The Merlin range of keypads, i.e. the single zone, double zone, nine zone and twenty zone, all use the same physical communication layer, comprising of three wires.

These are:  
- Ground (-)  
- Positive 12 Volts (+)  
- Bi-directional data (DAT) line

The keypads referred to are distinguishable by the markings ‘EE-MCP, EE-M2CP, EE-M9CP and EE-M20CP on the PC board, below the terminal connector.

**STANDARD OPERATING PROCEDURE**

Up to four keypads can be connected in parallel to the energizer. The maximum recommended distance from the energizer to any keypad, is 100 metres. The keypads each have a unique programming address.

When using only one keypad on an energizer, the installer does not have to concern himself with the actual keypad address. The default address is 1.
USING MORE THAN 1 KEYPAD

If more than one keypad is used, the second, third and fourth keypads must be programmed as follows:

- Remove JP1, adjacent to the connector block, on the second keypad.
- The **ON** indicator will be lit (number 1 address is used)
- Press and hold the **2** key for longer than two seconds.

  Ø The **FENCE** indicator will be flashing slowly with a high pitched beep, every two seconds. This indicates the current address and that there is no address clash.
- Insert JP1 and the two keypads will operate the energizer.

ADDING A THIRD KEYPAD

When adding a third keypad, it must be programmed as follows:

- Connect the keypad and remove JP1.
- The **ON** (address 1) and **FENCE** (address 2) indicators will be lit, to indicate that these addresses are in use.

  Ø The installer can press and hold the **3** or **4** key for longer than two seconds and the appropriate address will flash slowly, together with either the **GATE** (address 3) or **SERVICE** (address 4) indicator flashing slowly and beeping every two seconds.
- Insert JP1 for normal operation.

If an address, which is already in use, i.e. 1 or 2, was inadvertently chosen, the indicator would flash at a fast rate and a rapid high pitched beep will occur, indicating an address clash. Press and hold the appropriate number for an unallocated address for longer than two seconds, and insert JP1

**NOTE:**
When using one of the Merlin keypads in conjunction with an old generation C&K keypad, the C&K keypad must not use address #1.