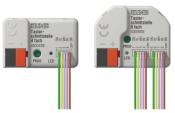
JUNG 400021SE Push Button Interface



JUNG 400021SE Push Button Interface Instruction Manual

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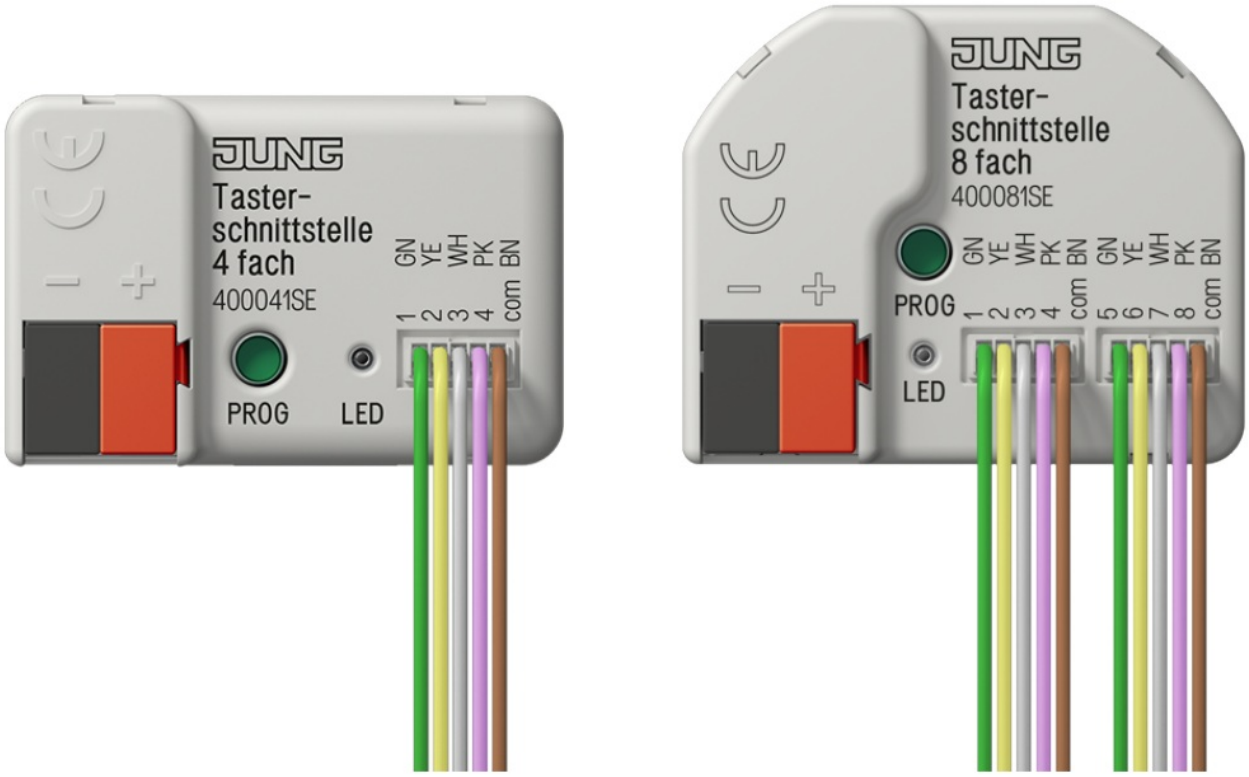

Specifications

- Push-button interface, 2-gang Art. no. 400021SE
- Push-button interface, 4-gang Art. no. 400041SE
- Push-button interface, 8-gang Art. no. 400081SE

Product Usage Instructions

Safety Instructions

To avoid potential damage, please follow these instructions:

- Electrical devices should only be mounted and connected to electrically skilled individuals.
- During installation and cable routing, comply with regulations and standards for SELV circuits to prevent electric shock.
- Ensure sufficient insulation between the mains voltage and the bus during installation. Maintain a minimum distance of at least 4 mm between bus conductors and mains voltage cores.
- Do not connect any external voltage to the inputs during installation to prevent damage to the device and loss of SELV potential on the bus line.
- This manual is an integral part of the product and must remain with the customer.

System information

- This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite to proper understanding.
- The function of this device depends upon the software. Detailed information on load-able software and attainable functionality as well as the software itself can be obtained from the manufacturer´s product database.

- The device can be updated. Firmware can be easily updated with the Jung ETS Ser-vice App (additional software).
- The device is KNX Data Secure capable. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. Detailed technical knowledge is required. A device certificate, which is attached to the device, is required for safe commissioning. During mounting, the device certificate must be removed from the device and stored securely.
- Planning, installation, and commissioning of the device are carried out with the aid of the ETS, version 5.7.7 and higher or 6.1.0.

Intended use

- Outputs for polling of conventional, potential-free contacts in KNX systems and for sending telegrams to the KNX bus for reporting of states, meter levels, operation of loads, etc.
- Outputs for activation of LEDs
- Mounting in appliance box with dimensions according to DIN 49073 in combination with a suitable cover
- When mounting behind switch inserts and push-button inserts, use an appliance box with sufficient installation depth

Product characteristics

Product characteristics

- Depending on the variant, two, four, or eight independent channels, which work as inputs or as outputs, depending on the ETS configuration
- Common reference potential for all channels
- Disabling of individual channels
- Supply via the KNX bus, no additional supply voltage is necessary

Outputs

- Connection of LEDs, e.g. LED lamp, 5 V DC, 2.2 mA
- Short-circuit-resistant, overload-protected, and reverse-polarity protected
- Switching outputs in parallel is possible, for loads with higher energy consumption

Inputs

- Connection of potential-free contacts such as push-buttons, switches, or Reed contacts
- Polling with an impulse current avoids contact fouling (image of an oxide layer) at the connected contacts
- Operating functions: switching, dimming, controlling Venetian blinds, moods, or room temperature
- Value transmitter for dimming, color temperature, RGBW, temperature, and brightness values
- Transmission of the current input state after bus voltage failure
- Connection of door or window contacts for the evaluation of the status of open closed, tilted, and grip position
- Connection of Motion detector mini basic, leakage, condensation, and temperature sensors (see accessories)
- Pulse counter with main counter and intermediate counter

- Combination of adjacent input channels for the connection of push-button, door contact, and window contact
- Logic functions

Mounting and electrical connection

Mount device

In secure operation (preconditions):

- Secure commissioning is activated in the ETS.
- Device certificate entered/scanned or added to the ETS project. A high-resolution camera should be used to scan the QR code.
- Document all passwords and keep them safe.
    - **In secure operation:** the device certificate must be removed from the device and stored securely.
    - Mounting in a suitable appliance box. Observe cable routing and spacing

Bus connection

- Connect the bus with a KNX device connection terminal to the KNX connection (1)(see figure 1).

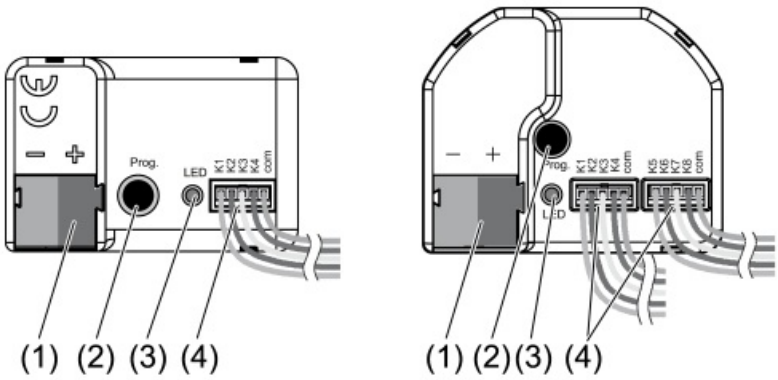

Figure 1: Device components

1. KNX connection
2. Programming button
3. Programming LED
4. Connection cables

Installation instructions

- To avoid interference from EMC radiation, the cables of the inputs should not run parallel to cables carrying mains voltage or to load cables.
- The voltage potentials of the connecting cables for the inputs and outputs are not galvanically isolated from the bus voltage.
  The connecting cables lengthen the bus cable. The specification for the bus cable length (max. 1000 m) must be observed.
- Do not connect the com connections of multiple push-button interfaces.
- Use channels 1 and 2 for NTC temperature sensors (see chapter “Accessories” }

- No series resistance is required for the connection of LEDs.

For the extension of the enclosed cable set (see figure 2), observe the maximum cable length (see chapter “Technical data” } Page 10). The following applies: the com cable for each cable set may not have a total length beyond 30 m in length.

Push-button interface

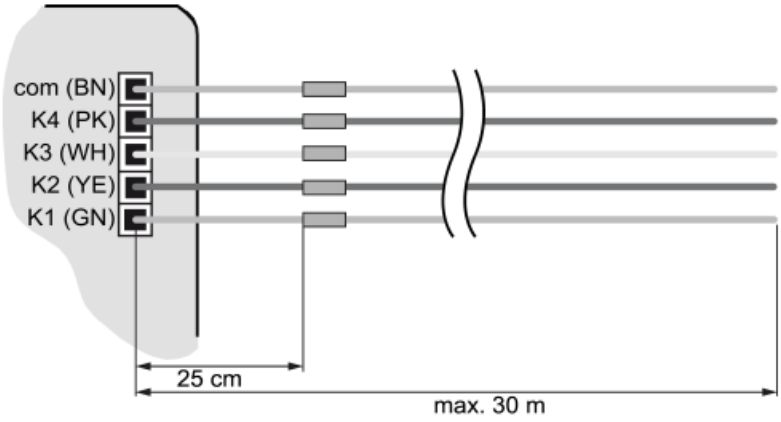

Figure 2: Maximum cable length

DANGER

- The danger of electrical shock when mains voltage 230 V or other external voltages are connected!
- Electric shocks can be fatal.
- The device may be destroyed.
- Only connect potential-free push-buttons, switches or contacts

Connect push-buttons, switches, contacts, LED or NTC to enclosed connecting cables (4) according to the connection examples; (see figure 3) to (see figure 7). The connection examples show the use of inputs and outputs.

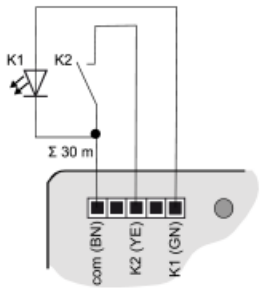

Figure 3: Connection example: push-button interface 2-gang

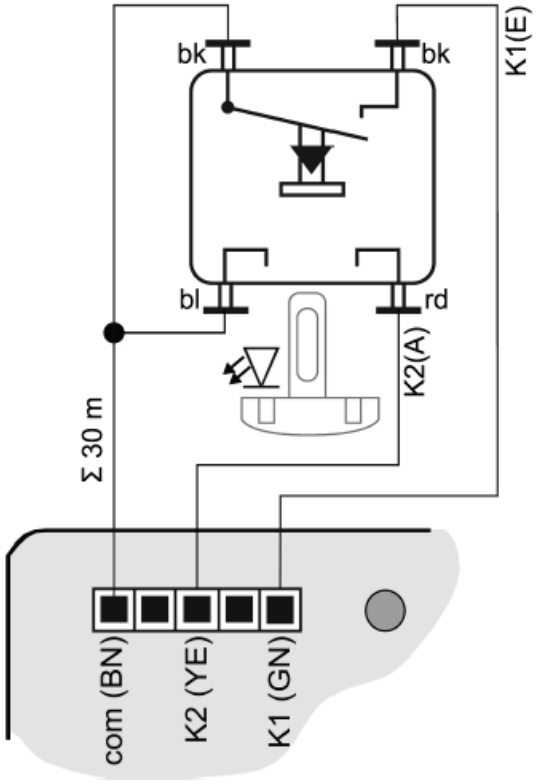

Figure 4: Connection example: push-button interface 2-gang with rocker lever with separate signal contact

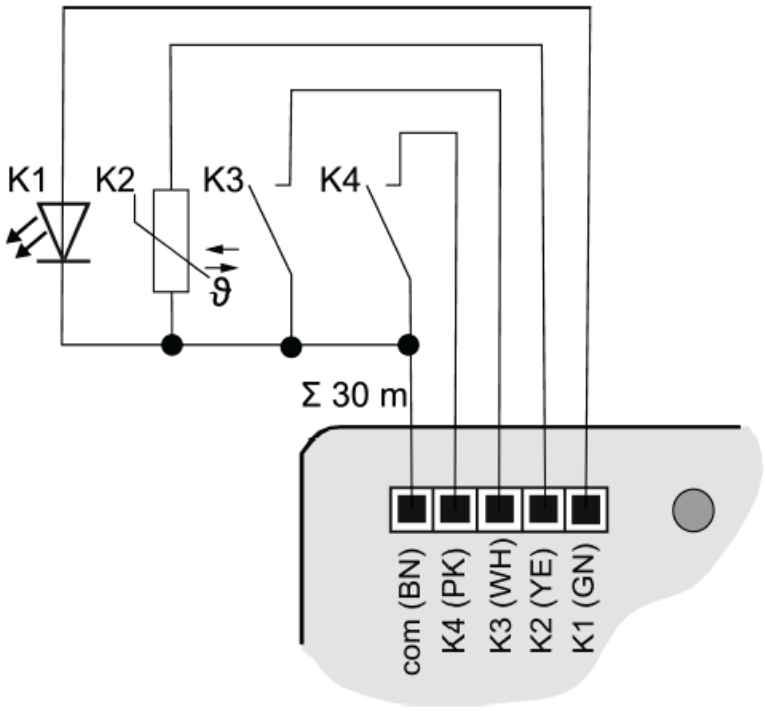

Figure 5: Connection example: push-button interface 4-gang

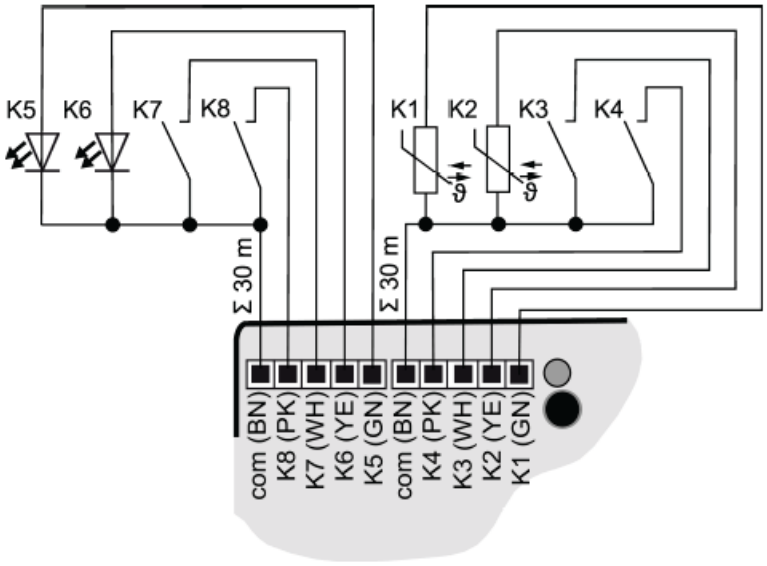

Figure 6: Connection example: push-button interface 8-gang

To increase the output current, outputs can also be switched parallel to each other with the same parameterization; in the example here, (see figure 7) K1-K3 are switched in parallel.

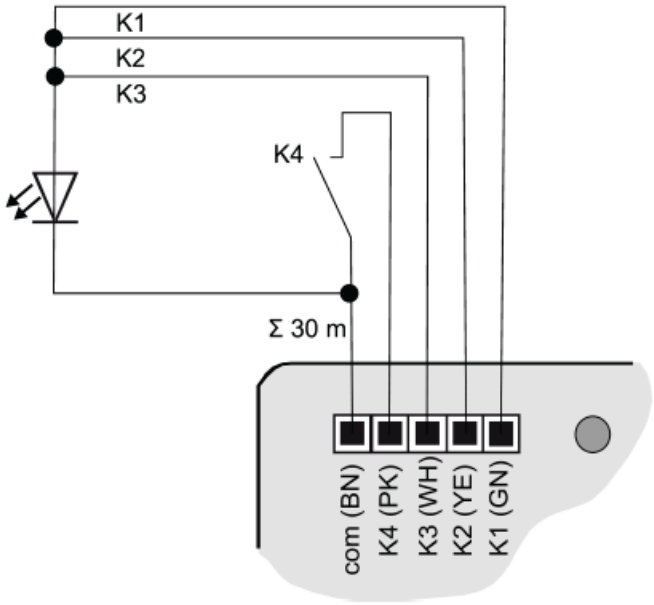

Figure 7: Connection example with outputs switched in parallel

Commissioning

Programming the physical address and application program

- Switch on the bus voltage.
- Press the programming button (2).
  The programming LED (3) lights up.
- Program the physical address with the ETS. The programming LED goes out.
- Program the application program with the ETS.

Safe-state mode and master reset

Safe-state mode
The safe-state mode stops the execution of the loaded application program.

INFO: Only the system software of the device is still functional. ETS diagnosis functions and programming of the device are possible.

Activating safe-state mode

- Switch off the bus voltage or remove the KNX device connection terminal.
- Wait approx. 10 seconds.
- Press and hold down the programming button.
- Switch on the bus voltage or attach the KNX device connection terminal.
- Wait until the programming LED flashes slowly.
- Release the programming button.
  The safe-state mode is activated.

By briefly pressing the programming button again, the programming mode can also be switched on and off in the safe-state mode as usual. If the programming mode is active, the programming LED stops flashing.

Deactivating safe-state mode
Switch off bus voltage (wait approx. 10 seconds) or carry out ETS programming.

Master reset

- The master reset restores the basic device settings (physical address 15.15.255, firmware remains in place). The device must then be recommissioned with the ETS.
- **In secure operation:** A master reset deactivates device security. The device can then be recommissioned with the device certificate.

Performing a master reset

Precondition: The safe-state mode is activated.

- Press and hold down the programming button for > 5 s.
  The programming LED flashes quickly.
- Release the programming button.
  The device performs a master reset, restarts, and is ready for operation again after approx. 5 s.

Restoring the device to factory settings
The device can be reset to factory settings with the Jung ETS Service App. This function uses the firmware contained in the device that was active at the time of delivery (delivered state). Restoring the factory settings causes the device to lose its physical address and configuration.

Technical data

- **Ambient temperature** -5 … +45°C
- **Storage/transport temperature** -25 … +75°C

- **Degree of protection** IP20
- **Protection class** III
- Number of channels
- **400021SE** 2
- **400041SE** 4
- **400081SE** 8
- **Output voltage** DC 5 V SELV
- **Output current per channel** max. 3.2 mA
- **LED current** (red LED with 1.7 V current-voltage) 2.2 mA per output
- **Connection of channels**
- **400021SE** 3-core wiring harness
- **400041SE** 5-core wiring harness
- **400081SE** 2x 5-core wiring harness
- **Length, wiring harness 25 cm, can be extended** to max. 30 m
- **Recommended cable** J-Y(St)Y 2×2×0.8
- **Dimensions** (LxWxH)
- **400021SE**, 400041SE 43.0 x 28.5 x 15.4 mm
- **400081SE** 43.5 x 35.5 x 15.4 mm
- **KNX medium** TP256
- **Commissioning mode** S mode
- **Rated voltage** KNX DC 21 … 32 V SELV
- **Current consumption** KNX
- **400021SE 5** … 10 mA
- **400041SE 5** … 12 mA
- **400081SE 5** … 18 mA
- **Connection mode KNX** Device connection terminal

Accessories

- **External temperature sensor** Art. no. FFNTC
- **Leakage sensor** Art. no. LES01
- **Condensation sensor** Art. no. BTS01
- **Motion detector mini basic** Art. no. BM360MBWW
- **Motion detector mini basic** Art. no. BM360MBWW-270
- **LED lamp, 5 V DC, 2.2 mA** Art. no. 9605LEDxx
- **1-gang push-button, 1-pole, 1-way NO contact with separate contacts for indicator light:** Art. no. 534U, K534EU
- **Magnet contact** Art. no. FUS4410..

Warranty

The warranty is provided by the specialist trade per statutory requirements.

FAQ

- **Q: What is the maximum cable length for extending the cable set?**
  - A: The maximum cable length for each cable set should not exceed 30 m.

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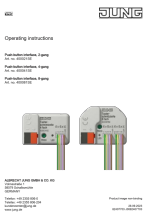
Documents / Resources

	JUNG 400021SE Push Button Interface [pdf] Instruction Manual 400021SE Push Button Interface, 400021SE, Push Button Interface, Button Interface, Interface

References

- JUNG - Switches and systems
- User Manual