

Fault Finding

The MillipaK controller includes a number of features designed to help the user track down operational faults, wiring faults or internal controller faults.

The **Diagnostic LED** mounted next to the calibrator connectors on the front of the controller serves as a simple diagnostic tool as explained below:

ON	No fault, normal condition
OFF	Internal controller fault
1 flash	Personality out of range
2 flashes	Illegal start condition
3 flashes	MOSFET Short Circuit
4 flashes	Contactor fault
5 flashes	Not used
6 flashes	Accelerator wire off fault
7 flashes	Low or High battery voltage
8 flashes	Over temperature or timed cutback
9 flashes	Rotor Position Sensor Fault

Table 9: Flash Fault Descriptions

In addition to the LED indication a more detailed description of any faults detected may be found by using the calibrator. Menu item number 13.01 gives a code which corresponds to the following detected faults:

ID	Fault	Description	Flash Fault
0	System OK		On
1	Thermal Cutback	Maximum power available to the motor has been reduced due to excessive Heatsink temperature.	8
2	Timed Current Limit Cutback	Maximum power available to the motor has been reduced by the Timed Current Limit Cutback function.	8
3	Accelerator Wire Off	Input wire from accelerator has been disconnected.	6
4	Accelerator Power Up Fault	Accelerator push > 5% at power up	6
5	Two Direction Fault	Two directions selected together.	2
6	Sequence Fault	Direction or FS1 switch closed at power up.	2
7	System Idle Fault	System Idle timer expired	2
8	System Stall Fault	System stall condition occurred	9
9	Low Battery Fault	Battery voltage is too low.	7
10	High Battery Fault	Battery voltage is too high.	7
11	High Battery Fault with Line Contactor Open	Battery voltage is too high before the line contactor is closed	7