FBs-2LC

Dual Channel Load Cell Input Module

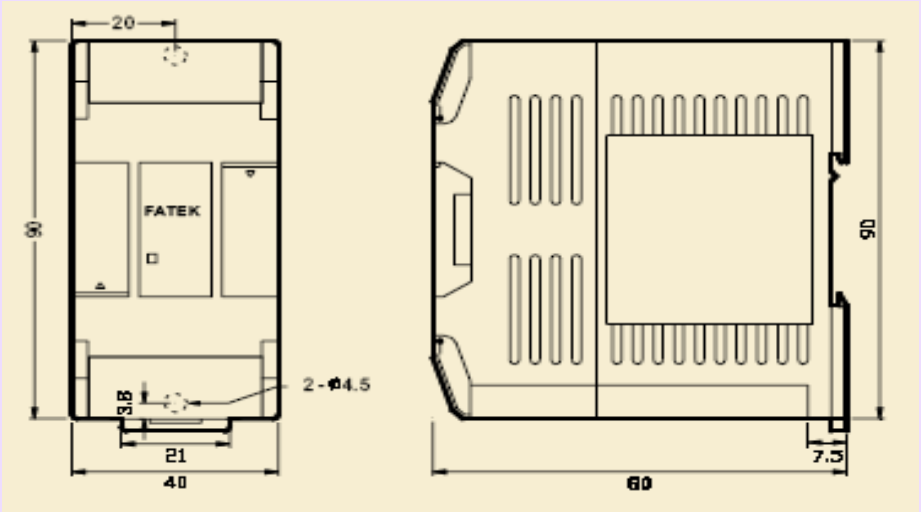
Introduction

FBs-2LC is one of the analog input modules of FATEK FBs series PLC. It can connect one 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.

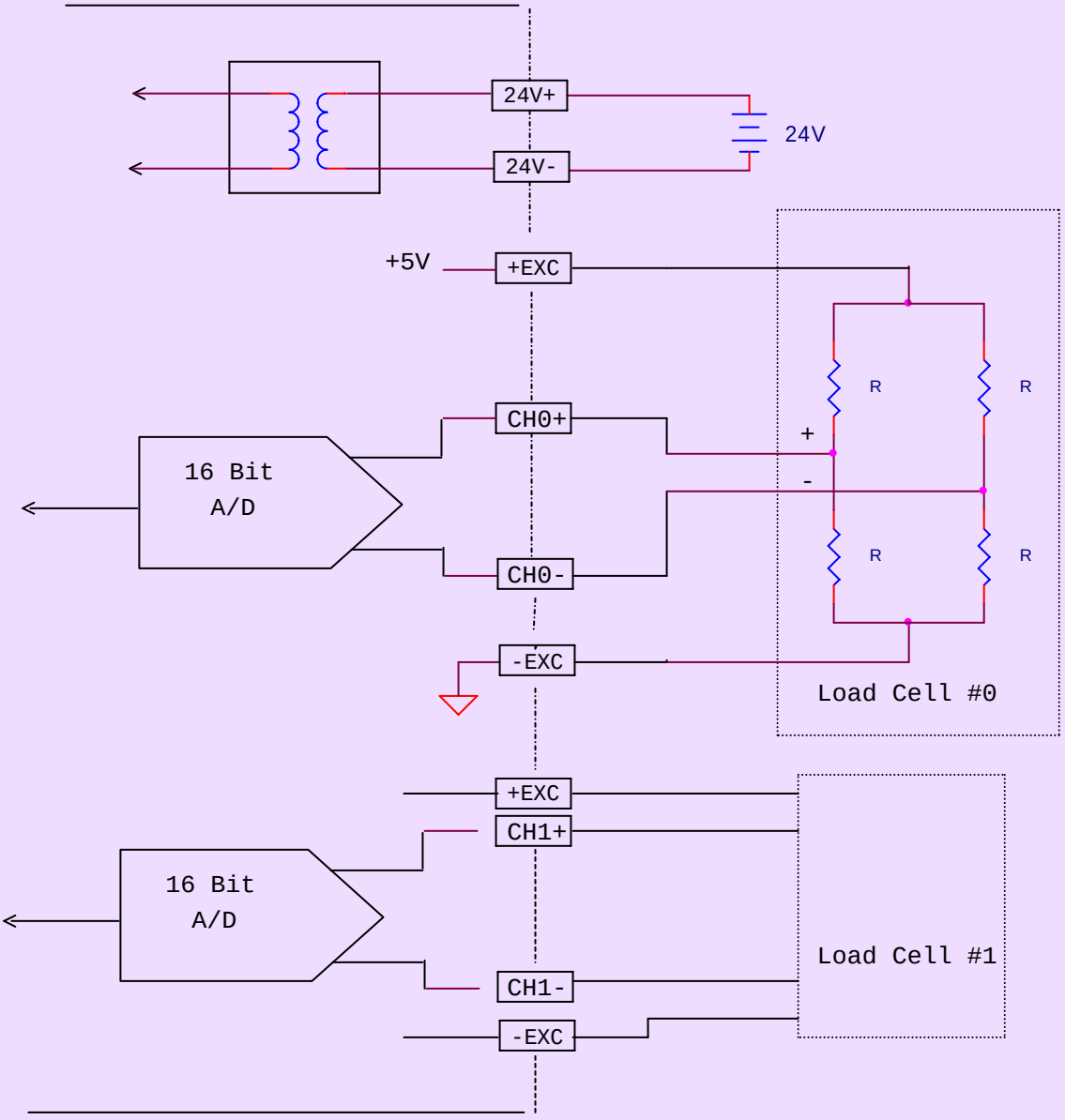
Specifications

Total Channels - Two channels
Resolution- 16 bit (include signed bit)
I/O Points Occupied - 1 RI(Input Register) and 8 DO
Conversion Rate- 0.6/1.2/2.5/3 Hz
Non-Linearity- 0.01% F.S. (@25℃)
Zero Drift- 0.2 μV/℃
Gain Drift- 10 ppm/℃
Excitation Voltage – 5V with 250Ω 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 ℃
Storage Temperature- -20 ~ 80 ℃
Dimensions- 40(W)x90(H)x80(D) mm

Dimensions



Wiring Diagram



The conversion result is represented by a 16 bit signed value, there should put an additional LCNV (FCN33)or MLC(FCN34)function instruction in the ladder diagram, which will convert the raw reading value into the desire weight value. Because the measurement signal is quite small, for common practice, manual zero adjustment is required in order to overcome the null drift.

PLC Control

The interface between PLC and 2LC module is thru 8 Pts. of DO and one input register (RI).
Thru the control of DO signal, the user can select the conversion rate, operating range and samples for average. Detail description of DO is listed at below. $\mathbf{Y_s}$ is the staring number of DO allocated for this module**.** The conversion result is carried in RI with 16 bit signed format.

Signal	Name	Function Description	
Y_{s+1},Y_{s+0}	**Span CH #0**	00	0~10mV(2mV/V)
		01	0~25mV(5mV/V)
		10	0~50mV(10mV/V)
		11	0~100mV(20mV/V)
Y_{s+1},Y_{s+0}	**Span CH #1**	00	0~10mV(2mV/V)
		01	0~25mV(5mV/V)
		10	0~50mV(10mV/V)
		11	0~100mV(20mV/V)
Y_{s+5},Y_{s+4}	**Conversion Rate**	00	0.6 Hz
		01	1.2 Hz
		10	2.5 Hz
		11	3 Hz
Y_{s+7},Y_{s+6}	**Average Count**	00	No Average
		01	2 Samples
		10	4 Samples
		11	8 Samples

Note: 2LC module use only 1 input register to multiplex the two channel data into PLC, de-multiplex procedure executed by ladder program should be performed in order to retrieve each channel's data. There are some special RI values pertinent to multiplex processing at below.

RI value	Description
-32760	Broken wire indication
-32767	CH #1 data follow indication
-32768	CH #0 data follow indication
others	Channel value