SPARK FABRICA SF-X5 5 Meter Waterproof Spark Tide Machine User Manual

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Contents

PRODUCT INTRODUCTION

This product belongs to special effects equipment, only for professional use.

This product belongs to the cold fireworks simulation special effects equipment, using CST technology, heating special metal powder, and sparking silver spark fountain which is safer than the traditional cold fire works. It has three controllable variables: height, density and duration.

This product is widely used in weddings, concerts, sports events, event meetings and so on. Stimulate your interest and light up your activity.

PRODUCT OVERVIEW

GRANULE FILLING PORT
BIN BUTTON

HOPPER COVER
OUTPUT NOZZLE
ENTER/MENU
HANDLE
GO BACK
AIR OUTLET
AIR INLET
LCD SCREEN

INCREASE
N/A
DECREASE
FUSE
POWER SWITCH
POWER IN
POWER OUT

DMX IN
DMX OUT
DMX / CAN IN
DMX / CAN OUT
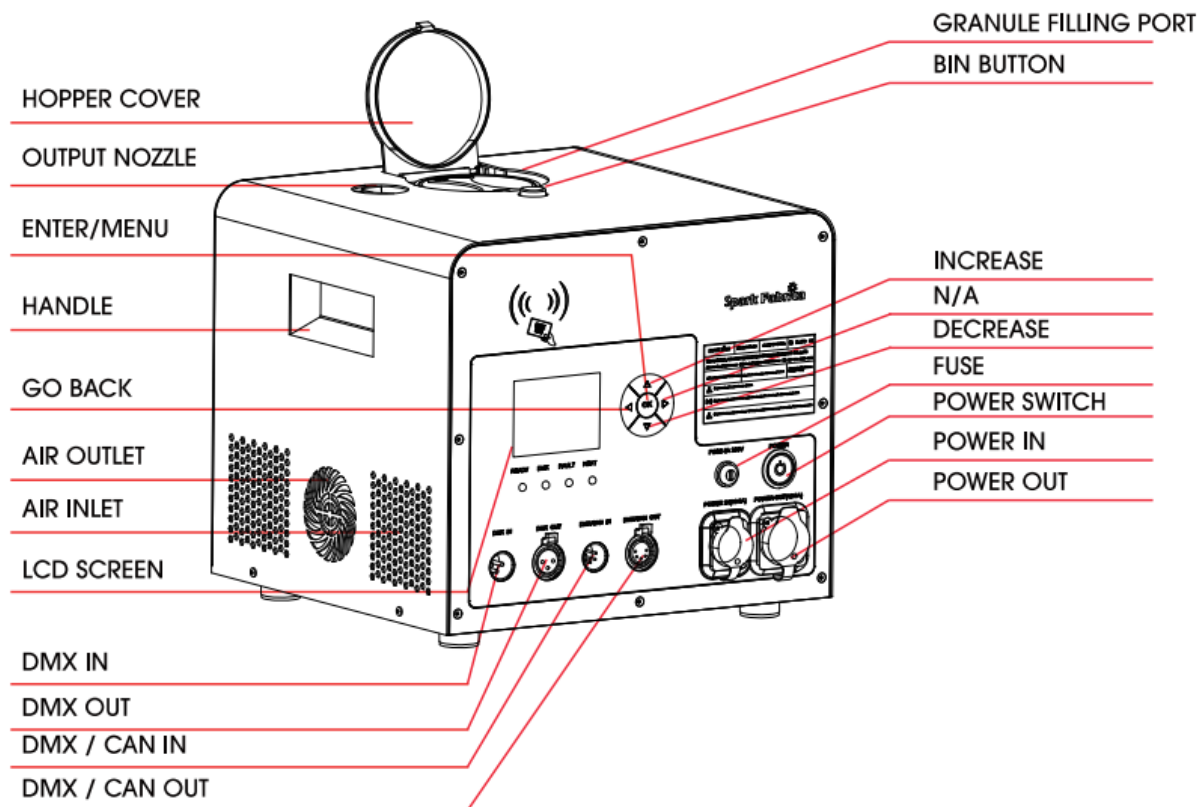
PRODUCT ACCESSORIES

- 1.6 Meter Power Plug
- 3 Meters DMX Pair Cable
- Safety Rope
- 3 Meters Power Pair Cable
- Safety Ring
- T-type Wrench
- User Manual
- Mounting Screw (Four pieces of each set)
- Upload Box (Optional)

NOTICE
Open the package carefully and check to make sure the goods are in good condition.

SPARK FABRICA GRANULE

A special metal powder has the characteristics of high content, little residue, belonging to a special consumables with no smoke, odor and other toxic gas when sparking.
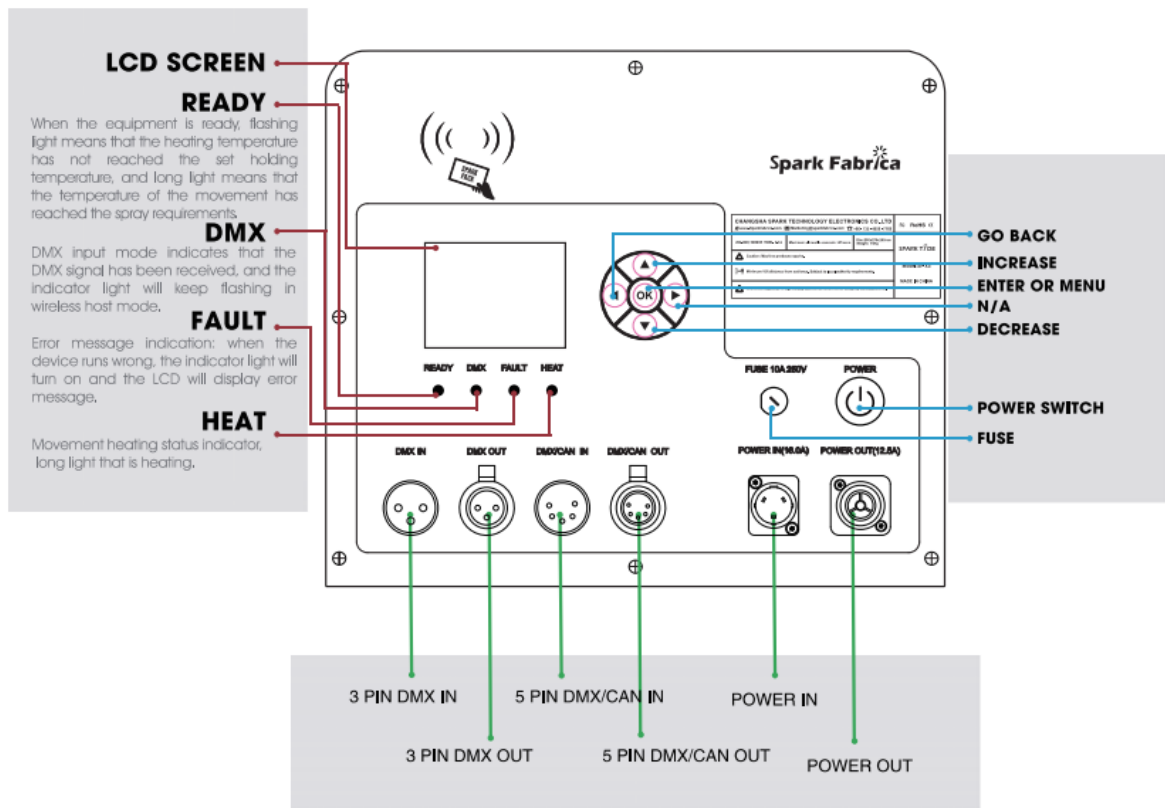
⚠ WARNING
Only the consumables provided by Spark Fabric are allowed to be used. Spark Fabric shall not be liable for any damage to machines, personnel and property caused by the use of consumables not provided by the company.
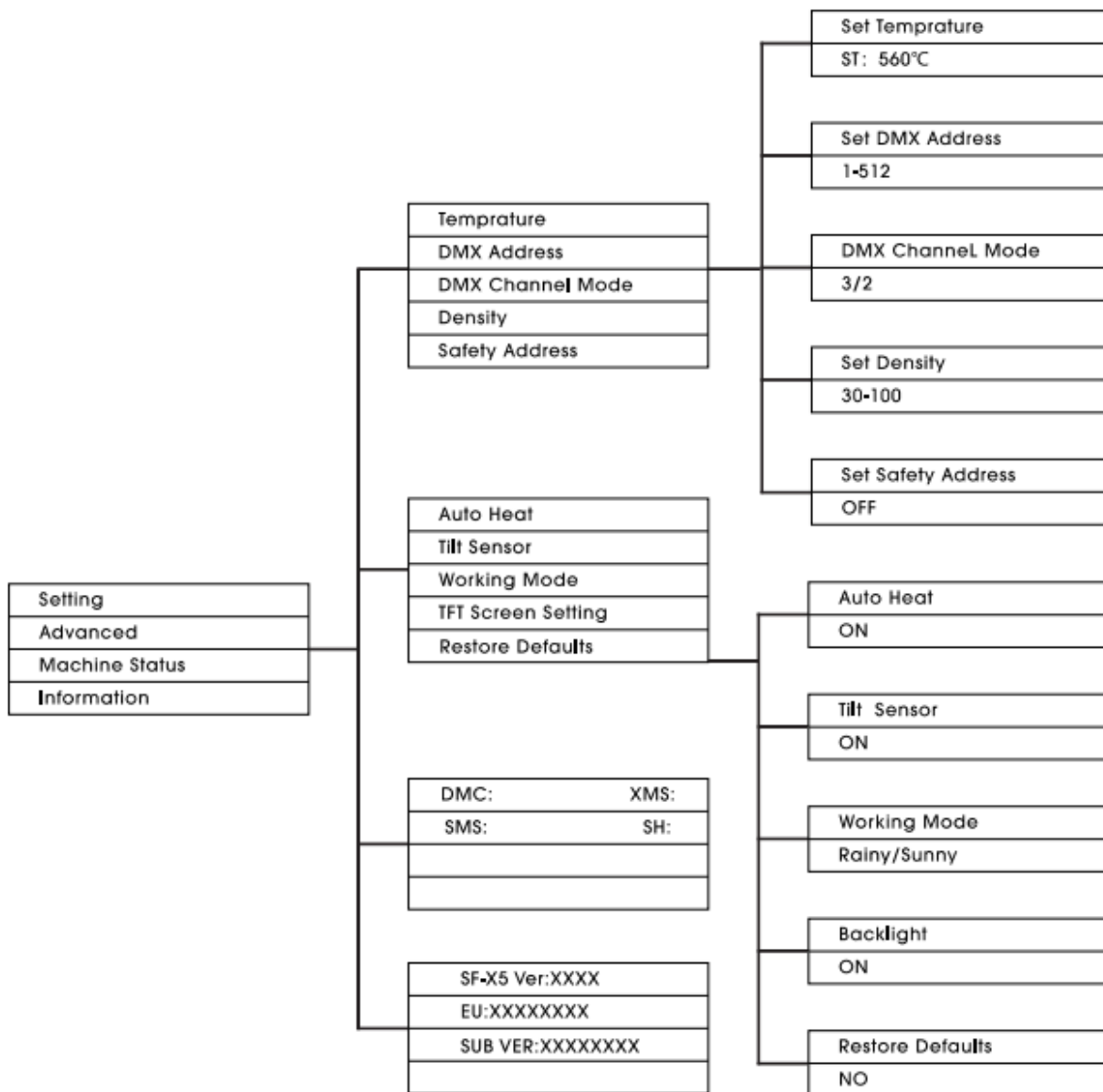
TECHNICAL PARAMETER

Identification	Manufacturer	SPARK FABRICA
	Name / Model	SPARK TIDE / SF-X5
	IP Rate	IP55
AC Power	Input Voltage & Frequency	100-120V, 50 / 60HZ
		200-240V, 50 / 60HZ
	Current Limiter Specifications	10A,100-120V / 5A,200-240V
	Constant Current	6.5A,100-120V / 3.5A,200-240V
	Nominal Total Power Consumption	700W
	Power Input Connector	SEETRONIC
	Power Output Connector	SEETRONIC
	DMX Signal Interface	3PIN/5PIN
Heating	Heat Up Time	<5 Minutes
Hopper	Powder Tank Capacity	300g
	Removable Hopper	√
Technical Parameters	Lineary Adjustable Density	30-100%
	Adjustable Height	1.5-5m
	Height Level	1-10 Level
	Powder Consumption (100% Output)	20-25g/Minute
	Maximum Single Continuous Duration	30s
Control	Control Protocol	DMX-512
	RFID Proximity Card	√
	RDM	√
	CAN	√
	SMPTE	Touch Screen Console Support
Accessory	Power Plug	SEETRONIC (1.6Meter)
	Remote Controller	Optional
	DMX Cable	√ 3Meter
	Power Cable	√ 3Meter
	Safety Ring	√
	Safety Rope	√
	Bottom Mounting Screw	√
	Update Box	Optional
	120ohms Terminal Resistance	Optional
Certification	CE	√
	ROHS	√
Weight	Net Weight	14.6kg
	Gross Weight	17kg
Dimensions	Machine Dimensions - L*W*H	290mm*270mm*265mm
	Packing Dimensions - L*W*H	330mm*310mm*325mm
Granule	Granule	Spark Fabrica Granule

Screen operating Guide

Back Panel Introduction

LCD SCREEN

READY

When the equipment is ready, flashing light means that the heating temperature has not reached the set holding temperature, and long light means that the temperature of the movement has reached the spray requirements.

DMX

DMX input mode indicates that the DMX signal has been received, and the indicator light will keep flashing in wireless host mode.

FAULT

Error message indication: when the device runs wrong, the indicator light will turn on and the LCD will display error message.

HEAT

Movement heating status indicator, long light that is heating.

GO BACK
INCREASE
ENTER OR MENU
N/A
DECREASE

POWER SWITCH
FUSE

READY   DMX   FAULT   HEAT

FUSE 10A.250V   POWER

DMX IN   DMX OUT   DMX/CAN IN   DMX/CAN OUT   POWER IN(16.0A)   POWER OUT(12.5A)

Spark Fabrica

3 PIN DMX IN   5 PIN DMX/CAN IN   POWER IN

3 PIN DMX OUT   5 PIN DMX/CAN OUT   POWER OUT

Menu Setting

Menu Structure

Setting	Temprature	Set Temprature / ST: 560℃
Advanced	DMX Address	Set DMX Address / 1-512
Machine Status	DMX Channel Mode	DMX Channel Mode / 3/2
Information	Density	Set Density / 30-100
	Safety Address	Set Safety Address / OFF

Advanced:

Auto Heat	Auto Heat / ON
Tilt Sensor	Tilt Sensor / ON
Working Mode	Working Mode / Rainy/Sunny
TFT Screen Setting	Backlight / ON
Restore Defaults	Restore Defaults / NO

Machine Status:

DMC:	XMS:
SMS:	SH:

Information:

SF-X5 Ver:XXXX
EU:XXXXXXXX
SUB VER:XXXXXXXX

NOTICE: Press <OK> to enter the menu setting. The screen will automatically return to the main state interface with no modification.

NOTICE: Press ♦ key or ♦ key to modify parameters. The parameters will flash after the modification, and please press < OK > key to save the change.

NOTICE: Press • key will return to previous page.

Status Icons

Notice

When the icons are green means the machine is working normally, and yellow means abnormal.

 Blower Motor

 Shaft Motor

 Hopper Motor

 Shutter Motor

 Temp Sensor Unconnected

 Lack Of Time

 Sub PCB Connected

 C Shutter On The Nozzle

 Temp Over Heat

 Tip Over

 Rainy Mode

 Sunny Mode

 PCB Too Hot

 2/3 Channel Mode Optional

RDM

RDM allows the console with RDM function to set the DMX address and starting temperature of Spark Tide.

DMX PARAMETER LIST

First Channel	Function
0-10	Stop
11-255	Fountain Height 1-25
Second Channel	**Function**
0-200	Pre-heat Off
11-39	Emergency Stop
56-200	Clear Material
n240-255	Pre-heat On
Third Channel	**Function**
0-255	Density Adjustment (0 is Maximum Density)
Sally Channel	**Function**
0-200	Control Off
201-255	Control On

OPERATION NOTES

The designed Ingress Protection Rate of this machine is IP55, the machine can be used in rainy weather which is under or similaE to the testing condition of IP55.

WORKING CONDITION REQUIRED

⚠ WARNING

Do not mount the product on a flammable surface (linoleum, carpet, wood, paper, carton, plastic. etc). Make sure there are no inflammable or combustible materials in the using environment.

⚠ WARNING

Do not use in a confined space. Always Install the product In a location with adequate ventilation, at least 20 in (50 cm) from adjacent surfaces.

⚠️ WARNING

This product has no lightning arrester. please do not use this product in thunderstorm weather.

⚠️ WARNING

Keep people or flammable materials at least 10 feet (3 meters) away from the machine, and make sure that debris does not toll on flammable objects.

⚠️ WARNING

Do not use the machine at temperature above 122 'F (50 C).

SAFETY TIPS

⚠️ WARNING

Always connect the ground wire to ovoid electric shock. The machine cannot be submerged in water while operating it.

⚠️ WARNING

Ground water entering or covering the bottom of the machine will cause machine failure or electrical leakage risk. Make sure the bottom of the machine is at a safe distance from the surface water In rainy weather to avoid surface the machine from the bottom.

⚠️ WARNING

Do Not touch the sparks. During heating up and operation, do not touch the housing.

⚠️ WARNING

Ensure nothing drop(s) into the nozzle of Spark Tide unit. Do Not cover output nozzle port.

⚠️ WARNING

The product is very hot during operation and it remains hot for a long time after operation has stopped. Do not touch or put finger in the output nozzle.

⚠️ WARNING

Make sure that children. unauthorized people and animals do not obtain access to the machine.

⚠️ WARNING

The noise level generated from the spark machine unit Is estimated of 80dB depending on the point nearest to the machine(s) during operational discharge mode.

⚠️ WARNING

Wear eye protection to avoid eye injury while filing granules and testing spark machine(s).
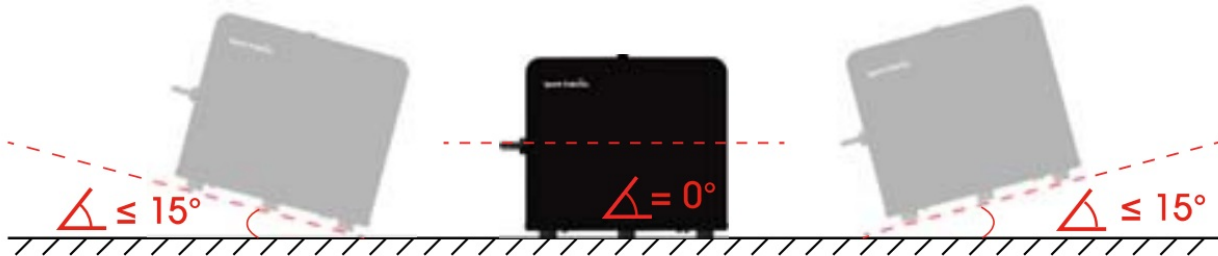
⚠️ **WARNING**

The proper firefighting extinguishers are recommended as follows: Any type of sand or substance that can suffocate the active meds. Class "D° Fire Extinguishers for Metal Substance Fires.

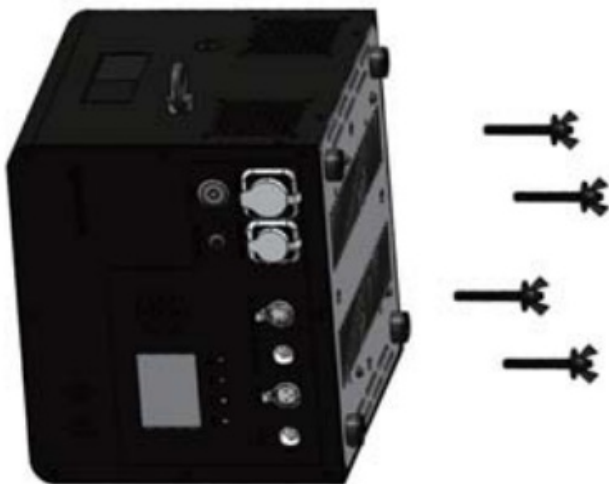## MACHINE OPERATION

PERPARATION

Install the machine on a firm and level ground, and the maximum tilt angle shall not exceed 15 degrees.

INSTALL MACHINE
Install the product on truss by using the attached accessories.

⚠️ **WARNING**

Keep people or flammable materials at least 10 feet (3 meters) away from the machine, and make sure that debris does not fall on flammable objects.

*Specific installation notes please refer to "4 OPERATION NOTES".

FILL IN SPARK FABRICA GRANULE

Spark Fabric Granule is the consumable specially designed for spark machine, to simulate cold fountain fireworks effect for stage.

Tear the vacuum package of granule, and fill in the Spark Fabric Granule through the granule filling port on the top of the machine.

- Fill the consumable into the feed port, NOT into the output nozzle.
- Close the lid securely after filling.
- The capacity of storage bin is 300g.

⚠️ WARNING
Make sure to fill the Spark Fabric Granule through the feed port on the top of the fixture when power supply is off.
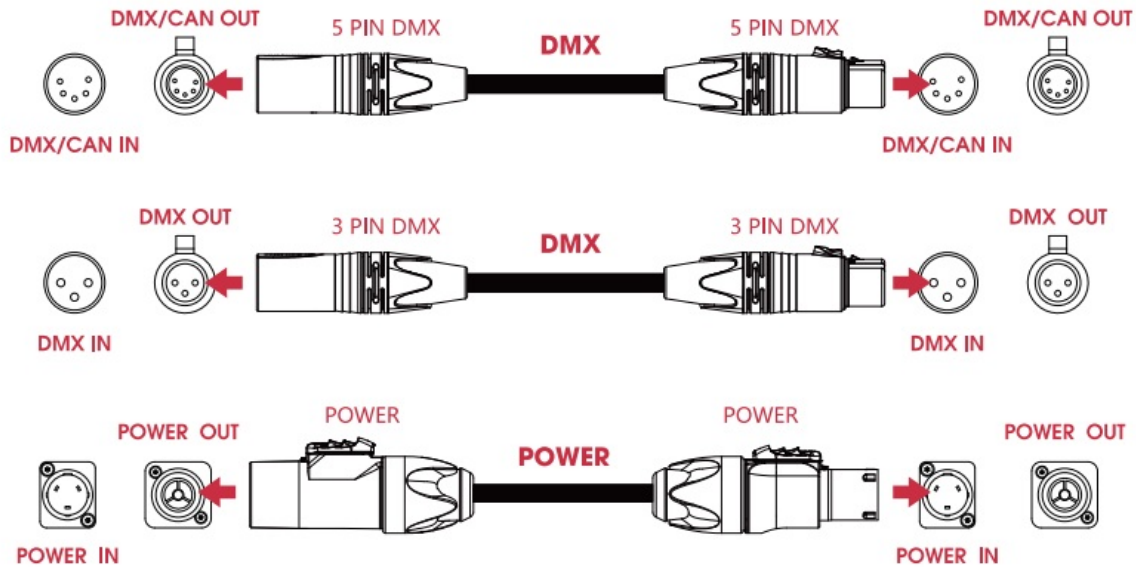
⚠️ WARNING
Wear eye protection to avoid eye injury while filling granules and testing spark machine(s).

CONNECT MACHINE

Connect power and DMX signal line.

- Connect the first machine's power plug.
- Connect the other machines in series with the power cable.
- Connect the other machines in series with DMX connection cable.
- Connect PYRO SIM CONTROLLER or DMX512 controller.

⚠ WARNING

Do not use damaged power plug and power cable. One power plug is recommended to connect 4 units in series at most for this product.

⚠ CAUTION

Please attach the configured 120 ohm terminal resistor to the outlet of the last machine to enhance the anti-interference of the machine.

⚠ CAUTION

Please calculate all products' total current required according to the power supply and fuse parameters of the products.

NOTICE

The standard length of the power connection line and the signal connection line is 3 meters, and a longer length can be reached by connecting in series.

Initial Setting

Setting	Range	Default
Set Temperature	400-620	560
DMX Address	1-512	1
DMX Channel Mode	3/2	3
Density	30-100	100
Auto Heating	ON/OFF	ON
Tilt Sensor	ON/OFF	ON
Working Mode	Rainy/Sunny	Rainy
TFT Back Light	ON/OFF	ON
Safety Address	0-512	OFF(0)
Restore Default	Yes/No	ON

Turn on power

- Check the machine status icon(refer to icon introductions of 3.3)

⚠ CAUTION

When the icon shows yellow, it indicates that the machine is abnormal. Please use it after asking the professional to check and repair the machine.

- The sparking temperature of the machine is the factory default temperature. The product will heat up automatically when disconnected with DMX signals. Automatic heating function can be set to on or off, and the concrete operation please refer to "3.2 MENU SETTING-.
- When spark machines connect DMX signal, the heating function can be started only on the Sim Pyro Console.

SET CHANNEL MODE

⚠ CAUTION

This machine has 2 channel mode and 3 channel mode, the specific setting please refer to "3.2 MENU SETTING".

SET DMX ADDRESS

Please set DMX address according to channel mode:

- In the 2 channel mode, please set spark machines' DMX address to 1.3.5.7
- In the 3 channel mode, please set spark machines' DMX address to 1A.7.10

NOTICE
Please do not set address code repeatedly.

SET SUNNY/RAINY MODE

NOTICE
In sunny mode, the sparking nozzle baffle is in the normally open state, and the sparking speed can be foster.

NOTICE
Specific settings please refer to "3.2 MENU SETTING".

NOTICE
RDM allows the console with RDM function to set the DMX address and starting temperature of Spark Tide.

START TO SPARK

The machine can be controlled by Pyro Sim Controller console or DMX512 console.

TURN ON CONSOLE'S POWER

TURN ON HEATING FUNCTION

NOTICE
The heating function of the second channel DMX value is 240-255. and it takes about 5 minutes to preheat after turning on.

NOTICE
When heating is turned on, the <HEAT> indicator light on the machine will turn to red, and the <READY> indicator light flashes green to indicate that the machine is heating.

NOTICE
Heating will complete after the <READY> indicator light turns green for a long time, and the spark machine will enter sparking status.

NOTICE
When using the Pyro Sim Controller, the screen will display the real-time temperature of each machine. When the temperature value of the control board turns green, it means that the heating is completed and the machine enters the status of sparking.

ADJUST SPARKING HEIGHT

Adjust sparking height through the first channel, and the height adjustment values is DMX parameter values 11-255.

⚠️ **WARNING**
Do Not touch the sparks or put finger in the output nozzle.

⚠️ WARNING

During heating up and operation, do not touch the housing.

⚠️ WARNING

Keep a minimum distance of 10 feet (3 m) from the machine to the nearest human or flammable material. And make sure no falling residue fly to flammable material.

⚠️ WARNING

The maximum height of indoor and outdoor granule is different. The maximum height of indoor granule Is 3.5 meter, white outdoor granule is 5 meter.

NOTICE

If spark machines are affected by wind, sparking height will be reduced, sparking direction will also be affected by the wind and inclined.

NOTICE

The proper firefighting extinguishers are recommended as follows: Any type of sand or substance that can suffocate the active metals. Class "D" Fire Extinguishers for Metal Substance Fires.

ADJUST SPARKING DENSITY

This product has independent sparking density adjustment function. Machine's sparking density can be controlled during sparking, which can otter you more special effects choices for show.

NOTICE

The third channel is density adjustment channel, and the density is 30-100%. The default sparking density is 100%, and the density adjustment parameter values are 0-255.0 means 100% density, and bigger DMX number means lower density.

SPARK THROUGH REMOTE CONTROLLER

- Turn on the power and leave DMX signal disconnected.
- Hold ♦ 2 seconds In the first interface until the screen shows "Control Pair Remoter 315W.
- Press>on remote controller until the screen shows "Code Success".it means the coding Is successful.

ON

OFF/CODE

HEIGHT

CLEAR MATERIAL

DIGITAL REMOTE
CONTROLLER
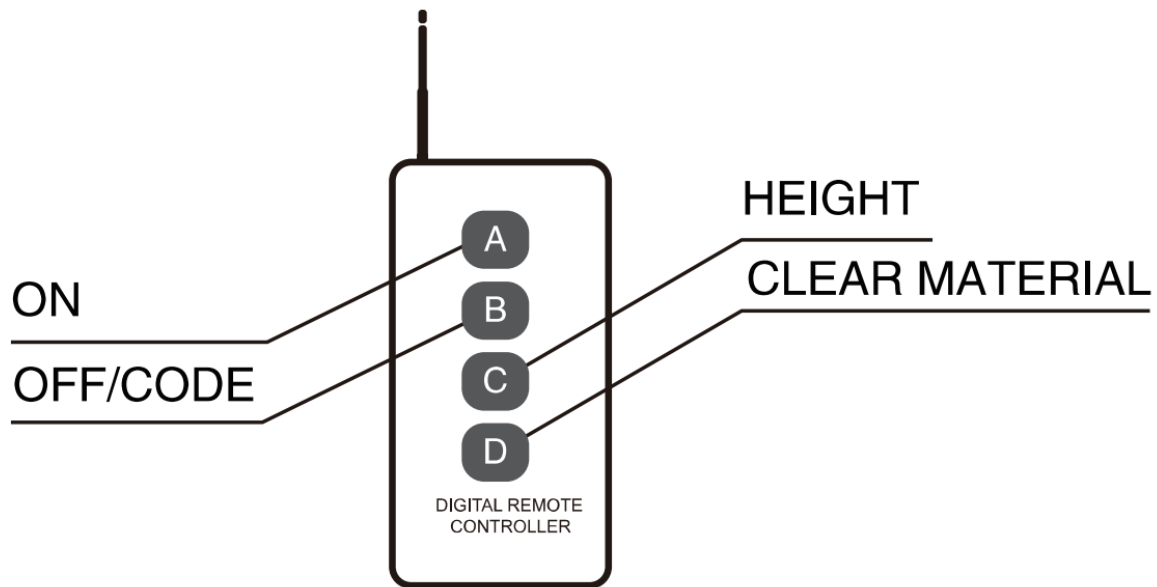
⚠️ **CAUTION**

The remote controller can be used after coding when DMX signal is disconnected. Or the function wit be broken.

⚠️ **CAUTION**

Sparking stops automatically after 30 seconds. And clearing material stops after 5 seconds.

⚠️ **CAUTION**

The remote controller has 4 height levels.

⚠️ **CAUTION**

One remote controller is recommended to control 4 units at most.

CLEAR MATERIAL

This product has the function of cleaning material, which can clean up the heated but not sparked consumables, so as to avoid nodulation in the heating chamber and causing stuck machine.

NOTICE
Use the cleaning function of the second channel for cleaning, DMX value is 56-200.

NOTICE
This function must be performed at the end of each show.

CLEAN MACHINE

After clearing material, please clean the machine to extend the service life of the machine.

- Turn off the machine's power.
- Remove power connection and DMX signal line cable.
- Use a damp cloth to remove dust and debris from the surface of the machine.
- Unused Spark Fabric Granule should be stored in a cool, dry place, vacuum packed unsealed foil bags, and

protected from moisture, heat, hot surface, open fire and other ignition sources.

⚠ WARNING

The product is very hot during operation and it remains hot for a long time after operation has stopped.

⚠ CAUTION

Wear gloves to take out the hopper after cooling down machine. Don't touch the casing of the hopper to avoid scalding.

⚠ CAUTION

Dry the water on the machine when taking the hopper out in rainy days to avoid consumable accretion.

⚠ CAUTION

To eliminate unnecessary machine wear and improve its lifespan, unplug the power of the machine during the period of not-in-use. Never power off the product by pulling or tugging on the power cord.

MACHINE MAINTENANCE

Some steps are needed in order to clean and maintain the product for maximum usage. The recommended procedure is as follows:
After a period of using, check if there is any consumable accretion inside the nozzle. Do necessary cleaning up if there has some, or it may affect spark performance, even damage the machine.

Failure Handling

Error Code	Description	Solution
System Error E0 Storage Fail	System error: Storage fail.	Replace main board.
Motor Protect E1 M1	Blower motor protection /disconnected.	1. Restart machine to clear alerts,stop operating for 15 minutes until temperature return to normal. 2. Check wire connection of motor. 3. Replace motor. 4. Replace main board.
Motor Protect E1 M2	Shaft motor protection /disconnected.	1. Shaft motor clog (perform clean material function manually). 2. Check wire connection of motor. 3. Replace motor. 4. Replace main board.
Motor Protect E1 M3	Hopper motor protection /disconnected.	1.Hopper motor clog (perform clean material function manually). 2. Check wire connection of motor. 3. Replace motor. 4. Replace main board.
Motor Protect E1 M4	Shutter motor protection /disconnected.	1.Check wire connection of motor. 2. Replace motor. 3. Replace main board.
Temp Sensor E2 Unconnected	Temperature sensor disconnected.	1. Check wire connection of temperature sensor. 2. Replace temperature sensor. 3. Replace main board.
PCB Too Hot E3	Main board too hot.	Stop operating machine until main board temperature return to normal.

Error Code	Description	Solution
Time Remain E4	Insufficient time.	Please scan new RFID card.
Temp Over Heat E5	Heating protection due to over-temperature.	Stop operating machine until temperature return to normal.Alert will clear off automatically.
Heat Fail E6	Heating process fail.	1.Inspect wire connection of heating board. 2.Replace heating coil. 3.Replace heating board.
Tip Over E7	Tip over alert.	Machine will activate tip over protection if the angle is more than 45degrees. The alert will clear off automatically after put the machine back to normal position.
Sub PCB Unconnected E8	Sub-PCB disconnected.	1. Check wire connection of Sub-PCB. 2. Replace Sub-PCB. 3. Replace main board.
Shutter Sensor E9	Shutter sensor malfunction.	1.Check wire connection of shutter sensor. 2.Check the space between shutter and sensor (2-8mm is ideal space) 3.Replace shutter sensor.
Illegal Card Machine Locked	Machine locked because of using illegal or copy RFID card.	Use illegal or copy RFID card will lock the machine. If so ,seller will stop providing warranty and after sale service. To unlock the machine,please contact seller.
Out Of Control Heat AC OFF	Temperature out of control, AC shut off.	Stop operating, and restart machine after the fault was overcome.

DISCLAIMER

Please read the manual carefully before installing and using this product. Failure to read or comply with this manual may result in injury to products and personnel, and Spark Fabrica shall not be responsible for this.

This product is a professional machine, we do not assume any responsibility for accidents or losses caused by the use or maintenance of this product by personnel without professional training and permission.

If the Information contained in the manual or the product specifications are changed, Spark Fabric will not inform you further and responsible for any errors or omissions.
Our company reserves the right to modify the user manual at any time.

PREFACE

This manual Includes warning, caution and notice concerning the safe operation of equipment. These warning, caution and notice come with the following icons. Please read them carefully!

⚠️ **WARNING**

This warning Indicates a dangerous situation that may result in death or serious Injury If not avoided.

⚠️ **CAUTION**

This alert indicates a dangerous situation that may result in mild or moderate injury if not avoided.

⚠️ **NOTICE**

This means that you need to be careful.

Contact Us

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Email: marketing@sparkfabrica.com
TEL: +86 138 7585 1139

Documents / Resources

	SPARK FABRICA SF-X5 5 Meter Waterproof Spark Tide Machine [pdf] User Manual SF-X5, 5 Meter Waterproof Spark Tide Machine, SF-X5 5 Meter Waterproof Spark Tide Machine