

## **DaliControl e64 Upgrade Tool – Firmware upgrade 1.3 Release 3      Application Note**

### **Topic**

KNX-DALI gateways from the DaliControl e64 product range offer the possibility of an easy firmware upgrade without having to demount the devices. The upgrade is performed via an integrated IP interface. Future developments or any adjustments that may be required can be easily imported via the IP connection.

This application note describes the process for upgrading a device to firmware version 1.3.3 by means of the DaliControl e64 Upgrade Tool.

### **Change tracking**

Firmware version 1.0.0 pre-release only for internal purposes

Firmware version 1.0.1 released 2<sup>nd</sup> March 2012      Delivered as advanced prototype

Firmware version 1.0.2 released 6<sup>th</sup> June 2012      Changes

- New boot loader
- New web server version
- Improved IP properties, DGCP detection
- Errors in the sorting of the effect table have been corrected
- The fault request function for self-contained emergency ballasts has been corrected
- A blink function for identification purposes has been added
- The version is displayed on the website

Firmware version 1.0.3 released 27<sup>th</sup> July 2012      Changes

- Operating Hours only need to be saved once every 4 hours not after every change
- Data on the ECGs is only programmed when there are changes to the data set concerned not if there are general changes in the ETS
- A calculation of the operating hours only occurs if this has been released in the ETS

Firmware version 1.0.4 released 7<sup>th</sup> Sept. 2012      Changes

- Necessary amendments have been made to the commissioning properties for commissioning via ETS with the new plug-in

Firmware version 1.0.5 released 19<sup>th</sup> Sept. 2012      Changes

- All ECGs found/deleted are now shown on the device display during both the initial and subsequent installations
- Error: at the end of an emergency light converter test the corresponding lamp is not set to the current value → corrected
- Time-out during new and post-installations has been corrected in the new plug-in
- Error with the new plug-in creation of “empty ECGs” has been corrected

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- Firmware version 1.0.6 released 5<sup>th</sup> October 2012
- Changes
- "Non-switchable" emergency light converters can also be assigned to DALI groups (ATL requirement)
  - Error: Function of Bit 15, 4Byte group error (object 30) not correct → corrected
- Firmware version 1.0.7 released 16<sup>th</sup> Oct. 2012
- Changes
- Website problem with Microsoft Internet Explorer: Individual ECGs cannot be switched via toggle button → corrected
- Firmware version 1.0.8 released 25<sup>th</sup> Oct. 2012
- Changes
- Errors with new plug-in during scene and effect programming have been corrected
  - ATL change request: After a new installation DALI ECGs are not turned off
  - ATL change request: Blinking during ECG identification switches between minimum and maximum value, not 0 and 100%
  - Website optimisation: Password entry can also be confirmed with enter key
- Firmware version 1.0.9 released 9<sup>th</sup> Nov. 2012
- Changes
- Problem: After the firmware upgrade the device needs to be reset manually. For the new upgrade tool, an automatic reset has been added.
  - ATL change request: 1 Byte object to start the EM test is sent when test is pending or complete.
  - ATL change request: After Battery charge request Bits 0..3 of Byte2 of 3 byte object (value = Response of Failure Status Query) will be adjusted
  - Optimisation: New installation deletes any previously stored scenes from the ECGs and the property
  - Optimisation: New installation deletes any previously stored effects from the property
  - Error: When setting delay 0 in the effect table, the effect is no longer executed → corrected
  - Error: Time base for ‚Delay on Mains Recovery‘ (Prolong Time) not correct (Multiplied by 3, Adjustment 1 Minute means 3 Minutes) → corrected
  - Optimisation: Settings of life-time and burn-in time reasonable after first ETS download only (Default values not correct) → corrected
  -
- Firmware version 1.0.10 released 29<sup>th</sup> Nov. 2012
- Changes
- Problem: When the KNX bus load is very high New Installation and Post Installation is not working properly → corrected
  - ATL change request: After Battery charge request Byte2 of 3 byte object (value = Response of Failure Status Query) will be adjusted completely
- Firmware version 1.0.11 released 5<sup>th</sup> Dec. 2012
- Changes
- Problem: When parameter is adjusted to ‚Switch-On Value: Last Value‘ Group / ECG is not working correctly. If switched off twice without being switched on, light is not working → corrected

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Firmware version 1.0.12 released 8<sup>th</sup> Jan. 2013

#### Changes

- Optimization: DALI driver expect 1200Bit/s Baud rate of ECG, Acceptance of changing Baud rate in DALI driver has been improved
- Optimization: When using swap function on Webpage description text is not swapped and has been adjusted separately. → changed: Swap is changing description text as well

Firmware Version 1.0.13 released 12<sup>th</sup> Feb. 2013

#### Changes

- Optimization of internal task control: If many individual controlled ECGs are switched via one and the same KNX groupaddress (i.e. central object) sometimes a switch telegram 'was lost' → corrected
- Optimization: During New Installation some Emergency Converter are switching into test mode, Due to the test the paired 'normal ballast' was separated from mains supply and has to be teached-in with an additional Post Installation. → corrected
- Optimization: A framing error in the DALI telegram during Emergency Test was not detected and the result was missing → corrected: now the test result is queried again in next query-cycle
- Problem: if scenes are stored with the Plug-In controlling of individual ECGs to 100% is not working → corrected

Firmware Version 1.0.14 released 17<sup>th</sup> Feb. 2013

#### Changes

- Problem: Communication objects for Emergency Test Results are not sent automatically for ECG 48-64 if new test result is valid, but it has to be queried by Read Request → corrected: Objects will be send always
- Problem: Start of Emergency Test in Web server is not working → corrected

Firmware Version 1.1.0 released 11<sup>th</sup> March 2013

#### Changes

- Display shows Version 1.1
- Problem: if number of group addresses is exactly 256, 512 oder 768 (2. byte of length = 0), status objects will not be send → corrected
- Text entries in display in French, Italian and Spanish corrected

Firmware Version 1.1.1 released 27<sup>th</sup> April 2013

#### Changes

- Effects operate with groups and individual ballasts < 32 only, individual ballasts 33 – 64 have no funktion in effects → corrected
- Optimization of Post Installation: During Post Installation connected ballasts will be controlled on double shortaddresses

Firmware Version 1.1.2 pre-release 16<sup>th</sup> May 2013

#### Changes

- Optimization: Problems with some Philips ballasts during Teach-In, Solution by modification of DALI driver: Reception time for backward telegramms is extended to 14msec.

Firmware Version 1.1.3 released 4<sup>th</sup> June 2013

#### Changes

- Problem: If the highest object in address table is a sending object (i.e. light status) this object is not sent → corrected all objects are sent
- Optimization: Watchdog adapted to 2 sec.

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- Optimization: invalid states in state machine are eliminated and handled
- Firmware Version 1.1.4 released 21<sup>th</sup> June 2013
- Changes
- Optimization: Watchdog adapted to 4 sec.
  - Optimization: Problems with some Philips ballasts during Teach-In → Solution by extending the short circuit detection time to 20msec.
- Firmware Version 1.1.5 released 19<sup>th</sup> Sept. 2013
- Changes
- Problem: If parameter setting is „Switch-On-Value“ = „Last Value“ the light will not switched on after returning from panic mode. As „Last Value“ 0 is stored into the memory → corrected: Last Value will be adjusted even after panic mode.
  - Problem: If parameter setting is „Behavior on KNX recovery“ = “Switch to last Value” after mains power recovery an undefined light value is adjusted (On or Off) → corrected after mains power recovery the light stays Off.
  - Optimization: Manufacturer code is additionally available via IP → simplifies the test procedure during manufacturing.
- Firmware Version 1.1.6 released 17<sup>th</sup> Feb. 2014
- Changes
- Problem: If device type of a ECG is manually adjusted to LED Module the dimming curve is only correct for individual controlled ECGs, in a DALI group the dimming curve is not changed → corrected: dimming curve for groups changed as well
  - Request of Device ID via property possible
  - Problem with KNX stack when there are LTE frames on the bus → corrected: no problem with LTE anymore
  - Optimization: Detection of Device Type during New- and Postinstallation improved
- Firmware Version 1.1.7 released 21<sup>st</sup> March 2014
- Changes
- Problem: 4 Byte Object, Failures in Groups is not being sent → corrected: Object is sent
  - Problem: On adjustment „Behaviour after KNX recovery“: „Switch to last value“ is not working for short mains interruption of ballast, if DALI gateway is switched off lights will be switched off → corrected: value will be kept even for short interruptions, light is not switched off
  - Problem: On adjustment „Behaviour after KNX failure“: „Switch to Emergency/Panic Value“ is not working for groups → corrected
  - Optimization: Problem of Tridonic Firmware in device EmPower (Device can not switched on, if Power-On-Level = 0) will be ignored by DALI gateway -> Optimization: Power-On Level of all Emergency Devices set to 100%
  - Optimization: Min Dim Value and Max Dim Parameter in ETS is valid for 1 Byte set value object too
- Firmware Version 1.1.8 not released
- For internal Usage only

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- Firmware Version 1.1.9 released 10<sup>th</sup> June 2014      Changes
- Optimization: Emergency Test 3 Byte Object Test Result: Test is indicated as faulty if Bit 1 or Bit 2 or Bit 3 or Bit 4 FAILURE STATUS REGISTER is true.
  - Optimization: With Philips Xitanium LED Drivers SWAP is not working, Xitanium devices require additional TERMINATE command in SWAP Sequence
- Firmware Version 1.2.0 released 30<sup>th</sup> October 2014      Changes
- Optimization: ETS5 requires connectionless communication of DeviceDescriptor → modified Gateway is now ETS5 compatible
  - Optimization of timing to reduce communication problems during Plug-In communication:
    - 1) On Swap only groups will be deleted, which was assigned before
    - 2) On Swap only scenes will be deleted which has been programmed before
    - 3) On New / Post-Installation and Swap failure queries are started delayed for 20 seconds.
  - Optimization: New generation of Tridonic EMPro devices are switched to POWER ON LEVEL after function and duration test → previous adjustment is POWER ON LEVEL = 0xFE what means light is switched on after test → modified POWER ON LEVEL = 0xFF (switched to last value)
  - Optimization: If DALI connection to emergency converter is lost and a test is performed the test result in 3 Byte object is not displaying the last valid test result but '00 00 00'.
  - Optimization: Number of converter displayed on webpage is only correct if ETS is parametrized and loaded → modified: number of converters is always correct
- Firmware Version 1.2.1 not released      For internal Usage only → Nestle Special Version
- Firmware Version 1.2.2 released 26<sup>th</sup> May 2015      Changes
- Optimization: Post installation works also with ballasts with long adress FF FF FF, which have already a short address
  - Problem in v 1.2.0 only: If device type of a ECG is manually adjusted to LED Module the dimming curve is only correct for individual controlled ECGs, in a DALI group the dimming curve is not changed → corrected in v 1.2.2: dimming curve for groups adapted as well
- Firmware Version 1.2.3 released 03<sup>rd</sup> December 2015      Changes
- Optimization: ERCO DALI requires more wait time between two telegrams → time between backward telegram and forward telegram increased
  - Optimization: New Tridonic EMPower Emergency Converter can be switchable as well as non switchable (adjustment by cabling), device is always answering as switchable, therefore identification is difficult (no blinking possible) → Modification: Identification of switchable converter by function test as well.

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Firmware Version 1.3.0 released 15<sup>th</sup> December 2015

Changes

- Functional Extension: Colour Control via DT-8 → Change of colour / colourtemperature depending on time and date, Adjustment of colour / colourtemperature via scenes
- Optimization: Log-In on webpage is possible even without password → Adjustment by parameter setting password 9999

Firmware Version 1.3.1 not released

For internal Usage only

Firmware Version 1.3.2 released 26<sup>th</sup> February 2016

Changes

- Optimization: Programming of Scenens by Plug-In improved: Adjusted colours are overwritten if a dimm value is changed → colour values are permanently stored now

Firmware Version 1.3.3 released 6<sup>th</sup> April 2016

Changes

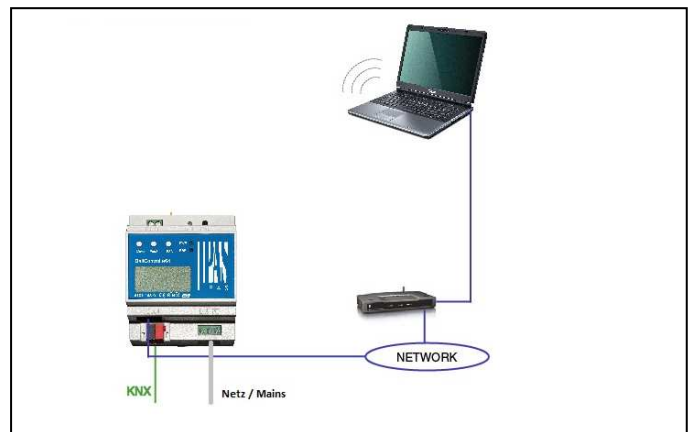
- Problem: In colour control, if templates with more than 116 actions are imported, there are some entries missing and the import is not complete → corrected

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**Requirements for the firmware upgrade**

An upgrade to version 1.3.3 requires firmware version 1.0.2 or upwards to be already installed on the device. Should you wish to upgrade a device with firmware version 1.0.1, you need to upgrade to version 1.0.2 first in accordance with “Application Note Firmware update 1.0.2“ (including boot loader update).

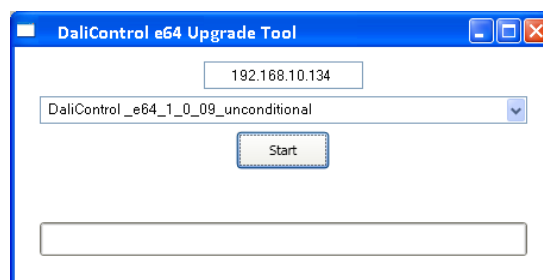
The firmware upgrade is performed via IP. The device therefore needs to be integrated into an IP network. Once the power supply is connected, the gateway is assigned an IP address either via DHCP or via the manual address assignment pre-set in the ETS. To see the IP address, go to menu item “network” on the device display. You will need the address for the subsequent upgrade process. The actual upgrade is performed via a connected PC with Windows XP, Win7, Win8 or .net.



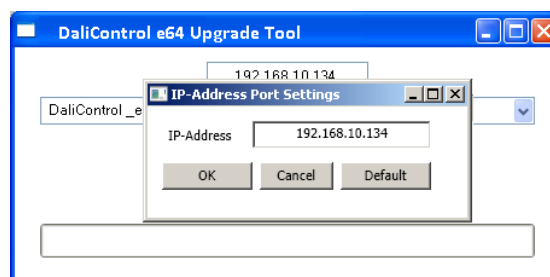
**Upgrade procedure**

For an upgrade to version 1.3.3, please first unpack the zip archive "Manufacturer\_e64\_upgradeTool\_V1\_3\_3.zip" depending on the device type. The archive, which is provided with this application note, contains a detailed file "Manufacturer\_e64\_upgradeTool\_V1\_3\_3.exe" which can be started straight away after unpacking.

After the programme has been started the following entry window appears:



To start the upgrade, enter the IP address of the device that you would like to upgrade. Double-click on the displayed IP address (here 192.168.10.134) to open the entry field.



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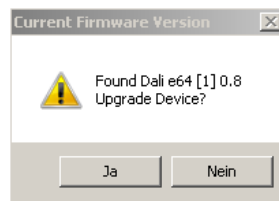
You can now edit the IP address and ensure it is correctly set to the value required. Press the OK button to transfer the address to the main window. Before you start the upgrade, please select the type of upgrade you would like to perform from the pull-down menu. The following types are available:

- DaliControl\_e64\_Version\_unconditional      or
- DaliControl\_e64\_Version\_partial

If you select \_unconditional all data (ETS parameters, DALI configuration data, scenes, effects, etc.) that may already be stored on the device are deleted and the physical address is re-set to 15.15.255 . **Please remember that in this case, the DALI data cannot be reconstructed unless a previous back-up of the gateway via the backup function of the plug-in has been performed (see application program description). If you select unconditional update without backup data, you may need to perform the extensive DALI configuration all over again.** If you select the \_partial upgrade type, the configuration data is preserved and the device does not have to be re-loaded with the ETS and the DALI configuration does not need to be repeated.

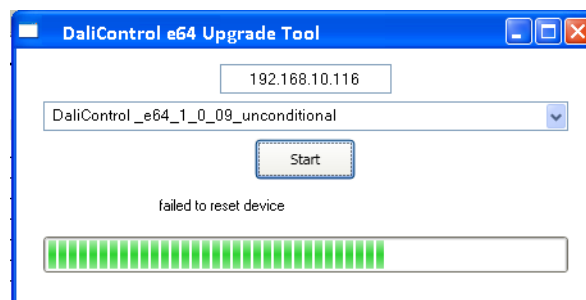
After you have selected the type you need, press the start button to begin the upgrade process

The upgrade tool first checks the current firmware version of the Dali gateway and informs the user via an information window of the firmware version that has been used up to now.



After acknowledgement the firmware data are transferred to the device memory via FTP. A progress indicator informs about the current status of the transfer. Once the upgrade files have been successfully transferred, a device reset is required.

For all devices that are already equipped with firmware version 1.0.9 or higher, the reset is automatically started by the upgrade tool. If you are upgrading devices which previously contained version 1.0.8 or lower, the upgrade tool finishes with the error notification “failed to reset device”:



**Attention: In this case the device has to be re-set manually by briefly disconnecting the power supply.**

After the reset the device starts with the new firmware version.



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From version 1.0.2 upwards you can also check the current firmware version on the device website. The text box at the bottom of the page displays the firmware version in addition to the MAC address and the physical address of the device:

