



Product and planning brochure

# Busch-priOn® Busch-ComfortTouch®

## The new generation of intelligent home control

The ABB i-bus® KNX is the basis which makes holistic control of building technology possible. All information, including switching and control commands, is transmitted via a data bus, which can be compared to a computer network. Here, the individual elements can be connected through a special bus line (twisted pair). With a fingertip, it is possible to set whole scenes with lighting, music, heating and other functions. Subsequent changes can be made thanks to easy reprogramming.

**Busch-priOn®**



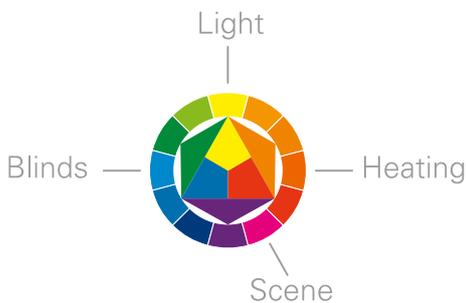
**Busch-ComfortTouch®**



# An operating concept that is fun

Using the computer or the mobile phone, we get up-to-date information whenever we want it. The on-board computer in a car informs us at all times about current consumption or the outside temperature. Our navigation device receives current traffic information automatically and reacts accordingly for route planning. We appreciate all of this and we would not want to be without these things once we have them. Only in buildings do we often settle for a minimum of comfort and control. The cause of this is

frequently the users' fear of not being able to cope with the operation of such technologies. Busch-Jaeger is now offering a completely new concept, thanks to which such concerns are finally a thing of the past. It is as easy as it is powerful and it maps all building technologies from heating to multimedia in a single user menu. Busch-priOn® and the new Busch-ComfortTouch® – the new generation of home controls make operation as easy as child's play.



The new operating concept distinguishes itself through its clarity and user-friendliness. Operating fields follow a colour concept developed especially for this purpose; each comfort zone is assigned a special, logically-selected colour:

The colours of intuition

- Light control is yellow, like the sun
- Functions of the blinds are blue, like the sky
- Climate functions are orange, representing warmth
- Living scenes are magenta, representing an awareness of life





The Busch-ComfortTouch® unites the functions of a home control and an information and entertainment centre on a single screen. Using the colour display, it is possible to switch on or dim lights in the entire building, control the blinds or regulate the temperature or scenes using a combination of the functions mentioned above – even using a remote control. The user menu can be customized to suit individual user needs, and thanks to a floor plan or photos, designed so that it is especially clear.



Busch-priOn® was designed to control a room and enables the control of a variety of functions, from temperature regulation on through to setting an alarm clock. Especially user-friendly: the display is switched on only at the touch of a button – if it is inactive, Busch-priOn® acts like a standard switch and triggers a previously-programmed primary function when it is touched. This makes operation easy even for guests.



# Busch-priOn®

Control elements were never like this. The new 8,9 cm (3,5") TFT display is as beautiful as it is powerful; it is an informative component of an in-wall combination. Its menu can be adapted individually to any building, and it provides an overview of the power consumption of electrical devices at all times. Here you can regulate the heat, dim the light or call up many scenes which trigger a multitude of previously-defined actions in a

jiffy. Meaningful icons guide even inexperienced users to their goal in just a few steps. Thanks to the division of the functions into individual areas such as lighting, heating and blinds, every user can find his way here intuitively. However, the possibilities of the Busch-priOn® are not exhausted with the functions of classic building technology. The display can also be used for music control.



reddot design award  
best of the best 2008

As special award for „best of the best,“ Busch-priOn® received the 2008 red dot communication design award for its interface.

# Innovative and intuitive

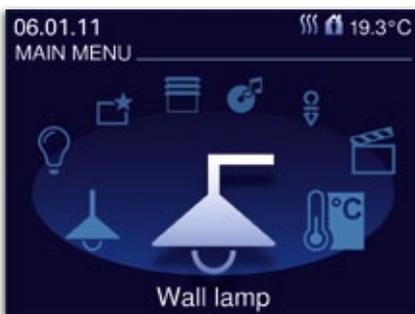
The combination of push button/rotary knob and display presents a universal operating concept. The definition of a primary function makes usage especially easy. The primary function is displayed when somebody approaches the display (there is a special proximity sensor for this) or if somebody touches the rotary knob. In principle, any switching, dimming, blind, scene or sequence function which is stored in the device can be specified as the primary function. Only if the menu button is pressed does the display change to the circuit menu. Here, up to 8 entries can be indicated by an icon. By turning the push-button/rotary knob, the user can bring the desired function into the foreground. A text corresponding to the icon currently displayed appears (e.g. system settings, room control: office, room control: living room), etc. By pressing the **↵**, the display changes to reflect the respective list menu, which can contain up to 15 different functions. The user can scroll through these functions by pressing the **↑**. The function in question is selected with a press of the **↵**.

## Note 1:

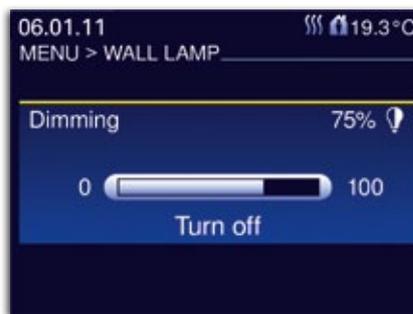
If the display is in screen-saver mode or in stand-by, the primary function is only called up if the user approaches the device (only possible thanks to an end strip with proximity sensor) or if the device is touched. The circuit menu appears only after the menu button has been pressed.

## Note 2:

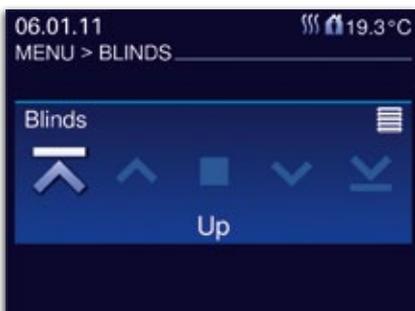
The display can display messages such as "Alarm." If the menu button is pressed or there are several messages in the queue, these messages are displayed before the circuit menu appears.



Lighting



Lighting



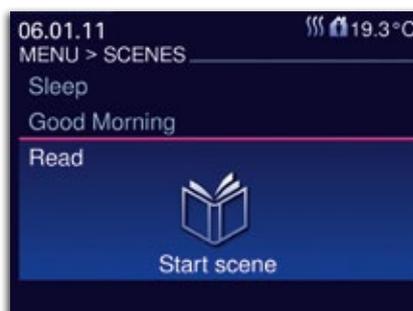
Blinds



Music control



Heating



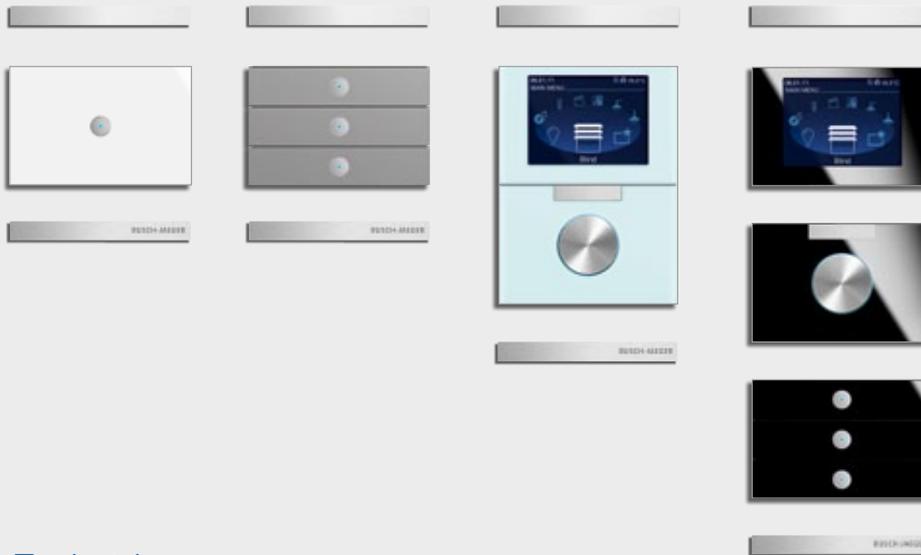
Scenes

# Frame-free variety

Furthermore, individuality characterises the Busch-priOn® not just when it comes to the programming of the individual buttons: the combination of Busch-priOn® control elements could hardly be more flexible. For Busch-priOn® is not bound to a frame – instead, up to 3 individual elements are fixed on a carrier and, at the end, provided with end strips above and

below. There are four choices of finish for the control elements: studio white, glass white, glass black and stainless steel. Most of the end strips are also available in these colour variants. For the display (style sheets), there are three choices: black, blue and silver.

## Modular concept



## End strips

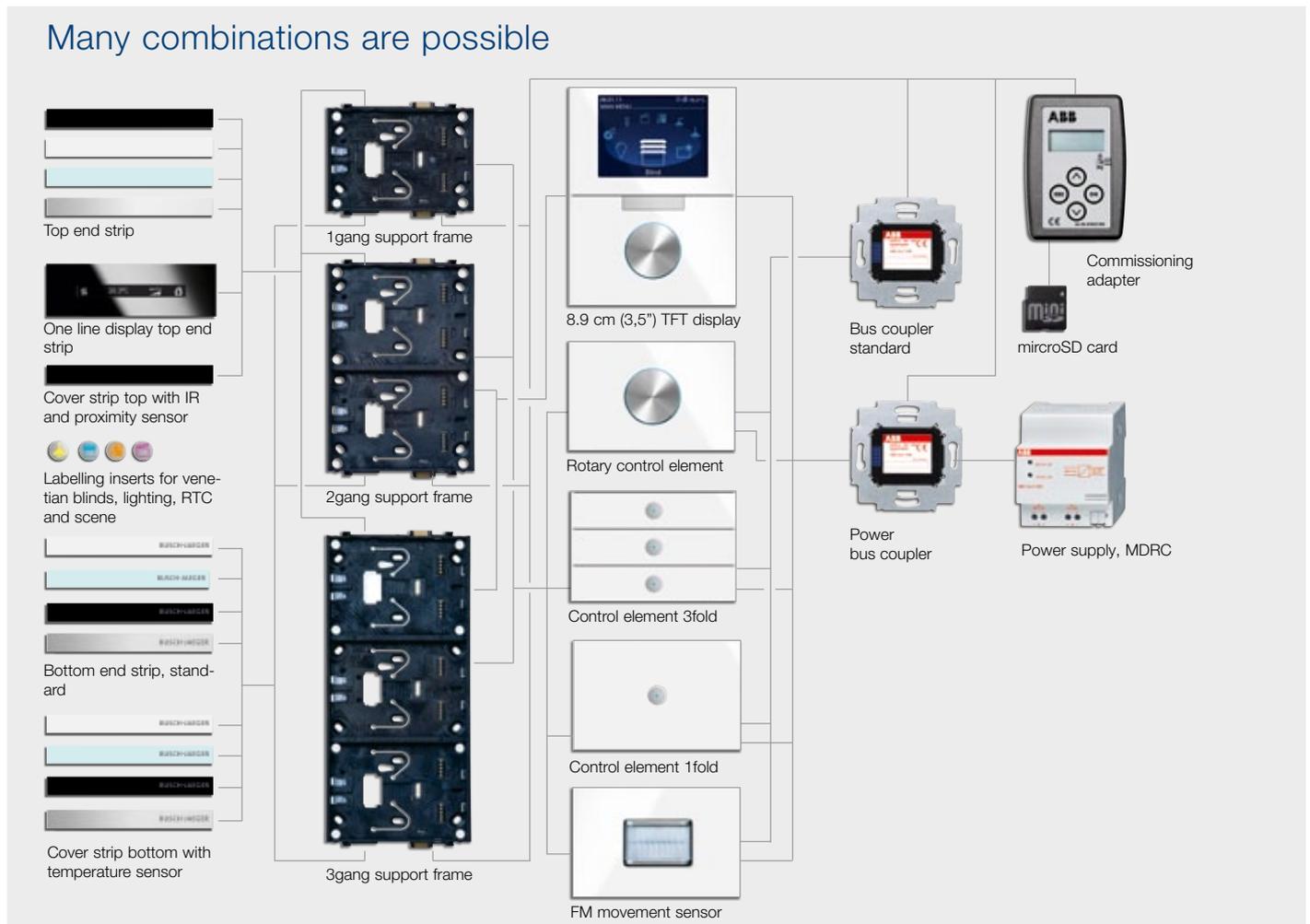
These serve not just to look beautiful – they optionally contain a temperature sensor for room control, an infrared interface for the remote control and a proximity sensor for activating the display or LED of the control elements when somebody approaches. A single-line display is also available. This can be used for

controlling the room temperature and/or for displaying messages and also features the IR/proximity function. Please note that the IR/proximity version and the single-line display are only available in the black glass finish (not the other colours).

# Combinations as desired

The control elements and end strips can be combined at will in their colours and functions for Busch-priOn®. Up to 3-way combinations are possible, whereby a single bus coupler will suffice. Busch-priOn® is comprised of the bus coupler, the carrier, the control elements and the end strips. Added to these are the labelling icons which map the functions of the

individual buttons. If a display is desired, at least a dual carrier is required, as the display plus the element with the rotary knob and the menu button are delivered as a unit.



|                                                   | Item number             | support frame |       |       |
|---------------------------------------------------|-------------------------|---------------|-------|-------|
|                                                   |                         | 1gang         | 2gang | 3gang |
| Single-line display <sup>1</sup>                  | 6351-825-101            | •             | •     | •     |
| Top end strip with IR and proximity sensor        | 6350-825                | •             | •     | •     |
| Top end strip                                     | 6348-...                | •             | •     | •     |
| Control element 1fold                             | 6340-...                | •             | •     | •     |
| Control element 3fold                             | 6342-...                | •             | •     | •     |
| Rotary control element                            | 6341-...                | •             | •     | •     |
| FM movement sensor                                | 6345-...                | •             | •     | •     |
| 8.9 cm (3,5") display incl. control element       | 6344-...                | -             | •     | •     |
| Lower end strip with temperature sensor           | 6352-...                | •             | •     | •     |
| Lower end strip                                   | 6349-...                | •             | •     | •     |
| Bus coupler                                       | 6120/12-10x             | •             | -     | -     |
| Power Bus coupler (needs additional power supply) | 6120/13                 | •             | •     | •     |
| Power supply, MDRC                                | CP-D24/2.5 <sup>2</sup> | •             | •     | •     |
| Switching actuator, 1fold                         | 6354                    | -             | •     | •     |
| Universal dimming actuator, 1fold                 | 6355                    | -             | •     | •     |
| Series/switching actuator, 1/2fold                | 6356                    | -             | •     | •     |

<sup>1</sup>Can only be used in conjunction with the 3fold control element

<sup>2</sup>Product available via ABB STOTZ-KONTAKT

# Not just any KNX control element

Each of the buttons of the Busch-priOn® can be programmed individually, as is usually the case with KNX. The applications range from switching, dimming and blinds on through to scenes. Logic functions are also possible. A display provides additional functions too. Weekly timers, messages and multimedia applications can be integrated here, for example. Furthermore, additional applications can be implemented by assigning internal group addresses. The user menu can be configured in 19 languages.

| Application                | Control element | Rotary control element | 3.5" TFT display with rotary control element | Movement sensor |
|----------------------------|-----------------|------------------------|----------------------------------------------|-----------------|
| <b>Logic</b>               |                 |                        |                                              |                 |
| Delay                      | •               | •                      | •                                            | •               |
| Staircase lighting         | •               | •                      | •                                            | •               |
| Light scene actuator       | •               | •                      | •                                            | •               |
| Sequence                   | •               | •                      | •                                            | •               |
| Preset                     | •               | •                      | •                                            | •               |
| Cyclical telegram          | •               | •                      | •                                            | •               |
| Flash functionality        | •               | •                      | •                                            | •               |
| Logic                      | •               | •                      | •                                            | •               |
| Gate                       | •               | •                      | •                                            | •               |
| Min/max value transducer   | •               | •                      | •                                            | •               |
| Threshold value/hysteresis | •               | •                      | •                                            | •               |
| PWM inverter               | •               | •                      | •                                            | •               |
| Priority                   | •               | •                      | •                                            | •               |

| Application                                            | Control element | Rotary control element | 8,9 cm TFT display with rotary control element | Info display     | Movement sensor |
|--------------------------------------------------------|-----------------|------------------------|------------------------------------------------|------------------|-----------------|
| <b>Application</b>                                     |                 |                        |                                                |                  |                 |
| Rocker switch total                                    | •               | -                      | -                                              | -                | -               |
| Rocker switch left/right                               | •               | -                      | •                                              | -                | -               |
| Dimming rocker switch total                            | •               | -                      | -                                              | -                | -               |
| Dimming rocker switch left/right                       | •               | •                      | •                                              | -                | -               |
| Blind rocker switch total                              | •               | -                      | -                                              | -                | -               |
| Blind rocker switch left/right                         | •               | •                      | •                                              | -                | -               |
| Value transmitter rocker switch total                  | •               | -                      | -                                              | -                | -               |
| Value transmitter rocker switch left/right             | •               | •                      | •                                              | -                | -               |
| Value transmitter, 2 objects, rocker switch left/right | •               | -                      | -                                              | -                | -               |
| Value dimming sensor rocker switch total               | •               | -                      | •                                              | -                | -               |
| Light scene extension unit with storage function       | •               | -                      | •                                              | -                | -               |
| Step-type rocker switch total                          | •               | -                      | -                                              | -                | -               |
| Step-type rocker switch left/right                     | •               | -                      | -                                              | -                | -               |
| Multiple operation rocker switch left/right            | •               | -                      | -                                              | -                | -               |
| Short-long operation rocker switch left/right          | •               | -                      | -                                              | -                | -               |
| Set thermostat operating mode                          | •               | -                      | •                                              | -                | -               |
| Media box/CD/DVD/Radio                                 | -               | -                      | •                                              | -                | -               |
| Short-time timer                                       | -               | -                      | •                                              | -                | -               |
| Weekly timer                                           | -               | -                      | •                                              | -                | -               |
| Alarm clock                                            | -               | -                      | •                                              | -                | -               |
| Messages                                               | -               | -                      | •                                              | •                | -               |
| Screen saver                                           | -               | -                      | •                                              | -                | -               |
| Display text/value                                     | -               | -                      | •                                              | •                | -               |
| Device lock                                            | -               | -                      | •                                              | -                | -               |
| Thermostat settings                                    | -               | -                      | •                                              | •                | -               |
| Sequence actuator settings                             | -               | -                      | •                                              | -                | -               |
| Scene actuator settings                                | -               | -                      | •                                              | -                | -               |
| Temperature controller                                 | -               | -                      | • <sup>1,3</sup>                               | • <sup>1,3</sup> | -               |
| Movement sensor                                        | -               | -                      | -                                              | -                | •               |
| <b>LED</b>                                             |                 |                        |                                                |                  |                 |
| Orientation                                            | •               | •                      | -                                              | -                | -               |
| Status/stand-by/proximity                              | • <sup>2</sup>  | • <sup>2</sup>         | • <sup>2</sup>                                 | -                | -               |
| Status                                                 | •               | •                      | -                                              | -                | -               |
| Function illumination                                  | •               | •                      | -                                              | -                | -               |
| Alarm                                                  | •               | •                      | -                                              | -                | -               |
| Light scene storage                                    | •               | •                      | •                                              | -                | -               |

<sup>1</sup>Only in combination with end strip bottom "temperature sensor" or other external sensor

<sup>2</sup>Only in combination with end strip top "IR and proximity sensor"

<sup>3</sup>Busch-priOn® has one internal temperature controller

# The right coupler

## Maximum number of Busch-priOn® devices per TP line

| Number of display combinations per line | Total number of combinations (display combinations plus 1- or 3gang combinations with end strips) | Total number of Power Bus coupler 6120/13 per line |
|-----------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------|
| 0                                       | 0 + 60                                                                                            | 60                                                 |
| 1                                       | 1 + 59                                                                                            | 60                                                 |
| 2                                       | 2 + 58                                                                                            | 60                                                 |
| 3                                       | 3 + 57                                                                                            | 60                                                 |
| 4                                       | 4 + 56                                                                                            | 60                                                 |
| 5                                       | 5 + 55                                                                                            | 60                                                 |
| 6                                       | 6 + 54                                                                                            | 60                                                 |
| 7                                       | 7 + 53                                                                                            | 60                                                 |
| 8                                       | 8 + 52                                                                                            | 60                                                 |
| 9                                       | 9 + 51                                                                                            | 60                                                 |
| 10                                      | 10 + 45                                                                                           | 55                                                 |
| 11                                      | 11 + 37                                                                                           | 48                                                 |
| 12                                      | 12 + 30                                                                                           | 42                                                 |
| 13                                      | 13 + 22                                                                                           | 35                                                 |
| 14                                      | 14 + 15                                                                                           | 29                                                 |
| 15                                      | 15 + 7                                                                                            | 22                                                 |
| 16                                      | 16 + 0                                                                                            | 16                                                 |

Behind every Busch-priOn® combination is needed one bus coupler only. For a 1gang support frame, a Standard Bus coupler will suffice. In the case of the 2gang support frame, the Power Bus coupler must be used, which requires an additional, external power supply for this purpose.

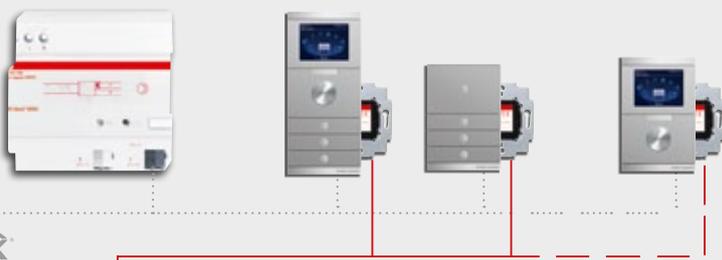
The table to the left describes the corresponding device combinations. Please note: with new Standard Bus couplers and Power Bus couplers the normal KNX line-topology is existing no longer. Please calculate the number of BUS-SUBSCRIBERS (SUB) refer to the table.

## Standard Bus coupler



## Power Bus coupler

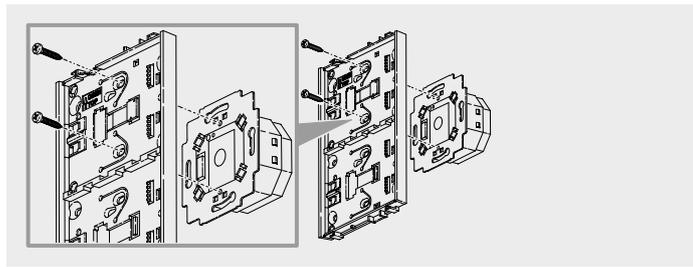
Power supply KNX



Additional 24 V DC power supply, MDRC

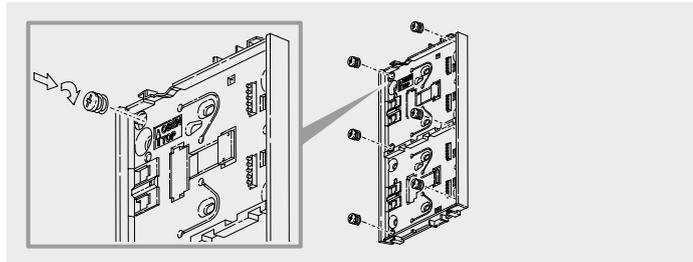
Number of device combinations (please refer to the table above)

# Easy installation

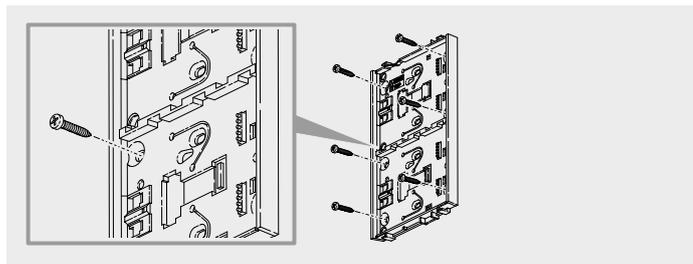


The support frame is screwed onto the metal mounting plate of the bus coupler located beneath it.

Busch-priOn® is installed in a flushmounted wall box (German Standard) and by default, at a distance of 71 mm. After installation of the support frame on the wall (see right), the individual modules are fastened to the support frame by snapping them in. Special securing elements prevent removal of the modules.



To ensure that Busch-priOn® even lies flat against uneven walls, the support frame features special levelling elements. These can be used to align the support frame so that it is level.



If needed, the support frame can be stabilised with additional screws in the locations provided.

**Busch-priOn®**  
Glass black

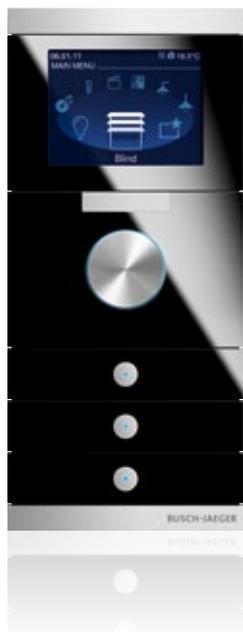
**Busch-priOn®**  
Plastic white,

**Busch-priOn®**  
Stainless steel



**Busch-priOn®**  
Glass white

**Busch-priOn®**  
2gang combination,  
Glass black



# Additional Functions



The support frame serves to hold and make contact with the individual control elements, the 8,9 cm (3,5") TFT display, the end strips and the flush-mounted bus coupler. The positioning of the control elements can be selected freely for multiple combinations. A special bar must be mounted on top as well as below. Its material can be different than that of the module. The support frame is mounted by screwing it to the flush-mounted bus coupler and, for multiple combinations, also to the wall. Thanks to the anti-fingerprint surface, the stainless steel Busch-priOn® is easy to keep clean and maintains its sophisticated surface finish even when it is in use. Glass surfaces and end strips match the carat® series.



Flush-mounted actuators are available for integration into the system with immediate effect: the switch/blind actuator 2/1fold, universal dimming actuator 1fold, switch actuator 1fold and series/shutter actuator modules. When using the Busch-priOn® flush-mounted actuators, a bus coupler appropriate for the medium concerned must always be connected at one point on the support frame. (This means you can connect two actuators and one bus coupler on one 3gang support frame.)

**Busch-priOn®**

Rotary control element,  
Glass black

**Busch-priOn®**

3fold control element,  
Glass black

**Busch-priOn®**

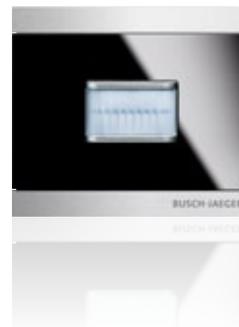
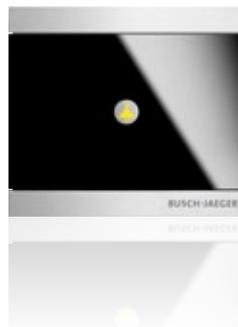
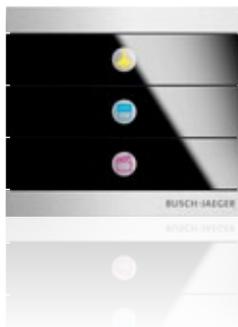
1fold control element,  
Glass black

**Busch-priOn®**

Flush mounted movement  
sensor, Glass black

**Busch-priOn®**

3fold control element  
with room temperatur  
controller, Glass black



# KNX Technical Reference Manual

## Busch-priOn®

### Busch-priOn®



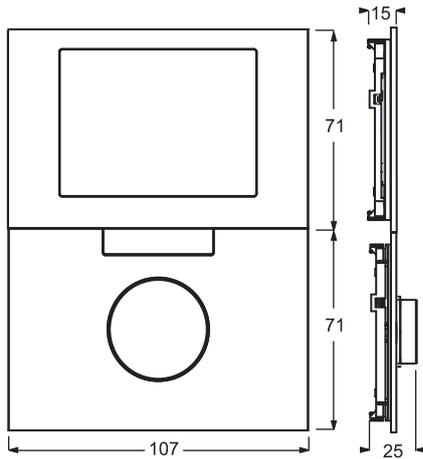
### innovative and intuitive

Improved control elements. For example, the new 8.9 cm (3.5") TFT display as informative component of a flush-type combination is both stylish and efficient. Its menu can be individually adapted to every building and at all times provides an overview of the electrical consumers. From here the heating can be controlled, the lights dimmed or comprehensive scenes called up that trigger numerous preprogrammed actions. Meaningful symbols lead even the untrained user to his objective in just a few steps. The division of functions into individual areas such as light, heating or blinds, assists everyone to find his way around intuitively. Yet, this is not the end of possibilities for the **Busch-priOn®** in classical building technology. The display can also be used for controlling music.

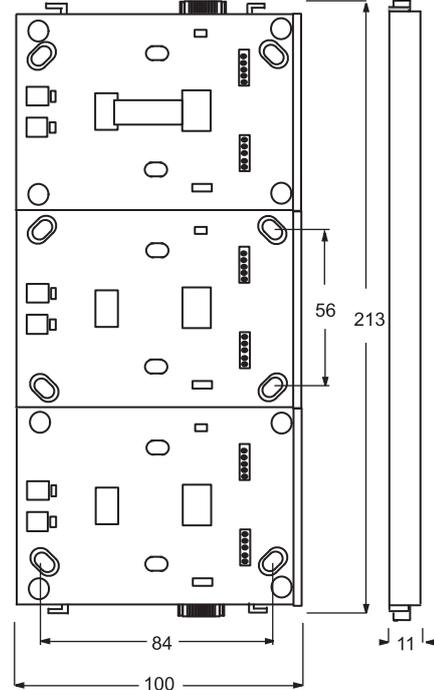
The combination of pushbutton/rotary control element and display has a universal operating concept. The definition of a primary function makes its use particularly easy. The primary function appears when one approaches the display (a special proximity sensor is available) or when pressing the rotary control element. In principle, any switching, dimming, blinds, scene or sequence function that has been stored in the unit can be defined as primary function. It is only when the menu button is pressed that the display changes to the circuit menu. Up to 8 entries can be displayed via one symbol. By turning the pushbutton/rotary control element the user can bring the desired function into the foreground. An associated text below the focused symbol is shown (e.g. system settings, room control office, room control, living room, etc.). By activating the pushbutton/rotary control element the display changes to the respective list menu, which can consist of up to 15 different functions. The user can scroll through these functions by turning the pushbutton/rotary control element. The function is selected by pressing the button.

### 2 Dimensional drawings

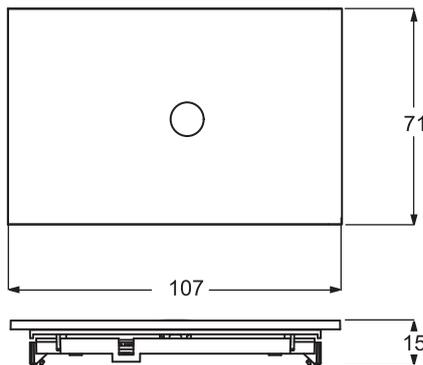
Flush-type 8,9 cm (3,5") display with control element, Busch-priOn®



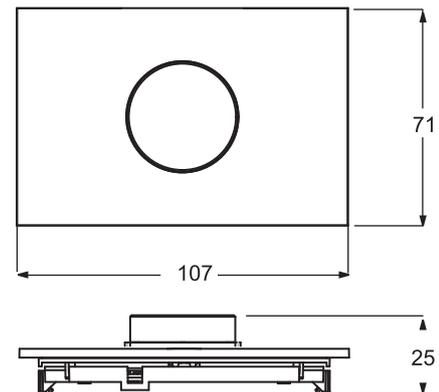
Support frame for Busch-priOn® 6346/12-101-500



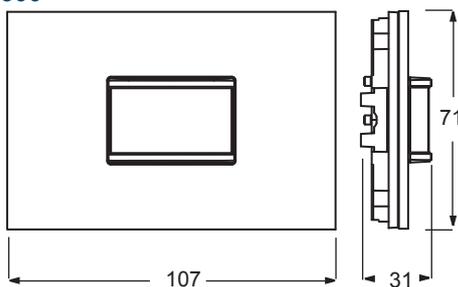
Flush-type control element, Busch-priOn® 6340-xxx-101-500



Flush-type rotary control element, 6341-xxx-101-500



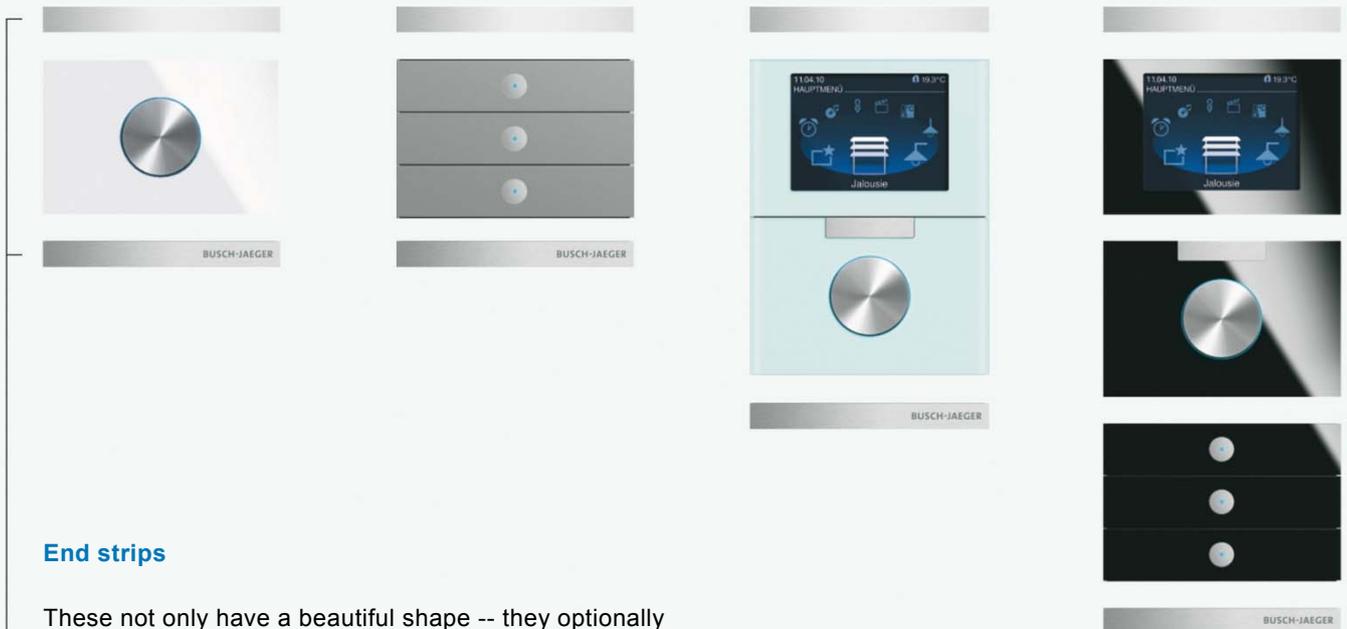
Flush-type movement detector Busch-priOn® 6345-xxx-101-500



### 3 Frame-free variety

It is not merely individuality which characterises **Busch-priOn®** during programming of the individual buttons: Also the assembly arrangement of the **Busch-priOn®** combinations are highly flexible. For Busch-priOn is not bound to frames -- instead, up to 3 individual elements are fixed to a support frame and, at the end, provided with end strips above and below. There are four choices of finish for the control elements: studio white, glass white, glass black and stainless steel. Most of the end strips are also available in these colour versions. For the display (style sheets), there are three choices: black, blue and silver.

#### Modular design



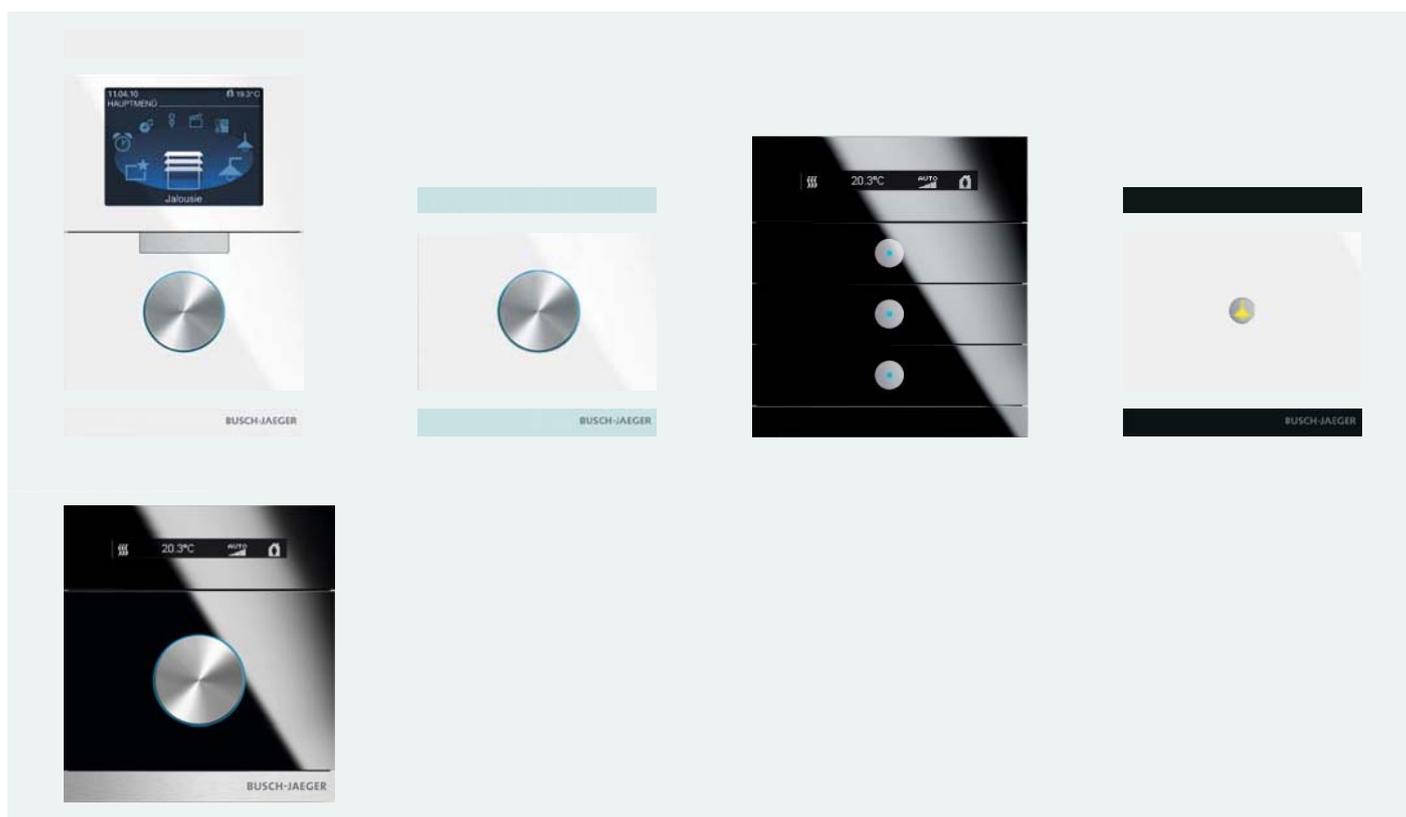
#### End strips

These not only have a beautiful shape -- they optionally contain a temperature sensor for room temperature control, an infrared interface for the remote control and a proximity sensor for activating the display or LED of the control elements when somebody approaches. This IR / proximity sensor version is only available in glass black and not in the other colours. Additional information about controlling the room temperature with Busch-priOn® is contained in the brochure on heating, ventilation and air conditioning.

### 4 Combinations as desired

The control elements and end strips can be freely combined in their colours and functions for **Busch-priOn**. Up to 3gang combinations are possible, whereby a single bus coupler will suffice.

|                                                   | Article number         | Support frame |       |       |
|---------------------------------------------------|------------------------|---------------|-------|-------|
|                                                   |                        | 1gang         | 2gang | 3gang |
| Top end strip IR / proximity sensor               | 6350-825-101-500       | •             | •     | •     |
| Top end strip with display, IR / proximity sensor | 6351-825-101-500       | •             | •     | •     |
| Top end strip standard                            | 6348-101-500           | •             | •     | •     |
| Top end strip with display, IR / proximity sensor | 6351/08-825-500        | •             | •     | •     |
| 1gang control element                             | 6340-101-500           | •             | •     | •     |
| 3gang control element                             | 6342-101-500           | •             | •     | •     |
| 1gang rotary control element                      | 6341-101-500           | •             | •     | •     |
| Movement detector                                 | 6345-101-500           | •             | •     | •     |
| 8.9 cm display including control element          | 6344-101-500           | -             | •     | •     |
| Bottom end strip, temperature                     | 6352-101-500           | •             | •     | •     |
| Bottom end strip standard                         | 6349-101-500           | •             | •     | •     |
| Bus coupler                                       | 6120/12-500            | •             | -     | -     |
| Power bus coupler and power adaptor, MDRC         | 6120/13-500 + 6358-500 | •             | •     | •     |
| Network coupler                                   | 6920/12                | •             | -     | -     |
| Power mains coupler                               | 6920/13                | •             | •     | •     |
| Flush-mounted switch actuator                     | 6354-500               | -             | •     | •     |
| Flush-mounted dimming actuator, 1gang             | 6355-500               | -             | •     | •     |
| Flush-mounted blind / switch actuator             | 6356-500               | -             | •     | •     |
| Flush-mounted blind / switch actuator             | 6920/40                | •             | •     | -     |



### General functions

| Function                      | Large-area control element | Rotary control element | 8.9 cm (3,5") TFT display with control element | Movement detector | Page number |
|-------------------------------|----------------------------|------------------------|------------------------------------------------|-------------------|-------------|
| Delay                         | •                          | •                      | •                                              | •                 | Page 55     |
| Staircase lighting            | •                          | •                      | •                                              | •                 | Page 56     |
| Light scene actuator settings | •                          | •                      | •                                              | •                 | Page 57     |
| Sequence                      | •                          | •                      | •                                              | •                 | Page 57     |
| Preset                        | •                          | •                      | •                                              | •                 | Page 58     |
| Cyclic telegram               | •                          | •                      | •                                              | •                 | Page 58     |
| Flashing                      | •                          | •                      | •                                              | •                 | Page 59     |
| Logic                         | •                          | •                      | •                                              | •                 | Page 59     |
| Gate                          | •                          | •                      | •                                              | •                 | Page 60     |
| Min/Max value transducer      | •                          | •                      | •                                              | •                 | Page 61     |
| Threshold value / hysteresis  | •                          | •                      | •                                              | •                 | Page 62     |
| PWM inverter                  | •                          | •                      | •                                              | •                 | Page 62     |
| Priority                      | •                          | •                      | •                                              | •                 | Page 62     |



**Busch-priOn®**  
2gang combination,  
glass black



**Busch-priOn®**  
Rotary control element  
glass black



**Busch-priOn®**  
3gang control element,  
glass black



**Busch-priOn®**  
1gang control element,  
glass black



**Busch-priOn®**  
Top end strip  
+ 3gang control element,  
glass black



**Busch-priOn®**  
Top end strip  
Rotary control element  
glass black



**Busch-priOn®** Watchdog 180 flush-mounted,  
glass black



**Busch-priOn®** is ideally combinable with the **carat®** switch range. These switches distinguish themselves through their uniformly designed surfaces.

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BJE 0001-0-1149/12.10/0502-T, dpi 405597