# 3.6 PCB Layout

Each FlexConn PCB consists of generic electronic parts and specific electronics part.

The generic electronic parts can be found on any FlexConn modules. The specific electronics part represent an application specific function. On the generic electronics part, the following parts are available.

- Program memory Contains the module specific software.
- Microprocessor/controller Executes the module specific software stored in the program memory.
- Non-volatile memory Stores the commissioning parameters and the diagnostics data when the power is turned off.
- Jumpers Establish specific hardware settings.
- Health LED (blue) Indicates the general health status of the FlexConn module.

The following table specifies the health status and the flashing pattern on the FlexConn module.

Health Status	Flashing Pattern
Good	•0000000000000000
Uncertain	•0•0•0000000000000000000000000000000000
Bad	•0•0•0•0•0•0•0

- Function LEDs Indicates the module specific activities such as the data being transmitted or received.
- Voltage monitors and temperature sensors Used for internal diagnostics purposes.

Part No.: 4418309\_Rev10

Honeywell

# **System Description - PCB Layout**

### 3.6.1 PCB Details

# 3.6.1.1 CAN-HMI-MSC

### 3.6.1.1.1 Functions

The CAN-HMI-MSC board is used as the basic Human Machine Interface (HMI) for the MSC-L. The board supports various communication interfaces, Ex-i interfaces, and the display interface control.

Following are the functions of the CAN-HMI-MSC board.

Function	Description
Display interface control	Displays a 8" WVGA color display in the MSC-L lid.
RTC with battery backup	Is used for the date and time stamping of the transaction data.  External backup battery is connected to the RTC to retain the real-time information, even when the main power of the MSC-L is turned off.
Transaction storage memory	Is the external, non-volatile memory for storage of the transaction details.
Display image memory	Stores video data and it is interfaced to the Field Programmable Gate Array (FPGA).
Power failure memory management	Is the non-volatile memory for storage of measured values as a protection against the power failure.
HHC IR interface	Is the HHC IR interface for the Fusion4 IR Controller.
Ambient light sensor	Is the device used for sensing the ambient light condition. It is sensitive to visible light and has peak sensitivity at 570 nm.
RS-COM (2-wire or 4-wire)	The RS-485 serial communication block is used by the FlexConn microprocessor to communicate with external devices using an RS-485 compliant physical layer. It can be configured for a 2-wire half-duplex or a 4-wire full-duplex RS-485 communication.
ETHERNET	The Ethernet communication block is used for allowing the FlexConn microprocessor to communicate with the external devices using an Ethernet-compliant physical layer.