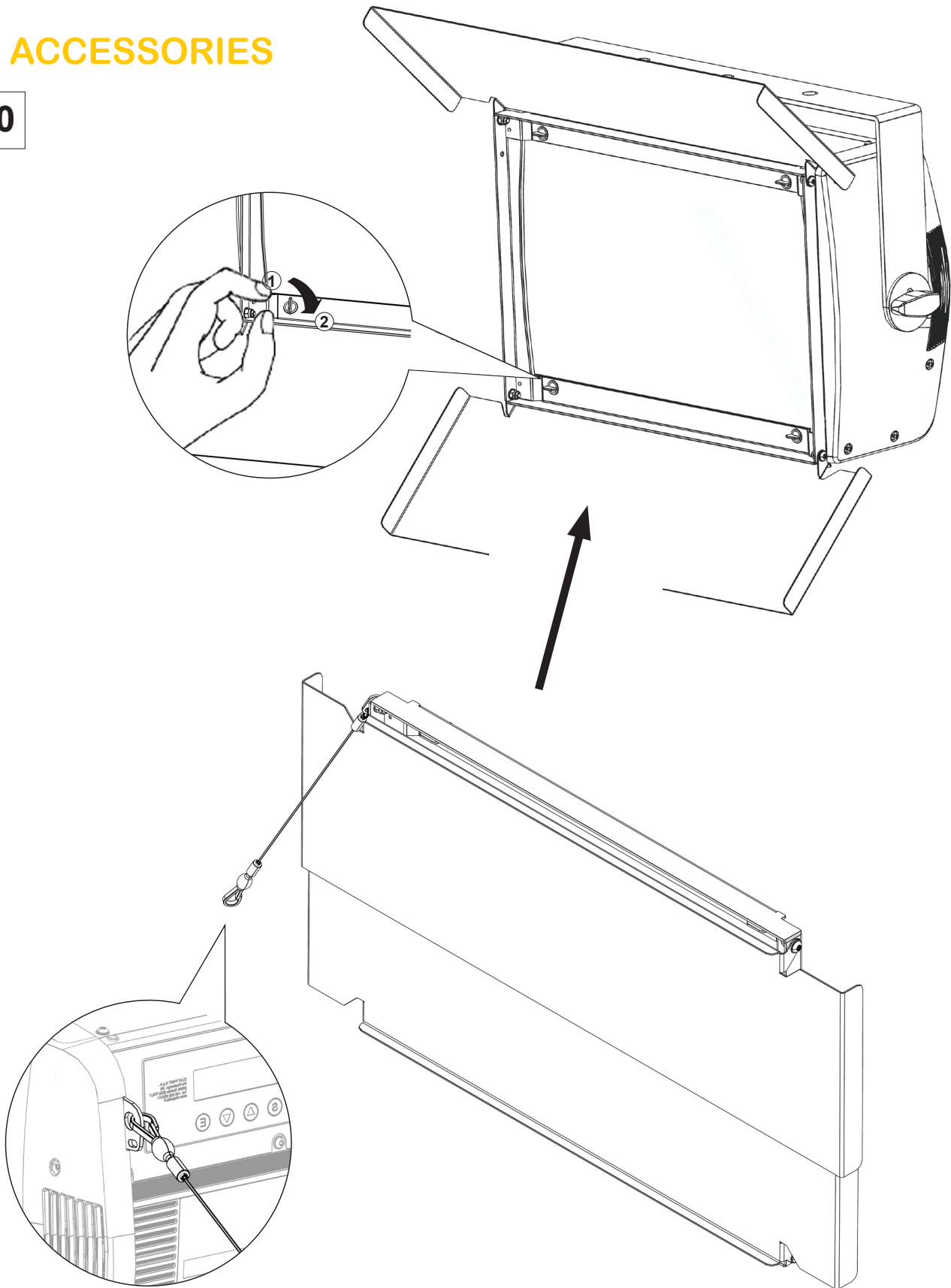


Fig. 10 - Barn-doors - C71116

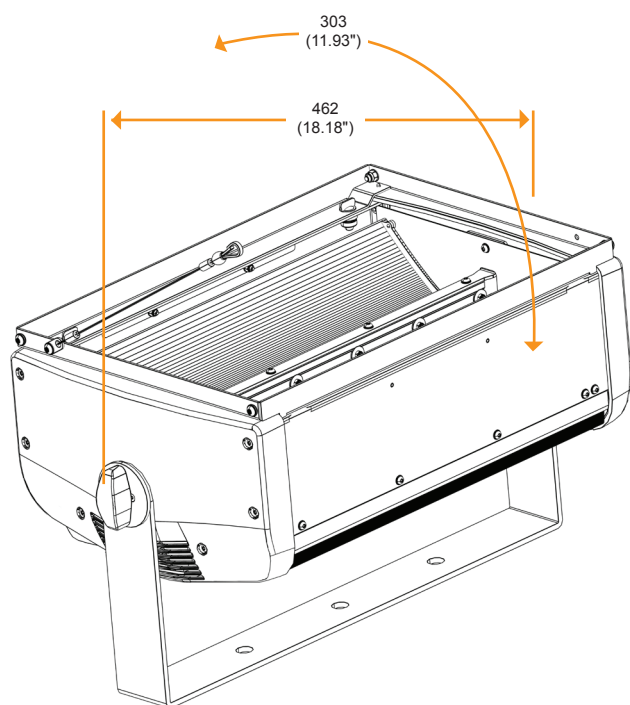
## 8.1/A TECHNICAL DATA \_ STORMY

<b>POWER SUPPLIES</b>	100/240V 50/60 Hz Automatic power supply
<b>INPUT POWER</b>	850 VA
<b>TOTAL LUMEN OUTPUT</b>	Max 80.000 lm
<b>LIGHT SOURCE</b>	144x8W(peak power) LED White - Type: OSRAM OSOLON SQUARE LED - GW CSSRM1.PC - Color Temperature: 5.700 K - Life: 50.000 hrs - Luminous flux: 60.000 lm (continuous), 80.000 lm (peak)
<b>CHANNELS</b>	3 channels DMX 512 Standard mode 4 channels DMX 512 Xenon mode
<b>CONTROL INPUTS</b>	DMX 512
<b>WEIGHT</b>	7,5 Kg (15,87 lbs)
<b>IP RATING</b>	IP20 Protected against the entry of solid bodies larger than 12mm (0,47") No protection against the entry of liquids
<b>SAFETY DEVICES</b>	Automatic shut-down in case of power supply overcurrent Automatic power derating, in case of LED or power supply overheating or failed operation of cooling system
<b>COOLING</b>	Forced ventilation with fans and heat sink
<b>BODY</b>	Body extruded in black anodized aluminum Aluminum and steel structure with plastic covers
<b>WORKING POSITION</b>	Any working position Hanging system: with clamps on the bracket
<b>OPTICS</b>	42° controlled light 130° direct + controlled light
<b>COLOR SYSTEM AND EFFECTS SECTION</b>	Global dimmer Strobe from 0,3 to 25 flashes/sec Xenon lamp emulation Extended range of macros
<b>CONTROL AND PROGRAMMING</b>	DMX protocol signal: USITT DMX 512 Display: Graphic LCD , backlit LED, white on black Dimmer Resolution: 8 bit Strobe 25Hz DMX signal connection: 5 pole XLR input and output Software upload through DMX input
<b>ELECTRONICS</b>	Electronic monitoring with status error Active Cooling system monitoring DMX level monitoring on all channels Internal data transmission diagnostics Firmware upload from another fixture

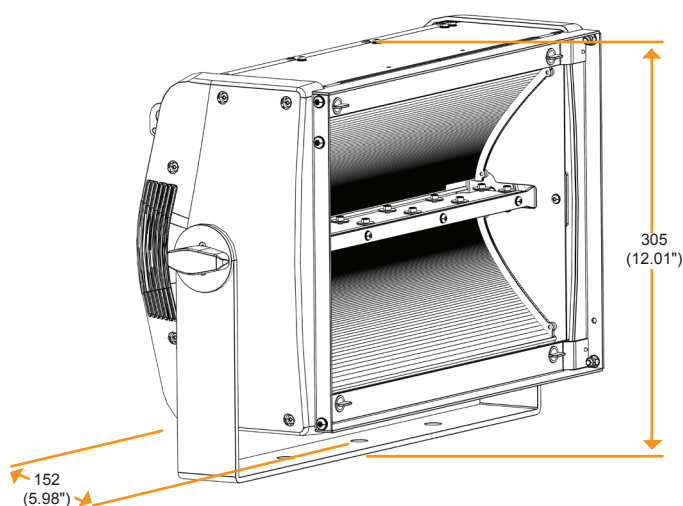
## 8.1/B TECHNICAL DATA \_ STORMY CC

<b>POWER SUPPLIES</b>	100/240V 50/60 Hz Automatic power supply
<b>INPUT POWER</b>	850 VA
<b>TOTAL LUMEN OUTPUT</b>	Max 40.000 lm
<b>LIGHT SOURCE</b>	36x6W (peak power) LED - Type: OSRAM OSOLON SIGNAL 120 - RED - LJ CKBP-JXKZ-27-1 36x7W (peak power) LED - Type: OSRAM OSOLON SIGNAL 120 - GREEN - LT CQBP-KYLX-36-1 36x8W (peak power) LED - Type: OSRAM OSOLON SQUARE LED - BLUE - LD CQAR-APAR-24-1 36x8W (peak power) LED - Type: OSRAM OSOLON SQUARE LED - WHITE - GW CSSRM1.PC - Color Temperature: 5.700 K - Life: 50.000 hrs - Luminous flux: 25.000 lm (continuous), 35.000 lm (peak)

<b>CHANNELS</b>	7 channels DMX 512 Standard mode 15 channels DMX 512 Extended mode 14 channels DMX 512 Independent mode (to come)
<b>CONTROL INPUTS</b>	DMX 512
<b>WEIGHT</b>	7,5 Kg (15,87 lbs)
<b>IP RATING</b>	IP20 Protected against the entry of solid bodies larger than 12mm (0,47") No protection against the entry of liquids
<b>SAFETY DEVICES</b>	Automatic shut-down in case of power supply overcurrent Automatic power derating, in case of LED or power supply overheating or failed operation of cooling system
<b>COOLING</b>	Forced ventilation with fans and heat sink
<b>BODY</b>	Body extruded in black anodized aluminum Aluminum and steel structure with plastic covers
<b>WORKING POSITION</b>	Any working position Hanging system: with clamps on the bracket
<b>OPTICS</b>	42° controlled light 130° direct + controlled light
<b>COLOR SYSTEM AND EFFECTS SECTION</b>	Global dimmer Strobe from 0,3 to 25 flashes/sec Xenon lamp emulation Extended range of macros Independent timing controls for each color
<b>CONTROL AND PROGRAMMING</b>	DMX protocol signal: USITT DMX 512 Display: Graphic LCD, backlit LED, white on black Dimmer Resolution: 8 bit Strobe 25Hz DMX signal connection: 5 pole XLR input and output Software upload through DMX input
<b>ELECTRONICS</b>	Electronic monitoring with status error Active Cooling system monitoring DMX level monitoring on all channels Internal data transmission diagnostics Firmware upload from another fixture



7.2 Kg  
(15.13 lbs)



## 9.1/A CHANNEL LIST \_ STORMY

CHANNEL	CHANNEL MODE	
	STANDARD	XENON
1	INTENSITY	INTENSITY
2	DURATION	DURATION
3	RATE	RATE
4	-	MACRO

## 9.2/A CHANNEL FUNCTION \_ STORMY

Channel Mode		DMX Value	Function
Standard	Xenon		
1	1		<b>INTENSITY</b>
		0 - 5	Light OFF
		6 - 255	Light output linearly increase from minimum to maximum brightness
2	2		<b>DURATION</b>
		0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) <i>See details in a following dedicated table.</i> IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
3	3		<b>RATE</b>
		0 - 5	Light OFF
		6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) <i>See details in a following dedicated table.</i>
-	4		<b>MACRO</b>
		0 - 5	Macro OFF
		6 - 42	Macro 1 – UP ramp
		43 - 85	Macro 2 – DOWN ramp
		86 - 128	Macro 3 - UP↔DOWN ramp
		129 - 171	Macro 4 – Random
		172 - 214	Macro 5 – Lightning
215 - 255	Macro 6 – Spikes		

## 9.1/B CHANNEL LIST \_ STORMY CC

CHANNEL	CHANNEL MODE		
	STANDARD	INDEPENDENT	EXTENDED
1	RED INTENSITY	RED INTENSITY	RED FOREGROUND
2	GREEN INTENSITY	RED DURATION	GREEN FOREGROUND
3	BLUE INTENSITY	RED RATE	BLUE FOREGROUND
4	WHITE INTENSITY	GREEN INTENSITY	WHITE FOREGROUND
5	MASTER INTENSITY	GREEN DURATION	DIMMER FOREGROUND
6	MASTER DURATION	GREEN RATE	MASTER DURATION
7	MASTER RATE	BLUE INTENSITY	MASTER RATE
8	-	BLU DURATION	MACRO t.b.d
9	-	BLU RATE	OFFSET t.b.d
10	-	WHITE INTENSITY	FUNCTION
11	-	WHITE DURATION	RED BACKGROUND
12	-	WHITE RATE	GREEN BACKGROUND
13	-	MASTER INTENSITY	BLUE BACKGROUND
14	-	MASK	WHITE BACKGROUND
15	-	-	DIMMER BACKGROUND

## 9.2/B CHANNEL FUNCTION \_ STORMY CC

Channel Mode	DMX Value	Function
Standard		
1		<b>RED INTENSITY</b>
	<b>0 - 255</b>	Red colour linearly increase from no-light to maximum intensity
	<b>0 - 5</b>	Single Dimmer flash
	<b>6 - 255</b>	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec). See details in a following dedicated table.
2		<b>GREEN INTENSITY</b>
	<b>0 - 255</b>	Green colour linearly increase from no-light to maximum intensity
3		<b>BLUE INTENSITY</b>
	<b>0 - 255</b>	Blue colour linearly increase from no-light to maximum intensity
	<b>0 - 5</b>	Single Dimmer flash
4		<b>WHITE INTENSITY</b>
	<b>0 - 255</b>	White colour linearly increase from no-light to maximum intensity
	<b>0 - 5</b>	Single Dimmer flash
5		<b>MASTER INTENSITY</b>
	<b>0 - 5</b>	No Light output
	<b>6 - 255</b>	Light output linearly increase from minimum to maximum brightness
6		<b>MASTER DURATION</b>
	<b>0 - 255</b>	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) See details in a following dedicated table. <b>IMPORTANT:</b> Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.



Channel Mode	DMX Value	Function
Standard		
7		<b>MASTER RATE</b>
	0 - 5	Light OFF
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) See details in a following dedicated table.

Channel Mode	DMX Value	Function
Independent		
1		<b>RED INTENSITY</b>
	0 - 255	Red colour linearly increase from no-light to maximum intensity
2		<b>RED DURATION</b>
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) See details in a following dedicated table. IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
3		<b>RED RATE</b>
	0 - 5	Single Dimmer flash
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec). See details in a following dedicated table.
4		<b>GREEN INTENSITY</b>
	0 - 255	Green colour linearly increase from no-light to maximum intensity
5		<b>GREEN DURATION</b>
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) See details in a following dedicated table. IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
6		<b>GREEN RATE</b>
	0 - 5	Single Dimmer flash
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) See details in a following dedicated table.
7		<b>BLUE INTENSITY</b>
	0 - 255	Blue colour linearly increase from no-light to maximum intensity

Channel Mode	DMX Value	Function
Independent		
8		<b>BLUE DURATION</b>
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) <i>See details in a following dedicated table.</i> IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
9		<b>BLUE RATE</b>
	0 - 5 6 - 255	Single Dimmer flash Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec). <i>See details in a following dedicated table.</i>
10		<b>WHITE INTENSITY</b>
	0 - 255	White colour linearly increase from no-light to maximum intensity
11		<b>WHITE DURATION</b>
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) <i>See details in a following dedicated table.</i> IMPORTANT: Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on
12		<b>WHITE RATE</b>
	0 - 5 6 - 255	Single Dimmer flash Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) <i>See details in a following dedicated table.</i>
13		<b>MASTER INTENSITY</b>
	0 - 5 6 - 255	No Light output <i>Light output linearly increase from minimum to maximum brightness</i>
14		<b>MASK</b>
	0-31	No overwriting
	32-47	RED overwrites all other channels
	48-63	GREEN overwrites all other channels
	64-79	BLUE overwrites all other channels
	80-95	WHITE overwrites all other channels
	96-111	RED, GREEN overwrite BLUE, WHITE
	112-127	RED, BLUE overwrite GREEN, WHITE
	128-143	RED, WHITE overwrite GREEN, BLUE
	144-159	GREEN, BLUE overwrite RED, WHITE
	160-175	GREEN, WHITE overwrite RED, BLUE
	176-191	BLUE, WHITE overwrite RED, GREEN
192-207	RED, GREEN, BLUE overwrite WHITE	
208-223	RED, GREEN, WHITE overwrite BLUE	

Channel Mode	DMX Value	Function
Independent		
14	224-239	RED, BLUE, WHITE overwrite GREEN
	240-255	GREEN, BLUE, WHITE overwrite RED

Channel Mode	DMX Value	Function
Extended		
1		<b>RED FOREGROUND</b>
	0 - 255	Red Foreground Colour linearly increase from no-light to maximum intensity
2		<b>GREEN FOREGROUND</b>
	0 - 255	Green Foreground Colour linearly increase from no-light to maximum intensity
3		<b>BLUE FOREGROUND</b>
	0 - 255	Blue Foreground Colour linearly increase from no-light to maximum intensity
4		<b>WHITE FOREGROUND</b>
	0 - 255	White Foreground Colour linearly increase from no-light to maximum intensity
5		<b>DIMMER FOREGROUND</b>
	0 - 5	No Light output
	6 - 255	Light output linearly increase from minimum to maximum brightness
6		<b>MASTER DURATION</b>
	0 - 255	Light time (versus dark time) linearly increases from shorter time (2.5msec) to longer time (650msec) <i>See details in a following dedicated table.</i> <b>IMPORTANT:</b> Duration Time must be lower than Rate Time (Period) for flashing. If Duration Time is equal or greater than Rate Time (Period) the light is continuously on.
7		<b>MASTER RATE</b>
	0 - 5	Light OFF
	6 - 255	Flashing at linearly variable frequency from low: (~0.3 flashes/sec or 1 flash every period of 3.5sec) to high (25 flashes/sec or 1°flash every period of 40msec) <i>See details in a following dedicated table.</i>
8		<b>MACRO</b>
	0 - 255	T.B.D.
9		<b>OFFSET</b>
	0 - 255	T.B.D.
10		<b>FUNCTION</b>
	0 - 9	Foreground overwrite Background (Xenon mode)
	10 - 19	Foreground + Background (Xenon mode)
	20 - 29	Foreground overwrite Background (Continuous mode)
	30 - 39	Foreground + Background (Continuous mode)
11		<b>RED BACKGROUND</b>
	0 - 255	Red Background Colour linearly increase from no-light to maximum intensity

Channel Mode	DMX Value	Function
Extended		
12		<b>GREEN BACKGROUND</b>
	0 - 255	Green Background Colour linearly increase from no-light to maximum intensity
13		<b>BLUE BACKGROUND</b>
	0 - 255	Blue Background Colour linearly increase from no-light to maximum intensity
14		<b>WHITE BACKGROUND</b>
	0 - 255	White Background Colour linearly increase from no-light to maximum intensity
15		<b>DIMMER BACKGROUND</b>
	0 - 5	No Light output
	6 - 255	Light output linearly increase from minimum to maximum brightness

## 9.3 DURATION CHANNEL DETAILS

DMX level	Time [msec]	DMX level	Time [msec]	DMX level	Time [msec]	DMX level	Time [msec]	DMX level	Time [msec]	DMX level	Time [msec]
0	2.50	43	111.7	86	220.8	129	330.0	172	439.2	215	548.4
1	5.00	44	114.2	87	223.4	130	332.6	173	441.7	216	550.9
2	7.60	45	116.7	88	225.9	131	335.1	174	444.3	217	553.5
3	10.10	46	119.3	89	228.5	132	337.6	175	446.8	218	556.0
4	12.60	47	121.8	90	231.0	133	340.2	176	449.4	219	558.5
5	15.20	48	124.4	91	233.5	134	342.7	177	451.9	220	561.1
6	17.70	49	126.9	92	236.1	135	345.3	178	454.4	221	563.6
7	20.30	50	129.4	93	238.6	136	347.8	179	457.0	222	566.2
8	22.80	51	132.0	94	241.2	137	350.3	180	459.5	223	568.7
9	25.30	52	134.5	95	243.7	138	352.9	181	462.1	224	571.2
10	27.90	53	137.1	96	246.2	139	355.4	182	464.6	225	573.8
11	30.40	54	139.6	97	248.8	140	358.0	183	467.1	226	576.3
12	33.00	55	142.1	98	251.3	141	360.5	184	469.7	227	578.9
13	35.50	56	144.7	99	253.9	142	363.0	185	472.2	228	581.4
14	38.00	57	147.2	100	256.4	143	365.6	186	474.8	229	583.9
15	40.60	58	149.8	101	258.9	144	368.1	187	477.3	230	586.5
16	43.10	59	152.3	102	261.5	145	370.7	188	479.8	231	589.0
17	45.70	60	154.8	103	264.0	146	373.2	189	482.4	232	591.6
18	48.20	61	157.4	104	266.6	147	375.7	190	484.9	233	594.1
19	50.70	62	159.9	105	269.1	148	378.3	191	487.5	234	596.6
20	53.30	63	162.5	106	271.6	149	380.8	192	490.0	235	599.2
21	55.80	64	165.0	107	274.2	150	383.3	193	492.5	236	601.7
22	58.30	65	167.5	108	276.7	151	385.9	194	495.1	237	604.2
23	60.90	66	170.1	109	279.2	152	388.4	195	497.6	238	606.8
24	63.40	67	172.6	110	281.8	153	391.0	196	500.1	239	609.3
25	66.00	68	175.1	111	284.3	154	393.5	197	502.7	240	611.9
26	68.50	69	177.7	112	286.9	155	396.0	198	505.2	241	614.4
27	71.00	70	180.2	113	289.4	156	398.6	199	507.8	242	616.9
28	73.60	71	182.8	114	291.9	157	401.1	200	510.3	243	619.5
29	76.10	72	185.3	115	294.5	158	403.7	201	512.8	244	622.0
30	78.70	73	187.8	116	297.0	159	406.2	202	515.4	245	624.6
31	81.20	74	190.4	117	299.6	160	408.7	203	517.9	246	627.1
32	83.70	75	192.9	118	302.1	161	411.3	204	520.5	247	629.6
33	86.30	76	195.5	119	304.6	162	413.8	205	523.0	248	632.2
34	88.80	77	198.0	120	307.2	163	416.4	206	525.5	249	634.7
35	91.40	78	200.5	121	309.7	164	418.9	207	528.1	250	637.3
36	93.90	79	203.1	122	312.3	165	421.4	208	530.6	251	639.8
37	96.40	80	205.6	123	314.8	166	424.0	209	533.2	252	642.3
38	99.00	81	208.2	124	317.3	167	426.5	210	535.7	253	644.9
39	101.5	82	210.7	125	319.9	168	429.1	211	538.2	254	647.4
40	104.1	83	213.2	126	322.4	169	431.6	212	540.8	255	650.0
41	106.6	84	215.8	127	325.0	170	434.1	213	543.3		
42	109.1	85	218.3	128	327.5	171	436.7	214	545.8		

## 9.4 RATE CHANNEL DETAILS

DMX level	Time [msec]	Frequency [flash/sec]
0	-	0
1	-	0
2	-	0
3	-	0
4	-	0
5	-	0
6	3500	0.29
7	3500	0.29
8	2320	0.43
9	2320	0.43
10	1760	0.57
11	1760	0.57
12	1400	0.71
13	1400	0.71
14	1160	0.86
15	1160	0.86
16	1000	1.00
17	1000	1.00
18	880.0	1.14
19	880.0	1.14
20	760.0	1.32
21	740.0	1.35
22	720.0	1.39
23	700.0	1.43
24	640.0	1.56
25	600.0	1.67
26	580.0	1.72
27	570.0	1.75
28	560.0	1.79
29	540.0	1.85
30	500.0	2.00
31	490.0	2.04
32	480.0	2.08
33	460.0	2.17
34	440.0	2.27
35	430.0	2.33
36	420.0	2.38
37	410.0	2.44
38	400.0	2.50
39	390.0	2.56
40	384.0	2.60
41	376.0	2.66
42	360.0	2.78

DMX level	Time [msec]	Frequency [flash/sec]
43	350.0	2.86
44	336.0	2.98
45	330.0	3.03
46	320.0	3.13
47	315.0	3.17
48	310.0	3.23
49	305.0	3.28
50	300.0	3.33
51	290.0	3.45
52	284.0	3.52
53	280.0	3.57
54	275.0	3.64
55	270.0	3.70
56	264.0	3.79
57	255.0	3.92
58	250.0	4.00
59	245.0	4.08
60	240.0	4.17
61	237.0	4.22
62	234.0	4.27
63	231.0	4.33
64	227.0	4.41
65	224.0	4.46
66	220.0	4.55
67	217.0	4.61
68	214.0	4.67
69	211.0	4.74
70	208.0	4.81
71	205.0	4.88
72	200.0	5.00
73	197.5	5.06
74	195.0	5.13
75	192.5	5.19
76	190.0	5.26
77	187.5	5.33
78	185.0	5.41
79	182.5	5.48
80	180.0	5.56
81	178.0	5.62
82	176.0	5.68
83	174.0	5.75
84	172.0	5.81
85	170.0	5.88

DMX level	Time [msec]	Frequency [flash/sec]
86	168.0	5.95
87	166.0	6.02
88	164.0	6.10
89	162.0	6.17
90	160.0	6.25
91	158.0	6.33
92	156.0	6.41
93	154.0	6.49
94	152.0	6.58
95	151.0	6.62
96	150.0	6.67
97	149.0	6.71
98	148.0	6.76
99	147.0	6.80
100	146.0	6.85
101	145.0	6.90
102	144.0	6.94
103	142.0	7.04
104	140.0	7.14
105	138.0	7.25
106	136.0	7.35
107	134.0	7.46
108	132.0	7.58
109	130.0	7.69
110	128.0	7.81
111	127.0	7.87
112	126.0	7.94
113	125.0	8.00
114	124.0	8.06
115	123.0	8.13
116	122.0	8.20
117	121.0	8.26
118	120.0	8.33
119	119.0	8.40
120	118.0	8.47
121	117.0	8.55
122	116.0	8.62
123	115.0	8.70
124	114.0	8.77
125	113.0	8.85
126	112.0	8.93
127	111.0	9.01
128	110.0	9.09

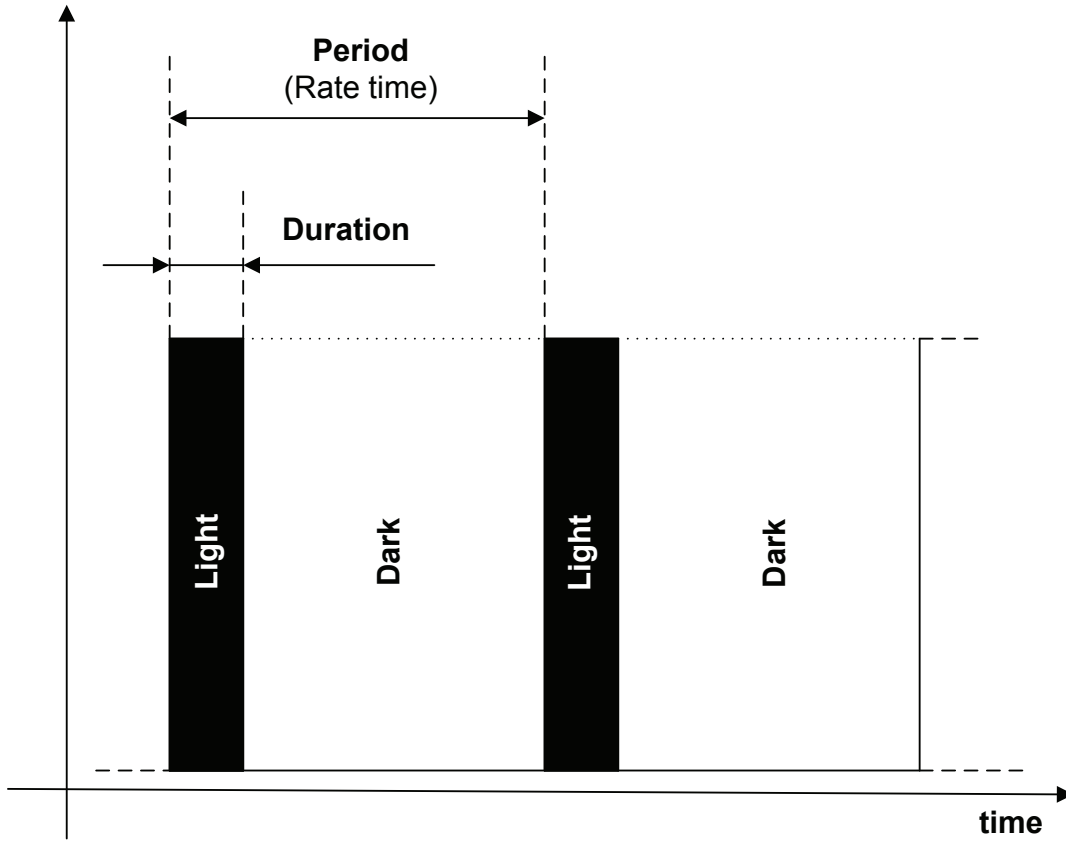
## 9.4 RATE CHANNEL DETAILS

DMX level	Time [msec]	Frequency [flash/sec]
129	109.0	9.17
130	110.0	9.09
131	109.5	9.13
132	109	9.17
133	108.5	9.22
134	108.0	9.26
135	107.5	9.30
136	107.0	9.35
137	106.5	9.39
138	106.0	9.43
139	105.5	9.48
140	105.0	9.52
141	104.5	9.57
142	104.0	9.62
143	103.0	9.71
144	102.0	9.80
145	101.0	9.90
146	100.0	10.00
147	99.0	10.10
148	98.0	10.20
149	97.0	10.31
150	96.0	10.42
151	95.0	10.53
152	94.0	10.64
153	93.0	10.75
154	92.0	10.87
155	91.0	10.99
156	90.0	11.11
157	89.5	11.17
158	89.0	11.24
159	88.5	11.30
160	88.0	11.36
161	87.5	11.43
162	87.0	11.49
163	86.5	11.56
164	86.0	11.63
165	85.5	11.70
166	85.0	11.76
167	84.5	11.83
168	84.0	11.90
169	83.5	11.98
170	83.0	12.05
171	82.5	12.12
172	82.0	12.20

DMX level	Time [msec]	Frequency [flash/sec]
173	81.5	12.27
174	81.0	12.35
175	80.5	12.42
176	80.0	12.50
177	79.6	12.56
178	79.2	12.63
179	78.8	12.69
180	78.4	12.76
181	78.0	12.82
182	77.6	12.89
183	77.2	12.95
184	76.8	13.02
185	76.4	13.09
186	76.0	13.16
187	75.6	13.23
188	75.2	13.30
189	74.8	13.37
190	74.4	13.44
191	74.0	13.51
192	73.6	13.59
193	73.2	13.66
194	72.8	13.74
195	72.4	13.81
196	72.0	13.89
197	71.6	13.97
198	71.2	14.04
199	70.8	14.12
200	70.4	14.20
201	70.0	14.29
202	69.6	14.37
203	69.2	14.45
204	69.0	14.49
205	68.7	14.56
206	68.4	14.62
207	68.1	14.68
208	67.8	14.75
209	67.5	14.81
210	67.2	14.88
211	66.9	14.95
212	66.6	15.02
213	66.3	15.08
214	66.0	15.15
215	65.7	15.22
216	65.4	15.29

DMX level	Time [msec]	Frequency [flash/sec]
217	65.1	15.36
218	64.8	15.43
219	64.5	15.50
220	64.2	15.58
221	63.9	15.65
222	63.6	15.72
223	63.3	15.80
224	63.0	15.87
225	62.7	15.95
226	62.4	16.03
227	62.1	16.10
228	61.8	16.18
229	61.5	16.26
230	61.2	16.34
231	60.9	16.42
232	60.6	16.50
233	60.3	16.58
234	60.0	16.67
235	59.0	16.95
236	58.0	17.24
237	57.0	17.54
238	56.0	17.86
239	55.0	18.18
240	54.0	18.52
241	53.0	18.87
242	52.0	19.23
243	51.0	19.61
244	50.0	20.00
245	49.0	20.41
246	48.0	20.83
247	47.0	21.28
248	46.0	21.74
249	45.0	22.22
250	44.0	22.73
251	43.0	23.26
252	42.0	23.81
253	41.0	24.39
254	40.0	25.00
255	40.0	25.00

## 10. DURATION time - RATE time (PERIOD) relation



Duration time < Period : Flashing  
Duration time >= Period : Light continuously ON

