µBrick s9 Order number: 72130-180-15

General usage

The µBrick range consists of five different actuator types and distinguishes itself through its extremely small and compact construction

The device comes in a 4TE wide DIN Rail casing so it can be directly integrated into the mains distribution box and as well in flush-mounted cabinets. They are perfect for mounting in cavity walls and floors with a minimum amount of effort.

In the ETS application's basic setting, the standard parameters for simple switch functions are visible. If the basic settings are changed, only those parameters are shown which are relevant to the selected function.

An overview of the functions:

- Shutter channel outputs with objects for:
  - **Facade control**
  - **True height positioning for shutter/blind**
  - **Shutter slits control**
  - Central Up/Down functions
  - Lmits, scenes, presets, alarms, disable function, manual control etc.

- Binary channel outputs with objects for:
  - Current status notifications
  - Operating hours (counting bi-directionally)
  - Switching cycle counters (counting bi-directionally),
  - KNX scenes, timer functions, activation objects, etc.

- Advanced objects and functions such as:
  - Timers (with **cyclic sending of time remaining)**
  - Logic functions (Boolean, gate and filter functions, comparators, math.), data point conversion
  - KNX scenes **(with delays between events)**
  - Setpoints
  - Analogue and digital alarms
  - Overwrite end-user parametersrr
  - Etc.

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Device type and accessories

At present the following device types are available in the uBrick control group

Ref.	Description	Order number:
si36	6 Inputs (bin & analog) / 3 Shutter-blind channels	72130-180-11
si36 X	6 Inputs (bin & analog) / 2 Shutter-blind channels & 2 Capacitive outputs (mixed)	72130-180-12
s4	4 Shutter-blind channels	72130-180-13
s6 X	4 Shutter-blind channels & 4 Capacitive outputs (mixed)	72130-180-14
s9	9 Shutter-blind channels	72130-180-15
NTC	NTC temperature sensor	72130-185-01

Scope of delivery

The following individual components are included in the delivery of the µBrick device:

- Complete device with connected bus connector
- Operating and mounting instructions
- Delivered in break-proof individual packaging

Application programs

The following application programs are currently available for the uBrick s9 device:

- 72130-uBrick-s9-15-0110

For application program functions, please see the application program description.

Installation device

- Risk of death by electric shock
- The device is intended for interior installation in dry rooms.
- The device must only be installed and commissioned by an accredited electrical engineer.
- Please follow country-specific safety and accident prevention rules as well as all current KNX guide lines.
- Please follow country-specific rules and regulations for the planning and construction of installations, especially with regard to emergency lighting systems.
- For the installation the device must be switched to zero potential.
- Do not open the device! Faulty devices must be returned to the manufacturer.

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Technical data

POWER & OUTPUTS SPECIFICATIONS		
Power supply	Via KNX bus Max. current consumption	21..30V DC 10,1mA
Additional supply		No
Number of outputs		9 shutter/blind channels
Type of output		Dry contact (potential-free)
Outputs per channel		2 outputs per common/channel
Output nominal values (C-Loads are not allowed)	AC rated current / voltage DC rated current / voltage	10A / 230V AC 50/60Hz 10A / 30 V DC
Channel (2 outputs) nominal values (C-Loads are not allowed)	AC rated current / voltage DC rated current / voltage	10A / 230V AC 50/60Hz 10A / 30 V DC
Max. load rating per device		90A / 230V AC 50/60Hz 10A per output / 10A per common
Phases switching distribution		Only 1 phase is allowed per connector
Output life expectance	Mechanical Electrical	$> 10^7$ operations (at 300 times/min) $> 10^5$ cycles with resistive load at max current (at 20 times/min)
Connections	KNX bus connection terminal Terminal screw block Tightening torque for terminal screw	0,8mm² solid max. 3mm Ø solid maximum 0.5 Nm

GENERAL SPECIFICATIONS		
Control and display elements	Programming button LED 2 x buttons for manual channels control 18 x LEDs	To assign the physical address To switch On/Off outputs and move Up/Down channels. To display actual outputs/channels status
Mechanical data	Casing: Dimensions REG casing 4TE • Width: • Height: • Length: Weight: Mounting:	Plastic ABS – V0 28mm 85mm 65mm 120gr 35mm DIN rail & flush-mounted cabinets
Electrical safety	Degree of contamination: Protection type (in accordance with EN60529): Protection class (according to IEC 1140): Overvoltage category: KNX Bus:	2 IP20 class II class III Separated extra-low voltage SELV DC 24
EMC requirements	Complies with:	EN 50491-5-2 EN 50491-5-3
Environmental conditions	Clima conditions: Operation temperature: Storage temperature: Rel. humidity (non condensing):	EN 60721-3-3 class 3k5 -5°C to +45°C -25°C to +70°C 5 % to 93 %
Certification **CE-Signage**		KNX registered According to EMC-Guidelines (Residential and commercial buildings), Low Voltage guidelines

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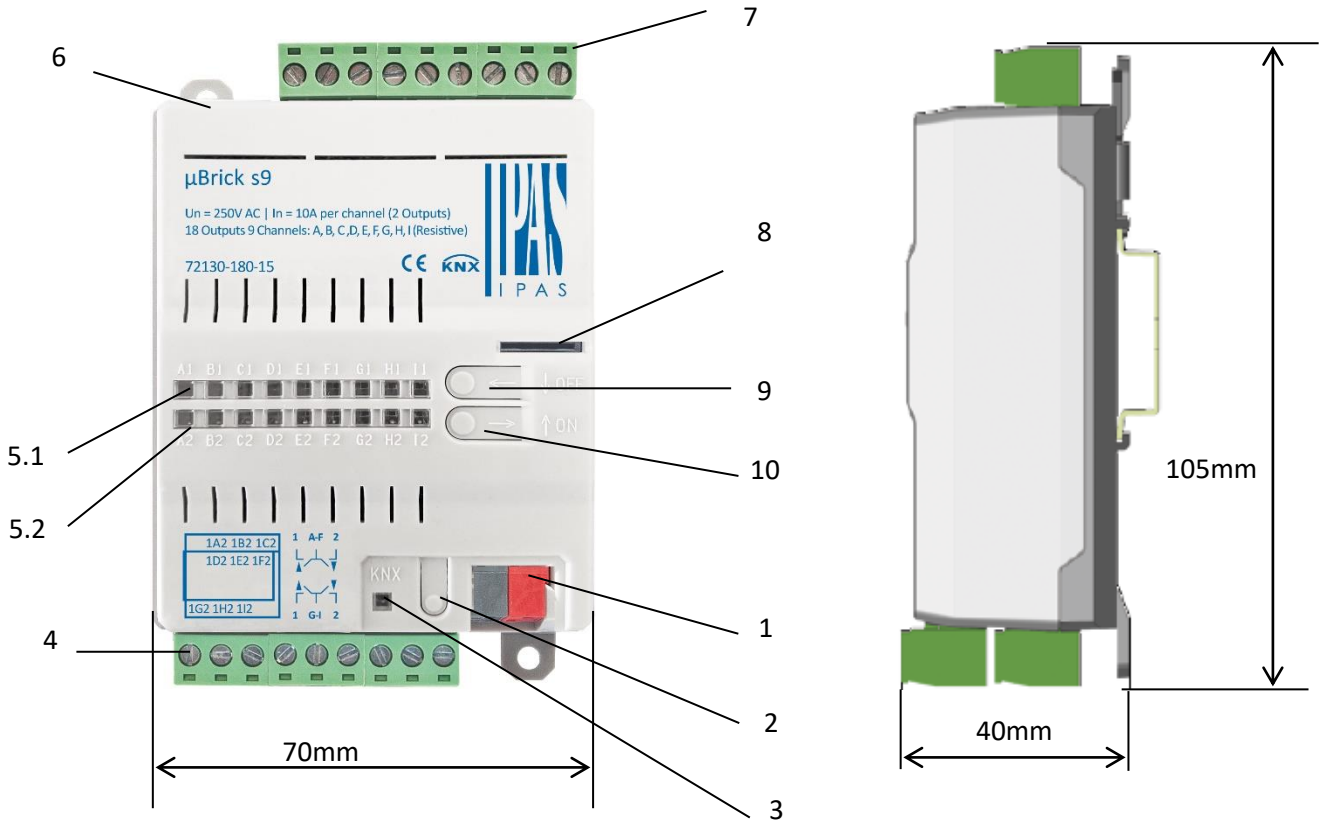
Location and function of the LEDs and control elements

The programming button and programming LED are required for commissioning and are only accessible in the distribution box when the cover is removed.



1: KNX bus connector
2: Programming button

3: Programming LED

4: Outputs connector: Channels G,H,I

5: LED output/channel status
5.1 - Shutter: Upper LED blinks while moving UP
5.2 - Shutter: Lower LED blinks while moving DOWN

6: Surface mount fixing holes
7: Outputs connector
- Lower connector: Channels A,B,C
- Upper connector: Channels D,E,F

8: SD card slot (only for internal use)
9: Manual control (See Annex 1)
- Long press: Move Down
- Short press: Change to next channel/output

10: Manual control (See Annex 1)
- Long press: Move UP
- Short press: Change channel/output

LEDs									PUSH BUTTONS
A1 ↑	B1 ↑	C1 ↑	D1 ↑	E1 ↑	F1 ↑	G1 ↑	H1 ↑	I1 ↑	↓ DOWN
A2 ↓	B2 ↓	C2 ↓	D2 ↓	E2 ↓	F2 ↓	G2 ↓	H2 ↓	I2 ↓	↑ UP

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Mounting and wiring

As an REG device, the uBrick series are suitable for mounting in distribution boxes on 35 mm DIN rails and wall boxes. To mount the device, it must be angled to slide onto the DIN rail from above and then locked into place with a downward movement.

Please make sure that the security latch at the bottom side of the device snaps into place and that the device is firmly attached to the rail. To dismount the device, the security latch can be pulled downwards with a suitable tool and then the device can be removed from the rail.

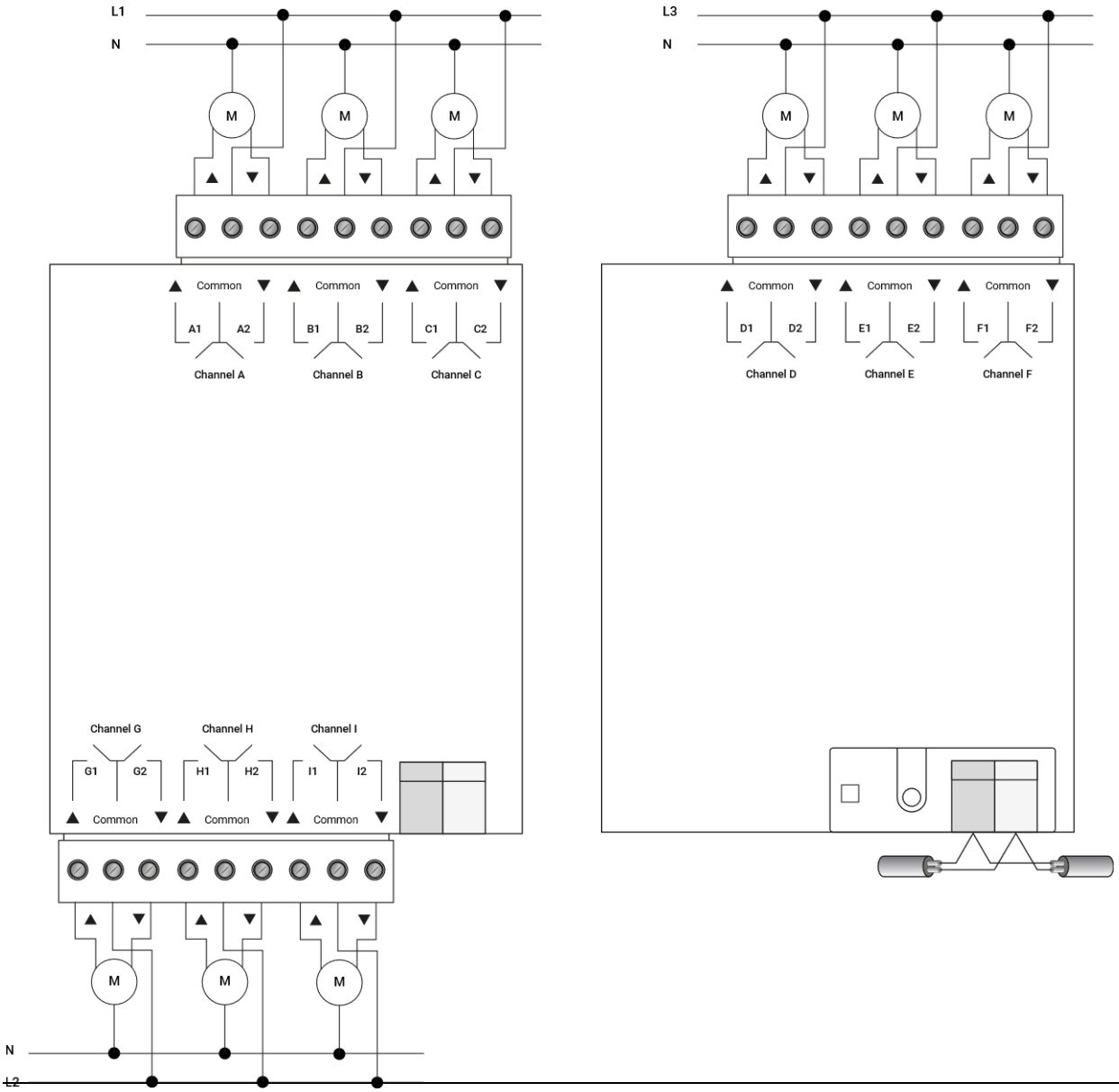
After the device has been inserted, the cables for the Inputs/Outputs should be attached to the upper (Outputs) and lower (Inputs) connectors. However, please make sure that these are labeled clearly.

The power supply is connected to the bottom right-hand side connector according to the order indicated on the casing. To connect the KNX cable, a standard bus connector is plugged into the respective entry on the device. Please make sure that there is double basic insulation between the KNX installation and the power supply. To do so, please insulate the wires of the KNX cable up to the bus connector with the enclosed shrinkable tubing.

Please make sure that the cables are laid in a way that ensures sufficient distance between the inputs and outputs cables

OUTPUTS SCHEMATIC

Each channel can be configured to be used as one blind channel.



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ANNEX 1: MANUAL CONTROL

The µBrick actuator has 2 push buttons and status LEDs on the front side:

- These buttons can be activated to control each and every channel individually if you select “yes” in the relevant parameter options in Binary outputs and/or Shutter/Blinds.
- The LEDs are arranged in two rows, whereas the LEDs represent:
    - For Shutter/blinds:
        - The top row: channel’s first relay A-UP, B-UP, C-UP, etc.
        - The bottom row: channel’s second relay A-DOWN, B- DOWN, C- DOWN, etc.

MANUAL CONTROL – PARAMETER MODE

The Parameter Mode allows you to control all the channels of the actuator as configured in the ETS.

The Action simulates a telegram received at the switching object of the selected channel.

	SHORT PRESS – Channel Selection  Short LED blinking	**LONG PRESS – Action**  LED blinks once off to confirm the action. **SHUTTER/BLIND**
TOP push button ←	- First press action: only indicates current channel - Consecutive pressing actions (< 0,666 sec. apart): Moves to the left	- First press action: Sends a DOWN command “1” to the “Move” object. - Next press action (while shutter/blind is moving) of same button: sends a Stop command to the “Stop…” object.  LED blinks while moving DOWN during parameterized time
BOTTOM push button →	- First press action: only indicates current channel - Consecutive pressing actions (< 0,666 sec. apart): Moves to the right	- First press action: Sends an UP command “0” to the “Move” object. - Next press action (while shutter/blind is moving) of same button: sends a Stop command to the “Stop…” object.  LED blinks while moving UP during parameterized time

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MANUAL CONTROL – TEST MODE

The Test Mode allows you to test all the loads/wiring connected to the channels. It is independent from the ETS configuration of the actuator (since the "Manual Control / Param mode + Test mode" is a default option, you can use the Test mode even before programming the actuator).

Important note: should a blind/shutter be connected to a channel, the 2 channels may never be closed at the same time. Therefore, even in Test mode, if the channel is configured as a blind, this safety measure is implemented (See XX). For this reason, it is better to first commission the OUTPUT: CHANNEL TYPE SELECTION before using the Test mode.

To change into the test mode, both of the buttons must be pressed for 2 seconds. To change back to the normal "Parameter Mode" the same procedure should be repeated. Be aware by changing back to "Parameter Mode" the device will restart. Also after the device has restarted and if the channel is configured to be a blind channel, it will do a calibration movement on the first movement command.

 In order to indicate that the actuator is in Manual Control / Test Mode, the LED of the selected channel is continuously making a short blinking action every second; no matter whether the channel is ON (LED ON) or OFF (LED OFF).

The Action switches/moves the channel, as you can see in the table below:

	SHORT PRESS – Channel Selection  Short LED blinking	**LONG PRESS – Action**  LED blinks once off to confirm the action. **SHUTTER/BLIND**
TOP push button ←	- First pressing: only indicates current channel - Consecutive pressing actions (not more than 0,666 sec. apart): Moves to the left	- Long press: Moves DOWN - Release: Stops  LED blinks while moving DOWN
BOTTOM push button →	- First pressing: only indicates current channel - Consecutive pressing actions (not more than 0,666 sec. apart): Moves to the right	- Long press: Moves UP - Release: Stops  LED blinks while moving UP