M180 LCR Module

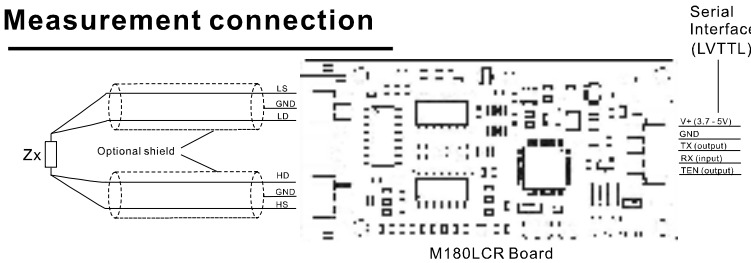
User Manual (Rev. 0)

Model: **M180**
PCB: 109-18000-00J or later
Firmware 113-18003-060 or later

1 Measurement Connection

Please refer to the drawing below for connections. Connect the left-hand side terminals to the object to be measured with two pairs of wire (shielded wire recommended for long distance). Connect the right-hand side terminal to a host. Please note that the power supply voltage should not be higher than 5V.

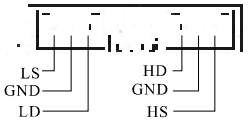
Measurement connection



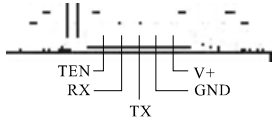
When power supply is applied, the LED on M180 board will quick blink twice and then blinks in about 1Hz, indicating the board is in normal working state.

Connector type: PH2.0 series pinheader. Pin pitch: 2.0mm
Pinout: see the drawings below

Connectors to Zx



Connector to PS and serial link



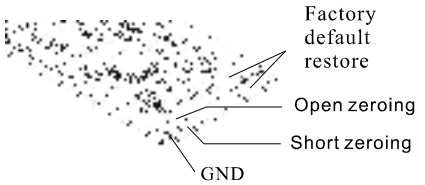
2 The Serial Interface

All the operations of M180 are through its serial port. Operations commands and measurement results are transferred in either text format (ASCII coded) or binary format. Please refer to the document "***M180 Serial Interface***" for details.

The serial transmission parameters are: 8 data bits, 1 stop bit, no parity, 115200bps.

3 Factory Default Restore and Zeroing

In addition to performing factory default restore and zeroing by serial commands, these operations can also be done by hardware.



Factory default restore — Short the two pads marked FORCE DEFAULT for 2 seconds

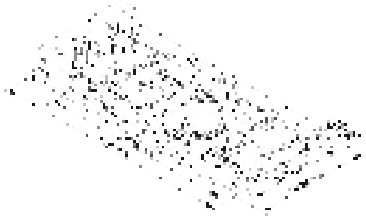
Open zeroing — Short the pad marked OZ to ground for 2 seconds

Short zeroing — Short the pad marked SZ to ground for 2 seconds

At zeroing the LED will be fast blinking. It will resume 1Hz blinking after zeroing is done. The duration of zeroing time depends on the measurement cycle selected. The longer the measurement cycle, the longer the zeroing time.

4 Dimensions

Board size: L63. 5mm x W30. 5mm
Board thickness: 7mm
Mounting holes: Φ2. 5mm X 4



5 Specifications (for model 18000-10K only)

Resistance: 0.01Ω - 2MΩ
Capacitance: 0.1pF - 500μF
Inductance: 0.1μH - 10H
Frequency: 10KHz
Cycle: 10ms - 65s/measurement (selectable by user)
Voltage: 0.5Vpp
Accuracy: 0.5%
Power supply: 3. 7V - 5V
Current consumption: 50mA
Dimensions: 63.5mm x 30.5mm x 7mm
Weight: 6 gram

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