

Serial+Ethernet gateways between DALI 1.0/2.0 and MODBUS/ASCII

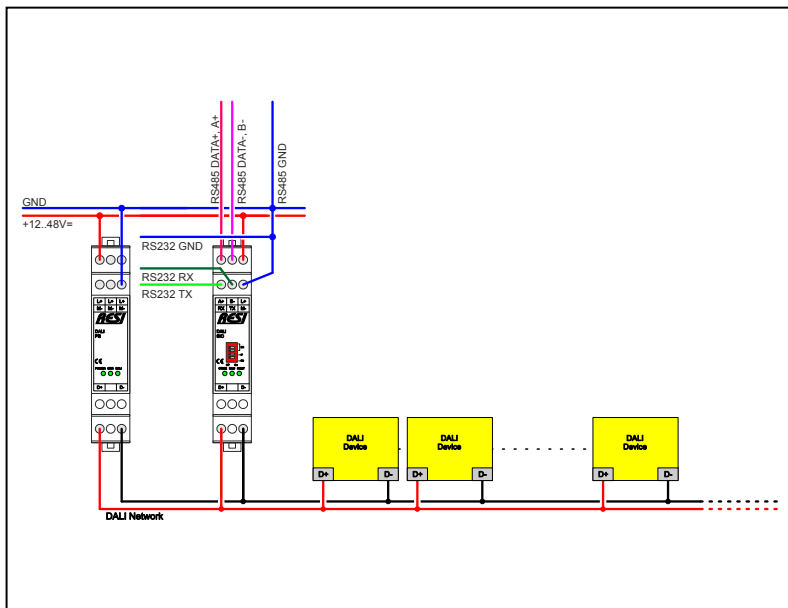
RESI-DALI-SIO, RESI-DALI-ETH

Powerful gateways to communicate with DALI lamps and DALI controllers via MODBUS or ASCII protocol

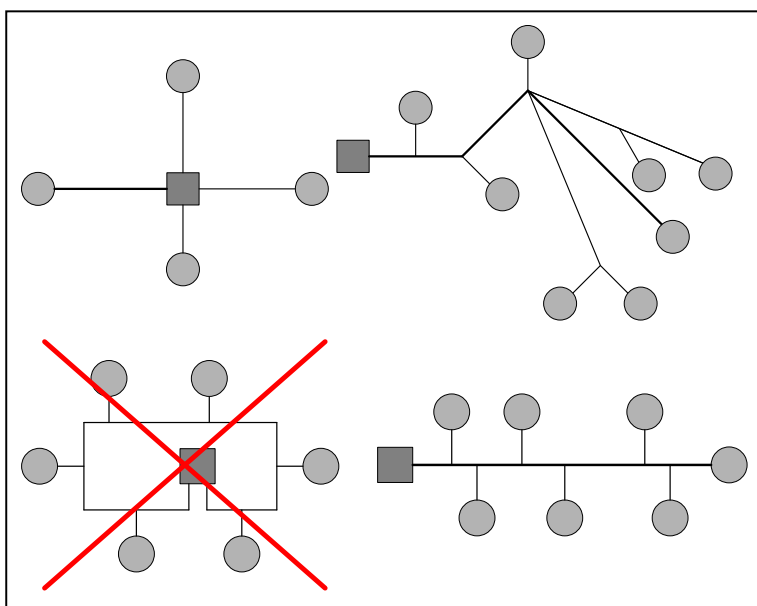
Our DALI gateways in combination with our DALI power supply are designed to communicate with a DALI bus system. You can send and receive all DALI commands according to DALI standard DALI 1.0 and DALI 2.0. Our gateways support also all DALI 24 bit frames for DALI control gears. Especially supported are the DALI device types 6 and 8 for RGBWAF color LED stripes. The gateways communicate with your host via standard MODBUS protocol (RTU or TCP) or via simple ASCII text protocol. The communication is handled via serial interface (RS232 or RS485) or via Ethernet. For easy configuration we offer a free software MODBUSConfigurator. With this software you can setup a complete DALI bus system. You can search for new devices, address the new devices and test your DALI system. The DALI interface is galvanic-ally insulated from the serial or Ethernet interface. The DALI devices can be connected in line, tree or star topology according to DALI standard.



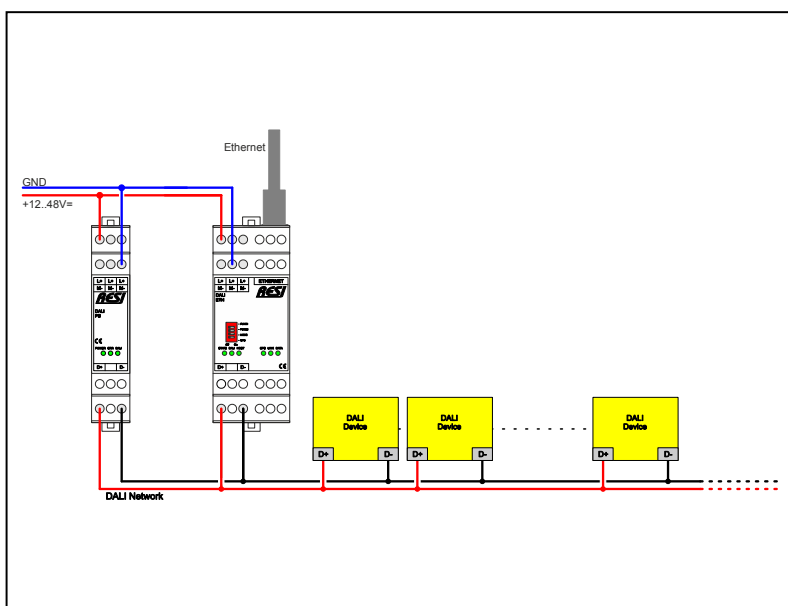
Our RESI-DALI-SIO, RESI-DALI-ETH gateways



Schematics DALI gateway with RS232 or RS485 interface



DALI cabling topologies



Schematics DALI gateway with Ethernet interface

HIGHLIGHTS

- Communication with DALI lamps or DALI control gears
- Supports DALI standard DALI 1.0, DALI 2.0, DT6, DT8
- MODBUS or ASCII protocol
- Easy configuration & test of complete DALI installation
- RESI-DALI-SIO: Serial interface: RS232 or RS485
- RESI-DALI-ETH: Ethernet interface
- Power supply: 12-48Vdc

SERIAL GATEWAYS	ETHERNET GATEWAYS	
RESI-DALI-SIO	RESI-DALI-ETH	DALI gateways between MODBUS/ASCII and DALI 1.0/DALI 2.0/DALI24 12-48V=

Serial+Ethernet gateways between DALI 1.0/2.0 and MODBUS/ASCII

RESI-DALI-SIO, RESI-DALI-ETH



Powerful gateways to communicate with DALI lamps and DALI controllers via MODBUS or ASCII protocol

EN

RESI's MODBUS Configurator V1.10.7.2 - [Unnamed]

Local COM port settings
Modbus unit: 255 Device: COM4 Stopbits: 1 stopbit IP-Address:
Baudrate: 57600 Parity: NONE Port:
Download config Test connection Test

Device specific
RESI-DALI-SIO DALI to MODBUS/RTU+ASCII converter for 64 DALI lamps
Software version: 4.0.0
State: no error
Initialize lamps Search lamps Query lamp states Recorder Lamps Edit Groups Initialize devices Query device states

MODBUS
Address: 255 Baudrate: 57600 Parity: NONE Stopbits: 1

Test bench
Test Bench DALI 1.0+2.0 | Lamp status | DALI Monitor | Device status

DALI single lamp
Single lamp: 1 Pulse lamp:
Select DALI short address of lamp in the range of 1 to 64

DALI lamp group
Lamp group: 1 Pulse lamp group:
Select DALI lamp group in the range of 1 to 16

DALI all lamps
All lamps
Send to all connected DALI lamps with broadcast protocol

DALI N bit frame
Send N bit DALI frame
Sends a N bit DALI special frame

Function:
 Set brightness to 0 (0.0%)
 Set brightness to 128 (50.0%)
 Set brightness to 254 (100.0%)
 Set brightness to xx (yy.y%) 254

Execute command
00:OFF
 DTR+ 254 Short address 1 8 bit Value
 DTR1+ 254 8 bit answer
 DTR2+ 254
 Send 24 Bit DALI frame DALI frame (0xHHHHHHHH) 0x00000000 Repeat frame within 100ms
 Send 25 Bit eDALI frame Bits 1
 Send 28 Bit DALI frame
 Send 8 Bit DALI/DSI frame
 Send n Bit DALI frame

Clear log

17:13:06 25.08.2020 DALI all lamps: Set to 0% brightness, DALI command 16 bits: 0xFE00
17:12:24 25.08.2020 DALI all lamps: Set to 100% brightness, DALI command 16 bits: 0xFEFE
17:12:21 25.08.2020 DALI all lamps: Set to 100% brightness, DALI command 16 bits: 0xFEFE
17:11:22 25.08.2020 DALI all lamps: Set to 100% brightness, DALI command 16 bits: 0xFEFE
17:11:17 25.08.2020 DALI all lamps: Set to 0% brightness, DALI command 16 bits: 0xFE00
17:11:11 25.08.2020 DALI all lamps: Set to 100% brightness, DALI command 16 bits: 0xFEFE
17:10:28 25.08.2020 DALI all lamps: Set to 100% brightness, DALI command 16 bits: 0xFEFE
17:10:24 25.08.2020 DALI all lamps: Set to 50% brightness, DALI command 16 bits: 0xFE80
17:09:42 25.08.2020 DALI all lamps: Set to 50% brightness, DALI command 16 bits: 0xFE80
17:09:38 25.08.2020 DALI all lamps: Set to 0% brightness, DALI command 16 bits: 0xFE00
17:09:18 25.08.2020 DALI all lamps: Set to 50% brightness, DALI command 16 bits: 0xFE80

Print project report Finished device scan

Our free configuration & test software MODBUSConfigurator

Test Bench DALI 1.0+2.0 | Lamp status | DALI Monitor | Device status

DALI single lamp
Single lamp: 1 Pulse lamp:
Select DALI short address of lamp in the range of 1 to 64

DALI lamp group
Lamp group: 1 Pulse lamp group:
Select DALI lamp group in the range of 1 to 16

DALI all lamps
All lamps
Send to all connected DALI lamps with broadcast protocol

DALI N bit frame
Send N bit DALI frame
Sends a N bit DALI special frame

Function:
 Set brightness to 0 (0.0%)
 Set brightness to 128 (50.0%)
 Set brightness to 254 (100.0%)
 Set brightness to xx (yy.y%) 254

Execute command
00:OFF
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 DTR2+ 254
 Send 24 Bit DALI frame DALI frame (0xHHHHHHHH) 0x00000000 Repeat frame within 100ms
 Send 25 Bit eDALI frame Bits 1
 Send 28 Bit DALI frame
 Send 8 Bit DALI/DSI frame
 Send n Bit DALI frame

Clear log

Test bench for DALI 1.0 /DALI 2.0 commands and queries

Serial+Ethernet gateways between DALI 1.0/2.0 and MODBUS/ASCII

RESI-DALI-SIO, RESI-DALI-ETH



Powerful gateways to communicate with DALI lamps and DALI controllers via MODBUS or ASCII protocol

Short address	Ballast state	Lamp error	Lamp power	Limit error	Dimming	Reset state	Short address missing	Power supply	Actual level	Device Type	Serial Number
1	OK	No	On	No	finished	No	No	No	169 -> 66.5%	6 -> LED lamp control gear	GTIN:000000000000,SN:000000
2	OK	No	On	No	finished	No	No	No	1 -> 0.4%	8 -> Colour lampcontrol gear:3CH->RGB	GTIN:000000000000,SN:000000
3	OK	Yes	Off	No	finished	No	No	No	255 -> MASK	3 -> Low-voltage halogen lamp control gear	GTIN:03A542930D59,SN:61D00
4	OK	No	On	No	finished	No	No	No	1 -> 0.4%	8 -> Colour lampcontrol gear:Tc	GTIN:000000000000,SN:000000
5	Error	Yes	On	Yes	in progress	Yes	Yes	Yes	1 -> 0.4%	8 -> Colour lampcontrol gear:4CH->RGBW	GTIN:000000000000,SN:000000
6	OK	No	On	No	finished	No	No	No	86 -> 33.9%	8 -> Colour lampcontrol gear:4CH->RGBW	GTIN:FFFFFFFFFFFF,SN:FFFF

Read lamp settings Write lamp settings Switch MAX Switch MIN Switch OFF

Lamp name: Lamp 2

Short address: 2 Device type: 3:Low-voltage halogen lamp control gear

Physical minimum: 1

Minimum: 1,0x01 -> 0.39% Maximum: 254,0xFE -> 100.00%

Power up: 254,0xFE -> 100.00% Bus fault: 254,0xFE -> 100.00%

Fade time: 0,0x0 -> no fade time Fade rate: 7,0x7 -> 44.7steps/s

Brightness: 0,0x0000

Scene values:

1: 251->98.8%	5: 255->MASK	9: 255->MASK	13: 255->MASK
2: 255->MASK	6: 255->MASK	10: 255->MASK	14: 255->MASK
3: 255->MASK	7: 255->MASK	11: 255->MASK	15: 255->MASK
4: 255->MASK	8: 255->MASK	12: 255->MASK	16: 255->MASK

Read all scenes(8 bit) Write all scenes(8 bit)

Read all scenes(16 bit) Write all scenes(16 bit)

Dali lamp settings

Read lamp settings Write lamp settings Switch MAX Switch MIN Switch OFF

Lamp name: Lamp 1

Short address: 1 Device type: 8:Colour lampcontrol gear

Physical minimum: 1

Minimum: 1,0x01 -> 0.39% Maximum: 254,0xFE -> 100.00%

Power up: 254,0xFE -> 100.00% Bus fault: 127,0x7F -> 50.00%

Fade time: 10,0xA -> 16.0s Fade rate: 6,0x6 -> 63.3steps/s

Brightness: 127,0x007F

Scene values:

1: 255->MASK	5: 255->MASK	9: 255->MASK	13: 255->MASK
2: 255->MASK	6: 255->MASK	10: 255->MASK	14: 255->MASK
3: 255->MASK	7: 255->MASK	11: 255->MASK	15: 255->MASK
4: 255->MASK	8: 255->MASK	12: 255->MASK	16: 255->MASK

Read all scenes(8 bit) Write all scenes(8 bit)

Read all scenes(16 bit) Write all scenes(16 bit)

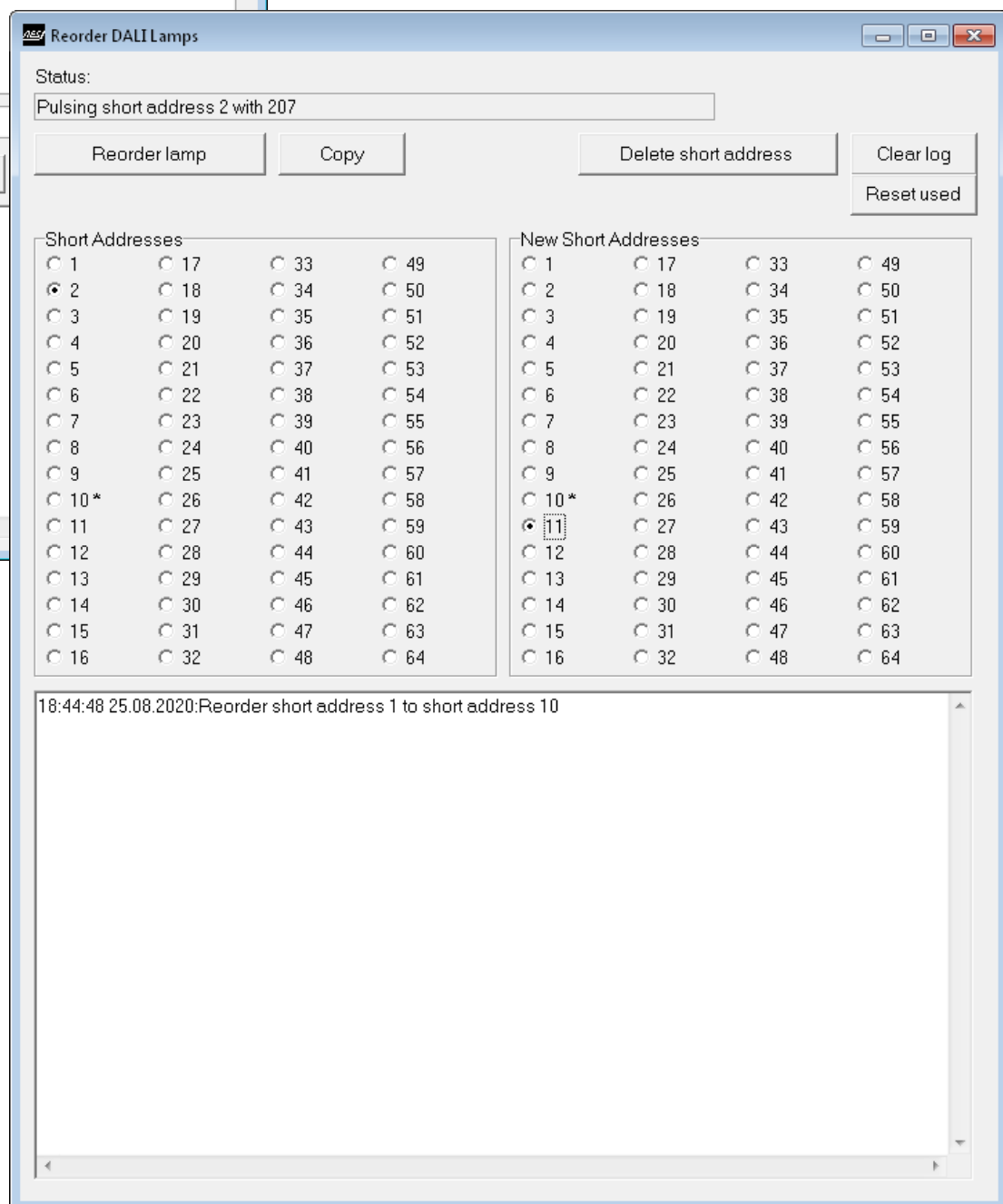
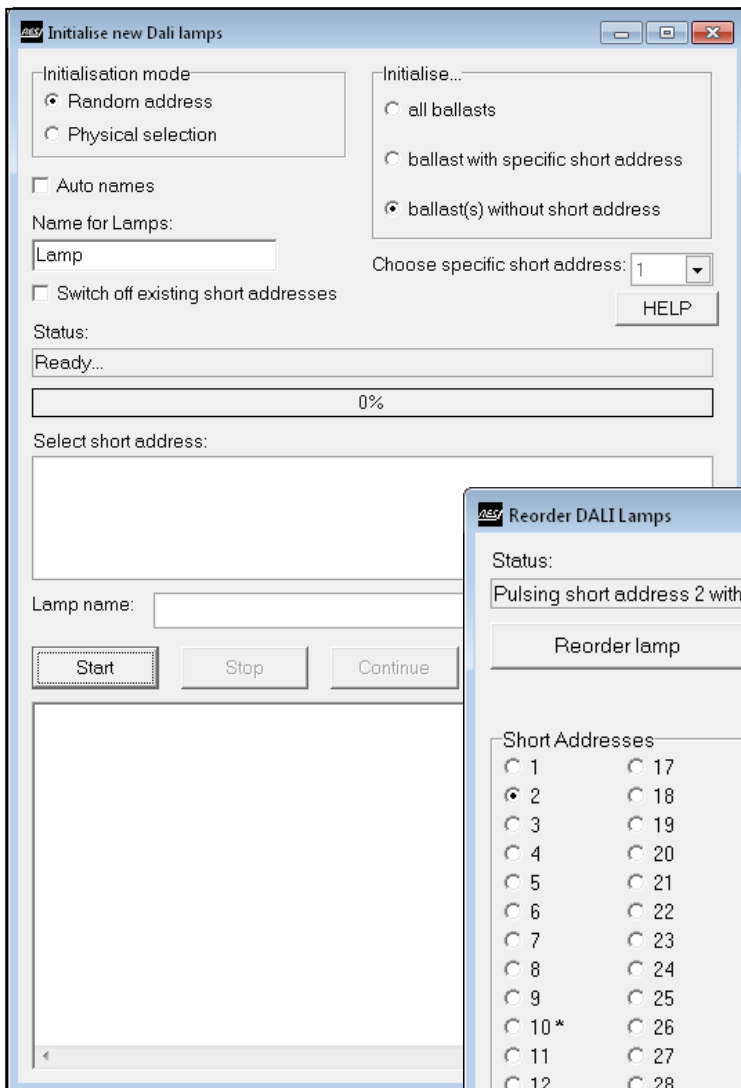
DT8 status Colour Scenes Init parameters

Read colours (8 bit mode)... Read colours (16 bit mode)...

x coordinate: ???? y coordinate: ???? Tc colour temperature: ???? Primary N dimlevel 0-5: ???? Channel 0 RED: 254,0xFE 185->72.8% Channel 1 GREEN: 254,0xFE 0->0.0% Channel 2 BLUE: 0,0x00 254->100.0% Channel 3 WHITE: 149,0x95 223->87.8% Channel 4 AMBER: ???? Channel 5 FREECOLOUR: ???? RGBWAF control: ???? Colour type: 128,0x0080

RESI-DALI-SIO, RESI-DALI-ETH

Powerful gateways to communicate with DALI lamps and DALI controllers via MODBUS or ASCII protocol



RESI-DALI-SIO, RESI-DALI-ETH

Powerful gateways to communicate with DALI lamps and DALI controllers via MODBUS or ASCII protocol

Edit DALI groups
[min] [max] [close]

Short Address	Status	Desired Groups	Actual Groups
1	ERR		
2	ERR		
3	OK		1,3
4	OK		3-4
5	OK		
6	OK		
7	ERR		
8	ERR		
9	ERR		
10	OK		4-6
11	OK		4-6
12	ERR		
13	ERR		
14	ERR		
15	ERR		
16	ERR		
17	ERR		
18	ERR		
19	ERR		
20	ERR		
21	ERR		
22	ERR		

Actual short address: **N/A** Clear all desired groups from all lamps

Desired groups

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Copy actual groups to desired groups

Actual groups

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Test groups

1 5 9 13
 2 6 10 14
 3 7 11 15
 4 8 12 16

Change selected lamps to desired groups

Read groups from selected lamps

Read groups from all lamps

Write groups to selected lamps

Write groups to all lamps

Load groups from file...

Save groups to file...

Edit DALI groups
[min] [max] [close]

Short Address	Status	Desired Groups	Actual Groups
1	ERR		
2	ERR		
3	OK	4-6,10	4-6,10
4	OK	4-6,10	4-6,10
5	OK	4-6,10	4-6,10
6	OK	4-6,10	4-6,10
7	ERR		
8	ERR		
9	ERR		
10	OK		4-6
11	OK		4-6
12	ERR		
13	ERR		
14	ERR		
15	ERR		
16	ERR		
17	ERR		
18	ERR		
19	ERR		
20	ERR		
21	ERR		
22	ERR		

Actual short address: **3** Clear all desired groups from all lamps

Desired groups

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Copy actual groups to desired groups

Actual groups

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Test groups

1 5 9 13
 2 6 10 14
 3 7 11 15
 4 8 12 16

Change selected lamps to desired groups

Read groups from selected lamps

Read groups from all lamps

Write groups to selected lamps

Write groups to all lamps

Load groups from file...

Save groups to file...

Activate Group Test

Edit DALI groups for DALI lamps

Serial+Ethernet gateways between DALI 1.0/2.0 and MODBUS/ASCII

RESI-DALI-SIO, RESI-DALI-ETH

Powerful gateways to communicate with DALI lamps and DALI controllers via MODBUS or ASCII protocol

Initialisation mode:
 Random address

Initialise...
 all control devices
 control devices with specific short address
 control device(s) without short address

Auto names
Name for control devices:
Device: _____

Choose specific short address: 1

Status:
Ready...
0%

Select short address:

Device name: _____

[Initialize lamps](#) [Search lamps](#) [Query lamp states](#) [Reorder Lamps](#) [Edit Groups](#) [Initialize devices](#) [Query device states](#)

MODBUS:
Address: 255 Baudrate: 57600 Parity: NONE Stopbits: 1 stopbit

Test bench

Test Bench DALI 1.0+2.0 | Lamp status | DALI Monitor | Device status

Short address	App Controller	Instances	Nr. of instances	Input device	Quiescent	SA=MASK	Application	Controller Error	Power Cycle seen	Reset state	Instance types
1	NO	YES	2	OK	YES	NO	NO	NO	YES	NO	10:occupancy sensor,11:light sensor
2	YES	YES	1	ERROR	YES	NO	NO	NO	YES	NO	10:push button