

LTC-114x Software

1 Current Release Notes, Version 0.80

12 February 2019

LTC Configuration Software Version 0.80; LTC-114x Firmware Version 0.80

Supported Devices

- LTC-1141/1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- LDD DSO number of points increased from 8'192 points to 16'777'216 points. The Configuration Software creates a .csv file, which is located next to the .exe file of the Configuration Software.

Resolved Issues

- Configuration Software
 - None

Known Issues or Not Yet Implemented Main Features

- LDD DSO graph cannot chart 16M points. Please disable the graph and use the .csv file, which is located next to the .exe file of the Configuration Software.
- LDD Auto Tuning not yet available.
- The analog output cannot be controlled.
- Firmware only issues
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close to the limitation, an error message is thrown.

2 Old Release Notes, Version 0.71

17 October 2018

LTC Configuration Software Version 0.71; LTC-114x Firmware Version 0.70

Supported Devices

- LTC-1141/1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- None

Resolved Issues

- Configuration Software
 - The IP Address and a few other values have not been updated periodically. (Only during the connecting phase)

Known Issues or Not Yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The analog output cannot be controlled.
- Firmware only issues
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close to the limitation, an error message is thrown.

3 Old Release Notes, Version 0.70

17 August 2018

LTC Configuration Software Version 0.70; LTC-114x Firmware Version 0.70

Supported Devices

- LTC-1141/1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- Configuration Software
 - The IO window shows the PBC analog input voltage. Currently there is no further usage of this value.
 - The LDD Graph acquired values are saved to the LddChartOutput.csv file in the program's folder.
 - Export option to export a list with all possible error messages added.
- Firmware
 - The TEC current measurement can be calibrated by the manufacturer.
Note: downgrading the firmware on a board delivered with this firmware or newer, results in losing this calibration.
 - GPIO9 and GPIO10 are used to measure the voltage across them differentially. Currently there is no further usage of this value.

Resolved Issues

- Configuration Software
 - Sometimes the application did not start properly on slower PC systems, because of a multithreading conflict. → Thread synchronization optimized.
 - Parameters like Temperature Sensor Type are now only imported if the serial number of the XML file is the same (like the TEC Service Software does).
 - Removed the possibility to update older firmware versions with a newer Configuration Software version. Otherwise it is possible to skip the Firmware Update Lock feature.
- Firmware
 - Hardware test functionality fixed.
 - The MS (Meerstetter Set) command was missing.
 - The ?VL command was missing.
 - The LTC webpage doesn't show the wrong name for LTC-1142 devices anymore.
 - The LDD output stage power dissipation monitoring error 20400 was sometimes thrown too early or too late. → LDD output stage power dissipation monitoring optimized.

Known Issues or Not Yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The analog output cannot be controlled.
- Firmware only issues
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close to the limitation, an error message is thrown.

4 Old Release Notes, Version 0.60

24 May 2017

LTC Configuration Software Version 0.60; LTC-114x Firmware Version 0.60

Supported Devices

- LTC-1141/1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- Flexible GPIO configuration function, debounce time and polarity inversion. Check IO window.
- Configuration Software:
 - Status bar added to each window.
 - Custom Lock Configuration.
- Firmware:
 - Ethernet: The device reports now a host name like “LTC-1141_SerialNr16”.

Resolved Issues

- Configuration Software
 - The appearance was different on various Windows versions.
 - The shown error message was wrong, if the user has imported a wrong formatted lookup table.
 - The shown error message was wrong, if the user has connected a device with a too old or too new firmware.
 - The debounce time in the IO window was not in the right format.
 - The software may have crashed during device connect. Fixed.
 - The software may have consumed too much CPU power if the TEC Chart was open for several hours. → The chart history has been limited to 2h.
- Firmware:
 - The UART / RS485 interface may have blocked sometimes.
 - The lookup table sample rate processing usage in the system was slightly wrong.

Known Issues or Not Yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- The analog output cannot be controlled.
- Firmware only issues
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.

5 Old Release Notes, Version 0.51

13 November 2016

LTC Configuration Software Version 0.50; LTC-114x Firmware Version 0.51

Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.31
- LTC-1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- None

Resolved Issues

- Bug: External enable reported wrong status at high frequency
- Bug: TEC Stable had no effect when LDD Enable was set to Digital IO

Known Issues or Not yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The analog output cannot be controlled.
- Firmware only issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.

6 Old Release Notes, Version 0.50

2 November 2016

LTC Configuration Software Version 0.50; LTC-114x Firmware Version 0.50

Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.31
- LTC-1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- Add: Some fixed Digital IO Configurations
 - LDD Enable source option: Enable upon an external positive edge on the Digital IO X3 Pin 5
 - Collective Error out on Digital IO X3 Pin 6 (High = at least one error is present)

Resolved Issues

- None

Known Issues or Not yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The analog output cannot be controlled.
- Firmware only issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.

7 Old Release Notes, Version 0.41

26 October 2016

LTC Configuration Software Version 0.40; LTC-114x Firmware Version 0.41

Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.31
- LTC-1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- Add: Sync and LED output to IO's. Sync on X3.3 and LED on X3.4.
This is temporary and will be soon upgraded with a fully user configurable IO configuration system.

Resolved Issues

- None

Known Issues or Not yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The analog output cannot be controlled.
- Firmware only issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.

8 Old Release Notes, Version 0.40

18 October 2016

LTC Configuration Software Version 0.40; LTC-114x Firmware Version 0.40

Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.31
- LTC-1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- Add: Support for PD1 and PD10

Resolved Issues

- None

Known Issues or Not yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The analog output cannot be controlled.
- Firmware only issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.

9 Old Release Notes, Version 0.31

19 June 2016

LTC Configuration Software Version 0.30; LTC-114x Firmware Version 0.31

Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.31
- LTC-1142: Hardware Versions 1.30 – 1.31

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- Formal Modification: Added new Supported Devices

Resolved Issues

- Bug: Buffer Overflow in parameter system.
- Bug: New parameter were not limited correctly.

Known Issues or Not yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The analog output cannot be controlled.
- Firmware only issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.

10 Old Release Notes, Version 0.31

7 June 2016

LTC Configuration Software Version 0.30; LTC-1141 Firmware Version 0.31

Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.30

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- None

Resolved Issues

- Bug: Buffer Overflow in parameter system.
- Bug: New parameter were not limited correctly.

Known Issues or Not yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The analog output cannot be controlled.
- Firmware only issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.

11 Old Release Notes, Version 0.30

27 May 2016

LTC Configuration Software Version 0.30; LTC-1141 Firmware Version 0.30

Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.30

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- Add: LDD Graph
- Add: LDD Lookup Table: Custom waveform generation. (You may have to download a lookup table file to resolve the parameter system error after updating.)
- Add: LDD Slew Rate Limiter

Resolved Issues

- Configuration Software cannot connect to the device → Solved, works now
- Timebase of PID Controller for LDD was wrong. You may readjust the PID parameters. Multiply Ki and Kd with 1E-3 to adjust the parameters.
- Optimized TEC PWM to be able to achieve 16V output on all devices.

Known Issues or Not yet Implemented Main Features

- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The Analog output cannot be controlled.
- Firmware only issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.

- Configuration Software only issues:
 - TEC Temperature Graph:
 - May stress the CPU too much if too much data is in the graph. Workaround: Restart the Configuration Software.
 - The time axis labels do not have enough time resolution.
 - No hint if unsaved Parameters are present.

12 Old Release Notes, Version 0.21

14 April 2016

LTC Configuration Software Version 0.20; LTC-1141 Firmware Version 0.21

Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.30

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- None

Resolved Issues

- Fixed manufacturing issue of LTC-1141-150

Known Issues or Not yet Implemented Main Features

- No graph functionality available for the LDD current and analog input. The firmware does not log the signals.
- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The Analog output cannot be controlled.
- No customized waveform can be defined.
- Firmware only Issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.
- Configuration Software only issues:
 - TEC Temperature Graph:
 - May stress the CPU too much if too many data is in the graph. Workaround: Restart the Configuration Software.
 - The time axis labels do not have enough time resolution.
 - The Ethernet connection does not work. (only USB)
 - No hint if unsaved Parameters are present.

13 Old Release Notes, Version 0.20

13 April 2016

LTC Configuration Software Version 0.20; LTC-1141 Firmware Version 0.20

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Supported Devices

- LTC-1141: Hardware Versions 1.30 – 1.30

New and Improved Features

The current release features the following enhancements. Refer to the user manual or the communication protocol specification for further information:

- First official release version

Resolved Issues

- None

Known Issues or Not yet Implemented Main Features

- No graph functionality available for the LDD current and analog input. The firmware does not log the signals.
- LDD Auto Tuning not yet available.
- The list with all possible error messages is not yet available.
- No functionality available for the GPIO pins.
- The Analog output cannot be controlled.
- No customized waveform can be defined.
- Firmware only Issues
 - To change the IP Settings DHCP mode, a system reset is required to apply.
 - The supply voltage values may not be updated sometimes.
 - If the TEC Output Stage voltage and current limitations are changed while the corresponding value is running close at the limitation, an error message is thrown.
- Configuration Software only issues:
 - TEC Temperature Graph:
 - May stress the CPU too much if too many data is in the graph. Workaround: Restart the Configuration Software.
 - The time axis labels do not have enough time resolution.
 - The Ethernet connection does not work. (only USB)
 - No hint if unsaved Parameters are present.