



IONFIX PRO

STATIC GENERATOR WITH REMOTE
MONITORING AND CONTROL INTERFACE



Contents

	Page
Safety	2
Introduction	3
Installation	3
Commissioning and Operation	4
Remote Interface	4
Technical Specifications	6
Troubleshooting	7

Safety

The Fraser IONFIX PRO has been designed in accordance with the safety requirements of EN 62368-1:2014.

The high-voltage output of the generator is a Class 2 electrical energy source, as defined in EN 62368 1:2014. This means that it is capable of causing pain if contact is made with a body part, but is not likely to cause an injury requiring medical attention.

If the generator is to be operated by ordinary persons, it must be installed in such a manner that the high voltage output connectors are not accessible in normal operation, for example by mounting within an enclosure or providing appropriate guards.

For further details, see the full generator manual.

Explanation of Symbols

Throughout this manual the following symbols are used to draw attention to important information.



Warning: This symbol refers to operations which, if carried out improperly, may result in serious personal injuries or damage to property.



Information: This symbol refers to information which relates to obtaining the best performance and operating life from the product.

Introduction

This manual provides a brief installation and commissioning guide for the Fraser IONFIX PRO Static Generator product range (30 and 60 kV variants). Please refer to the full manual for information on all functions of the generator and detailed instructions for remote interfacing and machinery integration.

Installation



- Installation must only be carried out by suitably qualified personnel.
- The generator must be earthed via both the power cable and external earth wire.
- Disconnect the mains power cable before starting any work on the generator.
- Connect only approved charging electrodes to the generator.
- Do not touch the charging electrode(s) when energised.
- Refer to the full manual for detailed installation instructions.

1. Ensure that the generator is correctly earthed as described above.
2. Securely mount the generator in a visible, accessible and stable location using the supplied mounting brackets if necessary. Ensure that the location is clean and dry.
3. Connect the charging electrode(s) to the HV output sockets at the rear of the generator. The 4 sockets are connected together internally.

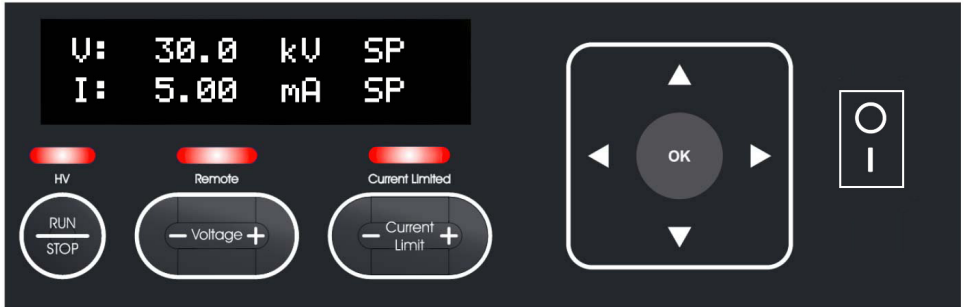


- Do not route HV cables near to sharp metal components.
 - Avoid bends or kinks in the HV cables.
 - Route HV cables separately from low-voltage cables.
 - Keep HV cables as short as practically possible.
4. If using the remote interface, connect the cable to the D-type connector. For details, see 'Remote Interface' section of the full generator manual.
 5. Connect the power cable to the generator and connect it to the mains supply.

Controls and Operation

Generator Controls

On the front of the generator there is a power switch, a display screen, control buttons and status indicators as shown below.



- **Display:** Indicates the settings and output parameters of the generator, displays the generator configuration menu and any warning messages.
- **'HV' indicator:** Illuminates when the HV output is enabled.
- **'Remote' indicator:** Illuminates when any of the remote control functions are enabled.
- **'Current Limited' indicator:** Illuminates when the output current reaches the limit value.
- **RUN/STOP Button:** Toggles the high voltage output of the generator on and off.
- **Voltage +/- Buttons:** Allow the high voltage output level of the generator to be adjusted.
- **Current Limit +/- Buttons:** Allow the output current limit level of the generator to be adjusted.
- **4-way keypad and OK Button:** Used to access the generator configuration menu and change parameters.

Operating the generator

Power up the generator, using the main power switch.

After a start-up message, the screen will show the voltage and current setpoint values (indicated by 'SP' after the values).

- To adjust the output voltage, use the 'Voltage +' and 'Voltage -' buttons.
- To adjust the current limit, use the 'Current -' and 'Current +'.
- To turn on or off the high voltage output of the generator press the 'RUN/STOP' button.

When the high voltage is enabled, 'OP' will be shown after the actual output values on the screen.

Commissioning

The following is a brief guide to setting up the generator for use as a continuous charging source.

When delivered, the output voltage setpoint will be set to zero, and the current limit set to its maximum value.

- Enable the HV output (press 'RUN/STOP') and increase the output voltage until the desired pinning effect is achieved. Increase the voltage by around 10% above this to accommodate process and material variations. Take a note of the current drawn.
- To minimise electrode wear when the material is not present, reduce the current limit setting to about 10% above the current drawn in operation ensuring that the 'current limited' indicator does not illuminate when the material is present.

By default the High Voltage Output is off when the generator is powered up. If it is necessary to have the HV come on at power-up, this can be achieved using the remote interface. See full manual for details.

Generator configuration menu

The generator configuration menu has four sections:

1. **Remote Mode** – allows the generator remote interface to be enabled and configured.
2. **Advanced Settings** – allows various aspects of generator operation to be adjusted.
3. **System Information** – provides diagnostic information about the generator.
4. **Fault Count** - provides diagnostic information about the generator.

See the full manual for details of the configuration menu and settings/parameters.

To access the menu the following keys are used:

- **Right (▶):** Enter menu system, move down to a lower level, access parameter to adjust.
- **Left (◀):** Move up to a higher menu level, exit menu system.
- **Up (▲):** Move up a list of menu items, increase parameter value.
- **Down (▼):** Move down a list of menu items, decrease parameter value.
- **OK:** Move down to a lower menu level, save parameter setting.

Pressing any of the setpoint adjustment buttons (Voltage +/-, Current +/-) whilst using the menu will exit the menu system.

Remote Interface

The generator is equipped with a remote control and monitoring interface, provided on a 25-way D-type socket at the rear of the generator. The functions and connections are as follows:

Pin No.	Function	Pin No.	Function
1	Remote on/off input +ve	14	Remote on/off input -ve
2	Remote current setpoint input	15	GND (0 V)
3	Remote voltage setpoint input	16	GND (0 V)
4	Remote voltage monitor output	17	GND (0 V)
5	Remote current monitor output	18	Reserved, do not connect
6	Reserved, do not connect	19	GND (0 V)
7	+12 V reference output	20	GND (0 V)
8	Reserved, do not connect	21	Reserved, do not connect
9	Arc/Limit open collector	22	Arc/Limit open emitter
10	Operating open collector	23	Operating open emitter
11	Reserved, do not connect	24	GND (0 V)
12	Not connected	25	Reserved, do not connect
13	Not connected		

Technical Specifications

Electrical Characteristics

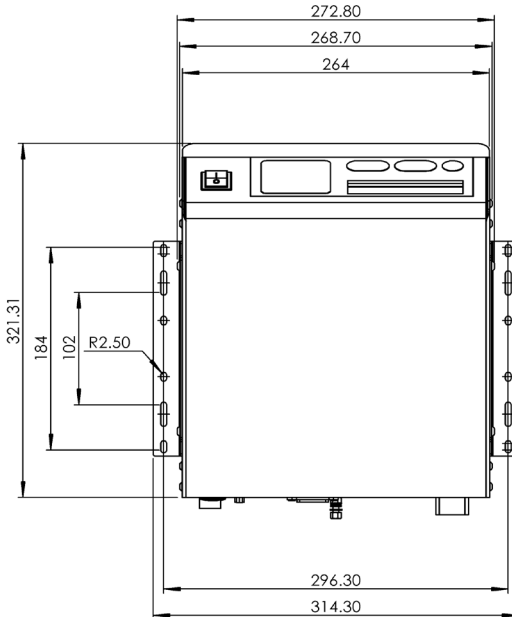
Input rating:	90 – 250 V AC, 47 – 63 Hz, 3 A max.
Input connector:	IEC 60320 C14 inlet.
Output rating, 30 kV variants:	0-30 kV DC, 5 mA max.
Output rating, 60 kV variants:	0-60 kV DC, 2.5 mA max.
Output connector type:	4 x Fraser 30/60 kV tubular spring-contact HV connector.
Remote interface connector:	25-pin subminiature D-type, female. Mating plug Amphenol L717DB25P or equivalent.

Environmental Conditions

Ambient temperature:	0 – 50 °C
Relative humidity:	Maximum 70%, non-condensing.
Ingress protection:	IP20.

Mechanical

Dimensions (D x W x H):	337 mm x 268 mm x 104 mm
Weight:	8 kg



Troubleshooting

In case of problems with the generator, consult the following table to aid diagnosis and remedy.

Problem	Cause	Remedy
No output voltage Display off	Power supply not connected or energised.	Check power supply connections.
	AC variant: inlet fuse blown.	Replace fuse.
	Hardware fault.	Contact distributor.
No output voltage Display on	Voltage setpoint not changed from default 0.0 kV or remote setpoint not provided.	Change setpoint using Voltage +/- buttons or provide 0-10 V signal on remote interface.
	Remote on/off enabled, but no remote on/off signal provided.	Provide remote on/off signal.
	Current limit set too low.	Increase current limit using Current +/- buttons.
All LEDs flashing 'OVERLOAD' shown on display	Arcing or short-circuit on HV output due to electrode or cable fault.	Check and rectify electrode or cable faults.
	Generator overloaded.	Move charging electrode(s) further from counter-electrode.
All LEDs flashing 'OVER TEMP' shown on display	Generator internal temperature too high.	Move generator to cooler location. Reduce loading on generator.
All LEDs flashing 'UNDER VOLTAGE' shown on display	Supply voltage too low.	Check supply voltage.
All LEDs flashing 'OVER VOLTAGE' shown on display	Supply voltage too high.	Check supply voltage.
All LEDs flashing Any other message shown on display	Internal fault with generator.	Contact distributor.

For more information about static and to view the full range
of our products, please visit www.fraser-antistatic.com



Scotts Business Park, Bampton, Devon, GB, EX16 9DN
T + 44 (0) 1398 331114 F + 44 (0) 1398 331411
E sales@fraser-antistatic.co.uk W www.fraser-antistatic.com
