

ProGauge

MagLink – LX

QUICK START manual



Rev. 3, – March 2021

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1 PREFACE

Start Italiana S.r.l. has made every effort possible so that this document is complete, accurate and updated. With every revision of the console, the corresponding information is periodically added to the document. Start Italiana S.r.l. reserves the right to make unannounced improvements and/or changes in the product and/or associated programs. Start Italiana S.r.l. is not liable for damages of any kind, including those resulting in the document, including typographical errors.

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2 GENERAL WARNINGS

Before working on this equipment, please be certain to carefully read the instructions in this manual. Properly skilled personnel must perform configuration.

The manufacturer is not responsible for any operation performed which is not covered in this manual. Any tampering with the equipment and software relieves the manufacturer of any responsibility in regards to competent bodies.

In case of failure or defect, refer to an authorized service provider or manufacturer directly.

The manufacturer accepts no responsibility for any injury and/or damage to persons and/or property and/or pets caused by failure to follow instructions relating to safety.

Qualified and trained staff has to know all safety requirements in this manual, in the user manual and in the installation manual.

In case of doubt concerning the operation of the equipment, refer to an authorized service provider or manufacturer directly.




IMPORTANT: It is mandatory to consult safety instructions before using the equipment



IMPORTANT: Improper use, not in accordance with the requirements described herein, may compromise safety

3 INTRODUCTION


The present manual has been prepared in accordance with IEC 82079-1 standards. **Preparation of instructions for use - Structuring, content and presentation - Part 1:** General principles and detailed requirements and according to the ATX Directive 2014/34/EU concerning equipment and protective systems intended for use in potentially explosive atmospheres. The manual provides all necessary information about installing the Maglink LX console.



ATTENTION: This manual must be used in conjunction with the following manuals:

- Console Configuration
- User Manual

To use the console, you must install the console as described in this manual, configure the console as a reference manual, and use the console on the field as reference manual





The device may not be disposed of with household rubbish. This appliance is labelled in accordance with European Directive 2012/19/UE concerning used electrical and electronic appliances (waste electrical and electronic equipment – WEEE). The guideline determines the framework for the return and recycling of used appliances as applicable throughout the EU. To return your used device, please use the return and collection systems available to you.

The following table lists reference data of the manufacturer:

Data	Description
Name	START ITALIANA S.r.l.
Address	Via Pola 6 20813 Bovisio Masciago (MB) Italy
Telephone	+39 0362 1581465
Fax	+39 0362 1581464
e-Mail	support@startitaliana.it

The following table lists the symbols used in the document:

Symbol	Description
	ATTENTION: Important information and notes regarding operations and use considerations
	IMPORTANT: Danger to persons (including death), to property or to the environment

4 GENERAL INDICATIONS

The Maglink LX console is shipped in a cardboard box (L 450 x H 300 x D 200 [mm]) and includes the following:

- MAGLINK LX console
- Connection cable of 220 V AC with Schuko plug
- Check-list certifying quality control
- User manual, installation manual and web configuration manual

Weight of console with carton box: 2 kg.

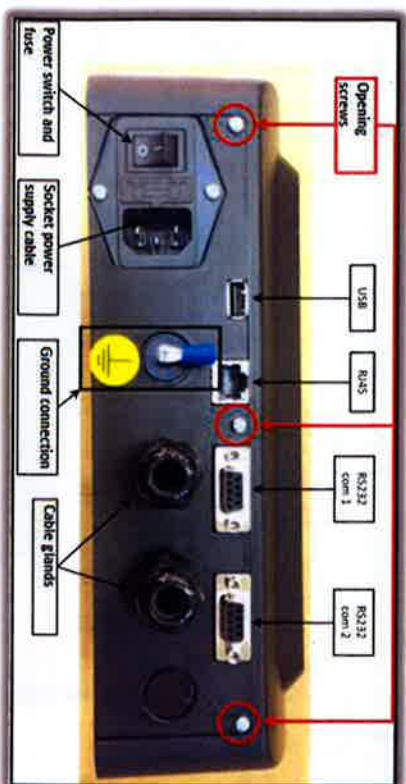
The following image shows the console upon opening of the box:



The following table lists the principal technical characteristics of the console:

Element	Characteristic
Display	Display TFT 7" inch Dimensions 155 x 88 [mm]
Console	Dimensions <ul style="list-style-type: none">• Width 267 mm• Height with cable: 215 mm• Depth 80 mm

The following image shows the lower part of the console:



The following table lists the elements in the figure:

Element	Description
USB	For firmware updates and back-up of the console (Refer to the "User Manual") Can also be used for printer communication
Ethernet RJ45	For console configuration, and local network connections (Refer to the "Console Configuration" manual)
RS232 com 1	Serial port for connection to management systems (FCC/POS)
RS232 com 2	Serial port to a local printer connection and possibility of duplicating the Gilbarco protocol output required for DCD connections (Refer to the "User Manual")
Connections for grounding the system	Ground connection of the internal Intrinsically Safe barrier. Use a dedicated 2,5 mm ² copper cable to connect to the main ground lug in the electrical wiring side in the case of an electrical fault in the power side.

5 DESCRIPTION

The console is a device used for monitoring the level of probes and for tank alarms notification. Up to 32 probes can be supported, 16 on-board (8 per each additional MagDirect, max 2 MagDirect can be added), 4 on-board relays, 6 inputs on-board, and an external expansion module that can carry up to 4 expansion cards. Each expansion card supports 8 relay outputs, 8 Digital Inputs or 4-20mA. With a combination of these cards the system can support 32 relays and 0 inputs, 32 inputs and 0 relays, and combinations of both with modularity of 8.

The console can be interfaced with the FCC/POS on the station via either serial or Ethernet.






The console is equipped with a resistive type touch screen, so it is possible to use it with fingers (even with gloves), special pens and likewise. It required to contact and apply a pressure to use it.

The following table lists the principal technical characteristics of the console:

Characteristic	Value
Power supply	100 + 240 V~, 50+60 Hz
Consumption	15 VA
Operating temperature	(-10 + +50) °C
Relative humidity	(5 + 95)%, non-condensing
Number of probes	32 (16 probes through internal barrier and 16 probes with additional MagDirect modules)
Number of ON-OFF external sensors	Up to 32
Number of ON-OFF internal sensors	6 (only with Dipswitch 2 on ON)
External relay outputs	Up to 32
Internal relay outputs	4
Lower power of the relay output	0,5 A, 33 V-, or 2 A, 30 V DC
Output power for the probes	12 V DC, 100 mA per output per probe, connectors MR3 MR4 (up to 8 probes per connector)
Serial communication of the probes	RS485
Host communication (management)	RS232 and TCP/IP (almost every forecourt controller have the protocol integrated)
Printer communication	USB / RS232
Integrated web server for remote configuration, consultation, communication, and emails as well as HOST COMMUNICATION	TCP/IP
GSM modem for SMS service	1 Optional (NOT RELEASED YET)
IFSf	1 Optional
Case	Plastic
Protection	IP40
Dimensions	265 x 190 x 95 mm






6 LABELLING AND TYPE DESIGNATION

The following table lists the labels placed on the equipment:

Labelling	Description
  S.N. 280126 P 200006 CONTINUE CIRCUIT A SCHEDEZZA INTRINSECA PERMANENTLY ON CIRCUITS INSIDE Power Supply: 100-230V~50-60Hz Power: 15VA Frequency: 50/60 Hz Signal: RS324-485-LAN Ambient Temp: 20/25-01 Temp: -10°C...+50°C  DOVER FIREARM SOLUTIONS Firearm Solutions s.r.l. Via S. Maria 46 20122 Milano (MI) Italy	The labelling on the outer container contains the following data: <ul style="list-style-type: none"> Name and address of the manufacturer CE marking with the Notified Body Product Name Serial number Year of production Power Supply (VAC and Hz) Power consumption (VA) Operating temperature (°C) Ingress protection (IP grade) Fuse rating Indication that inside there is intrinsically safe circuit
 ATEX 060 CE 0722 (Ex) II (1)G Ex ia Gb IIB - Tamb: -20/+50°C S.N. 12345 XXX BRA-SIP BRA-SIP DATA BRA-SIP BRA-SIP BRA-SIP BRA-SIP BRA-SIP BRA-SIP BRA-SIP BRA-SIP BRA-SIP BRA-SIP BRA-SIP BRA-SIP Ambient Temp: 20/25-01  DOVER FIREARM SOLUTIONS Firearm Solutions s.r.l. Via S. Maria 46 20122 Milano (MI) Italy	ATEX labelling on the outer container contains the following data: <ul style="list-style-type: none"> Name and address of the manufacturer Equipment Type (BRA-SIP or BRA-2SIP) ATEX Reference number of the certificate ATEX Marking: (Ex) II (1)G Ex ia Gb IIB Serial number Electrical data

7 INSTALLATION

7.1 Preliminary warnings.

	IMPORTANT: The MAGLINK LX console is not explosion-proof
	IMPORTANT: Explosions and fires can cause damage or even death
	IMPORTANT: Flammable vapours when mixed with air can cause an explosion. Dangerous areas can occur from the presence of gases or vapours
	IMPORTANT: Do not install the console in a hazardous area
	IMPORTANT: Only use fuses of 250 V - 1 A for input power

7.2 Place of installation

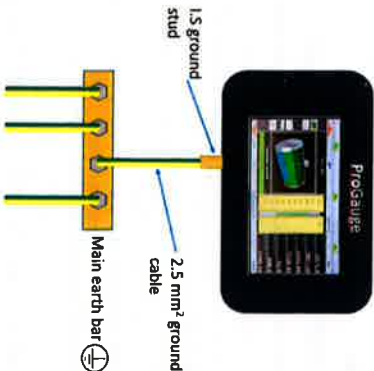


You must consider that the console was not designed to withstand vibrations and extreme climatic conditions (High and low temperatures, humidity, etc.) which can damage the electrical circuits when selecting the console installation site.

	ATTENTION: Install the console in a place that is protected from moisture and water splashes
	IMPORTANT: The console must be installed in safe area

7.3 Electrical connection

The following table shows the steps necessary for the electrical connection to a 220 VAC:

Step	Description
1	Turn off all power switches on the electrical panel
2	Connect the electrical panel and the console using the appropriate connectors
3	For power connections, use a single-phase cable, a section of which is not less than 1.5 mm ² and one which is adequately protected. The power cord must comply with the standards IEC 60227 and IEC 60245. The cable supplied with the console already complies with regulations.
4	Make sure the power plug is connected to the ground and protected against short circuits and power surges
5	Ensure you have connected the I.S ground connection to the station's earth system by using a dedicated 2.5 mm ² cable.

	
6	The power cord must be easily recognizable and accessible as it also has the function of removing power
	IMPORTANT: There is high voltage inside the console.
	IMPORTANT: The electrical connection procedure must be performed by trained and authorized personnel

7.4 Installation procedure

The following image shows the console attached to the wall:



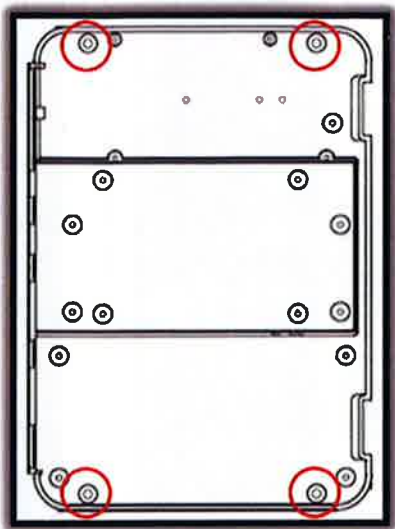
The following image shows the three mounting screws that allow console opening/closing:



The following image shows the console opened (Lift the top and disconnect the ribbon cable that connects the top and lower parts):



After disconnecting the ribbon cable fix the rear part to the wall (We recommend using Fischer dowels, size 6). The following image shows the mounting holes:



After attaching the console to the wall, you must run the wiring of the sensor cable to the console, as explained below.

8 COMPLETE MANUALS DOWNLOAD

The Maglink LX is a WEB server and all the detailed manuals are available to download from the "System" web page.

DOWNLOAD THE COMPLETE SET OF MANUAL TO PROCEED WITH THE INSTALLATION AND THE CONFIGURATION.

AVAILABLE MANUALS ARE:

- INSTALLATION MANUAL (IST)
- USER MANUAL (USR)
- CONFIGURATION MANUAL (WEB)

To access the **WEB SERVER** you must know the IP address of the console (default: **10.90.10.91**) and type it into a browser (for example, Mozilla Firefox, Google Chrome, Internet Explorer, etc.). Your PC must have the same mask and subnet.

The following figure shows the home page of the Web Console Configuration, as a first step, you need to select the display language:



The possible display languages are as follows:

Bosnian	Czech	Hungarian (Magyar)	Romanian	Slovenian
Bulgarian	English	Italian	Russian	Spanish
Chinese Simplified	French	Polish	Serbian (Cyrilic and Latin)	Turkish
Chinese Traditional	German	Portuguese	Slovak	Ukrainian
Croatian				

After selecting the language, press the "Select" button and the application displays the login page.

9 LOGIN PROCEDURE

The following image shows the "Login Page":



You have to login as an "Admin" user. (the user has permission to access configuration pages to obtain the set of manuals from SYSTEM PAGE). The following table shows the data displayed depending on the type of log on access:

Accessible data

SYSTEM: WHERE COMPLETE MANUALS ARE LOCATED, READY TO DOWNLOAD

Accessible data		Guest	Admin
SYSTEM: WHERE COMPLETE MANUALS ARE LOCATED, READY TO DOWNLOAD			X
Level of the connected probes		X	X
Historical Data Table		X	X
Alarm status		X	X
Delivery/Losses		X	X
Login		X	X
Logout		X	X
Association of alarm to relays (per tank)		X	X
Managing internal and external sensors		X	X
Automatic print features		X	X
Definition and insertion of strapping table (per tank)		X	X
Configuring email address book		X	X
Configuration of all dispensers		X	X
TCP/IP address configuration			X
Utility operations (Backup/restore, Clean historical data; Historical readings, alarms, reconciliation, shift reports, Touch screen calibration of the console, Restarting the console, Restarting the operating system of the console)			X
Reconciliation (if enabled)			X
Shift report with scheduling			X
Configuration internal/external sensors			X
Sensors current status		X	X
Autocalibration Analysis			X
Print stock at predetermined time of the day			X

By accessing the application as "Admin" user, you can perform configuration changes and navigate between pages. The following table shows the default passwords corresponding to the different types of login access:

Login access	Password
Admin	MAGLINK-LX



ATTENTION: The administrator must change the password as soon as possible to prevent unauthorized access



ATTENTION: Please be aware that the password is case sensitive

All configuration data can be changed only after you have logged in as "Admin." The user must select the type of login access: "Guest" or "Admin" enter password and press the "Access" button.

Log on as "Admin": Main menu




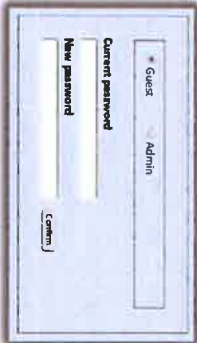
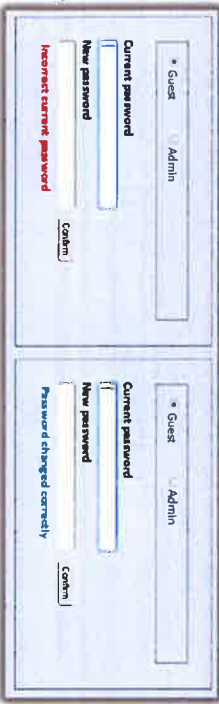
10 THE SYSTEM PAGE

The following image shows the "System Page" parameters:



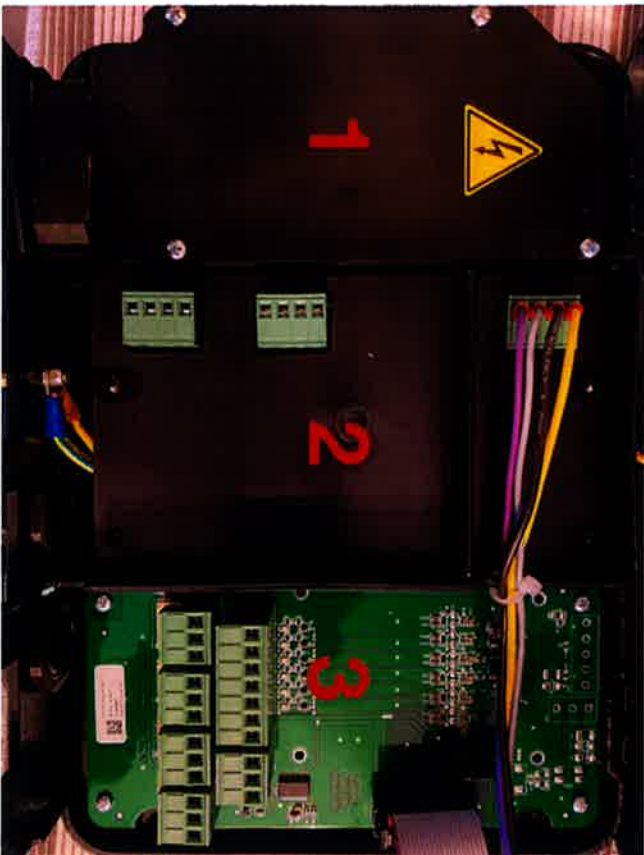
11 CHANGE PASSWORD

The first thing to do is change the password for both "Guest" and "Admin" users. Only the "Admin" user can make password changes.
Apply the following procedure:

Step	Description
1	Login as "Admin"
2	Press "Login" on the main menu
	It opens the "Login" page with the ability to change your password:
3	
4	Press the "Change password" button
	Type the current password and the new password then press the "Confirm" button:
5	
	The application displays the result of the operation, displaying one of the following messages:
6	
7	Repeat the operation in case of an incorrect input or contact your administrator if you forgot your password. In the event that you are no longer able to recover the current password, follow the procedure for resetting passwords.

12 COMMUNICATION MODES

The following image shows the open console (front panel removed as explained above):

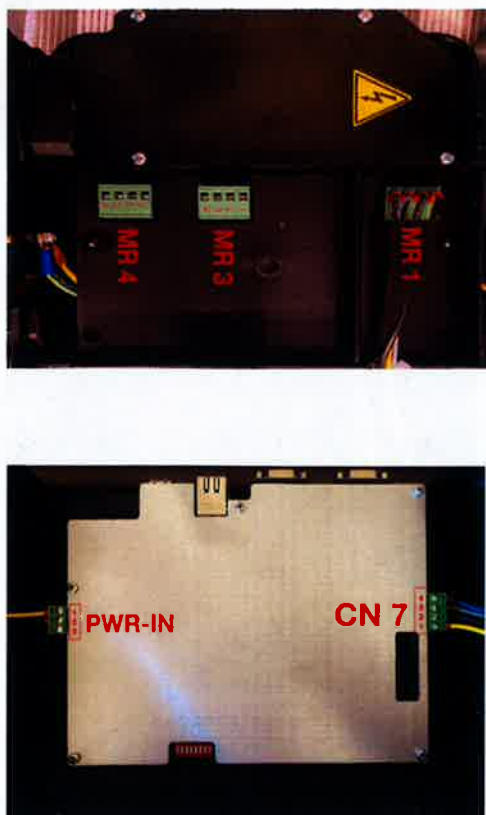


The following table lists the items at the bottom of the console:

Element	Description
1	PSU protection panel
2	BRA-2SIP barrier for connection to the probes (8+8)
3	Interface to relay

12.1 Connection to intrinsically safe XMT-SI-485 probe

The following figure shows how to connect the intrinsically safe probe (XMT-SI-485 model), on the BR4-2SIP barrier type:



The following table lists the connections shown in the figure:

Connection	Specifications
MR1	Barrier Input
	Safety Barrier Input (up to 8 probes)
MR3	Red (+ 12V) - Terminal 1
	Brown (RS485A) - Terminal 2
	Blue (RS485B) - Terminal 3
	White (0 V) - Terminal 4
	Safety Barrier Input (up to 8 probes)
MR4	Red (+ 12V) - Terminal 1
	Brown (RS485A) - Terminal 2
	Blue (RS485B) - Terminal 3
	White (0 V) - Terminal 4
CN7	Purple (0 V) - Terminal 4
	Grey (RS485B) - Terminal 3
	Black (RS485A) - Terminal 2
	Yellow (+ 12V) - Terminal 1

In the event of installations with more than 16 probes/tanks, you must use the MagDirect connected to the console MR1 or CN7, each MagDirect carries up to 8 probes

12.2 Connecting the XMT explosion proof probes

The image below shows how to connect your console to an XMT probe explosion proof:



The XMT model explosion proof probes must be connected in parallel to the console and directly to the connector CN7 without passing through the intrinsically safe barrier.
In this case the barrier remains unused.

The following table lists the connections shown in the figure for connector CN7:

Connection	Specifications
CN7	Purple (0 V) - Terminal 4
	Grey (RS485B) - Terminal 3
	Black (RS485A) - Terminal 2
	Yellow (+ 12V) - Terminal 1

12.3 Connecting the RF Receiver (for XMT-SI-RF)

The image below shows how to connect your console to an RF Receiver:



The receiver connects directly to connector CN7 without going through the intrinsically safe barrier. In this case the barrier remains unused.

Connection	Specifications
	Purple (-0 V) - Terminal 4
	Grey (RS485B) - Terminal 3
CN7	Black (RS485A) - Terminal 2
	Yellow (+ 12V) - Terminal 1

For proper connections of the receiver, you must refer to the installation manual of the RF Receiver (Section on electrical connections).

12.4 Micro SD Card

The following picture shows the inside of the upper side of the console highlighting the micro SD card in which resides operating system, firmware, configuration and a history of the console:










i ATTENTION: Do not remove the micro SD card, the console cannot work without the SD card

12.5 Closing and start up

Re-assemble the top of the console with the lower part fixed to the wall and previously wired. Connect the power cord and turn on the console. Continue with the configuration as shown in the "Console Configuration" Manual.

13 MAINTENANCE


Maintenance activities are defined and managed in accordance with EN 60079-17.

	IMPORTANT: Maintenance must be carried out only by authorized personnel or by the manufacturer
	IMPORTANT: Maintenance of electrical connections must be performed only by personnel trained and experienced (Refer to the installation manual of the console)
	IMPORTANT: The opening of the console can compromise the level of safety of the equipment, maintenance operations must only be performed by authorized personnel or by the manufacturer
	IMPORTANT: Changes to the console are prohibited unless authorized by the manufacturer
	ATTENTION: Periodically check for cleanliness and integrity of the equipment and its connections
	ATTENTION: To clean the screen and the console use a monitor/screen/TV cleaning cloth
	IMPORTANT: Do not use compressed air or liquid detergents to perform console and screen cleaning

14 SUPPORT

If you need direct assistance from a member of the DFS technical support team, the best solution is to connect the console to the Internet. The console requires a public IP address and port 80 opened. All data of interest to the console can then be viewed directly by the DFS staff.
An alternative is to use third-party programs such as TeamViewer 10 or AnyDesk to allow a connection between a remote computer and a site compute that is connected on the same network as the console.
In the case where Internet access is not possible, the user must provide DFS with logfiles and other console data that can be analysed for debugging purposes.

The following table shows the necessary procedure steps for the provision of such data:

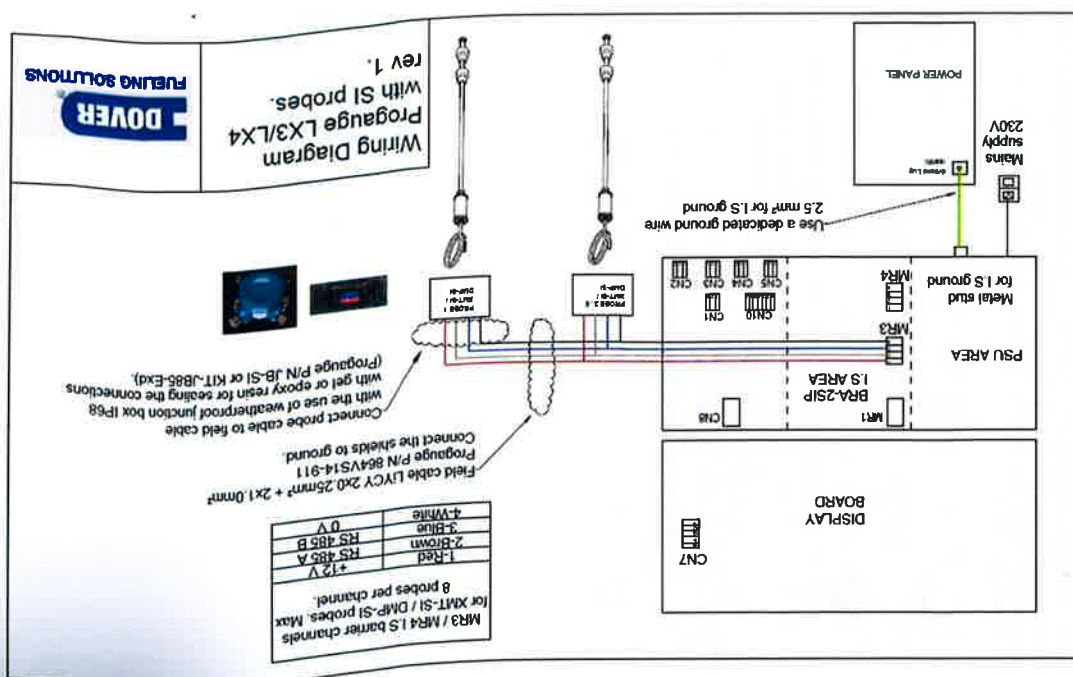
Step	Description
1	Provide a USB device with at least 50 MB of free space available  ATTENTION: The USB device must be formatted to FAT32
2	Connect the USB device to a PC
3	Create a folder on the USB device named "lx-support3" (All in lower case)
4	Connect the USB device to the console
5	Press the "INFO" button and access the relevant page
6	Wait until the "Export Log" appears on the screen and then press it (The files are copied to your device in the console)
7	Perform a compression of the "lx-support3" folder and send the ZIP file by e-mail to support@startitalia.it

15 SAFETY INSTRUCTIONS

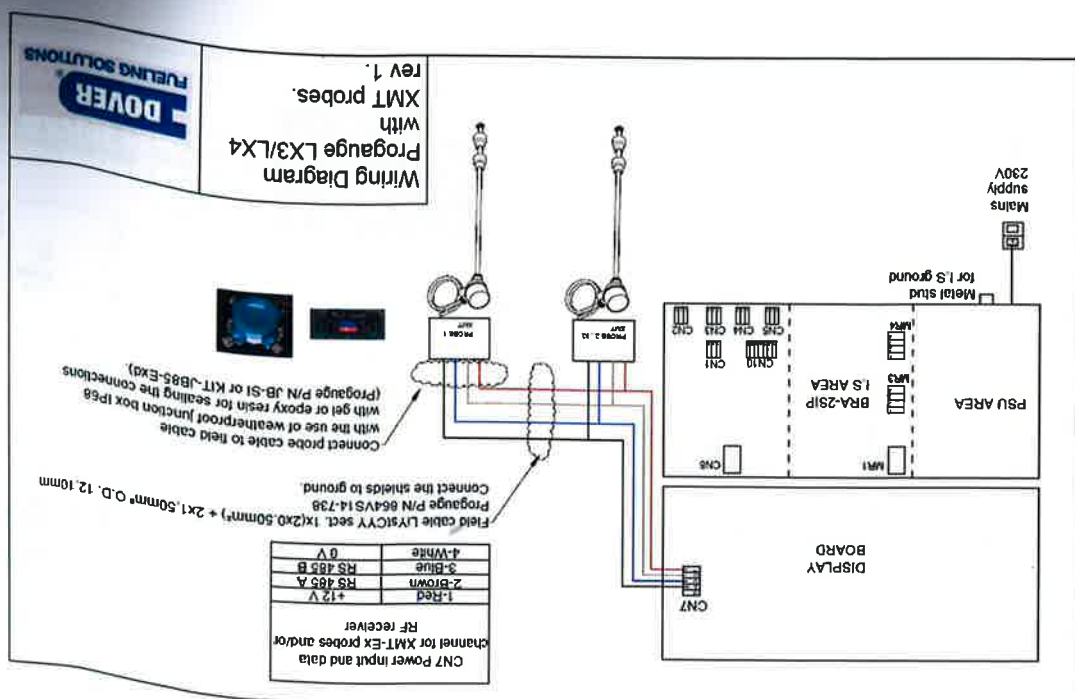
Safety instructions are annexed to this document.

16 WIRING DIAGRAMS

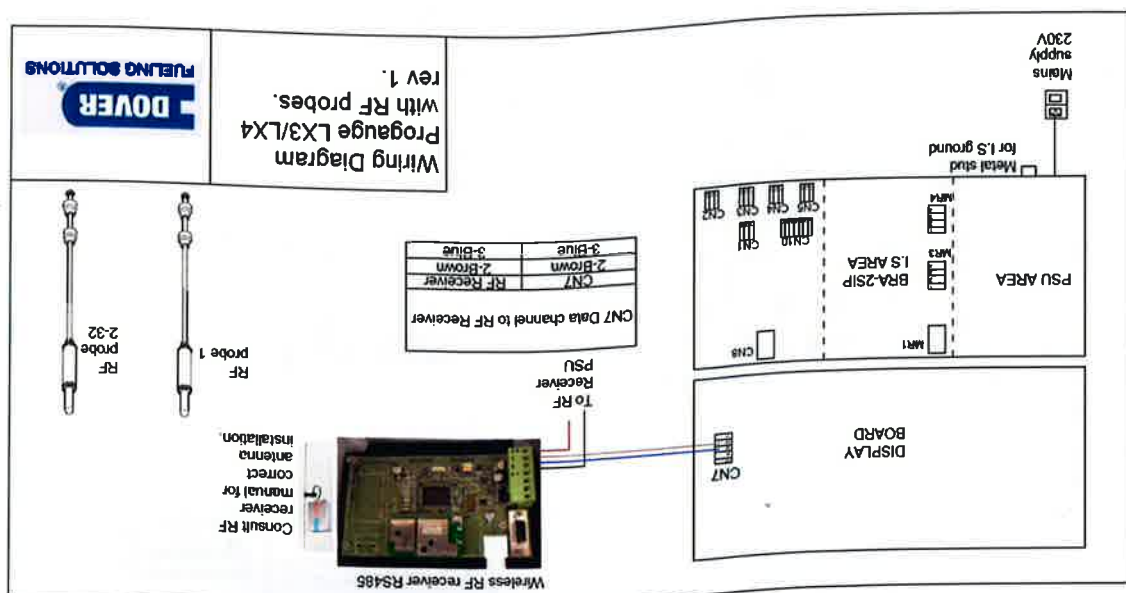
16.1 Connecting XMT-SI probes



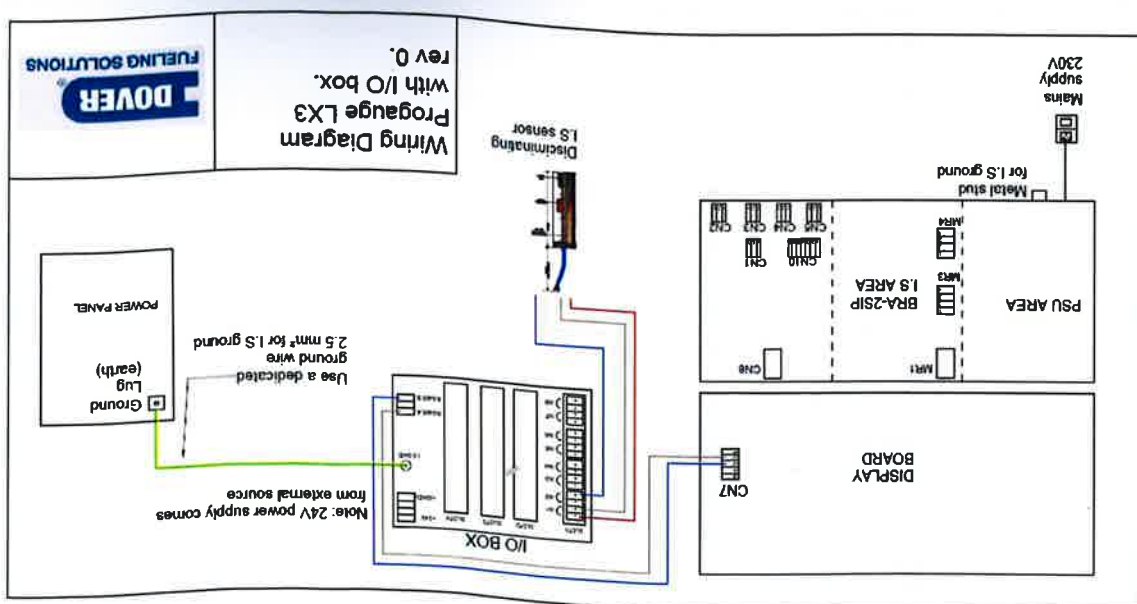
16.2 Connecting XMT Exd probes



16.3 Connecting RF probes



16.4 Connecting On/Off sensors



17 REVISIONS

The following table lists document revisions:

Revision No.	Date	Description	Firmware Revision
0	April 2017	First Quick START release	2.6.x
1	January 2020	Labelling update	3.1.x
2	March 2020	Wiring colors update Added wiring diagrams	3.3.x
3	March 2021	Updated with new ATEX label	3.3.x

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