



Introduction

MBs-1LC is one of the analog input modules of MERITEK MBs series PLC. It supports one channel of load cell input for weight measurement. The conversion result is represented by a signed 16-bit integer value. In order to filter out the field noise imposed on the signal, it also provides the average of sample input function.

Specifications

Total Channels - One channel

Resolution- 16 bits (include signed bit)

I/O Points Occupied - 1 RI(Input Register) and 8 DO

Conversion Rate- 5/10/25/30/60/80 Hz

Non-Linearity- 0.01% F.S. (@25°C)

Zero Drift- 0.2 $\mu\text{V}/^\circ\text{C}$

Gain Drift- 10 ppm/ $^\circ\text{C}$

Excitation Voltage – 5V with 100 Ω load

Sensitivity - 2mV/V, 5mV/V, 10mV/V, 20mV/V

Software Filter- Moving average

Average Samples- 1~8 configurable

Isolation- Transformer(Power) and photo-coupler(Signal)

Indicator(s) - 5V PWR LED

Supply Power- 24V-15%/+20%, 2VA

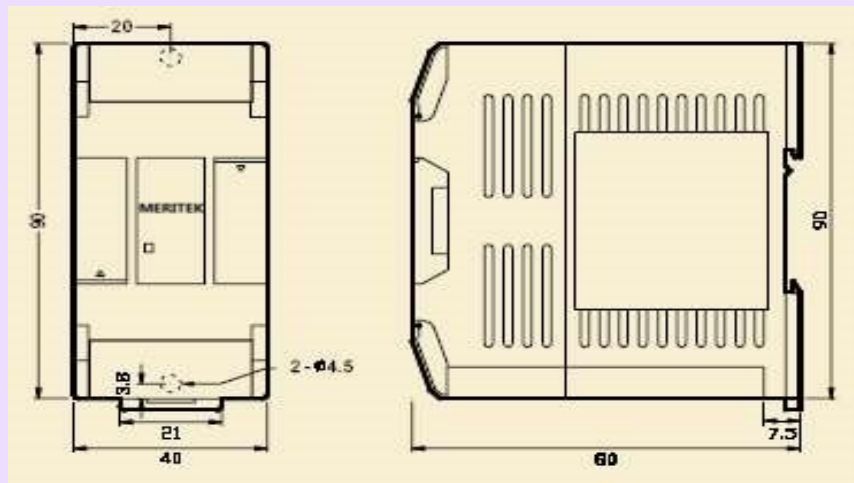
Internal Power Consumption- 5V, 100mA

Operating Temperature- 0 ~ 60 $^\circ\text{C}$

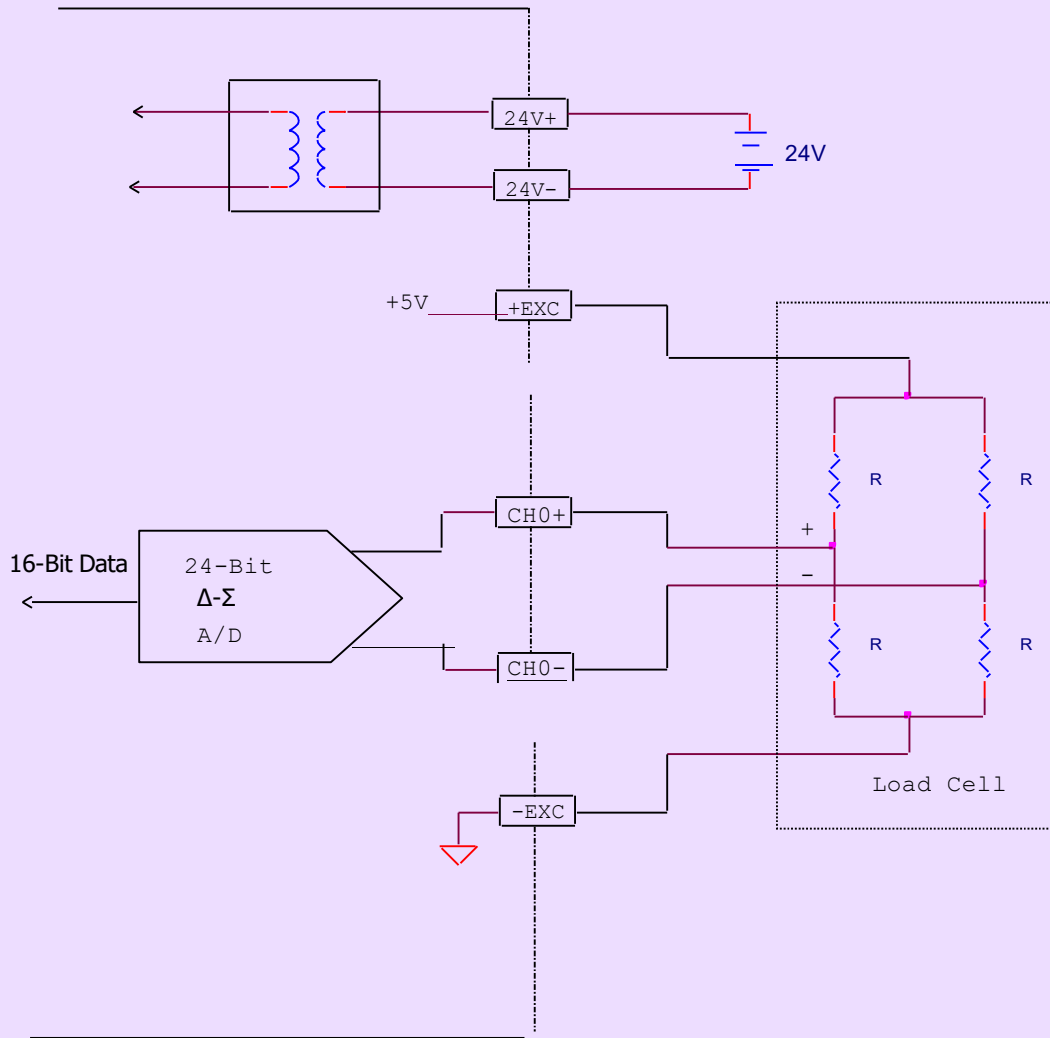
Storage Temperature- -20 ~ 80 $^\circ\text{C}$

Dimensions- 40(W)x90(H)x80(D) mm

Dimensions

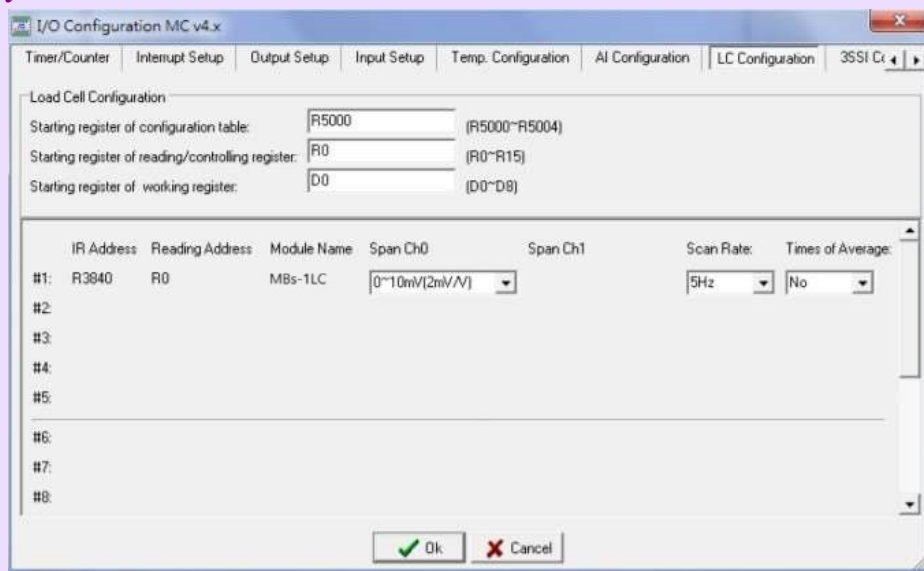


Wiring Diagram



The raw conversion result is represented by a 16-bit signed value. After setting the full range engineering value and perform the zero and full scale calibration procedure, the system will automatically convert the raw conversion reading value into engineering weight value for user application.

PLC Control



Before MBs-1LC module can be working, the configuration of the module should be set by the Winproladder software tool. The picture shown at above is the I/O configuration page for “LC module” setup.

Starting register of configuration table : Please input the starting register number of a block register that allocated for load cell module configuration in this field. The size of configuration table depends on the total installed load cell modules. The actual number of register allocated for configuration can be seen following the field entry, in this case it takes 5 registers for configuration.

Starting register of reading/control registers: Please input the starting register number of a block register that were allocated for receiving the measurement value and control parameters for load cell.

Starting register of working registers: Please input the starting register number of a block register that were allocated for internal process.

Span Ch0: The sensitivity of incorporated load cell or measurement range. There are 2mV/V, 5mV/V, 10mV/V and 20mV/V can be set. The corresponding measurement range are 0~10mV, 0~25mV, 0~50mV and 0~100mV.

Scan Rate: Conversion rate. There are 5Hz, 10Hz, 25Hz, 30Hz, 60Hz and 80Hz can be set

Times of Average: There are No, 2 times, 4 times and 8 times average can be set.

The processing capability of load cell module for one PLC is 16 in total.

Please refer the user’s manual for more detail explanation.

Note: The I/O configuration support for MBs-1LC module is available only for PLC OS V4.71 and Winproladder V3.22 or later version.