Master the art of lighting for homes and commercial buildings

SpaceLogic C-Bus
Digital Dimmers

Features

The SpaceLogic C-Bus Digital Dimmers are new-generation lighting control dimmers from the SpaceLogic C-Bus home and building automation system that allow full customisation for elegant control of dimmable LED lights and other light sources.

- Compact: Up to 8 independent channels in 12 modules of size
- Trailing edge/Leading edge (manually selectable dimming technology mode per channel)
- Fully customisable dimmer channel load profiles and dimming curves unique to each channel
- Switchable, in-built C-Bus power supply (200 mA)
- Advanced diagnostic and status information
- Protections against fault conditions per channel
- Phase-independent dimming banks

Benefits

- Highly customizable, elegant dimming that is maximizing energy efficiency and comfort

- Robustness with advanced protection and diagnosis for longevity

- Flexibility, phase independent banks allowing for essential and non essential circuits

- Backward compatible to C-Bus systems for simplicity of installation and engineering efficiency

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Elevate spaces with elegant dimming

SpaceLogic C-Bus Digital Dimmers elevate spaces creating experiences and versatility both in residential and commercial spaces. Discover a whole new level of ambiance and versatility with the SpaceLogic C-Bus digital dimmers.
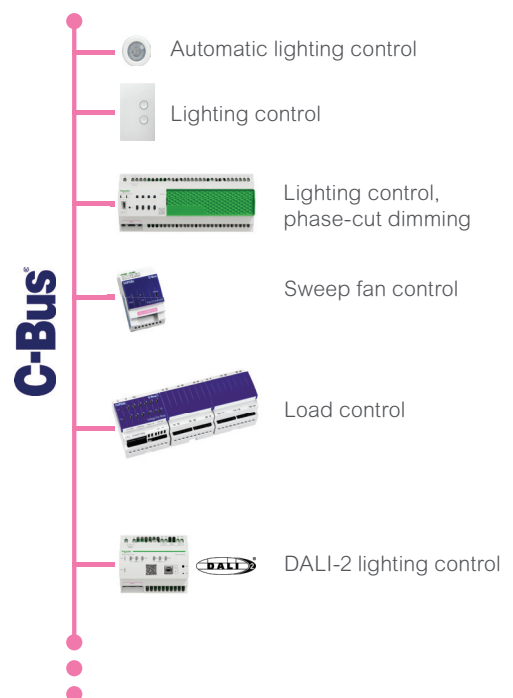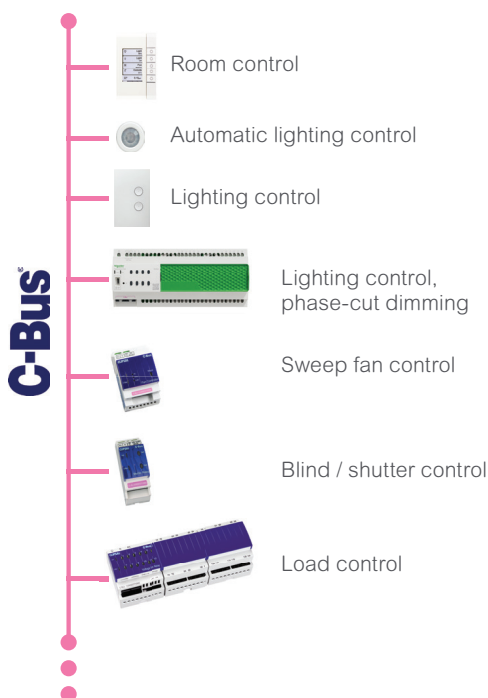

Residential Spaces

- Set the stage for a quiet and restful night's sleep or refreshing mornings
- Seamlessly switch between an energetic start to the day or time for quiet reflection
- An ambiance for every occasion at home, whether relaxation or entertainment

Commercial Spaces

- Achieve the lighting environment to suit different activities, moods, or occasions, enhancing comfort and well-being
- Enhance customer experience and brand image with dynamic lighting effects and save energy
- Create the ambience for workspaces that are inviting with sustained lighting levels (works with dimming and light level harvesting to maintain light level)

C-Bus (Residential)

- Room control
- Automatic lighting control
- Lighting control
- Lighting control, phase-cut dimming
- Sweep fan control
- Blind / shutter control
- Load control

C-Bus (Commercial)

- Automatic lighting control
- Lighting control
- Lighting control, phase-cut dimming
- Sweep fan control
- Load control
- DALI-2 lighting control

Discover new digital dimmers

SpaceLogic C-Bus Digital Dimmers elevate spaces creating experiences and versatility both in residential and commercial spaces.

Simplicity in Selection:

The digital dimmers come in 2 models to support your lighting control project design with ease

5508D1D | 8 Channel 1 A   **5504D2D** | 4 Channel 2 A
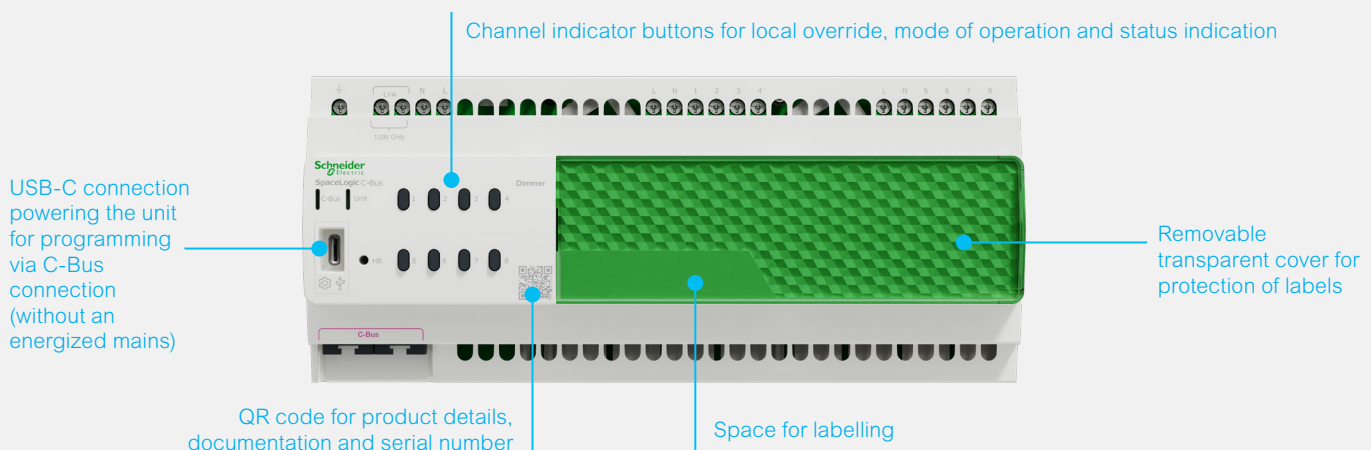
Backwards Compatibility

We believe in continuous product improvement and evolution to meet the needs of our customers. However, as our products evolve, we understand that backward compatibility is also essential for our customers. That is why C-Bus systems are second to none, as they continue to develop yet always remain fully compatible with existing products and ranges. Thus, ensuring our customers' investment now and long into the future.

- New dimmer can replace existing dimmers easily and bring additional features and functionalities
- New dimmers can co-exist along existing dimmers
- New dimmers can be used in any C-Bus installation with any model of C-Bus control devices

Configuration and Commissioning:

The SpaceLogic C-Bus Commission software is required to enable the configuration of the new dimmer which also brings efficiencies in addition:

- Support **conversion from existing dimmers** to simplify the process for existing site upgrades
- Faster commissioning with **background deployment**
- Rapid assignment of saved customised load profiles and dimming curves
- Creation of your own library of custom load profiles and dimming curves for use in any project application
- Single central project folder for all project assets
- Customisable workspace layout for efficient programming and deployment

SpaceLogic C-Bus Commission
Version 1.0

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Channel indicator buttons for local override, mode of operation and status indication

USB-C connection powering the unit for programming via C-Bus connection (without an energized mains)

Removable transparent cover for protection of labels

QR code for product details, documentation and serial number

Space for labelling

Highly customizable, elegant dimming maximizing energy efficiency and comfort

Discover a whole new level of ambiance and versatility with the SpaceLogic C-Bus digital dimmers

Elegant Dimming with Virtual Zero Crossing Technology (patent pending)

The Virtual zero crossing technology (patent pending) ensures enhanced stability in lighting control, help achieving

- Smooth dimming experience
- Wider dimming range, enabling dimmer to operate evenly at a very low and very high-level brightness

Trailing Edge vs Leading Edge

By default, all dimmer channels are set to Trailing Edge mode by default. The dimmer enables selecting the dimming mode per channel, Trailing edge (TE), or Leading edge (LE) compatible with the load changed via the front panel and/or the SpaceLogic C-Bus Commission software. The dimmer channel will report "load incompatible" if set to the wrong mode for the attached load.

Repository for Custom Load Profiles and Curves

SpaceLogic C-Bus Commission enables creation, usage and sharing of endless custom load profiles and dimming curves. Once created and saved to software folder these custom profiles can be reused by loading from the software C-Bus projects to achieve a pleasing experience each time. The custom profile files can be shared amongst team members or wider community to benefit from the efficiency.

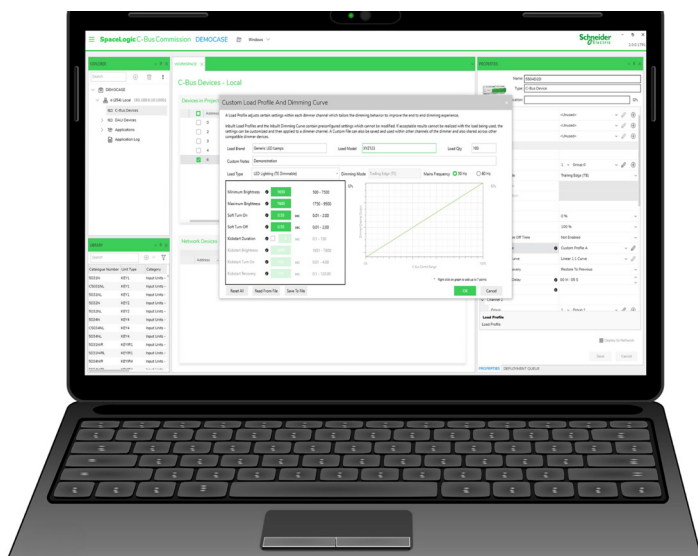### Custom Dimmer Channel Load Profiles:

If inbuilt default dimming load profile has room for improvement to achieve desired outcome, then the following settings can be adjusted per channel:

- Minimum and Maximum brightness (the minimum brightness level where the load can operate or can be visibly on and the maximum brightness where the load exhibits no further change in brightness)
- Soft turn-ON and turn-OFF for adjusting the channel behaviour soft (slow) or hard(fast) when turned instantly ON/OFF.
- If required, the load can be provided a stronger kickstart to ensure it comes on without flicker or delay. The below settings can be adjusted for kick-start:
  - The duration of time the load stays at the kick-start level before returning to minimum brightness can be defined
  - The speed at which the load will return to its minimum after the defined duration can be defined
  - The speed at which the kickstart level is applied can be defined as hard (fast) and Soft (slow)
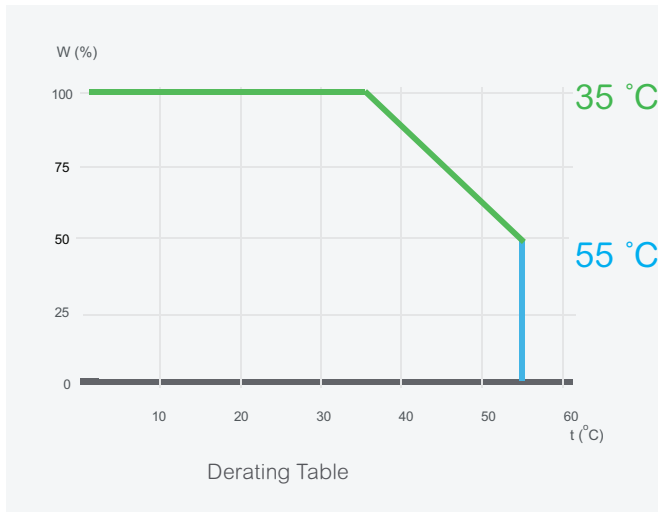
Custom Dimming Curves

If inbuilt 1:1 linear dimming curve has room for improvement to achieve desired outcome, you can modify and create custom dimming curves per channel to ensure a smooth and seamless dimming experience. Numerous dimming curves can be created and stored for reuse in different projects.

- A unique dimming curve can be assigned to each channel, allowing for all combinations of lamp profiles to be matched with the designed dimming curves

Adaptable to diverse environments

SpaceLogic C-Bus Digital Dimmers elevate spaces, creating experiences and versatility both in residential and commercial spaces.

Derating Table

Operating Temperature and Derating:

During operation with rated load on all channels totaling 8 amps, and with the unit installed in an environment maintained at the rated operating temperature, the internal components are maintained at temperatures that helps in long-term reliability.
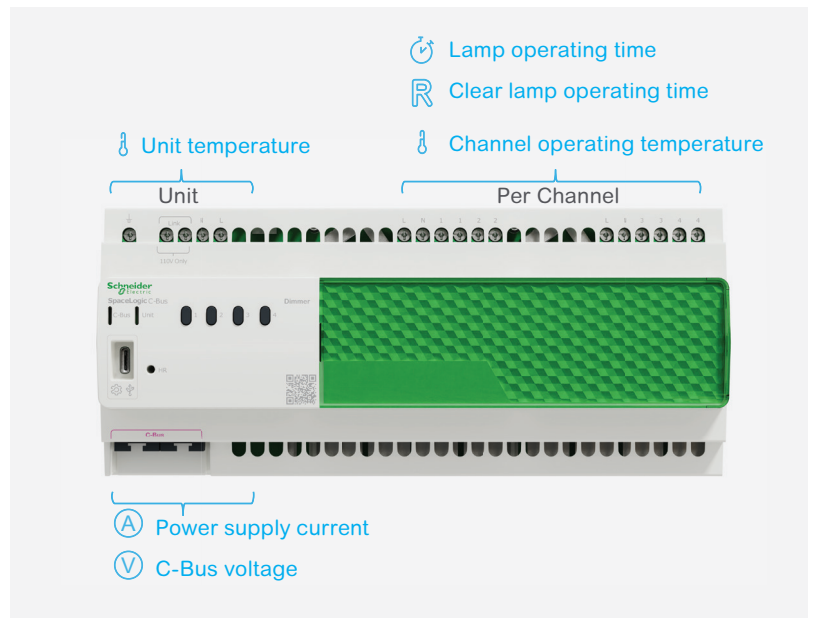
As a result, there is a trade-off between the dimmer units total rated load and rated operating temperature. The rated load of 8 amps is at 100 % with the temperature of the operating environment equal or below 35 °C, and is reduced linearly according to the table to a maximum operating temperature of 55 °C where the total dimmer load of 4 amps, 50 % is sustained.

The operating calorific values and the heat load must be considered when designing the distribution board, in order to maintain the operating environment within the rated operating temperature range.

Advanced Protection and Status Information:

To maximise its life span, dimmers incorporate several protection features, for early diagnosis of adverse environmental factors. Operational environment conditions and status information can be relayed to integrators via the SpaceLogic C-Bus Commission software and via the C-Bus error reporting and measurement applications (if enabled).

- Thermal wind-back and recovery
- Over temperature protection
- Over current protection
- Mode error
- Incompatible load

Technical Specifications

Dimmers Comparison

Main		
Commercial Reference	**5508D1D**	**5504D2D**
Product Images		

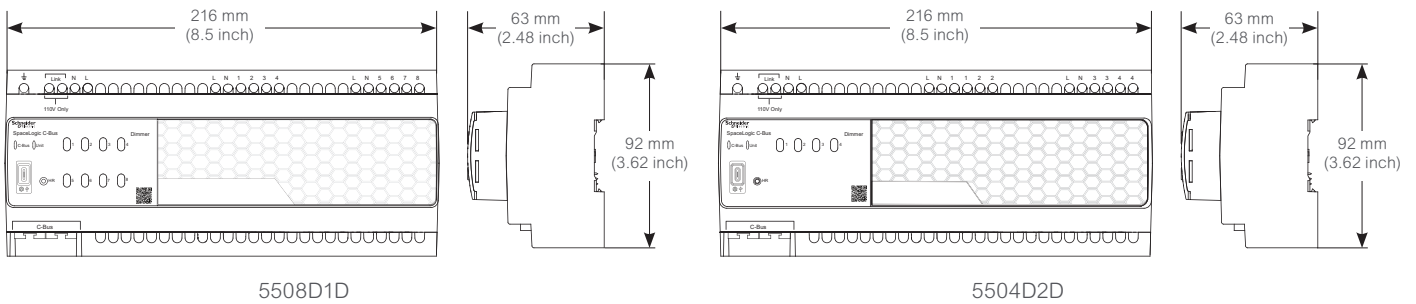| Characteristics		
General		
Description	Dimmer, SpaceLogic C-Bus, selectable trailing edge/leading edge dimming technology, 110/230V AC, 8 channel, 1 A, inbuilt switchable C-Bus power supply	Dimmer, SpaceLogic C-Bus, selectable trailing edge/leading edge dimming technology, 110/230V AC, 4 channel, 2 A, inbuilt switchable C-Bus power supply
Nominal voltage and frequency	• 230 V AC ±10 %, 50 Hz ±3 Hz • 110 V AC ±10 %, 60 Hz ±3 Hz	
Number of channels	8	4
Total output	8 A	
Load rating	up to 1 A per channel	up to 2 A per channel
Configuration	• with indicator buttons • with the SpaceLogic C-Bus Commission Software	
Dimming Functions		
Dimmer technology	Trailing edge or Leading-edge phase control (manually and software settable per channel)	
Incoming supply for dimming channels	Phase independence per bank of 4 channels	Phase independence per bank of 2 channels
Minimum/maximum dimming thresholds	Individually configured for each channel	
Warn before OFF	If enabled; time and level are individually configured for each channel	
Programmable power recovery	Power recovery and power on delay individual setting for each channel	
Load profile	Configured for each channel from: • Preconfigured inbuilt load profile (TE/LE) • 4 custom-configured load profiles	
Load profile customisation	Configured for each custom profile: • Minimum/Maximum brightness • Soft Turn ON/OFF • Kickstart duration, brightness, turn ON, recovery	
Dimming curve	Configured for each channel from: • Preconfigured inbuilt dimming curve • 4 custom configured dimming curves	
Dimming curve customisation	For each custom curve: • Total 9 (7 user defined) points to customise the dimming curve	
Compatible loads	• Dimmable LED lamps and luminaires • Incandescent/ halogen lamps • Halogen lamps with electronic transformers • Halogen lamps with dimmable iron core transformers	
C-Bus Functions		
C-Bus power supply	Inbuilt switchable	
C-Bus input operating voltage	20 - 36 V DC	
C-Bus input operating current	20 mA	
C-Bus power supply (if enabled)	200 mA at 27-35 V DC	
C-Bus applications	4 lighting application groups	

Main				
Commercial Reference			**5508D1D**	**5504D2D**
Characteristics				
Logic groups			4 logic groups with min. / max. type individually set for each channel	
Firmware update			Firmware updatable via SpaceLogic C-Bus Commission	
Global C-Bus configurations			• C-Bus clock enable • Disable via SpaceLogic C-Bus Commission: • Local toggle, dimmer mode change, C-Bus power supply toggle, C-Bus priority, clock generator toggle	
Control				
Supported protocols			C-Bus	
Operation			• Via bus • Remote override (ON/OFF) • Local override (ON/OFF)	
Protection and Diagnosis				
Over voltage protection			Yes	
Over current protection			Individual for each channel	
Over temperature			For unit and individual for each channel	
Thermal wind-back in case of over temperature			Individual for each channel	
Incompatible load detection			Individual for each channel	
Status information for device			• C-Bus clock active • C-Bus voltage • C-Bus power supply load and output voltage • Load power • Unit temperature	
Status information for each channel			• Load incompatible • Dimming mode • Offline • Dimming mode error • Temperature wind-back • Temperature shut-down • Over current	
Heat load generated by the dimmer (calorific values) BTU/h	At maximum load	C-Bus power supply enabled	74.4	74.4
		C-Bus power supply disabled	65.9	65.8
	At minimum load	C-Bus power supply enabled	19.8	16.4
		C-Bus power supply disabled	11.3	7.8
Physical and Wiring				
Dimensions (W × H × D)			216 × 92 × 63 mm (8.5 × 3.62 × 2.48 inches)	
Device width (18 mm per module)			12 M width on DIN rail	
Gross weight			844 gr	783 gr
Mounting			Horizontal on DIN rail, type DN EN 50022 TS 35	
Connectors			• Mains connections: 5 × screw terminals accommodating up to 2 × twisted 2.5 mm^2 cables (2 × 110 V wire link connection, earth, neutral, active) • Load connections: 2 × 6 terminals screw terminals accommodating up to 2 × twisted 2.5 mm^2 cables • C-Bus: 2 × RJ-45 • Firmware update via USB-C	

Main		
Commercial Reference	**5508D1D**	**5504D2D**
Characteristics		
Phase independent wiring	Phase-independent wiring between • power supply connection • 2 banks of 4 channels	Phase independent wiring between • power supply connection • 2 banks of 2 channels
Environmental		
Operating temperature	-5 °C to +55 °C with derating	
Storage / transport temperature	-20 °C to +60 °C	
Relative humidity	10 % to 93 % non-condensing	
Compliance		
Product compliance	CE, RCM, UKCA REACh, RoHS, Green Premium	

5508D1D

5504D2D

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