

User's Manual

DALI Master Controller GUI

For RX65N Cloud kit + DALI-2 Option board

User's Manual

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How to Use This Manual

Readers	This manual describes the DALI Master Controller GUI. This manual is intended for users who have general knowledge of Windows. The descriptions in this manual are based on an example using the DALI Master Controller GUI in "Windows 10". Part of schreen shots are utilized existing pictures of old version software.			
Purpose	This manual is intended to help users understand the basic specifications of the DALI Master Controller GUI, how to use it, and to be used as a reference for developing			
	hardware and software of the	system that uses the DALI Master Controller GUI.		
Structure	This manual consists of the fo	llowing chapters:		
	• CHAPTER 1 OVERVIEW			
	•CHAPTER 2 INSTALLING Visua	al C++ REDISTRIBUTABLE PACKAGE		
	• CHAPTER 3 INSTALLING THE	DALI MASTER CONTROLLER GUI		
	• CHAPTER 4 STARTING AND C	LOSING THE DALI MASTER CONTROLLER GUI		
	• CHAPTER 5 EDITION			
	CHAPTER 6 USING THE DALI MASTER CONTROLLER GUI			
	• CHAPTER 7 WINDOW AND DI	ALOG BOX REFERENCE		
How to Read This Manual	It is assumed that the readers	of this manual have general knowledge of electrical		
	engineering, logic circuits, and microcontrollers.			
	To learn about the functions o	f DALI Master Controller GUI		
	→Read from CHAPTER 1 OV	ERVIEW sequentially.		
Conventions	The following signals are used in this manual.			
	Data significance:	Higher digits on the left and lower digits on the right		
	Note:	Footnote for item marked with Note in the text		
	Caution:	Information requiring particular attention		
	Remark:	Supplementary information		
	Numeric representation:	Binary xxxx or xxxxB		
		Decimal xxxx		
		Hexadecial xxxxH		

 Related Documents
 The related documents indicated in this publication may include preliminary versions.

 However, preliminary versions are not marked as such.

 DALI Master Controller GUI User's Manual (This Manual)

 RX65N Clould kit User's Manual

 RX65N DALI-2 Option board User's Manual

Remark The DALI standard is described based on the international standard IEC62386. For details, see IEC62386.

Additionally a company name of mentioning and a product name are a registered trademark or a trademark of each company.

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DALI Master Controller GUI

for RX65N Cloud kit + DALI-2 Option board

CHAPTER 1. OVERVIEW

1.1 Overview

The DALI Master Controller GUI (Graphical User Interface) controls RX65N Cloud kit + DALI-2 Option board that enables communication conforming to the DALI standard. The DALI Master Controller GUI has the following features:

- Short Addresses can be displayed in a tree view for each Group.
- The values specified for Short Addresses are always displayed.
- Easily checking operation

Remark DALI: Digital Addressable Lighting Interface

For details about RX65N Cloud kit + DALI-2 Option board, see its User's Manual.

1.1.1 Operating environment

(1) Host

OS: Windows 10(32bit or 64bit)

CPU: 1 [GHz] or faster Memory: 2 [GB] or more

(2) RX65N Cloud kit + DALI-2 Option board

The Use of DALI Master Controller GUI needs RX65N Cloud kit + DALI-2 Option board.

Caution It does not support RL78 / I1A Lighting Communication Master Evaluation Board an Lighting Communication Master Evaluation Board (EZ-0008).

(3) Additional components

When using the DALI Master Controller GUI, the following software must be installed in advance. It is recommended that the latest Service Pack be installed for any OS or component.

Download each component from the Microsoft websites.

• Visual Studio 2017 Visual C++ Redistributable Package

For details about Visual Studio 2017 Visual C++ Redistributable Package, see CHAPTER 2 INSTALLING Visual C++ REDISTRIBUTABLE PACKAGE.

1.1.2 System setup

An example of the system setup is shown below.



Figure 1-1 Example of System Setup

1.1.3 DALI communication

Serial communication between the PC and RX65N Cloud kit + DALI-2 Option board is performed by virtual COM-to-USB.

RX65N Cloud kit + DALI-2 Option board can control a Lighting Communication slave evaluation board (such as RL78/I1A AC/DC Full digital 3ch LED control unit or RL78/I1A DCDC LED Control Evaluation Board (EZ-0012)) using DALI communication.

Remark It supports the following standards.

- * IEC62386-102ed1.0
- * IEC62386-207ed1.0
- * IEC62386-102ed2.0

1.2 Setup Procedure

The following shows the setup procedure.

- <1> Install .NET Framework to the PC (See CHAPTER 1)
- <2> Install Visual C++ Redistributable Package (See CHAPTER 2 INSTALLING Visual C++ REDISTRIBUTABLE PACKAGE)
- <3> Install the DALI Master Controller GUI to the PC (See CHAPTER 3 INSTALLING THE DALI MASTER CONTROLLER GUI)
- <4> Install the driver

Connect RX65N Cloud kit + DALI-2 Option board to the PC by using a USB cable. Install the driver to the PC.

<5> Specify a COM port

Double click the [DALI Master Controller GUI] icon to display "DALI Controller".

(For details, see CHAPTER 4 STARTING AND CLOSING THE DALI MASTER CONTROLLER GUI.) The COM port is set to "Unset" and "115200" bps by default.

If other settings are specified, the message "Can't open serialport" is displayed. Click [OK].

DALI controller	
Can't d	open serialport.
	ОК

Specify a COM port in the Serial dialog box.

The port (COM1 to COM255) differs depending on the PC to connect.

<6> For details about how to use the GUI, see CHAPTER 6 USING THE DALI MASTER CONTROLLER GUI. For details about the displayed windows and dialog boxes, see CHAPTER 7 WINDOW AND DIALOG BOX REFERENCE.

CHAPTER 2. INSTALLING Visual C++ REDISTRIBUTABLE PACKAGE

This chapter describes how to install Visual Studio 2013 Visual C++ Redistributable Package.

2.1 Required Files

The following file is required.

Download this file from the Microsoft website.

(1) Visual Studio 2017 Visual C++ Redistributable Package installer

Vcredist_x86.exe (32bit), Vcredist_x64 (64bit)

2.1.1 Installing Visual C++ Redistributable Package

Install Visual C++ redistributable package, which is required for using the DALI Master Controller GUI.

<1> When "Vcredist_xXX.exe" is double-clicked,"Visual C++ redistributable package Setup" dialog box is displayed.

After confirming the license terms, when agreeing, check "I agree to the license terms and conditions" and click [Install].



Figure 2-1 Visual C++ Redistributable Package Setup (1)

<2> "User Account Control" dialog box is displayed. Click [Yes].

Figure 2-2 Open File – Security Warning

😗 User Account	Control
Do yo chang	u want to allow the following program to make es to this computer?
18	Program name: vcredist_x86.exe Verified publisher: Microsoft Corporation File origin: Hard drive on this computer
Show <u>d</u> eta	ls <u>Y</u> es <u>No</u>
	Change when these notifications appear

<3> Install according to the procedure below.



<4> Click [Close] when the installation is completed.



CHAPTER 3. INSTALLING THE DALI MASTER CONTROLLER GUI

This chapter describes how to install the DALI Master Controller GUI in Windows 7.

3.1 Installer

The DALI Master Controller GUI provides the following installer.

Double click the installer to install the DALI Master Controller GUI.



3.1.1 Installation procedure

The following shows the installation procedure.

<1> When the installer is double clicked, the dialog box shown in Figure 3-1 is displayed.

Click [Next].



Figure 3-1 DALI Master Controller (installer)

<2> Select the folder in the Select Installation Folder dialog box and then click [Next].

Figure 3-2 DALI Master Controller (Select Installation Folder)

<3> The Confirm Installation dialog box is displayed.

Click [Next] to start the installation.

🕼 DALI Master Controler For RX65N	-		×
Confirm Installation			5
The installer is ready to install DALI Master Controler For R	X65N on your computer.		
Click "Next" to start the installation.			
< <u>B</u> ack	<u>N</u> ext >	Car	icel

Figure 3-3 DALI Master Controller (Confirm Installation)

<4> Installation starts.

Figure 3-4 DALI Ma	aster Co	ntrol	ler (Ins	stal	ling)
🖟 DALI Master Controler For RX65N			-			×
Installing DALI Master C RX65N	ontroler F	or				
DALI Master Controler For RX65N is being	ı installed.					
Please wait						_
	< <u>B</u> ack		<u>N</u> ext >		Cance	el

<5> Installation is complete.

Figure 3-5 DALI Master Controller (Installation Complete)

🔀 DALI Master Controler For RX65N	-		×
Installation Complete			
DALI Master Controler For RX65N has been successfully installed.			
Click "Close" to exit.			
< <u>B</u> ack Close		Can	cel

<6> The icon is added to the desktop.

When the icon is double clicked, the DALI Controller window is displayed.



3. 1. 2 Uninstallation procedure

The following shows the uninstallation procedure.

- <1> Select [Start], [Control Panel], and then [Programs and Features].
- <2> Select "DALI Master Controller GUI" from the displayed programs and then the menu is indicated by a right click.
- <3> [Uninstall (U)] menu is clicked.
- <4> The DALI Master Controller GUI is uninstalled.

Caution It's possible also to uninstall from an installer.

Double-click the installer, and the process proceeds according to the instructions.

CHAPTER 4. STARTING AND CLOSING THE DALI MASTER CONTROLLER GUI

After the DALI Master Controller GUI have been installed, the DALI Master Controller GUI can be opened.

4.1 Starting

- <1> Connect RX65N Cloud kit + DALI-2 Option board to the host.
- <2> Double click the [DALI Master Controller GUI] icon, or select [Start], [All Programs], [DALI Master Controller], and then [DALI Master Controller GUI].



<3> The DALI Controller window is displayed.

<4> The COM port is set to "NULL" and "115200 bps" by default.

It isn't connected because COM port isn't established at the time of the initial start.

It's connected to established COM port last time from the 2nd time of start.

If the connection fails, the message "Can't open serialport" is displayed.

Initial start, or if the connection is not successful, specify the COM port in the Serial dialog box (COM port setting window).

File Command	View Settings He	elp					
	Power C	ontrol	Fade Setting			Level Sett	ing
		Sten un		•	Set		•
	Down	Stepdown	Fade rate:			O Ac	tual
	Mi	n		•	Set	O Dir	ect
	Dire	ct	0 Extended Fade Base: Mul	time: Itiplier:			Set
	Go to S	CENE 0	· · · ·		Set		
	22 Actual Remove	1 2 DAL	L controller	ort.	10 11 255 255	12 13 255 255	14 15 255 255 Set
	Address	Actual Ph. Min.	Min. Level Max. Level	P-ON Lev. Failure	Fade Tim	e Fade Rate	ExFT Base ExF

Figure 4-1 Startup screen

<5> Click [OK].

<6> In the menu, select [Settings] and then [Serial] to specify the COM port and communication speed.

, DAL	I Controller I	C62386	-102(ed2.0) Mode (No	ot Connect.)
File	Command	View	Settings	Help	
			Seria	I	
			Conn	ect	
			Disco	nnect	Off
			Editio	n	ĥ
			Down	Stepdo	wn

Figure 4-2 DALI Controller Window

<7> Specify a COM port in the Serial dialog box, and then click [OK].

The port (COM1 to COM255) differs depending on the PC to connect.

		Figure 4-3 Se	rial Dialog Box		
Serial					x
Port : Baud rate:	115200	~		~	OK CANCEL

<8> If RX65N Cloud kit + DALI-2 Option board is successfully connected to the PC, the settings are enabled.

4.2 Closing

<1> Select [File] and then [Exit].

DALI Controller IEC62386-102	(ed2.0) Mode (ttings Help	Not Connect.)								×
Exit	^D ower Cont	rol	Fa	de Setting	ł		[Level Set	ting	
	Max	Off	Fad	le time:		-		Store to:		
	Up Ste	p up					·		ctual	<u> </u>
	Down Ster	down	Fad	le rate:		▼ Set		O Di	irect	
	Min		L							
	Direct		0 Ext	ended Fade Base: Mu	time: Itiplier:				Set	
	Go to SCEN	IE 0		•		• Set				
	Scene Setti	ng								
	0	1 2	34	56	78	9 10	11	12 13	14 15	
	255	255 255 2	255 255	255 255	255 255	255 25	5 255	255 255	255 255]
Α	ctual 🗌									
R	lemove									
	Save	Load							Set	
Add	ress Actua	l Ph. Min.	Min. Level	Max. Level	P-ON Lev	Failure	Fade Time	e Fade Rate	E×FT Base	E×FT M
										-

Figure 4-4 Window Displayed When Closing

<2> Close the DALI Controller Window.

CHAPTER 5. EDITION

DALI Master Controller GUI changes edition IEC62386-102ed1.0,IEC62386-102ed2.0 of the DALI standard and can use it.

5.1 Edition setting

<1> At the time of initial start, DALI Master Controller GUI is set to IEC62386-102ed2.0 mode by default.

DALI Controller IEC62386	i-102(ed2.0) Mode		
<u>File</u> <u>C</u> ommand <u>V</u> iew	<u>S</u> ettings <u>H</u> elp		
DALI Master Ver 2.0 I Broadcast	Power Control		Fade Setting
	Max	Off	Fade time:
	U p Step up		
	Down Stepdown		Fade rate:
	Min		
	Direct	0	Extended Fade time: Base: Multiplier:
	Go to SCENE	0 -	▼

Figure 5-1 IEC62386_102ed20 mode Window

<2> When using to connect the Control Gear that does not support IEC62386-102ed2.0 mode, switch and use IEC62386-102ed1.0 mode.

In the menu, select [Settings] and then [Edition] to change editon.

DALI Controller IE	C62386	-102(ed2.0)) Mode	
<u>File</u> <u>Command</u>	View	<u>S</u> ettings	<u>H</u> elp	
DALI Master Ver 2.0		<u>S</u> erial	I	
Broaddar		Conne	ect	
		Disco	nnect	Off
		Editio	n	h
		Down	Stepdor	/m

Figure 5-2 Edition Dialog Box display

<3> Select IEC62386-102(ed1.0) Mode in the Edition dialog box.

Figure 5-3 Edition Dialog Box	
Edition Select	×
 IEC62386-102(ed1.0) Mode IEC62386-102(ed2.0) Mode 	
OK CANCEL]

<4> Click [OK].

<5> It's changed to IEC62386-102ed1.0 mode

Settings Help		
Power Control		
		Fade Setting
Max	Off	Fade time:
U p Step up		
Down Stepdown		Fade rate:
Min		
Direct	0	
Go to SCENE	0 -	
	Max Up Stepup Down Stepdown Min Direct Go to SCENE	MaxOffUpStep upDownStepdownMinDirect0Go to SCENE0

Figure 5-4 IEC62386_102ed10 mode Window

<6> When the setting is changed, it starts in a set edition at the time of the start on the next time.

CHAPTER 6. USING THE DALI MASTER CONTROLLER GUI

This chapter presents some examples of using the DALI master controller GUI.

Figure 6-1 Operation Overview



6.1 Assigning Short Addresses

An example of assigning a Short Address is described below.

<1> Double-click the [DALI master controller GUI] icon to start the DALI master controller GUI.

Figure 6-2 Assigning a Short Address (1)

<2> In the main menu, select [View] and then [Log] to display the Command Log windows.

Transmitted commands and their responses can be displayed in text format in separate Command Log windows.

DAL DAL	I Controller IE	C62386	-102(ed	2.0) Mode
<u>F</u> ile	Command	View	Setting	ıs <u>H</u> elp
DALI M	laster Ver.2.0 adcast	Lo	ng F Of	ver Cont
				Max

Figure 6-3 View (Menu)

<3> In the main menu, select [Command] and then [Random Address Allocation].

Figure 6-4 Command (Menu)

Off

DALI Controller IEC62386-102(ed2.0) Mode



<4> The Random Address Allocation dialog box is displayed.

Click [Start] and then click [OK].

View Settings Help Held Fade Setting Level Setting Level Setting Power Contro Power Contro Fade Setting Fade time: Store to: Fade time: Uρ Actua Fade rate Fad Direct to SCENE 13 14 15 OK キャンセル 255 255 255 Set Sel

Figure 6-5 Random Address Allocation Dialog Box (1)

<5> Short Address is assigned. Click [Close] to close the dialog box.

Short Address is assigned under [Not Assigned].

Settings Help Power Contro Fade Se Level Setting Power Control Fade Settin Level Setting Fade time: Fade time ore to: Uρ Up] Step us Dow Min Se 255 255 Actual Remov Set Load ExFT Base ExF

Figure 6-6 Random Address Allocation Dialog Box (2)

<6> Right-click [Address 0], and then select [Query] to change the display.

Figure 6-7 Assigning a Short Address (2)



6.2 Power Control

This section describes how to control lighting for the selected address.







6.3 Fade Setting

This section describes how to specify the Fade time/Fade rate.

An example of turning off lighting by fading Address 0 at the maximum level (240) for two seconds is shown below.

<1> Select Address 0, select "4 (2.000sec)" for the "Fade time", and then click [Set].



Figure 6-9 Fade Time Specification Example (1)

<2> Right-click [Address 0] and then select [Query] to display "4" under "Fade time".



Figure 6-10 Fade Time Specification Example (2)

<3> Click [Max] to perform lighting at the maximum level. Enter "0" into the column next to [Direct], and then click [Direct] to turn off the lighting by fading it for two seconds.



Figure 6-11 Fade Time Specification Example (3)

Caution When using the Extended Fade time, be sure to specify the Fade time to "0 (no fade)". Extended Fade Time supports only IEC62386-102ed2.0.

6.4 Level Setting

This section describes how to specify the maximum and minimum lighting control levels, the lighting control level when turning on the power, and the lighting control level when a failure occurs.

An example in which the maximum level (254) of Address 0 is set to the maximum level (240) is shown below.

<1> Select Address 0, and then "Maximum level" from the "Store to" drop-down list.

Select [Direct], enter "240" into the "Direct" field, and then click [Set].



Figure 6-12 Level Setting Specification Example (1)

<2> Right-click [Address 0] and then select [Query] to display "240" in the "Max. level" column.



Figure 6-13 Level Setting Specification Example (2)

6.5 Scene Setting

This section describes how to specify the lighting control level separately for Scenes 0 to 15.

An example of setting the lighting control level of scene 1 of Address 0 to "190" by specifying "190" and then fading lighting for two seconds by clicking [Go to SCENE] is shown below.

<1> Select Address 0, and then directly enter "190" for the lighting control level of Scene 1. (The level can also be set to 190 using the slider.)

When the value is changed, the Scene 1 number turns red.

Next, click [Set]. When Scene 1 is set up, the Scene 1 number turns black.



Figure 6-14 Scene Setting Specification Example (1)

- <2> Set the "Fade time" to "4 (2.000sec)", and then click [Set].
- <3> Select "1" (the Scene number) from the drop-down list next to [Go to SCENE], and then click [Go to SCENE]. Lighting is faded for two seconds and the lighting control level is set to "190".



Figure 6-15 Scene Setting Specification Example (2)

CHAPTER 7. WINDOW AND DIALOG BOX REFERENCE

7.1 Windows and Dialog Boxes

The windows and dialog boxes displayed during use are described below.

Window or Dialog Box	Description	See:
Main window	This window is displayed first when the DALI master controller GUI starts.	7.2
Manual Command dialog box	Use this dialog box to select a command to transmit from a drop-down list and transmit the code.	7.3
Manual Command (By Code) dialog box	Use this dialog box to directly enter the command to transmit and transmit the code.	7.4
Random Address Allocation dialog box	Assigned Random Addresses and Short Addresses are displayed in this dialog box.	7.5
Direct Address Allocation dialog box	Use this dialog box to directly assign Short Addresses.	7.6
Command Log windows	Transmitted commands and responses to those commands are displayed in text format in these windows	7.7
Serial dialog box	Use this dialog box to specify the Serial port.	7.8
Edition dialog box	Use this dialog box to specify the Editon.	7.9
Change Address dialog box	Use this dialog box to change Short Addresses.	7. 10
Version dialog box	Use this dialog box to check the version.	7. 11

Table 7-1 Windows and Dialog Boxes

7.2 Main Window

7.2.1 Main Window



Figure 7-1 Main Window (Setting Example)

(1) Address Tree

All addresses are displayed in a tree view under "Broadcast". Select the address to which to transmit the command in the right pane.

(2) Power Control

Adjust the lighting control level in this area.

(3) Fade Setting

Specify the Fade time, Fade rate and Extended Fade time in this area.

The Fade time and Extended Fade time are related to the [Direct] and [Go to SCENE] and the Fade rate is related to the [Up] and [Down], as shown in Figure 7-2.



Figure 7-2 Main Window (Fade Time/Fade Rate)

(4) Level Setting

Specify the maximum and minimum lighting control levels, the lighting control level when turning on the power, and the lighting control level when a failure occurs in this area.

(5) Scene Setting

The lighting control levels of Scenes 0 to 15 can be separately specified in this area.

(6) Query View

The values specified for each slave can be displayed in this area.

7.2.2 Address tree

"Broadcast", Groups 0 to 15, and their Short Addresses are displayed under the Root directory in a tree view.

Short addresses that do not belong to a Group are displayed under "Not Assigned".

Groups to which no Short Addresses belong are not displayed.

Short addresses are sorted in ascending order within each Group.

Multiple items cannot be selected all together.

Figure 7-3 Address Tree DALI Controller IEC6238 DALI Controller IEC62380 File Command View Command File View DALI Master Ver.2.0 DALI Master Ver.2.0 Broadcast Broadcast ia Group 1 🗄 Group 1 Address 1 - Not Assigned Address 0 Address 0 Address 2 Address 2

"Broadcast", "Group", and "Short Address" in the tree can be manipulated using the right-click menu.

DALI Controller IEC62386-102(ed2.0) Mode	DALI Controller IEC62386-102(ed2.0) Mode
<u>File Command View Settings H</u> elp	<u>File Command View Settings H</u> elp
DALI Master Ver 2 Proadcast Broadcast Group 1 Address 1 Address 0 Address 2 Down Stepdo Min	DALI Master Ver 2.0 Group Add to Group ax Add Remove from Group ax Add Query Step Address c Down Step Min
	, Min
DALI Controller IEC62386-102(ed2.0) Mode	DALI Controller IEC62386-102(ed2.0) Mode
<u>File Command View Settings H</u> elp	<u>File Command View Settings H</u> elp
DALI Master Ver.2.0 Broadcast Group Add to Crown	DALI Master Ver.2.0 Broadcast Group 1 Power Contr
Not <u>Remove from Group</u> <u>A Query</u>	⊢ Address Add to Group Address <u>R</u> emove
	Query Change Short Address

Figure 7-4 Address Tree (Right-Click Menus)

(1) When "Root" is selected

Reacquire: Acquires a connection slave information, and re-displays the address tree.

(2) When "Broadcast" is selected

Add to Group:	Adds all slaves to a specified Group.
Remove From Group:	Deletes all slaves from a specified Group.
Query	Acquires the latest values specified for all of the slave and applies to the Query \ensuremath{View}
	area.

(3) When "Group" is selected

Add to Group:	Adds the Short Addresses in the selected Group to a specified Group.
Remove From Group:	Deletes the Short Addresses in the selected Group from a specified Group.
Query	Acquires the latest value specified of belonging to Short Address and applies to the
	Query View area.

(4) When "Short Address" is selected

Add to Group:	Adds the selected Short Address to a specified Group.
Remove:	Deletes the selected Short Address from a specified Group.
Query:	Acquires the latest value specified for the selected Short Address and applies to
	the Query View area.
Change Short Address:	Changes the selected short address.

Caution The settings in the Power Control and Fade Setting areas cannot be specified if no valid Broadcast, Group, or Short Address is selected.

7.2.3 Power Control

Buttons to use for adjusting the lighting control level are located in this area.

If one of these buttons is clicked, a command is transmitted to the selected address.

DALI Controller IEC62386	5-102(ed2.0) Mode				
Elle Command View	Settings Help				
- Broadcast	Power Control	Fade Setting	Level Setting		
Address I	Max Off	Fade time:	Store to:		
- Address 0 - Address 2	U p Step sp	0 (no fade) • Sot	Maximum level •		
	Down Stepdown	Fade rate: 7 (44.7steps/sec) V Set			
	Min	Extended Fade time:	Power (Control	
	Direct 0	Base: Multiplier:	0.0000000000000000000000000000000000000		
	GO TO SCENE				
	O 1 2 3	4 5 6 7 8 9 10	N/	lav l	Off
	I I I P	9			
			Un	Step up	
	100 150 200 240				
	Actual 🔲 🗐 📄				
	Remove		Down	Stepdown	
	Save Load				
	Address Actual Ph. Min. Min	Leve Max Level P-ON Lev. Failure Fa	» (h.	lin	
	1 240 5	10 240 120 250	IV IV	11/1	
			Dir	rect	0
			Go to	SCENE	1 •

Figure 7-5 Power Control

(1) [Max] button

Transmits the "RECALL MAX LEVEL" command to the selected address.

(2) [Min] button

Transmits the "RECALL MIN LEVEL" command to the selected address.

(3) [Up] button

Transmits the "UP" command to the selected address.

(4) [Down] button

Transmits the "DOWN" command to the selected address.

(5) [Step up] button

Transmits the "STEP UP" command to the selected address.

(6) [Step down] button

Transmits the "STEP DOWN" command to the selected address.

(7) [Off] button

Transmits the "OFF" command to the selected address.

(8) [Direct] button

Transmits the value in the text box to the selected address by using the "DIRECT ARC POWER CONTROL" command. Any value from 0 to 255 can be entered (0 is the default).

Direct 0

If "255" is entered into the text box, the button label changes to [Stop Fading].

255	Stop Fading
	Stop Fading

If an invalid value is entered into the text box, the [Direct] button is disabled.

Direct	300

(9) [Go to SCENE] button

Transmits the "GO TO SCENE" command to the selected address.

Each Scene Setting (0 to 15) can be selected from the drop-down list (0 is the default).



7.2.4 Fade Setting

Drop-down lists for selecting the Fade time and Fade rate are located in this area.

The selected values are not transmitted to a slave until the [Set] button is clicked. To apply the settings, be sure to click the [Set] button after selecting the values.

		Figure 7-6 Fade Setting
DALL Controller IECK2 File Command Via Coll Steep Ver3 Coll Steep Ver3	DBC-DDI(eE.0) Mole DBC-DDI(eE.0) Mole DBC-DD	Fade time: 0 (no fade)
	100 150 200 260 255 5 10 20 20 40 10 Actual .	Fade rate: 7 (44.7steps/sec) V Set
	1 200 5 13 210 120 200 0 	Extended Fade time: Base: Multiplier: 1 • 0 (Omsec) • Set

(1) Fade time

Select a value from "0 (no fade)" and "1 (0.707sec)" - "15 (90.510sec)" from the drop-down list (which is empty by default). If a Short Address is selected, the value set to it is displayed.

When the [Set] button is clicked, the "DTR0" command and then the "SET FADE TIME" command are transmitted to the selected address. Transmitting the commands to the selected address has no effect when not changing the Fade time.

	Fade time (sec)	Drop-Down List
0	no fade	
1	0.707	Fade Setting
2	1.000	0 (no fade)
3	1.414	Fat 1 (0.7sec) 2 (1.0sec) Set
4	2.000	3 (1.4sec) 4 (2.0sec) Ext 5 (2.8sec)
5	2.828	6 (4.0sec) 7 (5.7sec) 8 (8.0sec) Set
6	4.000	9 (11.3sec) 10 (16.0sec) 11 (22 6sec)
7	5.657	4 12 (32.0sec) 4 13 (45.3sec) 14 (64.0sec) 15 10 11
8	8.000	15 (90.5sec)
9	11.314	
10	16.000	
11	22.627	
12	32.000	
13	45.255	
14	64.000	
15	90.510	

Table 7-2 Fade time

Remark The default value is "0 (no fade)".

(2) Fade rate

Select a value from "1 (357.796steps/sec)" to "15 (2.795steps/sec)" from the drop-down list (which is empty by default). If a Short Address is selected, the value set to it is displayed.

When the [Set] button is clicked, the "DTR0" command and then the "SET FADE RATE" command are transmitted to the selected address. Transmitting the commands to the selected address has no effect when not changing the Fade rate.

	Fade rate (steps/sec)	Drop-Down List
1	357.796	Fade Setting
2	253.000	Fade time:
3	178.898	0 (no fade) • Set
4	126.500	Fade rate: 7 (44.7steps/sec) V Set
5	89.449	1 (358steps/sec) Ext 2 (253steps/sec) 3 (179steps/sec)
6	63.250	4 (127steps/sec) 5 (89.4steps/sec) 5 (69.0steps/sec) Set
7	44.725	6 (03.3steps/sec) 7 (44.7steps/sec) 8 (31.6steps/sec)
8	31.625	9 (22.4steps/sec) 4 10 (15.8steps/sec) 11 (11.2steps/sec)
9	22.362	12 (7.9steps/sec) 13 (5.6steps/sec)
10	15.813	15 (2.8steps/sec)
11	11.181	
12	7.906	
13	5.591	
14	3.953	
15	2.795	

Table 7-3 Fade rate

Remark The default value is "7 (44.7steps/sec)".

(3) Extended Fade time

Extended Fade time base can be chosen from 16 kinds of "1 (0000B)"-"16 (1111B)". Extended Fade time multiplier can be chosen from 5 kinds of "0 (0msec)"-"4 (1min)".

If a Short Address is selected, the value set to it is displayed.

When the [Set] button is clicked, the "DTR0" command and then the "SET EXTENDED FADE TIME" command are transmitted to the selected address. Transmitting the commands to the selected address has no effect when not changing the Extended Fade rate.

Extended Fade time decides about fade time by combination of "base" and "multiplier". "base" and "multiplier" are set together by the "SET EXTENDED FADE TIME" command.

At the time of DTR0 setting, it is combined with 0YYYAAAAB (YYY:multiplier AAAA:base) and sends setting data.

Caution When using the Extended Fade time, be sure to specify the Fade time to "0 (no fade)". Extended Fade Time supports only IEC62386-102ed2.0.

	Fade time base	Drop-Down List
1	0000B	Fade Setting
2	0001B	Fade time:
3	0010B	0 (no fade) Set
4	0011B	Fade rate: 7 (44.7steps/sec) V Set
5	0100B	Extended Fade time:
6	0101B	Base: Multiplier:
7	0110B	
8	0111B	3 4 4 6 7 8 9 10 1
9	1000B	
10	1001B	9 10
11	1010B	
12	1011B	255 14 15 255 255 255 255 255 2
13	1100B	
14	1101B	
15	1110B	
16	1111B	

Table 7-4 Extended Fade time base

Remark The default value is "1 (0000B)".

Table 7-5	Extended	Fade time	multiplier
-----------	----------	-----------	------------

	Fade time multiplier	Drop-Down List	
0	000B(0ms)	Fade Setting	
1	001B(100ms)	Fade time:	
2	010B(1s)	Fade rate:	
3	011B(10s)	7 (44.7steps/sec) Set	
4	100B(1min)	Extended Fade time: Base: Multiplier:	
		1 → 0 (0msec) → Set 0 (0msec) 1 (100msec) 2 (1sec) 4 5 6 3 (10sec) 4 (1min) 10 1	

Remark The default value is "0 (000B(0ms))".

7.2.5 Level Setting

A drop-down list and button for specifying the maximum and minimum lighting control levels, the lighting control level when turning on the power, and the lighting control level when a failure occurs are located in this area. The selected values are not transmitted to a slave until the [Set] button is clicked. To apply the settings, be sure to click the [Set] button after selecting the values.



Figure 7-7 Level Setting

(1) Store to

Select a value from the following drop-down list items.

Maximum Level:Select this value to specify the maximum lighting control level.Minimum Level:Select this value to specify the minimum lighting control level.Power-On Level:Select this value to specify the lighting control level when turning on the power.System Failure Level:Select this value to specify the lighting control level when a failure occurs.

(2) Actual

Select this item to specify the Actual level (the current lighting control level) as the value to be specified.

(3) Direct

Select this item to directly specify the lighting control level. (This item is not selected by default.)

(4) [Set] button

This button is disabled (cannot be clicked) if the settings are incomplete.

If the button is clicked, the "DTR0" command and the following commands are transmitted to the selected address.

When the Maximum Level is selected:	"SET MAX LEVEL" command
When the Minimum Level is selected:	"SET MIN LEVEL" command
When the Power-On Level is selected:	"SET POWER ON LEVEL" command
When the System Failure Level is selected:	"SET SYSTEM FAILURE LEVEL" command

7.2.6 Scene Setting

Sliders and buttons for separately specifying the lighting control level for scenes 0 to 15 are located in this area. The selected values are not transmitted to a slave until [Set] is clicked. To apply the settings, be sure to click [Set] after selecting the values.



(1) Scene number

If a setting for a Scene is changed, the number of that Scene turns red until the setting is applied. If [Set] is clicked, the settings are transmitted to a slave and the Scene number turns black.

(2) Slider

The position of a slider is 0 (default) if 255 ("MASK") is entered into the corresponding text box. If the value in a text box is changed, the position of the slider is automatically updated to reflect the value.

(3) Text box

Any value from 0 to 255 can be entered into a text box. (The default is 255.) The value is updated according to the position of the corresponding slider. If the corresponding Actual and Remove check boxes are selected, the text box is disabled.

(4) Actual

Select this item to specify the Actual level (the current lighting control level) as the value to be specified.

(5) Remove

Select this item to remove the corresponding scene. (Selecting this item is equivalent to setting the value to 255.)

(6) [Set] button

If this button is clicked, the DATA TRANSFER REGISTER(DTR) command is transmitted, and then one of the following commands is transmitted to the selected address according to whether the check boxes are selected.

STORE THE DTR AS SCENE X command

STORE ACTUAL LEVEL IN THE DTR command

REMOVE FROM SCENE command

(7) [Save] button

If this button is clicked, the Scene settings (0 to 15) are saved in a CSV file. The CSV file can be saved in any location.

(8) [Load] button

If this button is clicked, the Scene settings (0 to 15) are read from the CSV file.

7.2.7 Query View

The values specified for each slave are displayed in this area.

Figure 7-9 Query View



(1) Query

When "Broadcast" is selected, all Short Addresses are displayed.When a Group is selected, the Short Addresses in the Group are displayed.When a Short Address is selected, only that Short Address is displayed.The values can be updated to the latest value by selecting "Query" in the right-click menu.

Caution The displayed values are those from when "Query" was last selected in the right-click menu. To update the status of a slave by transmitting a command, select "Query" again.

Item	Meaning	
Address	Short Address	
Actual	Current lighting control level	
Ph. Min.	Minimum lighting control level in the hardware	
Min. Level	Minimum lighting control level	
Max. Level	Maximum lighting control level	
P-ON Level	Lighting control level when the power is turned on	
Failure	Lighting control level when a failure occurred	
Fade Time	Fade time	
Fade Rate	Fade rate	
ExFT Base	Extended fade time base	

Table 7-6 Query View

	(IEC62386_102ed2.0 mode only)	
ExFT Mult	Extended fade time multiplier	
	(IEC62386_102ed2.0 mode only)	
DTR	DTR (Data Transfer Register) data	
S0~S15	Scene 0 to Scene 15	

7.3 Manual Command Dialog Box

In this dialog box, select the command to transmit from the drop-down list, and then click [Send] to transmit the code. If the settings are incomplete, [Send] cannot be clicked.

Click [Close] to close this dialog box.

In the main menu, select [Command] and then [Manual Command] to display this dialog box.

📑 Manual (Command 💌
<u>C</u> ommand :	
<u>A</u> ddress :	⊚ <u>B</u> roadcast
	© <u>G</u> roup →
	◎ Short Address
	○ <u>W</u> ithout Short Address
<u>D</u> ata :	0 -
<u>C</u> ode :	
	Send

Figure 7-10 Manual Command Dialog Box

(1) Command

Select the command to transmit from the drop-down list. The display of "Address" and "Data" vary depending on the selected command. For details about each command, see APPENDIX A COMMANDS.

(2) Address

Select one of the following radio buttons to specify "Broadcast / Group / Short Address / Without Short Address".

Broadcast:	Select this item to specify "Broadcast".
Group:	Select this item to specify Group. (0 to 15 can be selected.)
Short Address:	Select this item to specify Short Address. (0 to 63 can be selected.)
Without Short Address:	Select this item to specify Without Short Address. (only INITIALIZE command.)

(3) Data

Data is displayed in decimal or hexadecimal format depending on the selected command. In decimal format, a value from 0 to 255 can be selected. In hexadecimal format, a value from 00H to FFH can be selected.

(4) Code

The specified command code is displayed in hexadecimal and binary format. The code is not displayed until the settings are complete.

7.4 Manual Command (By Code) Dialog Box

In this dialog box, transmit the code by directly entering the command to transmit in binary format and then clicking [Send]. [Send] can be clicked after entering a binary number (16 bits). Whether the code is a valid DALI command is not checked.

Click [Close] to close this dialog box.

In the main menu, select [Command] and then [Send Code] to display this dialog box.

Manual Com	mand (By Code)		
Code: 0000	00000	00 Once	•
	Se	nd	Close

Figure 7-11 Manual Command (By Code) Dialog Box

(1) Command

Enter the command to transmit in binary or hexadecimal format.

Enter eight digits for the binary format or two digits (for example, 7f or 7F) for the hexadecimal format. For details about each command, see APPENDIX A COMMANDS.

Code1: Enter the first byte of the code.

Code2: Enter the second byte of the code.

"Once", "Twice", "Query Yes/No", or "Query 8-bit Info" can be optionally selected from the drop-down list.

Once:	Transmits the code once
Twice:	Transmits the code twice
Query Yes/No:	Mode in which the response from a slave is displayed as "Yes" or "No"
Query 8-bit Info:	Mode in which the response from a slave is displayed using eight bit

7.5 Random Address Allocation Dialog Box

The Random Addresses of a slave and the Short Addresses assigned to those addresses are displayed in this dialog box. In the main menu, select [Command] and then [Random Address Allocation] to display this dialog box.

Random Address Alloc	ation 🗾
Random Address	Short Address
Start	Close

Figure 7-12 Random Address Allocation Dialog Box

Click [Start] to display the following dialog box.

DALI Controlle	r 📃
🔔 Pro	ocessing might continue for several minutes. s impossible to discontinue it on the way.
	OK Cancel

Click [OK] to start Random Address Allocation. (No other operation can be performed during allocation). Click [Close] to close this dialog box.

Remark These operations might take a while depending on the connection status.

7.6 Direct Address Allocation Dialog Box

Directly assign a Short Address in this dialog box.

To use Direct Address Allocation, use only one slave in the system.

In the main menu, select [Command] and then [Direct Address Allocation] to display this dialog box.

Figure 7-13 Direct Address Allocation Dialog Box

Direct Address Allocation					
Please connect the only one s	ct slave-board	-			
Short Address:	<u>(63</u> → Set	Close			

(1) Short Address

Assignable Short Addresses can be selected.

Select a Short Address, and then click [Set] to display the following dialog box.

DALI Contr	oller	x
	The all slave board's address will be changed. Is it OK?	
	OK Cancel	

Click [OK] to start assigning the Sshort Address.

Click [Close] to close this dialog box.

7.7 Command Log Window

The transmitted commands and responses to those commands are displayed in text format in this window.

Click the 🔯 button to close this window.

In the main menu, select [View] and then [Log] to display this window.

Figure 7-14 Command Log Window

Comma	and Log)	×
Write to	File	Clear	
[10101001	000000	00]260:	COMPARE
[10110001 [10110011 [10110101 [10101001 _> No	011001 110001 010011 000000	00]264: 01]265: 01]266: 00]260:	SEACHADDRH (64h) SEACHADDRM (C5h) SEACHADDRL (4Dh) COMPARE
[10110001 [10110011 [10110101 [10101001 _> No	011001 110001 010011 000000	00]264: 01]265: 10]266: 00]260:	SEACHADDRH (64h) SEACHADDRM (C5h) SEACHADDRL (4Eh) COMPARE
[10110001 [10110011 [10110101 [10101001 -> Yes	011001 110001 010011 000000	00]264: 01]265: 11]266: 00]260:	SEACHADDRH (64h) SEACHADDRM (C5h) SEACHADDRL (4Fh) COMPARE
[10110111 [10111001 -> Yes	000001 000001	01]267: 01]268:	PROGRAM SHORT ADDRESS VERIFY SHORT ADDRESS
[10101011 [10110001 [10110011 [10110101 [10110101 [10101001	000000 111111 111111 111111 000000	00]261: 11]264: 11]265: 11]266: 00]260:	WITHDRAW SEACHADDRH (FFh) SEACHADDRM (FFh) SEACHADDRL (FFh) COMPARE
[10100001 [00000001 -> Yes	000000 100100	00]256: 01]145:	TERMINATE QUERY CONTROL GEAR PRESENT (S0)
	110000 0	00]192:	QUERY GROUPS 0-7 (SO)
	110000 0	01]193:	QUERY GROUPS 8-15 (S0)
[00000011	100100	01]145:	QUERY CONTROL GEAR PRESENT (S1)
	110000	00]192:	QUERY GROUPS 0-7 (S1)
	110000	01]193:	QUERY GROUPS 8-15 (S1)
[00000101	100100	01]145:	QUERY CONTROL GEAR PRESENT (S2)
	110000	00]192:	QUERY GROUPS 0-7 (S2)
[00000101 -> 0000000	110000 0	01]193:	QUERY GROUPS 8-15 (S2)
4			· · ·
			····

Command	d Log		x
Stop C	lear		
[10101001 00	0000000]260:	COMPARE	-
[10110001 01 [10110011 11 [10110101 01 [10101001 00	1100100]264: 1000101]265: 1001101]266: 0000000]260:	SEACHADDRH (84h) SEACHADDRM (C5h) SEACHADDRL (4Dh) COMPARE	
[10110001 01 [10110011 11 [10110101 01 [10101001 00	1100100]264: 1000101]265: 1001110]266: 1000000]260:	SEACHADDRH (64h) SEACHADDRM (C5h) SEACHADDRL (4Eh) COMPARE	
[10110001 01 [10110011 11 [1011011 11 [10110101 01 [10101001 00	1100100]264: 1000101]265: 1001111]266: 0000000]260:	SEACHADDRH (64h) SEACHADDRM (C5h) SEACHADDRL (4Fh) COMPARE	
-> res [10110111 00 [10111001 00	D000101]267: D000101]268:	PROGRAM SHORT ADDRESS VERIFY SHORT ADDRESS	
[10101011 00 [10110001 11 [10110011 11 [10110011 11 [10110101 00 	0000000]261: 1111111]264: 1111111]265: 1111111]266: 0000000]260:	WITHDRAW SEACHADDRH (FFh) SEACHADDRM (FFh) SEACHADDRL (FFh) COMPARE	
[10100001 00 [00000001 10	D000000]256: D010001]145:	TERMINATE QUERY CONTROL GEAR PRESENT	(S0)
	1000000]192:	QUERY GROUPS 0-7 (SO)	
	1000001]193:	QUERY GROUPS 8-15 (SO)	
	0010001]145:	QUERY CONTROL GEAR PRESENT	(S1)
	1000000]192:	QUERY GROUPS 0-7 (S1)	
	1000001]193:	QUERY GROUPS 8-15 (S1)	
	0010001]145:	QUERY CONTROL GEAR PRESENT	(82)
	1000000]192:	QUERY GROUPS 0-7 (S2)	
[00000101 11 -> 00000000	1000001]193:	QUERY GROUPS 8-15 (S2)	
•		m	T ► a

(1) Write to File

Click [Write to File] to display file save dialog box.

	folder	≣≕ ▼ 🧕
☆ Favorites ■ Desktop	Documents library	Arrange by: Folder 🔻
Downloads	Name	Date modified Type
Recent Places	E	ma mately using an and
🔚 Libraries	No iter	nis match your search.
Documents		
J Music		
Pictures		
Videos		
Computer		
File name:	ALI_Log1	

Select the save folder, set the save file name. (Save file format is CSV format only) Click [Save] to start saving of log content of from that point. When saving is started, "Write to File" turns into indication of "Stop". When [Cancel] is clicked, the dialogue is ended without starting a save.

(2) Clear

Click [Clear] to clear the log data displayed in the windows.

(3) Stop

Click [Stop] to stop the save of log content.

7.8 Serial Dialog Box

Set up the serial port in this dialog box.

If the settings are not previously specified, it isn't connected.

In the main menu, select [Setting] and then [Serial] to display this dialog box.

Figure 7-15 Serial Dialog Box					
Serial					x
Port : Baud rate:	115200	~		~	OK CANCEL

(1) Port

This drop-down box displays the port that was connected to previously by default. The port (COM1 to COM255) varies depending on the connected PC.

(2) Baud rate

"115200" is fixing, it can't be input.

The following message is displayed if the serial port cannot be connected to.



7.9 Edition Dialog Box

Set up the Edition in this dialog box.

The default is set to "IEC62386-102 (ed2.0)".

In the main menu, select [Setting] and then [Edition] to display this dialog box.

When indicating this dialog box, a radio button of the mode set at present is chosen.

Figure 7-16 Edition Dialog Box

Edition Select	×
 IEC62386-102(ed1.0) Mode IEC62386-102(ed2.0) Mode 	
OK CANCEL	

(1) IEC62386-102(ed1.0) Mode

Set in IEC62386-102ed1.0 mode.

(2) IEC62386-102(ed2.0) Mode

Set in IEC62386-102ed2.0 mode.

7.10 Change Address Dialog Box

Change a Short Address in this dialog box.

To change an address, select the address from 0 to 63, and then click [OK].

For details, see Figure 7-4 Address Tree (Right-Click Menus).

Figure 7-17 Change Address Dialog Box

Change Add	dress	
Address:	•	ОК

7.11 Version Dialog Box

Check the DALI master controller GUI version in this dialog box.

In the main menu, select [Help] and then [Version] to display this dialog box.

Click [OK] to close this dialog box.

Figure 7-18 Version Dialog Box



7.12 Menu

(1) File

Figure 7-19 File (Menu)



Exit: Closes the DALI master controller GUI.

(2) Command



Figure 7-20 Command (Menu)

Manual Command:	Displays the Manual Command dialog box.
	(For details, see 7. 3 Manual Command Dialog Box.)
Send Code:	Displays the Manual Command (By Code) dialog box.
	(For details, see 7. 4 Manual Command (By Code) Dialog Box.)
Reacquire:	Acquires a connection slave information, and re-display the address
	tree.
Random Address Allocation:	Displays the Random Address Allocation dialog box.
	(For details, see 7. 5 Random Address Allocation Dialog Box.)
Direct Address Allocation:	Displays the Direct Address Allocation dialog box.
	(For details, see 7. 6 Direct Address Allocation Dialog Box.)

(3) View

DALI Controller IEC62386-102(ed2.0) Mode						
<u>F</u> ile	<u>Command</u>	Vie	ew	Setting	s	<u>H</u> elp
DALI M Broa	aster Ver.2.0 adcast up 1	~	Lo	g F V	ver	Control

Log: Displays the Command Log Window. (For details, see 7. 7 Command Log Window.)

(4) Settings

DALI Controller IEC62386-102(ed2.0) Mode File Command View Settings Help DALI Master Ver.2.0 Serial... - Broadcast Connect Group 1 Address 3 Disconnect - Not Assigned Edition... --- Address 0 Address 2 C D-----

Figure 7-22 Settings (Menu)

Serial:	Displays Serial Dialog Box. (For details, see 7. 8 Serial Dialog Box.)
Connect:	Connects the COM port.
Disconnect:	Disconnects the COM port.
Edition:	Displays Edition Dialog Box. (For details, see 7. 9 Edition Dialog Box.)

(5) Help

DAL DAL	I Controller II	EC62386	5-102(ed2.0)) Mode
<u>F</u> ile	<u>Command</u>	<u>V</u> iew	<u>S</u> ettings	<u>H</u> elp
DALI Ma Broa	aster Ver.2.0 adcast up 1		Power	Version

Figure 7-23 Help (Menu)

Version: Displays Version Dialog Box. (For details, see 7. 11 Version Dialog Box.)

Displays the DALI master controller GUI version.

APPENDIX A COMMANDS

A. 1 Arc power control commands

These commands are used to adjust the lighting control level.

Number	Code	Name	Description
_	УААА АААО XXXX XXXX	DIRECT ARC POWER CONTROL	Adjusts the lighting control level to any level xxxx xxxx according to the Fade time.
0	YAAA AAA1 0000 0000	OFF	Turns off lighting.
1	YAAA AAA1 0000 0001	UP	Increases the lighting control level for 200 ms according to the Fade rate.
2	YAAA AAA1 0000 0010	DOWN	Decreases the lighting control level for 200 ms according to the Fade rate.
3	YAAA AAA1 0000 0011	STEP UP	Increments the lighting control level.
4	YAAA AAA1 0000 0100	STEP DOWN	Decrements the lighting control level.
5	YAAA AAA1 0000 0101	RECALL MAX LEVEL	Maximizes the lighting control level.
6	YAAA AAA1 0000 0110	RECALL MIN LEVEL	Minimizes the lighting control level.
7	YAAA AAA1 0000 0111	STEP DOWN AND OFF	Decrements the lighting control level and turns off lighting if the level is at the minimum.
8	YAAA AAA1 0000 1000	ON AND STEP UP	Increments the lighting control level and turns on lighting if lighting is off.
9	YAAA AAA1 0000 1001	ENABLE DAPC SEQUENCE	It shows the repeat start of the DAPC command.
10	YAAA AAA1 0000 1010	GO TO LAST ACTIVE LEVEL	Adjusts the previous lighting control level according to the Fade time. (IEC62386-102ed2.0 only)
11-15	YAAA AAA1 0000 1XXX	RESERVED	[Reserved]
16-31	YAAA AAA1 0001 XXXX	GO TO SCENE	Adjusts the lighting control level for Scene xxxx according to the Fade time.

Table A-1 Arc Power Control Commands

Remark Y: Selection bit

A: Address bit

x: Data

A. 2 Configulation commands

These commands are used to change the slave settings.

Number	Code Name		Description	
32	YAAA AAA1 0010 0000	RESET	Changes the variables in the persistent memory to their reset values.	
33	YAAA AAA1 0010 0001	STORE ACTUAL LEVEL IN THE DTR	Saves the current lighting control level to the DTR	
		(STORE ACTUAL LEVEL IN DTR0)	(DTR0).	
34	YAAA AAA1 0010 0010	SAVE PERSISTENT VARIABLES	Saves a variable in a nonvolatile memory (NVM). (IEC62386-102ed2.0 only)	
35	YAAA AAA1 0010 0011	SET OPERATING MODE	Data of DTR0 is set as an operating mode.	
			(IEC62386-102ed2.0 only)	
36	YAAA AAA1 0010 0100	RESET MEMORY BANK	The memory bank specified in DTR0 is changed to the reset value.	
			(IEC62386-102ed2.0 only)	
37	YAAA AAAl 0010 0101	IDENTIFY DEVICE	Starts an identification state of the device.	
			(IEC62386-102ed2.0 only)	
38-41	YAAA AAA1 0010 XXXX	RESERVED	[Reserved]	
42	YAAA AAA1 0010 1010	STORE THE DTR AS MAX LEVEL	Specifies the DTR (DTR0) data as the maximum	
		(SET MAX LEVEL)	lighting control level.	
43	YAAA AAA1 0010 1011	STORE THE DTR AS MIN LEVEL	Specifies the DTR (DTR0) data as the minimum lighting	
		(SET MIN LEVEL)	control level.	
44	YAAA AAA1 0010 1100	STORE THE DTR AS SYSTEM FAILURE LEVEL	Specifies the DTR (DTR0) data as the "FAILURE	
		(SET SYSTEM FAILURE LEVEL)	LEVEL".	
45	YAAA AAA1 0010 1101	STORE THE DTR AS POWER ON LEVEL	Specifies the DTR (DTR0) data as the "POWER ON	
		(SET POWER ON LEVEL)	LEVEL".	
46	YAAA AAA1 0010 1110	STORE THE DTR AS FADE TIME	Specifies the DTR (DTR0) data as the "Fade time".	
		(SET FADE TIME)		
47	YAAA AAA1 0010 1111	STORE THE DTR AS FADE RATE	Specifies the DTR (DTR0) data as the "Fade rate".	
		(SET FADE RATE)		
48	YAAA AAA1 0011 0000	SET EXTENDED FADE TIME	Specifies the DTR (DTR0) data as the "Extended Fade Time".	
			(IEC62386-102ed2.0 only)	
49-63	YAAA AAA1 0011 XXXX	RESERVED	[Reserved]	
64-79	YAAA AAA1 0100 XXXX	STORE THE DTR AS SCENE	Specifies the DTR (DTR0) data as Scene XXXX.	
		(SET SCENE)		
80-95	YAAA AAA1 0101 XXXX	REMOVE FROM SCENE	Deletes the Scene xxxx setting.	
			(Specifies 1111 1111 for the Scene register.)	
96-111	YAAA AAA1 0110 XXXX	ADD TO GROUP	Adds the slave to Group XXXX.	
112-127	YAAA AAA1 0111 XXXX	REMOVE FROM GROUP	Deletes the slave from Group XXXX.	
128	YAAA AAA1 1000 0000	STORE DTR AS SHORT ADDRESS	Specifies the DTR (DTR0) data as a Short Address.	
		(SET SHORT ADDRESS)		
129	YAAA AAA1 1000 0001	ENABLE WRITE MEMORY	Admits the writing of the memory bank.	
130-143	YAAA AAA1 1000 XXXX	RESERVED	[Reserved]	

Table A-2 Configuration Commands

- Remark
 Y:
 Selection bit

 A:
 Address bit

 X:
 Data
 - DTR: Data Transfer Register
- CautionDTR is transcribed into DTR0 in attention IEC62386-102ed2.0.A name in the parentheses is a name of IEC62386-102ed2.0.

A. 3 Query commands

These commands are used to query the status of a slave. A response (Backward) is returned for each query (Forward).

Number	Code	Name	Description
144	Fw: YAAA AAA1 1001 0000	QUERY STATUS	Returns STATUS INFORMATIONNote.
	Bw : STATUS INFORMATION		
145	Fw: YAAA AAA1 1001 0001	QUERY CONTROL GEAR	Is there a slave that can communicate?
	Bw: 'YES'/'NO'	(QUERY CONTROL GEAR	
		PRESENT)	
146	Fw: YAAA AAA1 1001 0010	QUERY LAMP FAILURE	Is there a lamp problem?
	Bw: YES'/ NO'	ļ	
147	Fw:YAAA AAA1 1001 0011	QUERY LAMP POWER ON	Is a lamp on?
ļ	Bw: `YES'/`NO'		
148	Fw:YAAA AAA1 1001 0100	QUERY LIMIT ERROR	Is the specified lighting control level out of the range
	Bw: YES'/ NO'	ļ	from the minimum to the maximum values?
149	Fw: YAAA AAA1 1001 0101	QUERY RESET STATE	Is the slave in 'RESET STATE'?
	Bw: YES'/ NO'		
150	Fw: YAAA AAA1 1001 0110	QUERY MISSING SHORT	Does the slave not have a Short Address?
	Bw: YES'/ NO'	ADDRESS	
151	Fw: YAAA AAA1 1001 0111	QUERY VERSION NUMBER	What is the corresponding IEC standard number?
150	Bw: (standard number)		
152	Fw: YAAA AAAI IUUI IUUU		What is the DTR (DTR0) content?
	BW (DIR Concent)	(QUERY CONTENTIDIRU)	
153	Fw: YAAA AAA1 1001 1001	QUERY DEVICE TYPE	What is the device type? (fluorescent lamp:0000
	Bw:(device type)		0000)
154	Fw: YAAA AAA1 1001 1010		What is the minimum lighting control level specified
	Bw: (nardware minimum)		by the nardware?
155	FW:YAAA AAAI IUUI IUII	QUERY POWER FAILURE	Has the slave operated without the execution or
	BW: IES / NO		control level?
156			What is the DTR1 content?
100	Bw: (DTR1 content)		What is the Dirici content:
157	Fw: YAAA AAA1 1001 1101	QUERY CONTENT DTR2	What is the DTR2 content?
	Bw:(DTR2 content)		
158	Fw: YAAA AAA1 1001 1110	QUERY OPERATING MODE	What is the OperatingMode?
1	Bw:(OperatingMode)		(IEC62386-102ed2.0 only)
159	Fw:YAAA AAA1 1001 1111	QUERY LIGHT SOURCE TYPE	What is the type of light source?
	Bw:(Type of light source)		(IEC62386-102ed2.0 only)
160	Fw:YAAA AAA1 1010 0000	QUERY ACTUAL LEVEL	What is the "ACTUAL LEVEL" (the current lighting
l	Bw:(ACTUAL LEVEL)		control level)?
161	Fw:YAAA AAA1 1010 0001	QUERY MAX LEVEL	What is the maximum lighting control level?
	Bw: (maximum lighting control		-
	level)		
162	Fw:YAAA AAA1 1010 0010	QUERY MIN LEVEL	What is the minimum lighting control level?
	Bw: (minimum lighting control		
	level)	ļ	
163	Fw:YAAA AAA1 1010 0011	QUERY POWER ON LEVEL	What is the "POWER ON LEVEL" (the lighting
	Bw: (POWER ON LEVEL)		control level when the power is turned on)?

Table A-3 Query Commands

164	Fw: YAAA AAA1 1010 0100	QUERY SYSTEM FAILURE LEVEL	What is the "SYSTEM FAILURE LEVEL" (the lighting
	Bw: (FAILURE LEVEL)		control level when a failure occurs)?
165	Fw:YAAA AAA1 1010 0101	QUERY FADE TIME / FADE	What are the Fade time / Fade rate?
	Bw: <higher>Time <lower>Rate</lower></higher>	RATE	
166	Fw: YAAA AAA1 1010 0110	QERY MANUFACTURER SPECIFIC MODE	What is the Specific Mode?
	Bw:(SpesificMode)		(IEC62386-102ed2.0 only)
167	Fw: YAAA AAA1 1010 0111	QUERY NEXT DEVICE TYPE	What is the next Device Type?
	Bw: (NextDeviceType)		(IEC62386-102ed2.0 only)
168	Fw: YAAA AAA1 1010 1000	QUERY EXTENDED FADE TIME	What is the Extended Fade Time?
	Bw:(Extended Fade Time)		(IEC62386-102ed2.0 only)
169	Fw: YAAA AAA1 1010 1010	QUERY CONTROL GEAR FAILURE	Does a slave have abnormality?
	Bw: 'YES'/'NO'		(IEC62386-102ed2.0 only)
170-175	YAAA AAA1 1010 XXXX	RESERVED	[Reserved]
176-191	Fw:YAAA AAA1 1011 XXXX	QUERY SCENE LEVEL	What is the lighting control level for Scene XXXX?
	Bw:(lighting control	(SCENES 0-15)	
	level)		
192	Fw: YAAA AAA1 1100 0000	QUERY GROUPS 0-7	Does the slave belong to a Group among Groups 0
	Bw: <0> No or <1> Yes for each		to 7? (Each bit corresponds to a Group.)
	bit		
193	Fw: YAAA AAA1 1100 0001	QUERY GROUPS 8-15	Does the slave belong to a Group among Groups 8
	$Bw:\mbox{<0> No or <1> Yes for each}$		to 15? (Each bit corresponds to a Group.)
	bit		
194	Fw: YAAA AAA1 1100 0010	QUERY RANDOM ADDRESS (H)	What are the higher 8 bits of the random address?
	Bw:random address (high)		
195	Fw: YAAA AAA1 1100 0011	QUERY RANDOM ADDRESS (M)	What are the middle 8 bits of the random address?
	Bw:random address (middle)		
196	Fw: YAAA AAA1 1100 0100	QUERY RANDOM ADDRESS (L)	What are the lower 8 bits of the random address?
	Bw:random address (low)		
197	Fw: YAAA AAA1 1100 0101	READ MEMORY LOCATION	The value of the specified address of the specified
	Bw: The memory bank set value		memory bank?
			(DTR0: address, DTR1: Memory Bank number)
198-223	YAAA AAA1 110X XXXX	RESERVED	[Reserved]

Note STATUS INFORMATION: 8-bit data indicating the status of a slave. The meanings of the bits are as follows:

bit 5

- bit 0 Status of control gear :<0>=OK
- bit 1 Lamp failure :<0>=OK

bit 2

bit 4 Fade running:<0>=fade is ready, <1>=fade is running

- - Lamp arc power on :<0>=OFF bit 6 Query Missing short address :<0>=No
- Query Limit Error :<0>=No bit 3

Query RESET STATE :<0>=No

- Query POWER FAILURE :<0>=No bit 7
- Remark Y: Selection bit
- 'YES':1111 1111
- A: Address bit x:Data Forward Fw: DTR : Data Transfer Register
- 'NO': Without Backward
 - Backward Bw:

Caution DTR is transcribed into DTR0 in attention IEC62386-102ed2.0. A name in the parentheses is a name of IEC62386-102ed2.0.

A. 4 Application extended commands

These commands are used to to extend the application.

Table A-4 Application extending commands

Number	Code	Name	Description	
224-254	YAAA AAA1 11XX XXXX	APPLICATION EXTEND COMMANDS	It is a special device for the extended area.	
255	FW:1100 0001 1111 1111 QUERY EXTENDED VERSION NUMBER		What is the version number of the Part2XX?	
	BW:Part2XX DeviceType			

Remark Y: Selection bit

A: Address bit

x: Data

A. 5 Special commands

These commands are used to specify addresses.

Number	Code	Name	Description
256	1010 0001 0000 0000	TERMINATE	Releases the INITIALISE status.
257	1010 0011 XXXX XXXX	DATA TRANSFER REGISTER(DTR) (DTR0)	Stores the data XXXX XXXX to the DTR (DTR0).
258	1010 0101 XXXX XXXX	INITIALISE	Sets the slave ^{Note 1} to the INITIALISE status for 15 minutes. Commands 259 to 270 are enabled only for a slave in this status.
259	1010 0111 0000 0000	RANDOMISE	Generates a random address.
260	Fw : 1010 1001 0000 0000 Bw : 'YES'/'NO'	COMPARE	Is the random address smaller or equal to the search address?
261	1010 1011 0000 0000	WITHDRAW	Excludes slaves for which the random address and search address match from the compare process.
262	1010 1101 0000 0000	RESERVED	[Reserved]
263	1010 1111 0000 0000	PING	Slave ignores. (IEC62386-102ed2.0 only)
264	1011 0001 нннн нннн	SEARCHADDRH	Specifies the higher 8 bits of the search address.
265	1011 0011 MMMM MMMM	SEARCHADDRM	Specifies the middle 8 bits of the search address.
266	1011 0101 LLLL LLLL	SEARCHADDRL	Specifies the lower 8 bits of the search address.
267	1011 0111 0AAA AAA1	PROGRAM SHORT ADDRESS	Sets the slave Note 2 of Short Address of being selected to the AAA AAA.
268	Fw : 1011 1001 0AAA AAA1 Bw : 'YES'/'NO'	VERIFY SHORT ADDRESS	Is the Short Address AAA AAA?
269	Fw:1011101100000000 Bw:0AAA AAA1	QUERY SHORT ADDRESS	What is the Short Address of the slave ^{Note 2} being selected?
270	1011 1101 0000 0000	PHYSICAL SELECTION	Sets the slave to Physical Selection Mode and excludes the slave from the Compare process. (Other than IEC62386-102ed2.0)
271	1011 1111 XXXX XXXX	RESERVED	[Reserved]

Table A-5 Special commands

Notes 1. Specifications of slaves subject to the INITIALISE status (XXXX XXXX)

0000 0000: All slaves are subject to the status.

0AAA AAA1: Slaves with the address AAAAAA are subject to the status.

1111 1111: Slaves without a Short Address are subject to the status.

2. This slave has a random address that is identical to the search address or is in Physical Selection Mode.

Remark	Y:	Selection bit	YES':	1111 1111
	A:	Address bit	`NO':	Without Backward
	x:	Data	Fw:	Forward
	Н, М	, L:Search addresses	Bw:	Backward

Caution DTR is transcribed into DTR0 in attention IEC62386-102ed2.0.

A name in the parentheses is a name of $\mathsf{IEC62386}\xspace{-}102ed2.0.$

A. 6 Extending special commands

These commands are used for function expansion.

Number	Code	Name	Description
272	1100 0001 XXXX XXXX	ENABLE DEVICE TYPE X	Adds the device xxxx xxxx (a special device).
273	1100 0011 XXXX XXXX	DATA TRANSFER REGISTER 1	Stores data XXXX XXXX in DTR1.
		(DTR1)	
274	1100 0101 XXXX XXXX	DATA TRANSFER REGISTER 2	Stores data XXXX XXXX in DTR2.
		(DTR2)	
275	FW:1100 0111 XXXX XXXX	WRITE MEMORY LOCATION	Writes data to the specified address of the specified
	BW:Write Data		memory bank. (there is BW)
			(DTR (DTR0): address, DTR1: memory bank number)
276	1100 1001 XXXX XXXX	WRITE MEMORY LOCATION - NO	Writes data to the specified address of the specified
		REPLY	memory bank. (there is not BW)
			(DTR (DTR0): address, DTR1: memory bank number)
			(IEC62386-102ed2.0 only)
273-287	110x xxx1 xxxx xxxx	RESERVED	[Reserved]

Table A-6 Extending special commands

Remark Y: Selection bit

- A: Address bit
- x: Data
- Caution DTR is transcribed into DTR0 in attention IEC62386-102ed2.0.

A name in the parentheses is a name of IEC62386-102ed2.0.

APPENDIX B FUNCTIONS

The following table shows the specifiable values.

	•			
Name	Description	Reset Value	Specification Range	Memory Area
ACTUAL LEVEL	Current lighting control level	254	0,	1 byte RAM
			MIN LEVEL – MAX LEVEL	
MIN LEVEL	Minimum lighting control level	PHYSICAL MIN	PHYSICAL MIN LEVEL -	1 byte NVM
		LEVEL	MAX LEVEL	
MAX LEVEL	Maximum lighting control level	254	MIN LEVEL - 254	1 byte NVM
POWER ON LEVEL	Lighting control level when turning	254	0-255("MASK") NOTE 1	1 byte NVM
	on the power		NOTE4	
SYSTEM FAILURE LEVEL	Lighting control level when a	254	0-255("MASK") NOTE 1 NOTE	1 byte NVM
	failure occurs		5	
FADE RATE	Fade rate	7 (= 45steps/sec)	1-15	1 byte NVM
FADE TIME	Fade time	0 (=no fade)	0-15	1 byte NVM
SHORT ADDRESS	Short Address	Does not change.	0-63, 255("MASK") NOTE 7	1 byte NVM
SEARCH ADDRESS	Search address	FF FF FF	00 00 00-	3 bytes RAM
			FF FF FF	
RANDOM ADDRESS	Random address	FF FF FF	00 00 00-	3 bytes NVM
			FF FF FF	
GROUP 0 - 7 NOTE2	Whether a Short Address belongs	0000 0000	0-255	1 byte NVM
	to a Group among Groups 0 to 7	(no group)		
GROUP 8 - 15 NOTE2	Whether a Short Address belongs	0000 0000	0-255	1 byte NVM
	to a Group among Groups 8 to 15	(no group)		
SCENE 0 - 15	Scene	255 ('MASK')	0-255("MASK") NOTE1 NOTE6	16 bytes NVM
		(no change)		
STATUS INFORMATION NOTE3	Status information	0?10 0???	0-255	1 byte RAM
DTR	DTR resister	no change	0-255	1 byte RAM
DTR1	DTR1 resister	no change	0-255	1 byte RAM
DTR2	DTR2 resister	no change	0-255	1 byte RAM
VERSION NUMBER	Version information	factory burn-in	0-255	1 byte ROM
(See top of this document)				
PHYSICAL MIN LEVEL	Minimum lighting control level in the hardware	factory burn-in	1-254	1 byte ROM

Table B-1 IEC62386-102ed10 Functions (Initial Values and Specification Range)

Notes 1. Only the lighting control level within the range from the minimum to the maximum values can be specified.

- 2. These differ from the group addresses used for transmitting commands.
 (Each bit corresponds to a group. A short address either <0> does not belong or <1> belongs to a group.)
- 3. For details, see A. 3 Query commands 'QUERY STATUS'.
- 4. When setting 255(MASK), use the lighting control level at the time of the last end.
- 5. When setting 255(MASK), the lighting control level doesn't change into the time of failure.
- 6. When setting 255(MASK), the lighting control level doesn't change into the time of Scene executio.
- 7. When setting 255(MASK), it indicates no short address setting.

Name	Description	Reset Value	Specification Range	Memory Area
ACTUAL LEVEL	Current lighting control level	254	0, MIN LEVEL – MAX LEVEL	1 byte RAM
POWER ON LEVEL	Lighting control level when turning on the power	254	0-255("MASK") NOTE1 NOTE4	1 byte NVM
SYSTEM FAILURE LEVEL	Lighting control level when a failure occurs	254	0-255("MASK") NOTE1 NOTE5	1 byte NVM
MIN LEVEL	Minimum lighting control level	PHYSICAL MIN LEVEL	PHYSICAL MIN LEVEL - MAX. LEVEL	1 byte NVM
MAX LEVEL	Maximum lighting control level	254	MIN LEVEL – 254	1 byte NVM
FADE RATE	Fade rate	7 (= 45steps/sec)	1-15	1 byte NVM
FADE TIME	Fade time	0 (=no fade)	0-15	1 byte NVM
EXTENDED FADE TIME BASE	Extended Fade time Base	0	0-1111B	1 byte NVM
EXTENDED FADE TIME MULTIPLIER	Extended Fade time Multiplier	0	0-100B	1 byte NVM
SHORT ADDRESS	Short Address	no change	0-63, 255("MASK") NOTE7	1 byte NVM
SEARCH ADDRESS	Search address	FF FF FF	00 00 00- FF FF FF	3 bytes RAM
RANDOM ADDRESS	Random address	FF FF FF	00 00 00- FF_FF_FF	3 bytes NVM
GROUP 0 - 7 ^{NOTE2}	Whether a Short Address belongs to a Group among Groups 0 to 7	0000 0000 (no group)	0-255	1 byte NVM
GROUP 8 - 15 ^{NOTE2}	Whether a Short Address belongs to a Group among Groups 8 to 15	0000 0000 (no group)	0-255	1 byte NVM
SCENE 0 – 15	Scene	255 ('MASK') (no change)	0-255("MASK") NOTE1 NOTE6	16 bytes NVM
STATUS INFORMATIONNOTE3	Status information	0?10 0???	0-255	1 byte RAM
DTR	DTR resister	no change	0-255	1 byte RAM
DTR1	DTR1 resister	no change	0-255	1 byte RAM
DTR2	DTR2 resister	no change	0-255	1 byte RAM
PHYSICAL MIN LEVEL	Minimum lighting control level in the hardware	factory burn-in	1-254	1 byte ROM

Fable B-2 IEC62386-102ed20 Function	s (RESET Values a	nd Specification I	Range)
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Notes 1. Only the lighting control level within the range from the minimum to the maximum values can be specified.

2. These differ from the group addresses used for transmitting commands.

(Each bit corresponds to a group. A short address either <0> does not belong or <1> belongs to a group.)

- 3. For details, see A. 3 Query commands 'QUERY STATUS'.
- 4. When setting 255(MASK), use the lighting control level at the time of the last end.
- 5. When setting 255(MASK), the lighting control level doesn't change into the time of failure.
- 6. When setting 255(MASK), the lighting control level doesn't change into the time of Scene executio.
- 7. When setting 255(MASK), it indicates no short address setting.

APPENDIX C LOGARITHMIC DIMMING CURVE

 $X(n) = 10^{\frac{n-1}{253/3}-1}$

<u>X (n) – X (n + 1)</u>	= const. = 2.8 %
X (n)	

n	Х	n	Х	n	Х	n	Х	n	Х
1	0.100	52	0.402	103	1.620	154	6.520	205	26.241
2	0.103	53	0.414	104	1.665	155	6.700	206	26.967
3	0.106	54	0.425	105	1.711	156	6.886	207	27.713
4	0.109	55	0.437	106	1.758	157	7.076	208	28.480
5	0.112	56	0.449	107	1.807	158	7.272	209	29.269
6	0.115	57	0.461	108	1.857	159	7.473	210	30.079
7	0.118	58	0.474	109	1.908	160	7.680	211	30.911
8	0.121	59	0.487	110	1.961	161	7.893	212	31.767
9	0.124	60	0.501	111	2.015	162	8.111	213	32.646
10	0.128	61	0.515	112	2.071	163	8.336	214	33.550
11	0.131	62	0.529	113	2.128	164	8.567	215	34.479
12	0.135	63	0.543	114	2.187	165	8.804	216	35.433
13	0.139	64	0.559	115	2.248	166	9.047	217	36.414
14	0.143	65	0.574	116	2.310	167	9.298	218	37.422
15	0.147	66	0.590	117	2.374	168	9.555	219	38.457
16	0.151	67	0.606	118	2.440	169	9.820	220	39.522
17	0.155	68	0.623	119	2.507	170	10.091	221	40.616
18	0.159	69	0.640	120	2.577	171	10.371	222	41.740
19	0.163	70	0.658	121	2.648	172	10.658	223	42.895
20	0.168	71	0.676	122	2.721	173	10.953	224	44.083
21	0.173	72	0.695	123	2.797	174	11.256	225	45.303
22	0.177	73	0.714	124	2.874	175	11.568	226	46.557
23	0.182	74	0.734	125	2.954	176	11.888	227	47.846
24	0.187	75	0.754	126	3.035	177	12.217	228	49.170
25	0.193	76	0.775	127	3.119	178	12.555	229	50.531
26	0.198	77	0.796	128	3.206	179	12.902	230	51.930
27	0.203	78	0.819	129	3.294	180	13.260	231	53.367
28	0.209	79	0.841	130	3.386	181	13.627	232	54.844
29	0.215	80	0.864	131	3.479	182	14.004	233	56.362
30	0.221	81	0.888	132	3.576	183	14.391	234	57.922
31	0.227	82	0.913	133	3.675	184	14.790	235	59.526
32	0.233	83	0.938	134	3.776	185	15.199	236	61.173
33	0.240	84	0.964	135	3.881	186	15.620	237	62.866
34	0.246	85	0.991	136	3.988	187	16.052	238	64.607
35	0.253	80	1.018	137	4.099	188	16.496	239	66.395
36	0.260	87	1.047	138	4.212	189	16.953	240	08.233
37	0.267	00	1.076	139	4.329	190	17.422	241	70.121
30	0.275	<u> </u>	1.105	140	4.449	191	17.905	242	72.062
39	0.202	90	1.130	141	4.372	192	18,000	243	76 107
40	0.290	91	1.107	142	4.090	193	10.909	244	70.107
41	0.296	92	1.200	143	4.020	194	19.433	245	70.213 90.279
42	0.300	93	1.233	144	4.902	195	20.524	240	82.602
43	0.313	94 05	1 302	140	5.099	190	20.024	241	84 880
44	0.324	90	1 3 3 8	1/17	5 285	108	21.032	240	87 220
46	0.332	97	1 375	148	5 5 3 5	199	22.275	250	89 654
 	0.351	08	1 413	140	5.688	200	22.273	250	92 135
48	0.361	99	1.452	150	5.845	200	23.526	252	94,686
49	0.371	100	1 492	151	6.007	202	20.020	253	97 307
50	0.381	101	1.534	152	6.173	203	24,846	254	100 000
51	0.392	102	1.576	153	6.344	204	25.534	1	



Figure C-1 Logarithmic Dimming Curve with a Minimum Arc Power Level of 0.1%

DALI Master Controller GUI for RX65N Cloud kit + DALI-2 Option board User's Manual

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