

1 Introduction

This document describes the LT1230 summation firmware. The LT1230 will poll each LT1240 instrument at a rate of 250mS and sum the two received values together. The LT1230 can have alarms / analog out / communications to function off the summed value of the two load cell instruments.

2 Hardware

Load cell instrumentation:

2x LT1240 (Alarms and other options optional), if using a wired connection to the LT1230 then the RS485 option needs to be installed on the LT1240 instruments.

LT1230 with Summation firmware

1x LT1230 (Alarms and other options optional) (Both RS232 & RS485 ports are standard on the LT1230)

Radio modems (Optional):

-2x RS232 radio modems connected to the LT1240 instruments

-1x RS232 or RS485 radio connected to the LT1230 instrument

Large display (Optional)

-1 or more Large displays connected via RS232 or RS485 wired connection or via radio modem to the LT1230.

NOTE: The LT1230 RS232 and RS485 ports have the same functionality and must be matched to the instrumentation purchased.

2.1 Wired connection

The LT1230 and 2x LT1240 instruments must be connected via the RS485 bus (D+ and D- must be daisy chain connected on all instruments).

LT1240 setup:

RS485 setup must be setup for the ASCII Out protocol and for print on demand, one LT1240 address must be set to 001 and the other must be set to address 002.

LT1230 setup:

RS232 setup must be setup for the ASCII Out protocol (Set print to continuous for interfacing to a Large display)

RS485 setup must be setup for the ASCII In protocol

The communication line settings for all instruments must be set to 8 data bits, 1 stop bit, no parity.

2.2 Radio modem connection

LT1240 setup:

The RS232 setup must be setup for the ASCII Out protocol and for print on demand. One LT1240 address must be set to 001 and the other must be set to address 002

The LT1240 can be connected to the RS232 radio modem as follows:

LT1240 pin 9 to Din rail radio modem pin 5

LT1240 pin 10 to Din rail radio modem pin 4

LT1240 pin 11 to Din rail radio modem pin 2 (ground)

LT1230 setup (RS232 radio modem):

RS232 setup must be setup for the ASCII In protocol

RS485 setup must be setup for the ASCII Out protocol

LT1230 pin 9 to Din rail radio modem pin 5

LT1230 pin 10 to Din rail radio modem pin 4

LT1230 pin 11 to Din rail radio modem pin 2 (ground)

LT1230 pin 1 to Din rail radio modem pin 1 (Power).

The LT1230 summation unit has a +12V power supply output on pin 1.

The communication line settings must be set to 9600 baud, 8 data bits, 1 stop bit, no parity.

3 Software

The LT1230 has a default setting for the F1 key: Toggle CH1, CH2, CH1+2 (Other keys can be assigned in the menu system)

The displayed channel can also be changed in the menu system under the "DISP" menu option.

The analog output, alarms, RS232 or RS485 ASCII Out communications can be selected to either work from CH1, CH2 or CH1+2. (CH1+2 is the default setting)

The CH 1+2 decimal point is taken from the CH1 decimal point.

4 Error messages

The LT1230 will flash CH 1 (if communications has been lost with instrument 1), CH 2 (if communications has been lost with instrument 2) or CH 1+2 (if communications has been lost with both instrument 1 and instrument 2).

The time before the error messages are displayed can be changed in the ASCII IN TIM.OUT menu option.