JULY 2020

KNX LED Dimmer UD/S 2x315W/4x315W/6x315W

Webinar – Competence Center Europe – Smart Buildings

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Agenda

KNX LED Dimmer UD/S 2x315W/4x315W/6x315W

      Introduction and general product information

      Main functions and benefits

      ETS application

      ABB i-bus® Tool

      Commercial data

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KNX LED Dimmer UD/S 2x315W/4x315W/6x315W

Introduction and general product information

Webinar "KNX LED Dimmer UD/S 2x315W/4x315W/6x315W"

General product information

Typical application examples

Applications in residential buildings:

– Realize a warm and cozy atmosphere in the living room by dimming the light down

– Dimming the light in the bathroom

  • Bright light for making up in the morning

  • Darker, relaxing light to take a bath in the evening

– Wake up with sunrise simulation (wake up function)

– Sleep function

Applications in commercial buildings:

– Realize constant light control in offices

– Dim down the light in the meeting rooms when presentations are held

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Technical Data

LED Dimmer 2-fold, 315W/VA

- Outputs: 2, individual L and N per channel

- Rated power: 2-315 W/VA

- Dimensions 90 mm x 72 mm x 64 mm

- Mounting depth 64 mm

- Module width: 4 MW

- Power supply 110-230 V AC +/- 10%, 50/60 Hz

- Channel bridging:

4 MW - 2 Channel, 2x1	A	B
4 MW - 2 Channel, 1x2	A + B 500/200 W/VA	

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Webinar "KNX LED Dimmer UD/S 2x315W/4x315W/6x315W"
Technical Data

LED Dimmer 4-fold, 315W/VA

- Outputs: 4, individual L and N per channel

- Rated power: 2-315 W/VA

- Dimensions 90 mm x 144 mm x 64 mm

- Mounting depth 64 mm

- Module width: 8 MW

- Power supply 110-230 V AC +/- 10%, 50/60 Hz

- Channel bridging:

8 MW - 4 Channel, 4x1	A	B	C	D
8 MW - 4 Channel, 2x2	A + B 500/200 W/VA		C + D 500/200 W/VA	

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Webinar "KNX LED Dimmer UD/S 2x315W/4x315W/6x315W"
Technical Data

LED Dimmer 6-fold, 315W/VA

- Outputs: 6, individual L and N per channel
- Rated power: 2-315 W/VA
- Dimensions 90 mm x 216 mm x 64 mm
- Mounting depth 64 mm
- Module width: 12 MW
- Power supply 110-230 V AC +/- 10%, 50/60 Hz
- Channel bridging:

12 MW - 6 Channel, 6x1	A	B	C	D	E	F
12 MW - 6 Channel, 3x2	A + B 500/200 W/VA		C + D 500/200 W/VA		E + F 500/200 W/VA	
12 MW - 6 Channel, 2x3	A + B + C 700/250 W/VA			D + E + F 700/250 W/VA		
12 MW - 6 Channel, 1x3, 1x2, 1x1	A + B + C 700/250 W/VA			D	E + F 500/200 W/VA	
12 MW - 6 Channel, 1x3, 1x2, 1x1	A + B 500/200 W/VA		C	D + E + F 700/250 W/VA		

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Technical Data

Operating mode: Leading edge control

	[A] 110 V 127 V 230 V min.	[B] 110 V 127 V max.	[C] 230 V max.	[A] — — 230 V min.	[B] 110 V 127 V max.	[C] 230 V max.	[A] 110 V 127 V 230 V min.	[B] 110 V 127 V max.	[C] 230 V max.
LEDi 230 V AC	2 W/VA	40 W/VA	80 W/VA	2 W/VA	60 W/VA	120 W/VA	20 W/VA	240 W/VA	480 W/VA
LED (LC)	2 W/VA	40 W/VA	80 W/VA	2 W/VA	60 W/VA	120 W/VA	20 W/VA	240 W/VA	480 W/VA
LED (L)	2 W/VA	105 W/VA	210 W/VA	2 W/VA	160 W/VA	315 W/VA	20 W/VA	630 W/VA	1260 W/VA
	❶			❷			❸		

Leading edge

LEDi 230 V AC	230 V LEDi retrofit with inductive L ballast	❶ UD/S (210W)
LED (LC)	Low-voltage LED on electronic LC transformers	❷ UD/S (315W)
LED (L)	Low-voltage LED on inductive L transformers	❸ 6197/52 (1260W)

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Technical Data

Operating mode: Trailing edge control

	[A] 110 V / 127 V / 230 V (min.)	[B] 110 V / 127 V (max.)	[C] 230 V (max.)	[A] — / — / 230 V (min.)	[B] 110 V / 127 V (max.)	[C] 230 V (max.)	[A] 110 V / 127 V / 230 V (min.)	[B] 110 V / 127 V (max.)	[C] 230 V (max.)
LEDi 230 V AC	2 W/VA	105 W/VA	210 W/VA	2 W/VA	160 W/VA	315 W/VA	20 W/VA	630 W/VA	1260 W/VA
LED	2 W/VA	105 W/VA	210 W/VA	2 W/VA	160 W/VA	315 W/VA	20 W/VA	630 W/VA	1260 W/VA
230 V AC	10 W	105 W	210 W	10 W	160 W	315 W	40 W	630 W	1260 W
	❶			**❷**			**❸**		

Trailing edge

LEDi 230 V AC	230 V LEDi retrofit with capacitive C ballast	❶ UD/S (210W)
LED	Low-voltage LED on electronic C transformers	❷ UD/S (315W)
230 V AC	230 V halogen lamps	❸ 6197/52 (1260W)

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Technical Data

Connecting diagram

KNX LED Dimmer UD/S 2x315W/4x315W/6x315W, MDRC

Main functions and benefits

Webinar "KNX LED Dimmers UD/S 2x315W/4x315W/6x315W"

Main functions and benefits

Functions and Configuration

– Different type of loads as well as automatic load detection selectable

– All standard dimming parameters like brightness values, lower and upper dimming limits, dimming speed feedback objects, etc.

– Channel bridging to increase the connectable load per channel

– Template function to save time in programming

– Easy scene concept

– Free-adjustable dimming curve correction

– Generator-operation

– Wake-up function

– Automatic load detection after power failure can be switched off

– Staircase lighting, delay and further logic functions

– ABB i-bus® Tool for easy commissioning

ETS

i-bus® Tool

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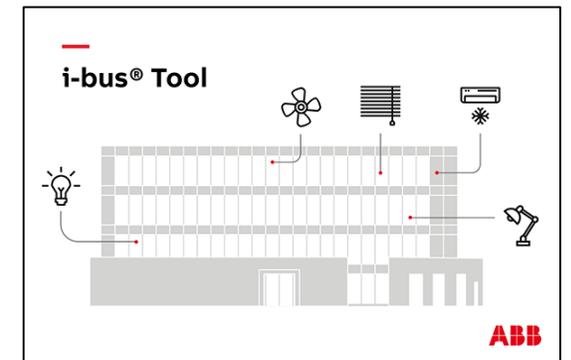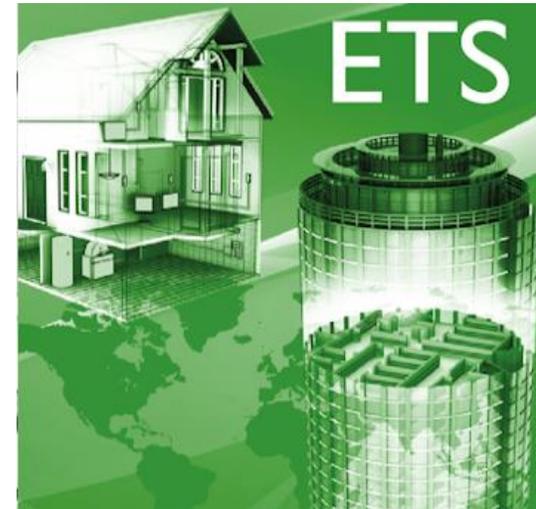
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Main applications

Commissioning and diagnostics

Several testing, diagnostic and failure feedback possibilities can be used with the ABB i-bus® Tool

– Testing of the different dim modes

– Trying different min and max values when adjusting the lamps

– What kind of failure has occurred?

– Which channel is affected?

– Etc.

i-bus® Tool
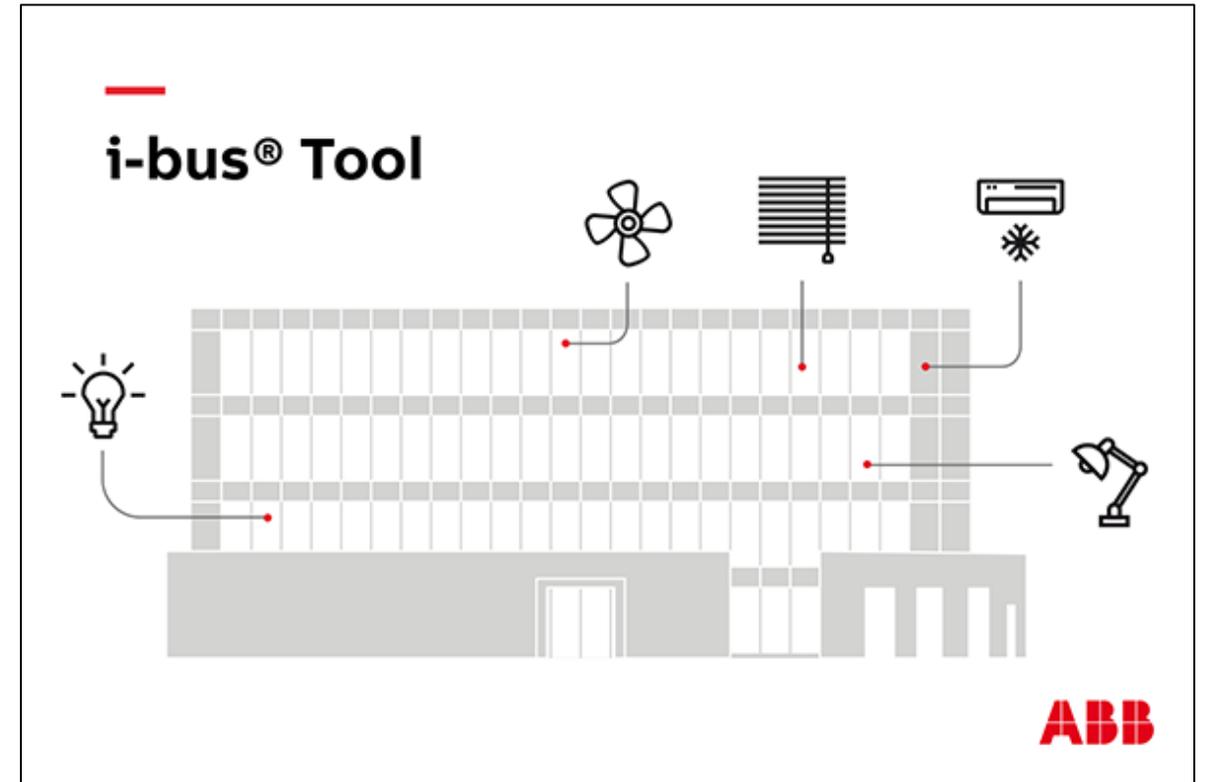
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ETS application

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ETS application

Functions and parameter

Main functions:

– Channel allocation

– 32 scenes

– Template / parameter master

– Central commands for switching, dimming and value

– Correction of characteristic

– Wake-up and sleep function

– Logic functions

-.-.- UD/S6.315.2.11 LED Dimmer 6x315W > Channel allocation

Channel allocation	
+ Device settings	ℹ Allocation of the physical outputs for logical KNX channels
+ Scenes	Bundling outputs (parallel switching) ☐
+ Parameter masters	Output A Channel A
+ Channel A	Output B Channel B
+ Channel B	Output C Channel C
+ Channel C	Output D Channel D
+ Channel D	Output E Channel E
+ Channel E	Output F Channel F
+ Channel F	
+ General functions	

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ETS application

Channel allocation – 6 x 315W

Easy channel bridging to increase the rated power

Max. 3 channels can be bundled

12 MW - 6 Channel, 6x1	A	B	C	D	E	F
12 MW - 6 Channel, 3x2	A + B 500/200 W/VA		C + D 500/200 W/VA		E + F 500/200 W/VA	
12 MW - 6 Channel, 2x3	A + B + C 700/250 W/VA			D + E + F 700/250 W/VA		
12 MW - 6 Channel, 1x3, 1x2, 1x1	A + B + C 700/250 W/VA			D	E + F 500/200 W/VA	
12 MW - 6 Channel, 1x3, 1x2, 1x1	A + B 500/200 W/VA		C	D + E + F 700/250 W/VA		

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ETS application

Channel allocation – 4 x 315W

Easy channel bridging to increase the rated power

Max. 2 channels can be bundled

8 MW - 4 Channel, 4x1	A	B	C	D
8 MW - 4 Channel, 2x2	A + B 500/200 W/VA		C + D 500/200 W/VA	

1.1.19 UD/S4.315.2.11 LED Dimmer 4x315W > Channel allocation

Channel allocation

Allocation of the physical outputs for logical KNX channels

+ Device settings   Bundling outputs (parallel switching)   ✓

+ Scenes   Output A   Channel A

+ Parameter masters   Output B   ○ Channel A ⦿ Channel B

+ Channel A   Output C   Channel C

+ Channel B   Output D   ⦿ Channel C ○ Channel D

+ Channel C

+ General functions

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ETS application

Channel allocation – 2 x 315W

Easy channel bridging to increase the rated power

Max. 2 channels can be bundled

4 MW - 2 Channel, 2x1	A	B
4 MW - 2 Channel, 1x2	A + B 500/200 W/VA	

1.1.21 UD/S2.315.2.11 LED Dimmer 2x315W > Channel allocation

Channel allocation

+ Device settings

+ Scenes

+ Parameter masters

+ Channel A

+ General functions

Allocation of the physical outputs for logical KNX channels

Bundling outputs (parallel switching)   ✔

Output A   Channel A

Output B   ◉ Channel A ○ Channel B

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Device settings – General

– In this parameter window the overriding parameter settings relevant for the entire device are made

– Allow manual operation (Always / Only at KNX failure)

  • This parameter is used to enable the buttons on the front in general or only at a failure of the KNX bus

– Use of the ripple control signal filter (yes/no)

  • With this parameter the ripple control signals of the network operators can be filtered out via the ripple control signal filter

  • Since generally no ripple control signals occur with the use of a generator (e.g. on ships), in this case it is recommended to deactivate the ripple control signal filter

– Enable communication object "In operation"

  • No

  • Yes (send value 0/1 cyclic)

1.1.19 UD/S4.315.2.11 LED Dimmer 4x315W > Device settings > General

Channel allocation	Allow manual operation — ● Always ○ Only at KNX failure
– Device settings	Use ripple control signal filter — yes
General	Enable communication object "In operation" — No
+ Scenes	
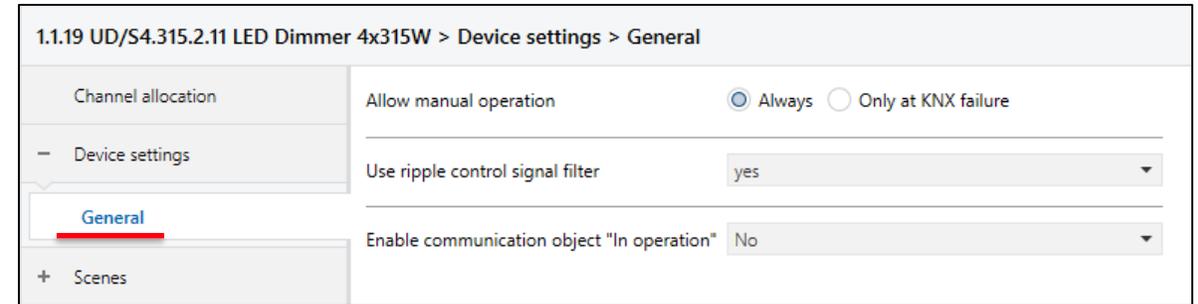
– Manual operation:

  • Brief press of the button: On / Off (press in case of an error)

  • Long press of the button: Dimming

  • Press at least 10 sec: Load test

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Scenes

- Easy configuration for up to 32 scenes
- Clear set-up for each scenes
- Individual transition time for each scene
- Enable communication object "Scene"
- Trigger the scene with (1 byte)
- 64 KNX scenes can be allocated to the scenes of the UD/S

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Parameter masters / Templates

- In many cases each dimmer channel is configured as all other channels

- With the new LED-Dimmer only 1 master channel has to be configured

- All other channels can be copied by the master channel or be configured individually

- Advantage: Save of time and work during parametrization as typically channels need the same adjustments

- If you select "Individual" you start with the default parameters
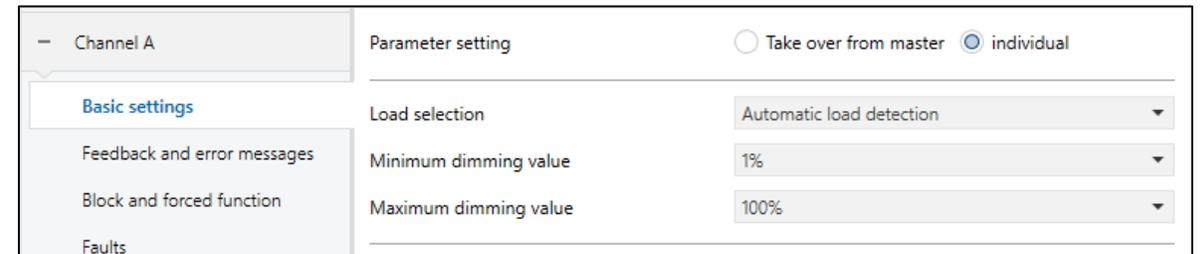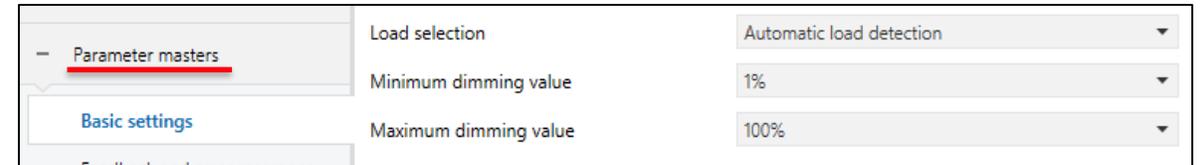
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Parameter masters – Basic settings

Load Detection:

– Automatic load detection

- The dimmer senses automatically whether it is an inductive or capacitive load and adjusts the control accordingly

– LED / leading edge (inductive load)

- No softstart - attuned to the operation of LEDs

– LED trailing edge and loads with RC behavior

- For LEDs with trailing edge control

– Incandescent lamp / trailing edge (capacitive)

- At the zero transit the incandescent lamp is switched on and switched off again after the expiry of a set time

– Inductive load / leading edge

- A softstart usually takes place when switching on

Parameter masters	Load selection	Automatic load detection
Basic settings	Minimum dimming value	1%
Feedback and error messages	Maximum dimming value	100%

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Parameter masters – Basic settings

– Detailed parameters for switch-on/off behavior

– Switch-on value (0,4%-100% or last value)

– Dimming time reached up to switch-on value – Softstart

- 0: Start-up – the output switches ON immediately (ON command)

- 00:00:01….18:12:15 – during this period the output is dimmed from 0% brightness to the switch-on value

- Fade time used [s] according to DIN EN 62 386-102

– Dimming time adjustable via object "Flexible dimming time/fade time"

– Allow switching on via dimming (Relative dimming function)

– Allow switching on via dimming value (Dimming value function)

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Parameter masters – Basic settings

– Dimming time for relative dimming 0-100%

– Dimming time reached up to switch-on/off/value:

- 00:00:00 – jump to value

- 00:00:08 – softstart: seconds from zero to switch-on/off value (for values <32s depending DIN EN 62 386-102 "Fade Time")

Relative dimming function		
Dimming time for relative dimming 0-100%	00:00:04	hh:mm:ss

Dimming value function		
Dimming time reached up to dimming value (0 = start-up)	00:00:01	hh:mm:ss
Dimming time adjustable via object "Flexible dimming time/fade time"	☐	

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Parameter masters – Feedback and error messages

- Status communication objects for switching and dimming value
- Error diagnosis as KNX standard bit field (8 codes) or error number (13 errors)
- Flexible sending cycle
- Flexible definition, which errors trigger the communication object "Error"

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Parameter masters – Error num. / KNX Standard bit field

Format:	8 bit: U_8
Octet no.	1
Designation of field	Value not assigned
Octet no. Encryption Designations of field	Error code 00h = no error 01h = critical temperature 02h = short-circuit 03h = connected unit does not function 04h = excess current 05h = error of device software 06h = mains failure 07h = load defective 08h = error of mains synchronization 09h = overload 0Ah = error of load type 0Bh = internal error 0Ch - FFh = reserved

Bit fields	Descritpion		Unit / range of values
Attribute	Bit no.		Bit set B_8
Load detection error	0 (lsb)	Load detection failed / incorrect load type	0: true 1: false
Undervoltage	1	Undervoltage of mains supply	0: true 1: false
Excess current	2	Excess current / short-circuit on load side	0: true 1: false
Underload	3	Under load / no load on loa side	0: true 1: false
Faulty load	4	Overvoltage / excess current pulses on load side	0: true 1: false
Lamp failure	5	General lamp failure	0: true 1: false
Overheating	6	Thermal overheating of actuator	0: true 1: false
Reserved	7 (msb)		0: true 1: false

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Parameter masters – Block and forced function

– The active forced operation, irrespective of whether triggered via a 1-bit or 2-bit activation, has an influence on the entire behaviour of the channel. When forced operation is called up, the brightness value parameterized in the ETS is set. A currently running dimming telegram is interrupted

– Brightness values received during forced operation are not set, but tracked and stored in the background. Also switching telegrams are stored in the background. Relative dimming telegrams and dimming ramps are ignored. At time variations (e.g. scenes) the end brightness value is noted

– At the end of forced operation the brightness value tracked in the background is set. The channel returns to the state prior to forced operation

– The forced operation function has a higher priority than manual operation

1.1.19 UD/S4.315.2.11 LED Dimmer 4x315W > Parameter masters > Block and forced function		
Channel allocation	Enable forced operation	✓
+ Device settings	Format of the force object	○ 1 bit ● 2 bit
+ Scenes	Activating dimming at force	No change (disable)
	Deactivating dimming value at force	Current KNX status
– Parameter masters	Status after KNX return of voltage	Inactive
Basic settings		
Feedback and error messages	Enable communication object "Forced operation status"	☐
Block and forced function		

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ETS application

Parameter masters – Block and forced function

– The active forced operation, irrespective of whether triggered via a 1-bit or 2-bit activation, has an influence on the entire behavior of the channel. When forced operation is called up, the brightness value parameterized in the ETS is set. A currently running dimming telegram is interrupted

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– At the end of forced operation the brightness value tracked in the background is set. The channel returns to the state prior to forced operation.

– The forced operation function has a higher priority than manual operation

Value	Bit 1	Bit 0	Status	Descritpion
0	0	0	Free	If a telegram with value 0 (binary 00) or 1 (binary 01) is received on communication object forced operation, the channel is enabled and can be activated via the different communication objects.
1	0	1	Free	
2	1	0	Forced operation OFF	If a telegram with value 2 (binary 10) is received on communication object forced operation, the forced operation OFF channel is switched and blocked until the forced operation is deactivated again. As long as forced operation is active, the activation via a different communication object is ignored. Telegrams are tracked in the background and the final values are stored. After the forced operation is deactivated, the brightness value constantly tracked in the background is set.
3	1	1	Force ON	If a telegram with value 3 (binary 11) is received on communication object forced operation, the forced operation ON channel is switched with the parameterized brightness value and blocked until the forced operation is deactivated again. As long as forced operation is active, the activation via a different communication object is ignored. Telegrams are tracked in the background and the final values are stored. After the forced operation is deactivated, the brightness value constantly tracked in the background is set.

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Parameter masters – Faults

- This parameter window is used to specify how devices are to respond during certain malfunctions
- Settings for dimmer behavior in case of a fault
- Status of the dimmer after loss of KNX or mains voltage
- Status of the dimmer after return of voltage
- Automatic load test can be repeated
- Communication object for load test (can also be activated manual on the device)

1.1.19 UD/S4.315.2.11 LED Dimmer 4x315W > Parameter masters > Faults

Channel allocation	Dimming value during loss of KNX voltage — no change
+ Device settings	Dimming value at KNX return of voltage — As prior to failure
+ Scenes	Does not apply when forced/blockage is active at return of KNX voltage
– Parameter masters	Dimming value at return of mains voltage — Current KNX status
Basic settings	Does not apply when forced/blockage is active at return of KNX voltage
Feedback and error messages	Run through automatic load test at return of mains voltage ☐
Block and forced function	Enable communication object "Trigger load test" ☐
Faults	

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Parameter masters – Central objects

- The operating mode of the central objects "Switching", "Dimming" and "Value" are similar to the normal channel objects "Switching", "Dimming" and "Value"

- The difference is that central objects, such as broadcast objects, operate simultaneously the same on all channels

- Advantage: Less group address assignments, especially for multi channel devices

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Parameter masters – Correction of characteristic

– This function is used to correct the set values of problem systems with lamps which continue to exhibit an uneven dimming behavior in standard settings

– For lamps with a non-linear behavior

– The characteristic curve is measured ideally in a fully darkened room

– The dimmer automatically calculates the corrected set values from the recorded characteristic curve, so that a linear connection is re-established on the lamp between KNX set values and brightness

– Correction with lux values or direct value input (%)

1.1.19 UD/S4.315.2.11 LED Dimmer 4x315W > Parameter masters > Correction of characteristic	
Channel allocation	Use characteristic ☑
+ Device settings	Correction by ◉ Measured value (lux) ○ Direct value input (%)
+ Scenes	Number of correcting points 1
− Parameter masters	KNX dimming value 0% (OFF) 0 %
Basic settings	Measured lux value/sensor value at 0% (Offset correction) 0
Feedback and error messages	Correction point 1
Block and forced function	KNX dimming value 20 %
Faults	Measured lux value/sensor value 1000
Central objects	KNX dimming value 100% 100 %
Correction of characteristic	Measured lux value/sensor value at 100% 1000
Wake-up/sleep function	

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ETS application

Parameter masters – Correction of characteristic (lux)

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Parameter masters – Wake-up/Sleep function

– Wake-up function: slowly dimming up
  - Initial brightness can be set as current value or defined percentage
  - Target brightness (0,4% - 100%)
  - Time to reach target brightness (00:00:00 – 18:12:15 hh:mm:ss) can be adjusted via group object
  - Start/Stop via 1 bit telegram (DPT 1.010 start/stop)
– Sleep function: slowly dimming down
  - Initial brightness can be set as current value or defined percentage
  - Target brightness (0% - 100%)
  - Time to reach target brightness (00:00:00 – 18:12:15 hh:mm:ss) can be adjusted via group object
  - Start/Stop via 1 bit telegram (DPT 1.010 start/stop)

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ETS application

Parameter masters – Wake-up/Sleep function example

# ▲	Time	Serv	Fla	Pri	Source Add	Source Name	Destination	Destination Name	Rout	Type	DPT	Info
1	25.06.2020 11:19:50,362	fro...	L...		1.1.10	6127/02 c. elem., solo® comf. 4g...	1/1/5	A: Sleep function start/st...	6	GroupValueWrite		$01 | Start
2	25.06.2020 11:19:58,653	fro...	L...		1.1.10	6127/02 c. elem., solo® comf. 4g...	1/1/5	A: Sleep function start/st...	6	GroupValueWrite		$00 | Stop
3	25.06.2020 11:19:58,887	fro...	L...		1.1.21	UD/S2.315.2.11 LED Dimmer 2x31...	1/1/6	A: Brightness value status	6	GroupValueWrite	5.001 percentage.	$49 | 29 %
4	25.06.2020 11:20:02,467	fro...	L...		1.1.10	6127/02 c. elem., solo® comf. 4g...	1/1/5	A: Sleep function start/st...	6	GroupValueWrite		$01 | Start
5	25.06.2020 11:20:32,527	fro...	L...		1.1.21	UD/S2.315.2.11 LED Dimmer 2x31...	1/1/6	A: Brightness value status	6	GroupValueWrite	5.001 percentage...	$00 | 0 %
6	25.06.2020 11:20:46,202	fro...	L...		1.1.10	6127/02 c. elem., solo® comf. 4g...	1/1/1	A: Relative Dimming	6	GroupValueWrite		$09 | Increase, 100 %
7	25.06.2020 11:20:50,526	fro...	L...		1.1.21	UD/S2.315.2.11 LED Dimmer 2x31...	1/1/6	A: Brightness value status	6	GroupValueWrite	5.001 percentage...	$FF | 100 %
8	25.06.2020 11:20:50,823	fro...	L...		1.1.10	6127/02 c. elem., solo® comf. 4g...	1/1/1	A: Relative Dimming	6	GroupValueWrite		$08 | Increase, Break
9	25.06.2020 11:20:54,136	fro...	L...		1.1.10	6127/02 c. elem., solo® comf. 4g...	1/1/9	Time to reach target brig...	6	GroupValueWrite	7.005 time (s)	00 3C | 60 s
10	25.06.2020 11:20:57,222	fro...	L...		1.1.10	6127/02 c. elem., solo® comf. 4g...	1/1/5	A: Sleep function start/st...	6	GroupValueWrite		$01 | Start
11	25.06.2020 11:21:57,446	fro...	L...		1.1.21	UD/S2.315.2.11 LED Dimmer 2x31...	1/1/6	A: Brightness value status	6	GroupValueWrite	5.001 percentage...	$00 | 0 %

After manual stop, actual value is sent to the bus, if the feedback object is activated

Adjustment of the time to 60 sec.

New value is used by the dimmer

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ETS application

General functions

– 5 channels for logic functions
  - Telegram cyclical
  - Gate
  - Staircase lighting
  - Delay
  - Priority
  - Logic gate
  - Min/max value transducer
  - Threshold value / Hysteresis
  - Flashing

Application	Inactive ▼
	Inactive ✓
	Telegram cyclical
	Gate
	Staircase lighting
	Delay
	Priority
	Logic gate
	Min/max value transducer
	Threshold value / Hysteresis
	Flashing

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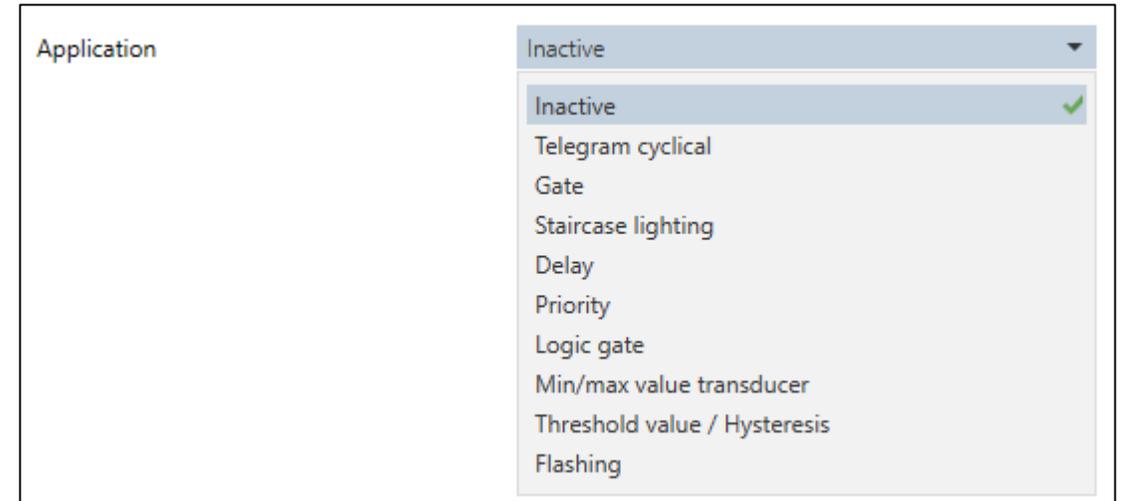
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ETS application

General functions – Telegram cyclical

– Telegrams that are received on object "GFx: Input" are transferred directly to object "GFx: Output" and there sent cyclic

– Object type and time can be adjusted

– Always activated or activated at a specific value (or except a specified value)

GF1: Input		Input	A: Switching	1/1/0	1 bit
GF1: Output		Output	Cyclical Sending	0/0/1	1 bit

06.07.2020 08:34:09,0...from bus	S=4	Low	1.1.21	UD/S2.315.2.11 LED Di...	0/0/1	Cyclical Sending	6	GroupValueWrite	$01	On
06.07.2020 08:34:10,3...from bus	S=6	Low	1.1.21	UD/S2.315.2.11 LED Di...	1/1/6	A: Brightness value status	6	GroupValueWrite	$FF	100 %
06.07.2020 08:34:34,1...from bus	S=0	Low	1.1.20	Master: SBC/U6.0 HVA...	9/3/0	CO2 value	6	GroupValueWrite	35 7E	899,84
06.07.2020 08:35:04,0...from bus	S=2	Low	1.1.21	UD/S2.315.2.11 LED Di...	0/0/1	Cyclical Sending	6	GroupValueWrite	$01	On

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ETS application

General functions – Gate

- The application allows specific signals to be filtered and the signal flow to be temporarily blocked

- The objects "GFx: input" and "GFx: output" can take on different sizes

- If, for example, the "Control input" setting is set on "ON telegram," only telegrams from the input are transmitted to the output

| GF1: Input | | Input | A: Switching | 1/1/0 | 1 bit |
| GF1: Output | | Output | Gate | 0/0/2 | 1 bit |

| 06.07.2020 08:44:35,... | from bus | S=7 | Low | 1.1.10 | 6127/02 c. elem., solo... | 1/1/0 | A: Switching | 6 | GroupValueWrite | $00 | Off |
| 06.07.2020 08:44:35,... | from bus | S=1 | Low | 1.1.21 | UD/S2.315.2.11 LED Di... | 0/0/2 | Gate | 6 | GroupValueWrite | $00 | Off |

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ETS application

General functions – Staircase lighting

– With the application, switching telegrams and value telegrams can be provided with a switch-off delay

– The objects "GFx: input" and "GFx: output" can take on size 1 bit or 1 byte, depending on the object type selected

– Input/Output can be separated or used with the same object

GF1: Input		Input	Staircase Lighting	0/0/3	1 bit
GF1: Light-on time		Input			2 bytes
GF1: Output		Output	Light 1	1/0/0	1 bit

06.07.2020 09:08:14,4...	from bus	S=7	Low	1.1.9	6127/02 c. elem., solo...	0/0/3	Staircase Lighting	6	GroupValueWrite	$01 | On
06.07.2020 09:08:14,4...	from bus	S=1	Low	1.1.21	UD/S2.315.2.11 LED Di...	1/0/0	Light 1	6	GroupValueWrite	$01 | On
06.07.2020 09:08:14,5...	from bus	S=3	Low	1.1.30	SA/S4.16.6.1 Switch Act...	1/5/0	Light 1	6	GroupValueWrite	$01 | On
06.07.2020 09:08:24,4...	from bus	S=5	Low	1.1.21	UD/S2.315.2.11 LED Di...	1/0/0	Light 1	6	GroupValueWrite	$00 | Off
06.07.2020 09:08:24,5...	from bus	S=7	Low	1.1.30	SA/S4.16.6.1 Switch Act...	1/5/0	Light 1	6	GroupValueWrite	$00 | Off

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ETS application

General functions – Delay

– The application can be used to receive telegrams via the "Input" object

– The telegrams received are sent out via the "Output" object with a set delay time

– Retriggering: The light-on time is always restarted when a telegram is received via the "GFx: Input" object

– Filter function: only specific values are delayed

Retriggering	◉ deactivated ○ activated
Filter active	○ deactivated ◉ activated
Filter function	Filter value is delayed, other values are sent directly ▾
Filter value	◉ off ○ on
Overwrite delay time for download	◉ deactivated ○ activated

06.07.2020 09:14:56,4...	from bus	S=1	Low	1.1.9	6127/02 c. elem., solo...	0/0/4	Delay	6	GroupValueWrite	$01	On
06.07.2020 09:14:56,4...	from bus	S=3	Low	1.1.21	UD/S2.315.2.11 LED Di...	1/0/0	Light 1	6	GroupValueWrite	$01	On
06.07.2020 09:14:56,5...	from bus	S=5	Low	1.1.30	SA/S4.16.6.1 Switch Act...	1/5/0	Light 1	6	GroupValueWrite	$01	On
06.07.2020 09:15:01,357	from bus	S=7	Low	1.1.9	6127/02 c. elem., solo...	0/0/4	Delay	6	GroupValueWrite	$00	Off
06.07.2020 09:15:06,3...	from bus	S=1	Low	1.1.21	UD/S2.315.2.11 LED Di...	1/0/0	Light 1	6	GroupValueWrite	$00	Off
06.07.2020 09:15:06,4...	from bus	S=3	Low	1.1.30	SA/S4.16.6.1 Switch Act...	1/5/0	Light 1	6	GroupValueWrite	$00	Off

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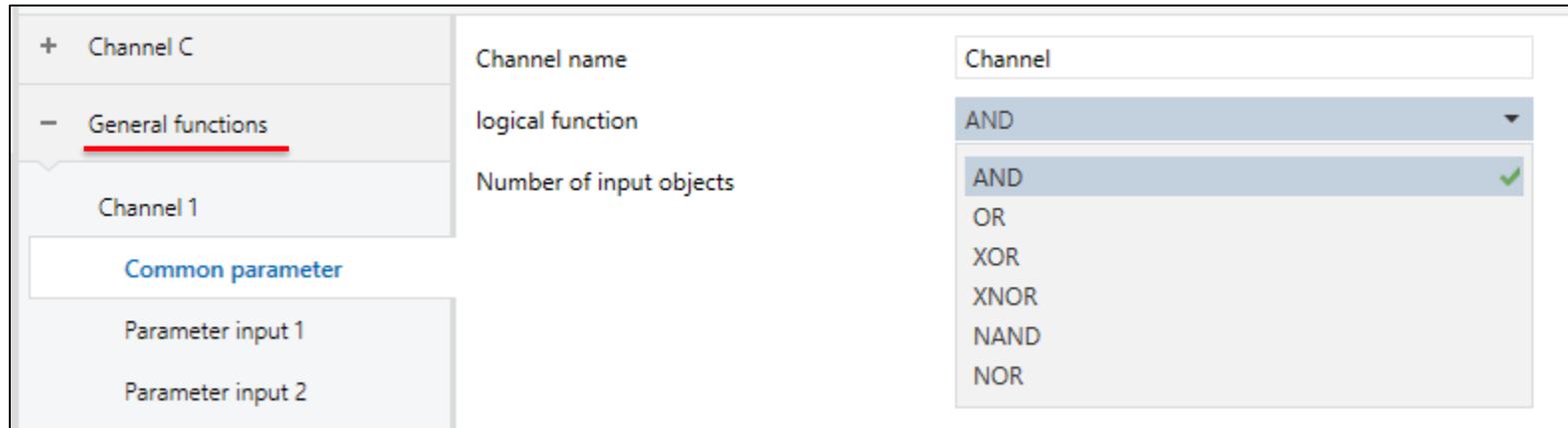
ETS application

General functions – Priority

– The application can be used to activate a forced guidance (priority) for switching outputs

– The telegrams received on "GFx: switch input" are transferred to object "GFx: output" depending on the state of the "GFx: priority input" object

– The 2-bit object "GFx: priority input" can receive and differentiate between four different values (0, 1, 2 and 3)

– Here, the "GFx: output" object is positively driven. Three different states are differentiated:

  • "GFx: priority input" has the value "3". The value that is present on "GFx: switch input" has no meaning. The "GFx: output" object is switched and has the value "1"

  • "GFx: priority input" has the value "2". The value that is present on "GFx: switch input" has no meaning. The "GFx: output" object is switched and has the value "0"

  • "GFx: priority input" has the value "1" or "0". The "GFx: output" object is not affected. The "GFx: switch input" is linked to the status bit of the priority object OR and transferred to the "GFx: output" object

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ETS application

General functions – Logic Gate

– Logic gate for sending an output depending on two or more inputs

– Up to 10 inputs can be used

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ETS application

General functions – Min/Max value transmitter

– For each assignment of the inputs the largest/smallest/average value will be sent to the bus
– Up to 8 inputs can be used

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ETS application

General functions – Threshold value / Hysteresis

– If input is exceeding the upper threshold (or is falling below the lower threshold) the values which are set up will be sent to the output

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ETS application

General functions – Flashing

– Activated with 1 bit object = "on"

– Number of flashing cycles can be limited

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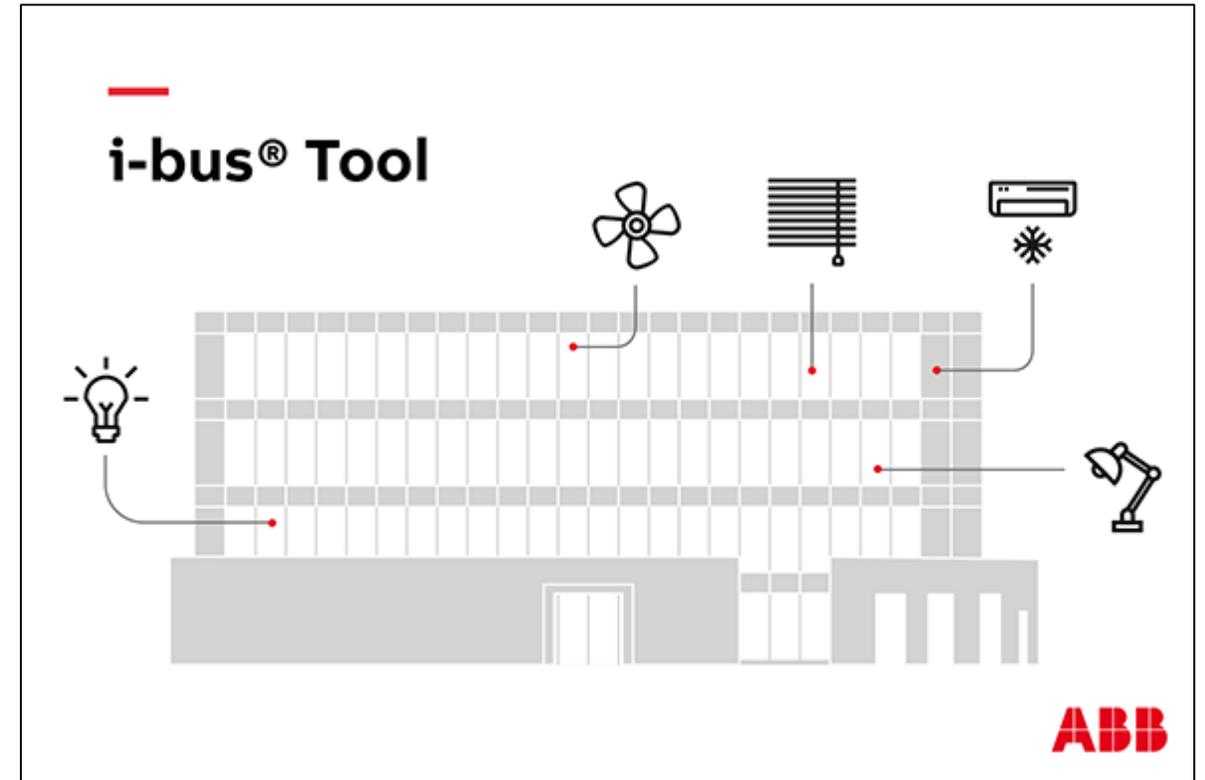# KNX LED Dimmer UD/S 2x315W/4x315W/6x315W, MDRC

ABB i-bus® Tool

Webinar "KNX LED Dimmer UD/S 2x315W/4x315W/6x315W"

ABB i-bus® Tool

Functions

– Overview of all channels
– Overview of the detected load type
– Information force lock
– Trigger load test and error acknowledge
– Detailed information about error types
– Recommended solution

i-bus® Tool

Webinar "KNX LED Dimmer UD/S 2x315W/4x315W/6x315W"

ABB i-bus® Tool

Overview

– The ABB i-bus® Tool can be used for extensive test and error diagnosis functions
– The overview page provides a comprehensive overview of the essential settings and statuses of the individual dimming channels


	Back	Home	Help	Select Configuration mode	Device type	0x4A14	Physical address	1.1.1
					Application	1.0	Device	UD/S4.210.2.1

	Channel	Load type in ETS	Load type detected	Brightness	Force lock	Error	Assigned outputs
Welcome	A	Auto detect	Inductive load (leading edge)	49% (123)	Inactive	🟥 Mains fault	A
	B	Auto detect	LED and RC load (falling edge)	11% (27)	Active	🟩 No error	B
Connect to device	C	Auto detect	Auto detect	33% (82)	Inactive	🟥 Overload	C

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ABB i-bus® Tool

Detail

– The detail page can be used by the user to set specific dimming values separately for each channel, and so record the limits of the dimming ranges for example

– Also a load test can be triggered or an error acknowledged

– Additional information about load types, a possible existing error or about a possible restricted guidance that has been set, the user can read in the "Status" overview block
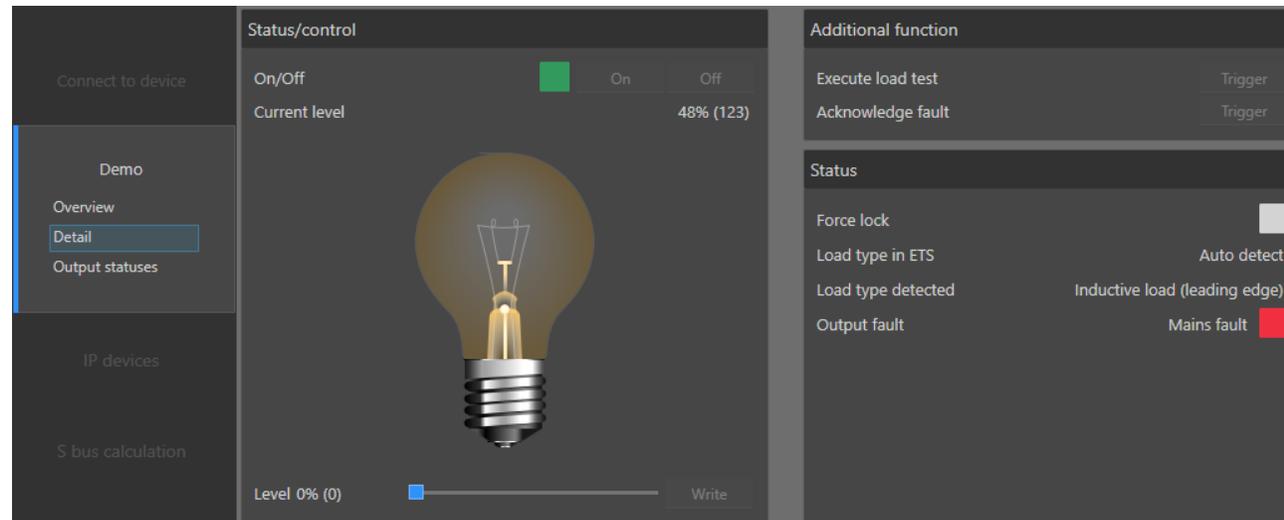
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ABB i-bus® Tool

Output statuses

- Detailed information about possible existing errors is provided channel-related on page "Status outputs"
- The physical outputs of the dimmers are portrayed in column "Output", while column "Channel" provides information about which channel the respective physical address is assigned to in the ETS
- This information is especially important for the bundling of channels
- This, for example, would allow output A and output B to be bundled, parameterized and controlled on the ETS side via channel A

Output	Error		Channel
A		Mains fault	A
B		Overtemperature	B
C		Shorted	C
D		No load	D
E		Overvoltage	F
F		Hard fault	F

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Overview errors

Errors	Recommended solution
Excess temperature	Reduce connected loads, provide sufficient cooling and increase the distance to adjacent devices.
Short-circuit	Check the wiring and rectify the short-circuit.
No load	Check the wiring and lamps.
Overvoltage	Check the wiring, supply voltage and parameterized load type.
Final stage defective	Switch the voltage off and on again. If the error persists, exchange the device.
230 V failure	Check the supply voltage.
Load failure	Check wiring and lamps and, if necessary, replace defective lamps.
Mains failure	Check the supply voltage.
Overload	Reduce the connected load.
Conflict of load type	The load type detected by the dimmer did not correspond to the load set in the ETS. The dimmer automatically adjusted the load type to prevent possible damage.
Internal error	Disconnect the bus and supply voltage from the device and reconnect it again.

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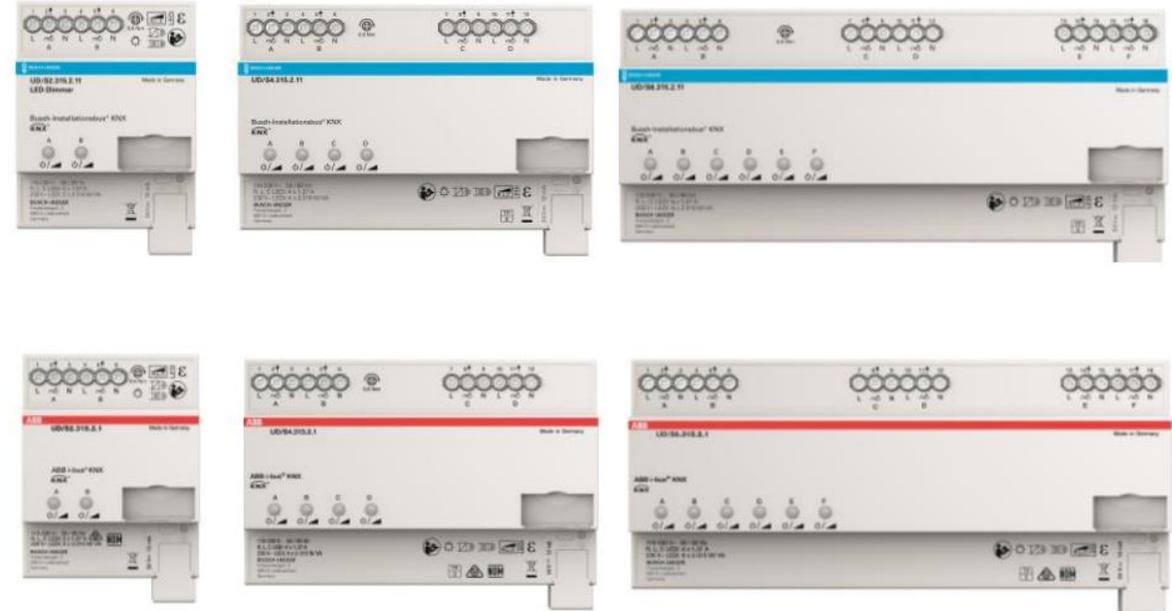# KNX LED Dimmer UD/S 2x315W/4x315W/6x315W, MDRC

Commercial and technical data

Webinar "KNX LED Dimmer UD/S 2x315W/4x315W/6x315W"

Commercial data

Overview

Article No.	Order No.	Name	Version
UD/S2.315.2.11	2CKA006197A0052	LED-Dim actuator 2x315W	BJE
UD/S2.315.2.1	2CKA006197A0053	LED-Dim actuator 2x315W	ABB
UD/S4.315.2.11	2CKA006197A0056	LED-Dim actuator 4x315W	BJE
UD/S4.315.2.1	2CKA006197A0057	LED-Dim actuator 4x315W	ABB
UD/S6.315.2.11	2CKA006197A0060	LED-Dim actuator 6x315W	BJE
UD/S6.315.2.1	2CKA006197A0061	LED-Dim actuator 6x315W	ABB

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Technical data

www.abb.com/KNX

→ Products and Downloads
      → Lighting Control
            → Universal Dim Actuators

– Product Manual

– Installation and Operating Instructions

– ETS Application

– EU - Declaration of Conformity
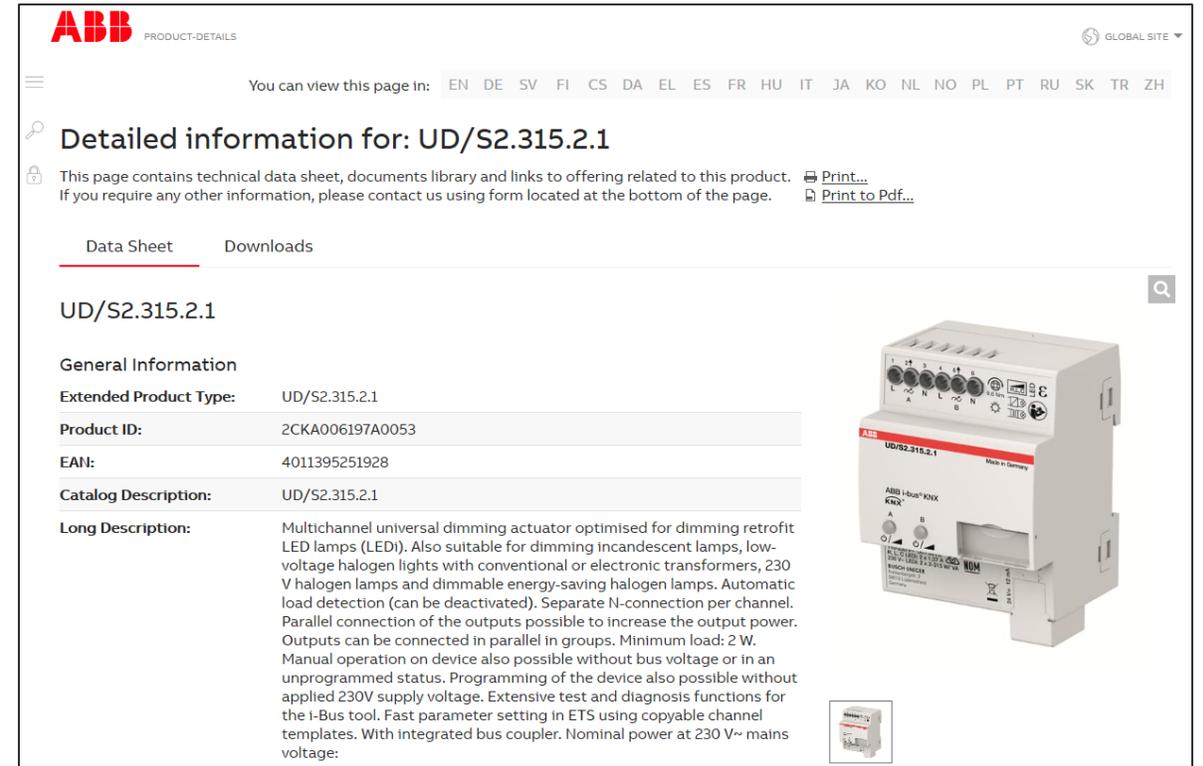
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ABB PRODUCT-DETAILS

GLOBAL SITE ▾

You can view this page in: EN DE SV FI CS DA EL ES FR HU IT JA KO NL NO PL PT RU SK TR ZH

Detailed information for: UD/S2.315.2.1

This page contains technical data sheet, documents library and links to offering related to this product. Print...
If you require any other information, please contact us using form located at the bottom of the page. Print to Pdf...

Data Sheet   Downloads

UD/S2.315.2.1

General Information

Extended Product Type:	UD/S2.315.2.1
Product ID:	2CKA006197A0053
EAN:	4011395251928
Catalog Description:	UD/S2.315.2.1
Long Description:	Multichannel universal dimming actuator optimised for dimming retrofit LED lamps (LEDi). Also suitable for dimming incandescent lamps, low-voltage halogen lights with conventional or electronic transformers, 230 V halogen lamps and dimmable energy-saving halogen lamps. Automatic load detection (can be deactivated). Separate N-connection per channel. Parallel connection of the outputs possible to increase the output power. Outputs can be connected in parallel in groups. Minimum load: 2 W. Manual operation on device also possible without bus voltage or in an unprogrammed status. Programming of the device also possible without applied 230V supply voltage. Extensive test and diagnosis functions for the i-Bus tool. Fast parameter setting in ETS using copyable channel templates. With integrated bus coupler. Nominal power at 230 V~ mains voltage:

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Training Material

Training & Qualification Database

– The database contains extensive training content

- Presentations
- Video tutorials
- Webinar slides and videos
- and more …
- https://go.abb/ba-training
- ww.abb.com/knx (→ Services & Tools → Training and Qualification → Training Database)

YouTube

– Channel "ABB Home and Building Automation"

- https://www.youtube.com/user/ABBibusKNX

Training and Qualification

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Training & Qualification Calendar

In addition to the online modules and the traditional training programs offered by your local ABB sales team, we offer a variety of on-site trainings conducted by our specialists at different ABB training facilities

In this Training & Qualification Calendar you can find the educational events that are taking place during 2020

If you are interested in a training please click the training und you will be forwarded to register in "ABB MyLearning"

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→ Services & Tools

   → Training and Qualification

      → Training Calendar

Training and Qualification

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