

## DALI-2 RTC+ Timer

### Datasheet

### Control Device



DALI Real Time Clock  
with Scheduler

Art. Nr. 86457142



# DALI-2 RTC+ Timer Control Device

## Overview

- DALI Real Time Clock.
- Time can be set and queried via DALI instance (type 0 generic – real time clock).
- Scheduler Function with up to 32 schedule entries.
- Astro-clock function.
- For each scheduler job: weekday, day of month, months, time stamp and DALI commands can be defined.
- periodic repetitions can be easily realized by entering multiple time stamps.
- Supports sending of DALI/DALI-2 control commands as well as multiple command sequences (macros) – thereby including DT8 and Tc control and configuration-commands (twice).
- Allows simple enabling and disabling scheduler entries via DALI scene commands.
- Daylight saving mode.
- Easy schedule configuration via [DALI-Cockpit](#) Software tool and suitable [DALI PC interface](#).
- No additional power supply needed, the DALI RTC+ module is supplied directly via the DALI line.
- The time and date settings are retained for approx. 3 days after the storage has been fully charged. Afterwards the time is no longer synchronized.
- suitable for backbox installation or installation in protection class II devices.
- Multi-master capable: Several modules can be installed within a DALI circuit.



## Specification, Characteristics

| type                                  | DALI-2 RTC+ Timer                     |
|---------------------------------------|---------------------------------------|
| article number                        | 86457142                              |
| GTIN                                  | 9010342014147                         |
| <b>DALI-Interface, supply: DA, DA</b> |                                       |
| input type                            | DALI, supply                          |
| marking terminals                     | DA, DA                                |
| input voltage range                   | 9,5Vdc ... 22,5Vdc (acc. to IEC62386) |
| max. current consumption DALI         | 5mA                                   |
| number of DALI addresses              | none                                  |
| DALI-2 addresses                      | 1                                     |

**insulation data**

|  |                      |
|--|----------------------|
| impulse voltage category               | II                   |
| pollution degree                       | 2                    |
| rated insulation voltage               | 250V                 |
| insulation DALI / housing              | reinforced isolation |
| Insulation test voltage DALI / housing | 3000Vac              |

**environmental conditions**

|  |                 |
|--|-----------------|
| storing and transportation temperature | -20°C ... +75°C |
| operational ambient temperature        | -20°C ... +60°C |
| rel. humidity, none condensing         | 15% ... 90%     |

**general data**

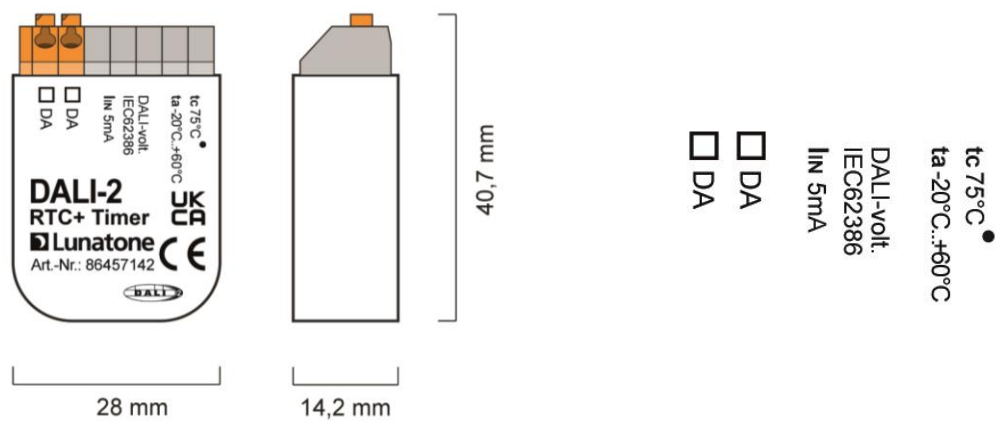
|  |  |
|--|--|
| dimensions (l x w x h)                         | 41mm x 28mm x 15mm                           |
| mounting                                       | back box<br>integration in class II devices  |
| rated max. temperature tc                      | 75°C   |
| protection class                               | II in intended use                           |
| protection degree housing                      | IP40   |
| protection degree terminals                    | IP20   |
| real time clock (accuracy)                     | quartz based (~20ppm)                        |
| time and date - sustainability if not supplied | up to 3 days, if fully charged (6h supplied) |

**terminals**

|                                  |  |
|----------------------------------|--|
| connection type                  | spring terminal connector                        |
| wire size solid core             | 0,5 ... 1,5 mm <sup>2</sup><br>(AWG20 ... AWG16) |
| wire size fine wired             | 0,5 ... 1,5 mm <sup>2</sup><br>(AWG20 ...AWG16)  |
| wire size using wire end ferrule | 0,25 ... 1 mm <sup>2</sup>                       |
| stripping length                 | 8,5 ... 9,5 mm / 0,33 ... 0,37 inch              |
| release of wire                  | push button                                      |

**standards:**

|          |  |
|----------|--|
| DALI     | IEC62386-101:2014<br>IEC62386-103:2014 |
| EMC      | EN 61547<br>EN 50015 / IEC CISPR15     |
| safety   | EN 61347-2-11<br>EN 61347-1            |
| markings | DALI-2, CE, UKCA                       |



dimensions 86457142

connection plan 86457142

## Factory Default Settings

A basic configuration is already implemented on delivery (factory default setting), this can be changed and adapted.

|                          |          |
|--------------------------|----------|
| application controller   | active   |
| Instance – event message | inactive |
| Scheduler entries        | none     |

## Application Example

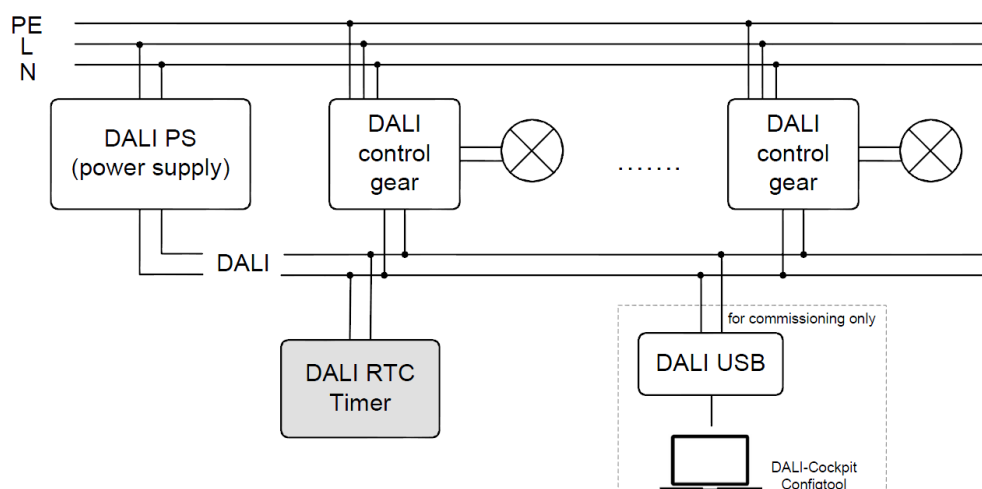


Figure 1 Typical Application

## Installation

- The DALI-2 RTC+ Timer is intended for back box installation or integration in protection class II devices.
- The device is directly connected and supplied by the DALI bus. A DALI bus power supply (e.g. [DALI PS](#)) is required, an additional power supply is not necessary.
- The connection to the DALI terminals can be made regardless of polarity. The bus input is protected against overvoltage (mains voltage).
- The wiring should be carried out as a permanent installation in a dry and clean environment.
- Installation may only be carried out in a voltage-free state of the system and by qualified specialists.
- National regulations for setting up electrical systems must be followed.
- The DALI wiring can be realised with standard low-voltage installation material. No special cables are required.
- Wiring topology of the DALI-line: Line, Tree, Star
- Only 1 wire may be connected to each terminal. When using double wire end ferrules, the connection capacity of the terminal must be considered.



**Attention:** The DALI-signal is not classified as SELV circuit (Safety Extra Low Voltage). Therefore, the installation regulations for low voltage apply



The voltage drop on the DALI line must not exceed 2V at maximum length (300m) and maximum bus load (250mA).

## Commissioning

- After installation the DALI RTC+ Timer is ready for use
- The configuration can be done with the help of the [DALI Cockpit Software](#). The PC must be connected to the DALI bus via a suitable interface module ([DALI-2 USB](#); [DALI USB](#), [DALI-2 WLAN](#), [DALI-2 Display](#), [DALI-2 IoT](#), [DALI 4Net](#), [DALI SCI RS232](#)).
- The DALI-2 RTC+ is automatically recognised by the DALI Cockpit during the addressing process and listed in the device overview.
- The addressing is done according to the DALI-2 specification and the device receives a corresponding address.

Selecting the device in the list, opens the device page where date and time can be set and the scheduler entries can be configured, see section Function below.

## Function

The DALI RTC+ timer sends out DALI commands to the DALI-line based on the entries defined in the scheduler. The command sent can be a DALI command or a sequence of DALI commands (macro). The schedules can be defined as active for different months, weekdays or days of the month. The following DALI-2 RTC+ settings are made via the DALI Cockpit, see also Figure 2 on page 6 for configuration.

## General time settings

The current time and date can be set, as well as the time zone and the automatic daylight saving.

If the module is not supplied (e.g. power outage), the time and date settings are retained for approx. 3 days (assuming the device was fully charged). If the device is powered only after 3 days the device is in an “unsynchronized” state and will no longer carry out the scheduled commands, until the time is set again in the module.

**time zone settings**

UTC+01:00
▼

☐
enable daylight saving time mode

**time zone settings**

UTC (London) ▼

☐ enable daylight saving time mode

Geographical coordinates

Latitude:

Longitude:

Add
Delete

| E | Week day | Day       | Month       | Timepoint | Hour | Minute                       | Com...              |
|---|----------|-----------|-------------|-----------|------|------------------------------|---------------------|
| ✓ | Every    | Every Day | Every Month | Time      | 20   | 0                            | OFF                 |
| ✓ | Every    | Every Day | Every Month | Time      | 10   | 0, 5, 10, 15, 20, 25, 30, 35 | GOTO SCENE 2 A1 0 1 |

**device clock**

☐ poll device time

date:

time:

synchronisation...

**Edit Schedule**

☒ Enable timer entry

**Date Selection**

Aktive Monate

|                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Jan                                 | Feb                                 | Mar                                 | Apr                                 | May                                 | Jun                                 | Jul                                 | Aug                                 | Sept                                | Oct                                 | Nov                                 | Dec                                 |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Month Day

|                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 0                        | 1                        | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        | 9                        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Time Selection**

Aktive Weekdays

|                                     |                                     |                                     |                                     |                                     |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Mo                                  | Tu                                  | We                                  | Th                                  | Fr                                  | Sa                                  | Su                                  |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Effective Range: 0: All (DALI Broadcast) ▼

Send DALI Commands: OFF ▼

OK Cancel

**Settings for time zone and automatic daylight saving**

**Add or delete a scheduler entry**

**Double click an entry to edit**

**activate / deactivate an entry**

**Tabs with settings for:**

- date (months, days, weekdays)
- time (time or astro-clock)
- external control

**Destination address to which the commands are sent**

**Control command or sequence that is sent to the destination address at the set time**

Figure 2 DALI Cockpit application settings – creating a schedule

## Scheduler entries

In the scheduler up to 32 scheduler jobs can be defined. Each entry consists of:

- **Status:** entry is active/inactive
- **active months**
- **active days of the month**
- **active days of the week**
- **time:** as absolute time input or as astro-clock (see section "Time", page 8)
- **effective range:** the destination address (Broadcast, DALI group or DALI address)
- **DALI command:** selection of a DALI command or command sequence (see section "Commands" page 7)
- **External Control:** selection of a scene and control address via which the entry can be activated and/or deactivated.

## Status

The entry can be activated or deactivated globally. If an entry is deactivated, it will not be executed but will remain available in memory. Entries can be globally activated or deactivated via DALI scene commands (see section "External Control", page 8)

## Effective Range

The effective range of a command can be selected as Broadcast (All), DALI group, or DALI address.

## Commands

In addition to the standard DALI commands (light level (DAP), OFF, MIN, MAX, LAST ACTIVE; SCENES,...), following DALI command sequences are also available: sequential scenes, dynamic scenes and macros (see also Figure 3).

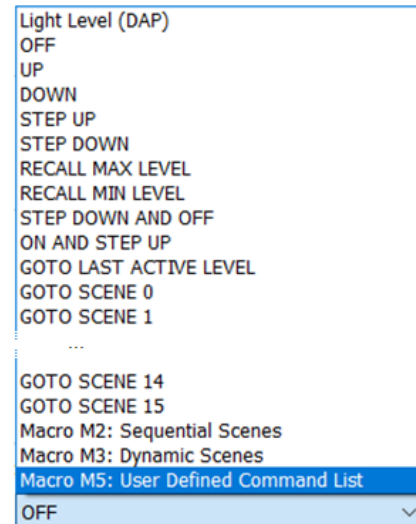


Figure 3 available commands

**Macro M2:** with each occurrence of the scheduled entry the next scene in the list is recalled. The scene numbers in the sequential scene list can be customized. The selection "common scene list" allows the entries with M2 and this selection to continue switching the same scene list

**Macro M3:** A dynamic sequence of up to 16 scenes can be defined. The fade time and the delay between scenes are adjustable.

**Macro M5:** A custom macro script with up to 19 commands can be executed. Delays between commands can be set from 0 seconds to a maximum of 3 hours. For Macro M5 the entry's effective range is disabled and only the effective range(s) within the macro will be referenced.

## Date

In tab "Date Selection" it can be set at which months, days of the month and weekdays the scheduler entry will be executed. Any combinations can be entered.

For selection of active days of the month, the row defines the first digit and the column the second digit of the date. e.g.26:


Active Days of the Month

|   |                          |                          |                          |                          |                          |                          |                                     |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
|   | 0                        | 1                        | 2                        | 3                        | 4                        | 5                        | 6                                   | 7                        | 8                        | 9                        |
|   |                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> |                          |                          |                          |                          |                                     |                          |                          |                          |

## Time

In tab “Time Selection” the time can be specified, either as absolute time input or as offset in relation to sunrise or sunset (astro-clock functionality).

Timepoint:

Time of Day 

Time of Day

Before Sunrise

After Sunrise

Before Sunset

After Sunset

For selection of the time, the hour and minute need to be set. For entering the Minute: the row defines the first digit and the column the second digit of the minute. e.g. 12

Minutes

|   |                          |                          |                                     |                          |                          |                          |                          |                          |                          |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|   | 0                        | 1                        | 2                                   | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        | 9                        |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |


The input allows multiple selection, so the command can be sent periodically, for example every 15 minutes, using just one DALI-2 RTC entry.

Using the Astro-clock functionality, a time delay (minutes and hours) relative to sunrise or sunset can be set. For this functionality, information about the GPS-coordinates in decimal degree format is required.

Geographical coordinates

Latitude:

Longitude:



Please note that it is not possible to postpone actions based on sunset/sunrise beyond midnight.

## External Control

In tab “External Control”, a control address (broadcast, DALI group, DALI address) and scenes can be defined. The respective scene command to the set control address will activated and/or deactivated the scheduler entry respectively.

Date Selection Time Selection External Control

activationwith Scenes

☒ Scene 0 ☐ Scene 1 ☐ Scene 2 ☐ Scene 3  
☐ Scene 4 ☐ Scene 5 ☐ Scene 6 ☐ Scene 7  
☐ Scene 8 ☐ Scene 9 ☐ Scene 10 ☐ Scene 11  
☐ Scene 12 ☐ Scene 13 ☐ Scene 14 ☐ Scene 15

deactivationwith Scenes

☐ Scene 0 ☒ Scene 1 ☐ Scene 2 ☐ Scene 3  
☐ Scene 4 ☐ Scene 5 ☐ Scene 6 ☐ Scene 7  
☐ Scene 8 ☐ Scene 9 ☐ Scene 10 ☐ Scene 11  
☐ Scene 12 ☐ Scene 13 ☐ Scene 14 ☐ Scene 15

Control Address

0: Single Address

## Time queries

Date and time can be queried via the DALI-2 Instance nr. 0 (QUERY INPUT VALUE & QUERY INPUT VALUE LATCH) see section “Instance 0 – Real Time Clock”

## Behaviour on DALI Reset

With a DALI reset command, the device’s entries are not changed, the DALI-2 group assignment and instance settings are reset according to the DALI-2 standard:

- DALI-2 groups: none
- Event schema: instance addressing
- Instance groups: none
- Event filter: all active
- Instance event messages enabled/disabled: remains unchanged



## DALI-2 Instances

The DALI-2 RTC+ supports 2 instances of type 0 (generic instance):

- **Instance nr. 0 – real time clock:** information about date and time – see section Instance 0 – Real Time Clock
- **Instance nr. 1 – timed jobs:** information about the last recalled scheduler entry – see section Instance 1 – Timed Jobs

Parameters of the instance can be configured via the [DALI Cockpit Software](#), see Figure 4 on page 11.

General information on the DALI-2 instance mode and the instance types, event settings, event scheme etc. can be found in the instance guide: [https://www.lunatone.com/wp-content/uploads/2021/10/DALI-2\\_Instance-Guide\\_EN\\_M0024.pdf](https://www.lunatone.com/wp-content/uploads/2021/10/DALI-2_Instance-Guide_EN_M0024.pdf)

### Instance 0 – Real Time Clock

Date and time can be determined using queries or the event message.

Available event filters are: second, minute, hour, day, month, year, day of the week.

The events are sent on change of each value, *Table 2* below shows how the event data can be evaluated, in summary the value is received by:

|   |                          |
|---|--------------------------|
| Second  | event value - <b>0</b>   |
| Minute  | event value - <b>64</b>  |
| Hour  | event value - <b>128</b> |
| Day of the month  | event value - <b>192</b> |
| Month   | event value - <b>256</b> |
| Year  | event value - <b>320</b> |
| Weekday*  | event value - <b>384</b> |
| *0: Mon, 1: Tue, 2: Wed, 3: Thu, 4: Fri, 5: Sat, 6: Sun |                          |

e.g. at new year 01.01.2025 00:00:00  
received events are:

|           |            |                             |
|-----------|------------|-----------------------------|
| Event 0   | - 0 = 0    | → sec: 00                   |
| Event 64  | - 64 = 0   | → min: 00                   |
| Event 128 | - 128 = 0  | → h: 00                     |
| Event 193 | - 192 = 1  | → day: 1                    |
| Event 257 | - 265 = 1  | → month: 1                  |
| Event 345 | - 320 = 25 | → year: 25                  |
| Event 386 | - 384 = 2  | → weekday: 2<br>= Wednesday |

To query the instance, “Query Input Value” and 6x “Query Input Value Latch” are sent to the DALI-2 address and instance number 0 and can then be evaluated using the information *Table 1* below.

Below is an example for query and evaluation:

| Type              | Hex Data | Address | Command                 |
|-------------------|----------|---------|-------------------------|
| DALI24 Inst Query | 01 00 8C | A0, iN0 | QUERY INPUT VALUE       |
| DALI8 Answer      | 24       |         | = 36 (0x24)             |
| DALI24 Inst Query | 01 00 8D | A0, iN0 | QUERY INPUT VALUE LATCH |
| DALI8 Answer      | 28       |         | = 40 (0x28)             |
| DALI24 Inst Query | 01 00 8D | A0, iN0 | QUERY INPUT VALUE LATCH |
| DALI8 Answer      | 11       |         | = 17 (0x11)             |
| DALI24 Inst Query | 01 00 8D | A0, iN0 | QUERY INPUT VALUE LATCH |
| DALI8 Answer      | 75       |         | = 117 (0x75)            |
| DALI24 Inst Query | 01 00 8D | A0, iN0 | QUERY INPUT VALUE LATCH |
| DALI8 Answer      | 09       |         | = 9 (0x09)              |
| DALI24 Inst Query | 01 00 8D | A0, iN0 | QUERY INPUT VALUE LATCH |
| DALI8 Answer      | 17       |         | = 23 (0x17)             |
| DALI24 Inst Query | 01 00 8D | A0, iN0 | QUERY INPUT VALUE LATCH |

| hex  | bits |   |   |   |   |   |   |   |
|------|------|---|---|---|---|---|---|---|
|      | 7    | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0x24 | 0    | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 0x28 | 0    | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 0x11 | 0    | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 0x75 | 0    | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| 0x09 | 0    | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0x17 | 0    | 0 | 0 | 1 | 0 | 1 | 1 | 1 |

|   |   |   |   |   |   |      |                  |
|---|---|---|---|---|---|------|------------------|
| 1 | 0 | 0 | 1 | 0 | 0 | = 36 | seconds          |
| 1 | 0 | 1 | 0 | 0 | 0 | = 40 | minutes          |
| 0 | 1 | 0 | 0 | 0 | 1 | = 17 | hours            |
|   | 1 | 0 | 1 | 0 | 1 | = 21 | day of the month |
|   |   | 0 | 1 | 1 |   | = 3  | weekday*         |
| 0 | 0 | 1 | 0 | 0 | 1 | = 9  | month            |
| 0 | 1 | 0 | 1 | 1 | 1 | = 23 | year             |

\*0: Mon, 1: Tue, 2: Wed, 3: Thu, 4: Fri, 5: Sat, 6: Sun

→ **Thursday 21.09.2023 17:40:36**

Table 1 Evaluation of Instance nr. 0 – real time clock – **for Query data**

| Bits              |   |       |   |   |   |   |   | data type |                                       |
|-------------------|---|-------|---|---|---|---|---|-----------|---------------------------------------|
| query answer data |   |       |   |   |   |   |   |           |                                       |
| 7                 | 6 | 5     | 4 | 3 | 2 | 1 | 0 |           |                                       |
|                   |   | value |   |   |   |   |   | 0         | seconds                               |
|                   |   |       |   |   |   |   |   | 1         | minutes                               |
|                   |   |       |   |   |   |   |   | 2         | hours                                 |
|                   |   |       |   |   |   |   |   | 3         | 0-5: day of the month<br>5-7: weekday |
|                   |   |       |   |   |   |   |   | 4         | month                                 |
|                   |   |       |   |   |   |   |   | 5         | year                                  |

Table 2 Evaluation of Instance nr. 0 – real time clock – **for Event data**

| Bits  |            |   |   |   |       |   |   |   |   |   | event data type |                  |
|---|------------|---|---|---|-------|---|---|---|---|---|-----------------|------------------|
| event source information  | event data |   |   |   |       |   |   |   |   |   |                 |                  |
| 23...10   | 9          | 8 | 7 | 6 | 5     | 4 | 3 | 2 | 1 | 0 |                 |                  |
| Depends on event scheme settings according to the DALI-2 standard | 0          | 0 | 0 | 0 | value |   |   |   |   |   | 0               | seconds          |
|   | 0          | 0 | 0 | 1 |       |   |   |   |   |   | 1               | minutes          |
|   | 0          | 0 | 1 | 0 |       |   |   |   |   |   | 2               | hours            |
|   | 0          | 0 | 1 | 1 |       |   |   |   |   |   | 3               | day of the month |
|   | 0          | 1 | 0 | 0 |       |   |   |   |   |   | 4               | month            |
|   | 0          | 1 | 0 | 1 |       |   |   |   |   |   | 5               | Year             |
|   | 0          | 1 | 1 | 0 |       |   |   |   |   |   | 6               | weekday          |

### Instance 1 – Timed Jobs

Instance 1 sends an event message when an RTC entry is executed (Event filter selection: Timed job).

The returned value corresponds to the number of the DALI RTC entry (0-31).

For queries, the answer corresponds to the number of the last RTC entry sent.

Table 3 Evaluation of Instance nr. 1 – timed jobs

| Bits   |            |   |   |   |      |   |   |   |   |   | Event Daten Typ                        |
|--|------------|---|---|---|------|---|---|---|---|---|--|
| Event Source information   | Event Data |   |   |   |      |   |   |   |   |   |  |
| 23...10  | 9          | 8 | 7 | 6 | 5    | 4 | 3 | 2 | 1 | 0 |  |
| Abhängig von Event Scheme Einstellungen<br>folgend der DALI-2 Norm | 0          | 0 | 0 | 0 | Wert |   |   |   |   |   | Nr. des<br>Zeitgesteuerter<br>Eintrags |

The screenshot shows the 'Settings' tab of the DALI Cockpit interface. It features a dropdown for 'Instance Number [iN]:' set to 0. Below this, the 'Instance 0 settings' section includes a checked 'Enable Event Messages' option and an 'Instance type [iT]:' dropdown set to '0 - Real time clock'. There are three 'Instance Group [iG]:' dropdowns, all set to 'None'. The 'Event scheme:' dropdown is set to 'Instance addressing', and the 'Event priority:' dropdown is set to 'Priority 4'. An 'Event Filter' section contains checkboxes for 'Seconds', 'Minutes', 'Hours', 'Day', 'Month', 'Year', and 'Day of the Week', all of which are currently unchecked. Three callout boxes provide additional context: the first points to the 'Instance Number' dropdown, explaining that 0 is for real time clock and 1 is for timed job; the second points to the 'Event scheme' dropdown, explaining it provides information on event origin like device address, group or instance nr.; the third points to the 'Event Filter' checkboxes, explaining they select which events should be sent.

Figure 4 DALI Cockpit instance settings

## Purchase Information

**Art.Nr. 86457142:** DALI-2 RTC+ Timer, DALI real time clock with scheduler functionality, back box installation and class II device integration

## Contact

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## Additional Information and Equipment

DALI-Cockpit – DALI system configuration tool, free when using a Lunatone interface device  
<https://www.lunatone.com/en/product/dali-cockpit/>

Lunatone DALI products  
<https://www.lunatone.com/en>

Lunatone datasheets and manuals  
<https://www.lunatone.com/en/downloads-a-z/>



## Disclaimer

Subject to change. Information provided without guarantee. The datasheet refers to the current delivery.

The compatibility with other devices must be tested in advance to the installation.