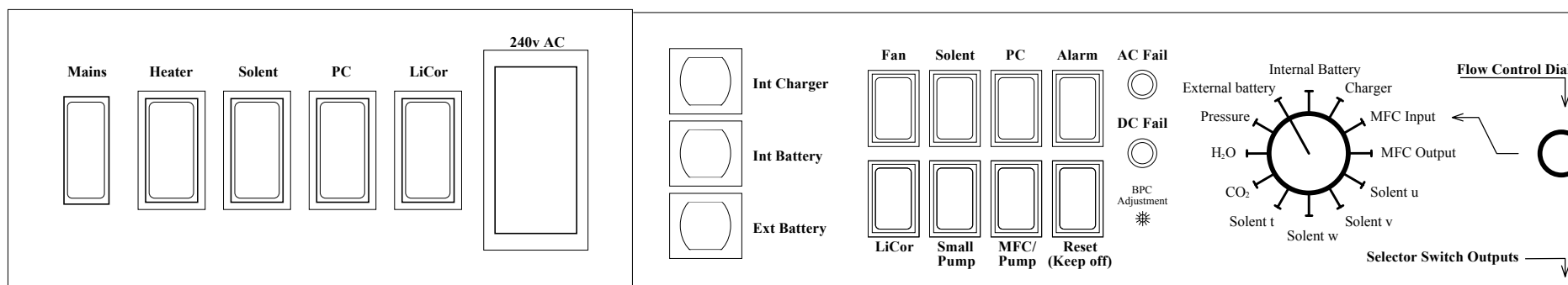


# EdiBox Quick Reference Guide

Figure 1 The Front panel of *EdiBox*



Inside *EdiBox* there are two panels of switches - the left-hand one (here called "panel A") which controls the mains connections, the right-hand one ("panel B") controls mostly 12V DC connections.

## 1. Operating procedure

STEPS	If using a Mains Supply:	If using an External 12 V DC source e.g. batteries or solar cells:
<b>Notes:</b>	In normal operation, all instruments are run off the DC supply, which protects them from electrical spikes and interruptions in mains power. Therefore the Solent/PC/LI-COR switches on panel A are usually OFF	
<b>1</b>	Switch AC Power ON; the Alarm switch should be ON	Turn selector switch to the external battery position. If the measured voltage is a negative value, then the external batteries have been connected the wrong way round; <u>this must be corrected before proceeding any further</u> . If mains is available, turn the mains switch on and ensure that the internal charger is operating correctly by measuring the voltage with the selector switch in the charger position (the measured voltage should be greater than 13V ).

<b>2</b>	If the Solent anemometer is to be mains powered, the Solent DC power switch (panel B) should be OFF and the Solent mains switch (panel A) should be ON. <u>It is important that the LI-COR DC switch is kept OFF if the LI-COR AC switch is to be left ON.</u>	
<b>3</b>	<b>Switch reset to the ON position</b>	
<b>4</b>	Push in the <b>internal battery</b> and <b>charger</b> switches	Press in the push button marked <b>Ext Battery</b> (this may cause the alarm to sound and the DC Fail lamp to illuminate for a few seconds).
<b>5</b>	Switch on the Fan (if required), then the LI-COR ( <i>Edibox</i> panel <b>first</b> and then LI-COR on/off switch)	
<b>6</b>	The <b>Internal Battery</b> switch must be ON. If, for any reason, the Internal Battery is not to be used, it may be disconnected on the back wall of <i>EdiBox</i> .	
<b>7</b>	Ensure that the needle valves on the flow meters at the top right-hand corner are fully open i.e. turn both of them fully anti-clockwise. The flow meter for the sample line is simply a visual indicator - it is not meant to be used to set the flow rate. The full-scale reading on the reference flow meter is 0.6 litres min <sup>-1</sup> and the flow in the reference line is set by adjusting the voltage to the reference pump.	
<b>8</b>	Provided the LI-COR has suitable filters fitted to sample in and reference in, and all tubes are dry and free of obstructions, then switch on <b>small pump</b> (the reference pump) and <b>MFC Pump</b> (the sample pump).	
<b>9</b>	With the selector switch to the MFC input position, adjust the flow control dial to obtain the desired flow rate e.g. a reading of 2.75 - 3V on the multimeter corresponds to a flow of about 5.5 - 6 l min <sup>-1</sup> through the sample cell. (using the manufacturers calibration for the mass flow controllers supplied with <i>EdiBox</i> ). Turn the selector switch to the MFC output position to make sure that the input voltage is the same as the output voltage..	
<b>10</b>	Use FCT7 on the LI-COR to switch off the display backlight to minimise power usage.	
<b>11</b>	Switch on Solent Sonic Anemometer	
<b>12</b>	Turn on the PC and run the <i>EdiSol</i> program	
<b>13</b>	<b>Switch reset to OFF position</b>	
<b>14</b>	<i>EdiSol</i> can now be left to run unattended	