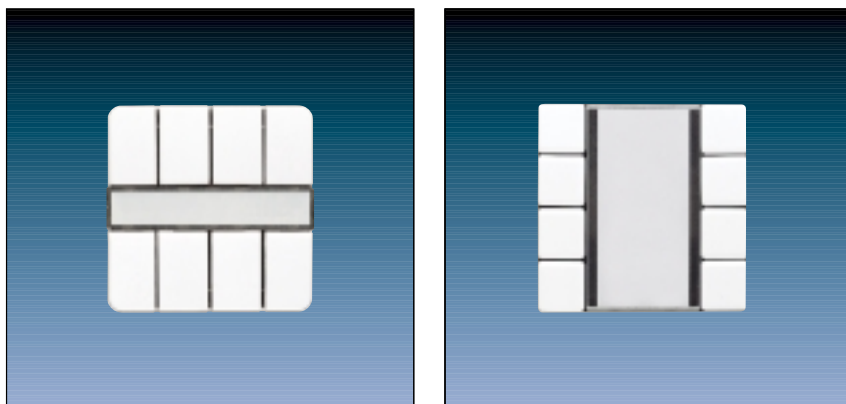


Push-Buttons – Radio Control

1



2

	Ref.-No.
KNX 4-gang universal push-button	
Radio-controlled	
ETS-product family:	Push-button
Product type:	General push-button
ranges CD 500/CD plus	
ivory	2094 F
white	CD 2094 F WW
blue	CD 2094 F BL
brown	CD 2094 F BR
grey	CD 2094 F GR
light-grey	CD 2094 F LG
black	CD 2094 F SW
ranges LS 990/LS plus, Stainless Steel, Aluminium, Gold, Chrome	
ivory	LS 2094 F
white	LS 2094 F WW
light-grey	LS 2094 F LG
Metal versions	
stainless steel	ES 2094 F
aluminium (laquered)	AL 2094 F
anthracite	AL 2094 F AN
gold coloured	GO 2094 F
chrome	GCR 2094 F

3

The radio controlled 4-gang universal push-button is plugged onto a flush mounted bus coupling unit. Its 8 rockers can be adjusted to four different functions separately (switching, dimming, blind/shutter control or value transmitter). Depending on the adjusted function, it sends telegrams, e.g. to actuators for switching ON/OFF lights, for dimming lights, for recalling or saving light scenes, for moving shutters/blinds up or down and for adjusting the louvres and even to send brightness or temperature values (2 Bytes) to the bus. Due to the integrated radio receiver, no status LED's are available.

Additionally to the manual operation, the push button can integrate radio controlled transmitters to the KNX. The received radio signals will be transmitted to appropriate KNX-telegrams. The data transfer is unidirectional. The following radio transmitters can be thought-in to the radio controlled push button:

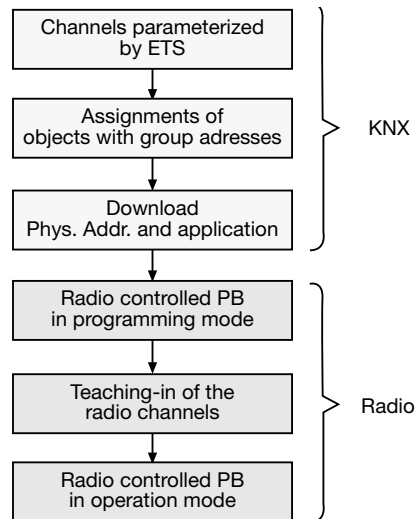
- Hand-held transmitters : 48 KFH, 48 FH, 42 FH.
- Wall-mounted transmitters: 1-gang, 2-gang, 4-gang (the 4-gang transmitter can only control up to 4 channels of the 2094 F)
- Flat wall-mounted transmitters: 1-gang, 2-gang, 4-gang (the 4-gang transmitter can only control up to 4 channels of the 2094 F)
- Universal transmitter: FUS 22 UP
- Multifunction transmitter: FMS 4 UP
- Observer: FW 180 WW
- Presence detector: FPM 360 WW

4 Technical data

Supply	
Voltage:	24 V DC (+6 V / -4 V) via BCU
Power consumption:	max. 150 mW
Connection:	2 x 5-pole pin bar
Input	
Number:	max 8 radio-controlled transmitters with max 12 channel
Transmission:	radio frequency
Carrier frequency:	433.42 MHz
Modulation:	ASK (Amplitude Shift Keying)
Transmission range:	max. 30 m (free field)
Protection:	IP 20
Behavior at bus voltage drop:	
drop:	no reaction
recovery:	delete all object values
Operation temperature:	-5°C ... +45°C
Storage temperature:	-25°C ... +70°C

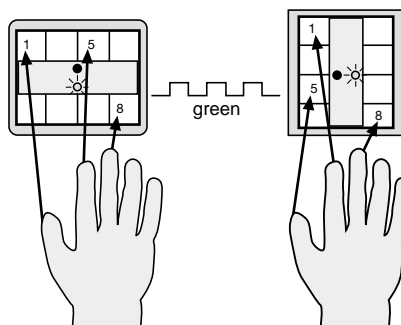
5 Guide line for programming:

When working with the radio controlled push button the ETS design work should be finished before radio transmitters are thought-in. The following diagram shows the process:



Programming mode of radio controlled push button:

By a special "Three-Rocker-Grip" you can switch over from the operation mode into the programming mode to teach-in the radio transmitters. Push-buttons 1, 5 and 8 have to be pressed until the green LED is flashing. Then the radio channels can be selected and the red LED is flashing until a transmitter channel is thought-in.



5

Description of software application:

- Free assignment of the functions switching, dimming, shutter/blind and value transmitter to the 8 push-buttons.
- The received radio signals will be transmitted to appropriate KNX-telegrams. The data transfer is unidirectional.
- For each push-button, up to 12 transmitters with 8 different functions can be taught-in.
- Operation display by the green LED.

Function switching:

- Command at pressing/releasing of the push-button adjustable (ON, OFF, Toggle, no function).

Function dimming:

- Push button function darker (OFF), brighter (ON) or darker/brighter (Toggle) adjustable.
- Time between dimming and switching and the dimming steps adjustable.
- Telegram repetition and stop telegram possible.

Function shutter/blinds:

- Push button function (Up/Down) and time between short and long-time operation adjustable.
- Louvres adjustment possible.

Function value transmitter:

- The push button function, dimming value-, brightness value- or temperature value-transmitter as well as recalling and saving light scenes, can be parameterized.
Value adjustment via long push operation (dimming-, brightness-, temperature-value).

Objects:

Number of addresses:	27
Number of assignments:	27
Communication objects:	17

Object	Name	Function	Type	Flag
0	Output 1	Switch	1 Bit	W, C, T
1	Output 2	Switch	1 Bit	W, C, T
2	Output 3	Switch	1 Bit	W, C, T
3	Output 4	Switch	1 Bit	W, C, T
4	Output 1	Logic link	1 Bit	W, C, T
5	Output 2	Logic link	1 Bit	W, C, T
6	Output 3	Logic link	1 Bit	W, C, T
7	Output 4	Logic link	1 Bit	W, C, T
Function: Switching (for all push buttons *)				
0 – 7	PB1-PB8	Switching	1 Bit	C, W, T, (R)
Function: Dimming (for all push buttons *)				
0 – 7	PB1-PB8	Switching	1 Bit	C, W, T, (R)
8 – 5	PB1-PB8	Dimming	4 Bit	C, T
Function: shutter/blinds (for all push buttons *)				
0 – 7	PB1-PB8	Short time operation	1 Bit	C, T, (R)
8 – 15	PB1-PB8	Long time operation	1 Bit	C, T
Function: value transmitter (light scene control, for all push buttons *)				
8 – 15	PB1-PB8	Light scene extension	1 Byte	C, T
Function: value transmitter (temperature value transmitter, for all push buttons *)				
8 – 15	PB1-PB8	Temp. value transmitter	2 Byte	C, T
Function: value transmitter (brightness value transmitter, for all push buttons *)				
8 – 15	PB1-PB8	Brightness value transmitter	2 Byte	C, T
Function: value transmitter (dimming value transmitter, for all push buttons *)				
8 – 15	PB1-PB8	Dimming value transmitter	1 Byte	C, T
Alarm function, data format 1Bit				
16	PB sensor	Alarm	1 Bit	C, W, (R)
Alarm function, data format 1Byte				
16	PB sensor	Alarm	1 Byte	C, W, (R)

Objects marked with (R): Object value can be read out (set R-flag!)

Functions marked with *: The functions (switching, dimming, shutter/blinds, value transmitter) can be chosen for each PB separately.
Due to this choice the communication objects and the object table will change.

5

Notes to software application:

Switching function

- For a two level operation, the objects of the relevant push-buttons must have the same group addresses.

Dimming function:

- For a correct function of the single level operation, the connected dimming actuator must send its status back to switching object of the push-button, too.
- With the single level operation only the switching object is retriggered internally and externally. The dimming object (dimming direction) is retriggered only internally so that in case of used extensions (2 or more sensors dim one lamp) the dimming direction will not always be changed at a new push action.
- For a two level operation, the objects of the relevant push-buttons must have the same group addresses.

Shutter/blinds function:

- This function supports the two level operation only. Therefore the „Step“ and „Move“ objects of the relevant push-button must have the same group addresses.

Value transmitter function:

- At value adjustment via long push operation, the new adjusted values are stored only within the RAM. After bus voltage drop or a bus reset, these values will be exchanged with the values programmed with the ETS.
The value adjustment always is carried out in negative direction. After reaching the minimal value, it will continue automatically with the maximal value.