Spark Fabrica SF-01 Spark Machine Downward Flow User Manual

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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 Fabrica 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 warningcaution 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 n ot 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.

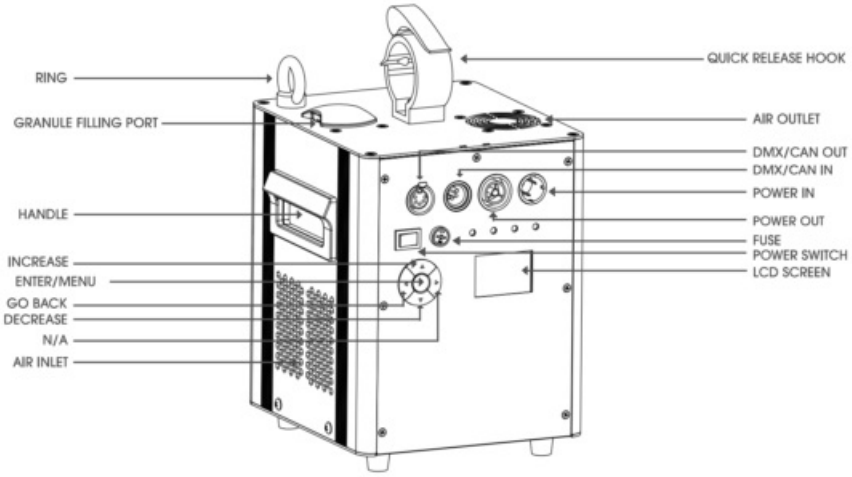
PRODUCT INTRODUCTION

This product belongs to speciol effects equipment, only tor professionol 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 fireworks.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



PRODUCT ACCESSORIES

- 1.6 Meter Power Plug
- 3 Meters Power Pair Cable
- 3 Meiers DMX Pair Cable
- Upload Box (Opttonal)
- User Manual
- Safety Rope

NOTICE	Open the package carefully and check fa 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 harmful gas when sparking.

NOTICE	Only the consumables provided by Spark Fabrica are allowed to be used. Spark Fabrica sh all not be liable for any damage to machines, personnel and property caused by the use of consumables not provided by the company.

TECHNICAL PARAMETER

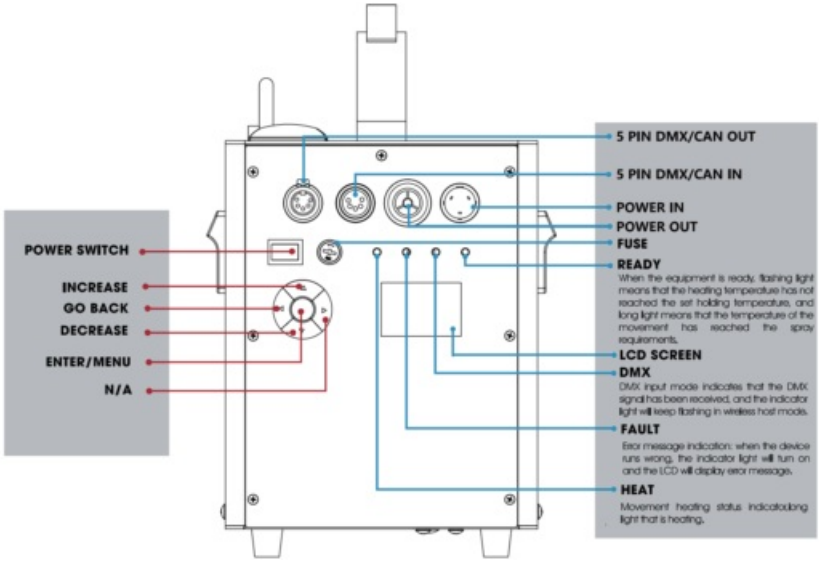
Identification	Manufacturer	SPARK FABRICA
	Name	SPARK RAIN PRO
	Model	SF-01
AC Power	Model	100-120V, 50 / 60HZ
	Input Voltage & Frequency	200-240V, 50 / 60HZ
	Current Limiter Specifications	6.3A, 100-120V / 6.3A,200-240V
	Constant Current	5.5A, 100-120V / 2.7A,200-240V
	Nominal Total Power Consumptio n	600W
	Power Input Connector	SEETRONK:
	Power Output Connector	SEETRONK:
	DMX Signal Interface	5PIN
Heating	Heat Up Time	<5 Minutes
	Powder Tank Capacity	150g

Hopper	Removable Hopper	N/A
Technical Parameters	Lineary Adjustable Density	30-100%
	Adjustable Height	3-8m
	Height Level	1-10 Level
	Powder Consumption (100% Out put)	20-25g/Minute
	Maximum Single Continuous Dur ation	30s
Control	Control Protocol	DMX-512
	RFID Proximity Card	
	RDM	
	CAN	
	SMPTE	Touch screen Console Support
Accessory	Power Plug	SEETRONK: (1.6Meter)
	Remote Controller	Optional
	DMX Cable	3Meter
	Power Cable	3Meter
	Safety Ring	

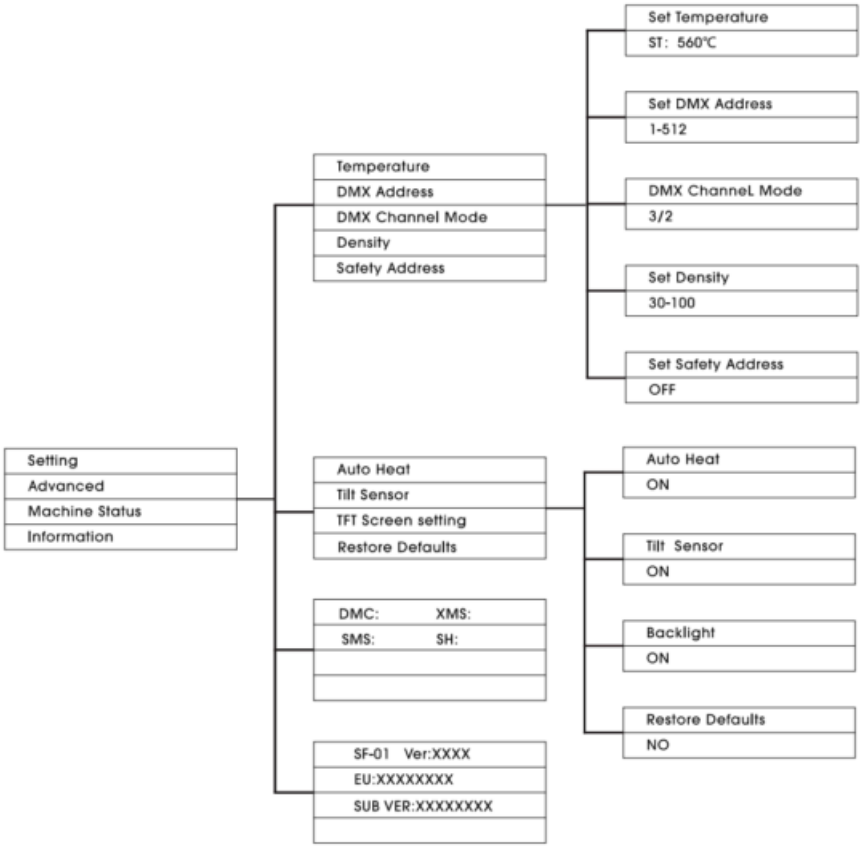
	Safety Rope	
	Bottom Mounting Screw	
	Software Upgrade Box	Optional
	120ohms Terminal Resistance	Optional
Certification	CE	
	ROHS	
Weight	Net Weight	8kg
	Gross Weight	10kg
Dimensions	Machine Dimensions – L *W*H	215mm*213mm*257mm
	Packing Dimensions – L *W*H	270mm*250mm*330mm
Granule	Granule	Spark Fabrica Granule

SCREEN OPERATION GUIDE

BACK PANEL INTRODUCTION



MENU SETTING



NOTICE	Press to enter the menu setting. The screen will automatically return to the main state Interf ace with no modification.
NOTICE	Press ▲ key or ▼ key to modify parameters. The parameters will be flash oner the modific ation, 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	TS	Temp Sensor Unconnected
	Shaft Motor		Temp Over Heat
	Hopper Motor		Tip Over
	Lack Of Time		Sub PCB Connected
	PCB Too Hot	3	2/3 Channel Mode Optional

RDM

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

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
240-255	Pre-heat On
Third Channel	**Function**
0-255	Density Adjustment (0 is Maximum Density)
Salty Channel	**Function**
0-200	Control Off
201-255	Control On

OPERATION NOTES

Please read the following Operation Notes carefully before working with the machine.

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 fall on flammable objects.
⚠ WARNING	Do not use the machine at temperature above 122 ºF (50 ºC).

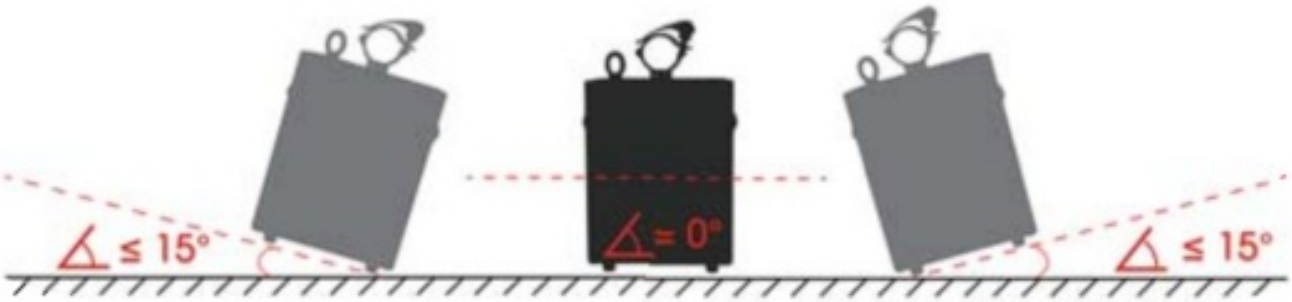
SAFETY TIPS

⚠ WARNING	Always connect the ground wire to avoid electric shock. The machine cannot be submerged in water while operating it.
⚠ 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 Rain Pro unit. Do Not cover output nozzle port.
⚠ WARNING	The product is very hot during operation and ii 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 at B0dB depending on the point nearest to the machine(s) during operational discharge mode.
⚠ WARNING	Wear eye protection to avoid eye injury while filling 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 metals. Class “D” Fire Extinguishers for Metal Substance Fires.

MACHINE OPERATION

PERPARATION

Install the machine on a firm and level truss, 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 l O feet (3 meters) away from the machine, an d make sure that debris does not fall on flammable objects.

***Specific installation notes please refer to “4 OPERATION NOTES”.**

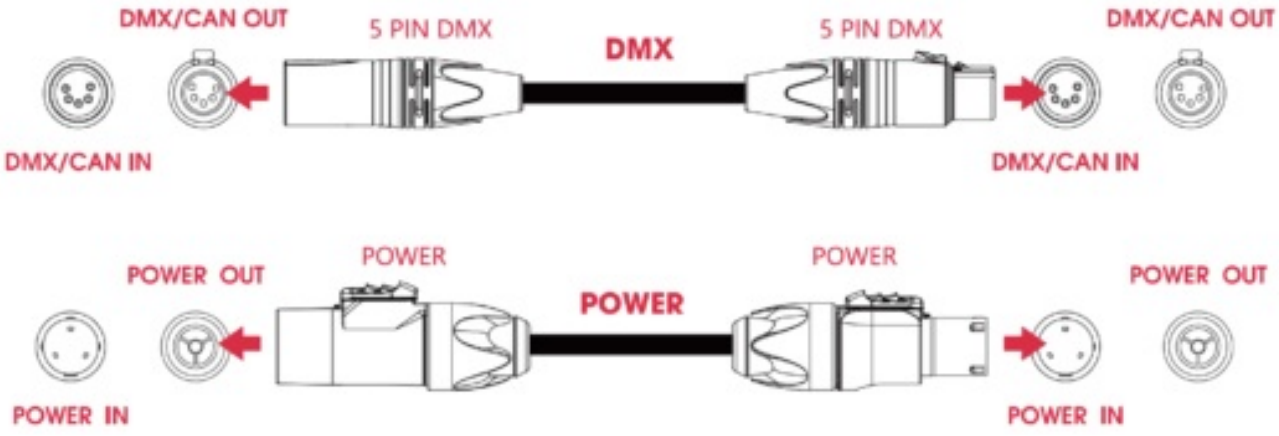
FILL IN SPARK FABRICA GRANULE

Spark Fabrica Granule is the consumable specially designed far spark machine, to simulate cold fountain fireworks effect for stage.
*Tear the vacuum package of granule, and fill in the Spark Fabrica 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 150g.

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

CONNECT THE 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 line.
*Connect PYRO SIM CONTROLLER or DMX512 controller.



⚠ WARNING	Do not use damaged power plug and power cable. One power plug is recommended to co nnect 4 units in series at most for this product.
⚠ WARNING	Please attach the configured 120 ohm terminal resistor to the outlet of the last machine for enhance the anti-interference of the machine.
⚠ WARNING	Please calculate all products' total current required according to the power supply and fuse parameters of the products.
⚠ WARNING	The standard length of the power connection line and the signal connection line is 3 meter s, and a longer length can be reached by connecting in series.

INITIAL SETTING

Setting	Range	Default
Set Temperature	400-620	560
DMX Address	I-512	
DMX Channel Mode	3/2	3
Density	30-100	100
Safety Address	0-512	OFF(O)
mt Sensor	ON/OFF	ON
Restore Defaults	YES/NO	NO
TFT Backlight	ON/OFF	ON
Auto Heating	ON/OFF	ON

***Turn on power**
***Check the machine status icon(refer to icon introductions of 3.3)**

⚠ CAUTION	When the icon shows yellow, is 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 signal.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 1.4.7.10 ….. .

NOTICE	Please do not set address code repeatedly.

START TO SPARK

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

TURN ON THE CONSOLE' POWER

TURN ON HEATING FUNCTION

NOTICE	The heating function of the second channel DMX value is 240-255, and if fakes about 5 mi nutes to preheat after turning on.
NOTICE	When healing is turned on, the indicator light on the machine will turn to red, and the indica tor light flashes green fa indicate that the machine is healing.
NOTICE	Heating will complete after the indicator light turns green for a long time, and the spark mac hine will enter sparking status.
NOTICE	When using the Pyro Sim Controller controller, the screen will display the real-time tempera ture of each machine. When the temperature value of the control board turns green, it mea ns 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 ft (3 m) from the machine to the nearest human or flamma ble 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 in door granule is 3.5 meters, while outdoor granule is 5 meters.

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 sub stance that can suffocate the active metals. Class "D" Fire Extinguishers for Metal Substan ce Fires.

ADJUST SPARKING DENSITY

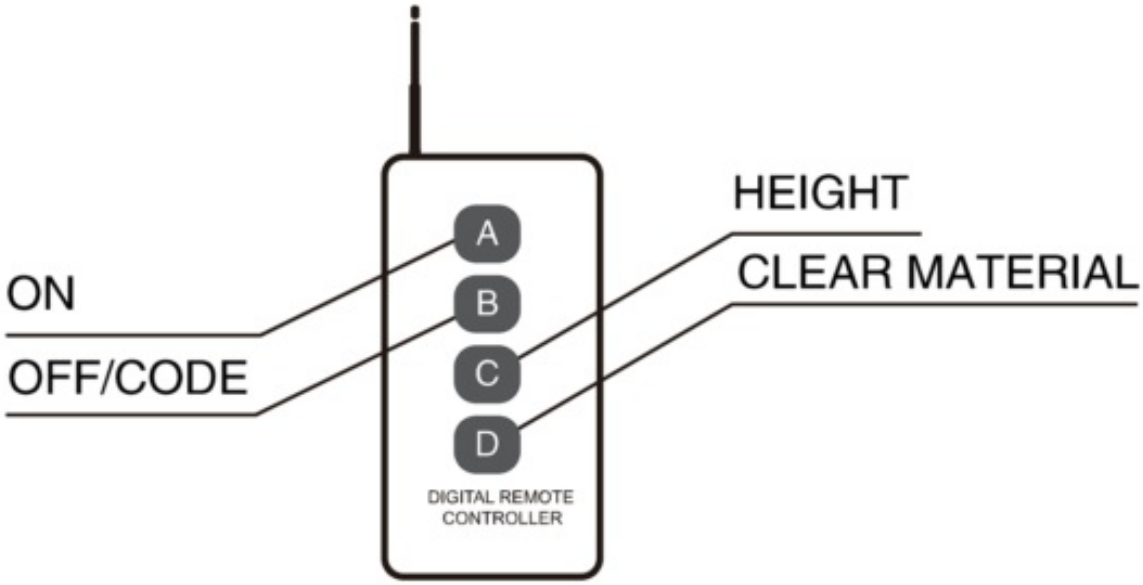
This product has independent sparking density adjustment function. Machine's sparking density can be

controlled during sparking, which can offer you more special effects choices for show.

NOTICE	The third channel is densify adjustment channel, and the density is 30-100%. The default sp arking densify is 100%, and the densify adjustment parameter values are 0-255. 0 means 10 0% densify, and bigger DMX number means lower densify.

SPARK THROUGH REMOTE CONTROLLER

- Turn on fhe power.and leave DMX signal disconnecfed.
- Hold “▲” for 2 seconds in the first interface until the screen shows”Control Pair Remoter 315M”.
- Presson remote controller until the screen shows”Code Success”,it means the coding is successful.
- One remote controller is recommended to control 4 units at most.



⚠ CAUTION	The remote controller can be used after coding when DMX signal is disconnected, or the fun ction will be broken.
⚠ CAUTION	Sparking stops automatically after 30 seconds. and clearing material stops after 5 seconds.
⚠ CAUTION	The remote controller has 4 height levels.

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 !unction 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 cable.
- Use a damp cloth to remove dust and debris from the surface of the machine.
- Unused Spark Fabrica Granule should be stored in a cool, dry place, vacuum packed insealed foil bags, and protected from moisture, heat, hot surface, open fire and other ignition sources.

⚠ WARNING	The product is very hot during operation and ii remains hot for a long lime after operation has stopped.
⚠ CAUTION	To eliminate unnecessary machine wear and improve its lifespan. Unplug the power of the m achine during the period of not-in-use. Never power off the product by pulling or tugging on t he 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:

⚠ CAUTION	After a period of using, check if there is any consumable accretion inside the nozzle. Do nec essary 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 un til temperature return to normal. 2. Check wire connection ot motor 3. Replace motor 4. Replace main board
Motor Protect El M2	Shaft motor protection/ disconnecte d	1. Shaft motor clog (perform clean material function manually) 2. Check wire connection of motor 3. Replace motor 4. Replace main board

Motor Protect El M3	Hopper motor protection/disconnected	1. Hopper motor clog (perform cle an material function manually) 2. Check wire connection of motor 3. Replace motor 4. Replace main board
Temp Sensor E2 Unconnected	Temperature sensor disconnected	1. Check wire connection of tempe rature sensor 2. Replace Temperation sensor 3. Repalce Main board
PCB Too Hot E3	Main board too hot	Stop operating machine until main board temperature return to normal
Time Remain E4	Insufficient time	Please scan new RFID card
Temp Over Heat E5	Heating protection due to over-tem perature.	Stop operating machine until tempe rature return to normal. Alert will cle ar off automatically.
Heat Fail E6	Heating process fail	1. Inspect Wire connection of heati ng board. 2. Replace heating coil 3. Replace heating board
Tip Over E7	Tip over alert	Machine will activate lip over protec tion if the angle is more than 45 deg rees. The alert will clear off automat ically after put the machine back to normal position.
Sub PCB Unconnected E8	Sub-PCB disconnected	1. Check wire connection of Sub-P CB 2. Replace Sub-PCB 3. Replace Main Board
Illegal Card Machine Locked	Machine locked because of using ill egal or copy RFID card.	Use illegal or copy RFID card will lo ck the machine. If so ,seller will sto p providing warranty and after sale service. To unlock the machine, ple ase contact seller.

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Documents / Resources

	Spark Fabrica SF-01 Spark Machine Downward Flow [pdf] User Manual SF-01, Spark Machine Downward Flow, SF-01 Spark Machine Downward Flow

Manuals+,