

Tomorrow's aspirations.



## Busch-Dimmer® MDRC

Technical Information  
[www.busch-jaeger.com](http://www.busch-jaeger.com)

**ABB**

Delivered today.

For 40 years, Busch-Jaeger has manufactured dimmers for individual brightness control in private and commercial applications.

Busch-Dimmers reduce energy costs because they only supply utilized lamps with the power that they actually need. Also, they prolong the life of the connected bulbs: Even if the voltage supply is also reduced by just 5%, the life of incandescent lamps is doubled. Maintenance cycles, which are especially expensive for architectural lighting applications, are also reduced.

Busch-Dimmers as MDRCs are cross-standard items and thus can be used worldwide without restriction. Busch-Dimmers with rotary operation can be integrated into 2-way circuits.

For push-button controlled dimmers a common push-to-close switch can be used to switch and dim. Therefore as many push switches can be linked to each other – provided that a maximum wire length of 100 m is not exceeded.

The phase section principle is a solution using semiconductor components. The triac is controlled via a trigger diode which works as an electronic valve. According to the phase

sectional angle, the phase voltage is cut in the positive as well as in the negative half wave of the sinusoidal voltage. In this way, the mean value of the voltage is reduced or increased according to the phase sectional angle. This means that the light is switched on or off by the dimmer for a certain period depending on the adjusted brightness level. This process takes place 100 (120) times a second and is therefore imperceptible to the human eye. The phase section principle can be used to dim incandescent and 230 V halogen lamps and low voltage halogen lamps with conventional (wire wound) transformer. The Busch-Dimmers 2247, 2250 and 6560 utilize this principle.

The phase cut principle is used for special dimmers. The heart of this dimmer technology is no longer the triac but a high performing switching transistor. The phase cut principle can be used to dim incandescent and 230 V halogen lamps and low voltage halogen lamps with electronic transformers. Busch-Dimmer® 6513 operates according to this principle.

The electrician can find various dimmers available for different kinds of luminaries that may be installed. Often, lighting fixtures are replaced and in order to do this the dimmer needs to be changed as well. Or, the customer has not yet decided upon a lighting fixture but the electrician must decide on a dimmer because of installation requirements. For these fields of application Busch-Jaeger recommends the use of Universal Dimmers. The intelligent Busch-Universal-Dimmer® is able to detect the type of connected load when initially switched on. It will automatically decide if the operation should be of the phase sectional or phase cut principle. Thus, the customer can easily change the type of luminaries or increase the capacity later on without the need to exchange the dimmer. With this in mind the installer requires only one dimmer for all various types of load in private and commercial applications. In addition, all universal dimmers are virtually hum free and protected against short circuits and overloads – without the need to

change fuses. Integrate current limiters ensure a high degree of safety even if the strain on the transformer reaches the maximum capacity of the dimmer (derating of transformers must be considered).



Busch-Dimmer®  
rotary type  
phase section  
6513-102-500



230 V~, 50 Hz  
40–420 W/VA  
Width: 3 modules

- For incandescent lamps, 230 V halogen lamps and low-voltage halogen lamps with Busch electronic transformers
- Low-noise
- Short-circuit-proof
- Overload protected
- Switchable via 2 way switch

Busch-Dimmer®  
rotary type  
phase section  
2250 KB-500



230 V~, 50/60 Hz  
60–500 W/VA  
Width: 3 modules

- For incandescent lamps and 230V halogen lamps
- Switchable via 2 way switch

Busch-Dimmer®  
rotary type  
phase section  
2247-500



230 V~, 50/60 Hz  
20–500 W/VA  
Width: 3 modules

- For incandescent lamps, 230 V halogen lamps and low-voltage halogen lamps with Busch electronic transformers
- Parallel operation of multiple transformers and/or incandescent lamps possible
- Switchable via 2 way switch

Busch Electronic  
Potentiometer  
rotary type  
2112-101-500



230 V~, 50/60 Hz  
0/1 – 10 V DC  
50 mA DC max.  
Width: 3 modules

- For electronic ballasts (ECG) and fluorescent lamps with control input

Busch Memory Touch-  
type controller  
Integrated making cur-  
rent limiter 6550-500



230 V~, 50 Hz  
0/1 – 10 V DC  
50 mA DC max.  
Width: 2 modules

- For electronic ballasts (ECG) and fluorescent lamps with control input
- Controllable via push-to-close switch
- Integrated Softstart
- Light level memory

Busch Memory Touch-  
type Dimmer  
Phase section  
6560



230 V~, 50/60 Hz  
20–500 W/VA  
Width: 3 modules

- Light level memory
- Controllable via push-to-close switch



Busch-Universal-Dimmer® Master  
6593-102



230 V~, 50/60 Hz  
60–500 W/VA  
Width: 2 modules

6593-102-127  
127 V~, 60 Hz  
60–250 W/VA  
Width: 2 modules

- For incandescent lamps, high-voltage halogen lamps and low-voltage halogen lamps with conventional or electronic transformers
- Low-noise
- Short-circuit-proof
- Overload protected
- Integrated Making Current limiter
- Overheat protection
- Controllable via push-to-close switch or Control Unit
- Light Level Memory
- Integrated Softstart
- Soft OFF
- Universal operation

Busch-Universal-Dimmer®  
Capacity booster  
6594-102



230 V~, 50/60 Hz  
200–420 W/VA  
Width: 2 modules

6594-102-127  
127 V~, 60 Hz  
100–210 W/VA  
Width: 2 modules

Capacity booster for Busch-Universal-Dimmer® Master 6593-10x for higher load capacity maximum 6 slave units for each master unit Minimum load is associated with 6593-10x

Control Unit  
6597



Control unit for Busch Universal-Central-Dimmer 6593-10x  
230 V~, 50/60 Hz  
Power consumption:  
< 1.5 W  
Control inputs:  
230 V~, 50/60 Hz  
Max. length: 100 m

- Separate control of up to 9 master dimmers per group
- Synchronisation to one group possible
- Up to 6 Control Units can be Consolidated with an additional Control Unit
- Controllable via signal 0/1-10 V or 0-20 mA possible
- Soft ON
- Soft OFF
- Switch-off delay (3 min), e.g. for stairness, long corridors
- Vacation mode (repetition of switching activity from the previous 24-hour period)
- Cleaning light (preset brightness value)
- Analogue switch
- Test/Reset

Brightness Sensor  
6598



Control Voltage:  
1-10 V  
Control current:  
10 mA max.  
Control range:  
100-1000 lx  
Protection type: IP 20  
Connection wire: 2x wire 75 cm, can be extended without restriction

- Brightness Sensor for control of Control Unit 6597
- Supply takes place via Control Unit 6597
- To measure the brightness level above the position of installation
- For constant brightness control

A member  
of the ABB Group

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Busch-Jaeger products are available at your electrical specialist