Operating- and mounting instructions
PowerBlock s4 DC
Order number: 77024-180-11

General usage

Power Block series consists of different devices types for switching of power and shutter control. The PowerBlock s4 DC comes in a 4 unit DIN rail housing and can be installed in a standard distribution board.

A brief overview of the functionality is given in the following table:

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.

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.

Scope of delivery

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

- Complete device with inserted bus connector
- Operating and mounting instructions
- 1x heat shrinkable tubing 1.2 x 2cm for additional insulation of the bus cable
- Delivered in break-proof individual packaging

Application programs

The following application programs are currently available for the PowerBlock device:

- 77024-PowerBlock s4 DC-11-0110

## 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.
- When planning and construction of electrical installations, the national guidelines, rules and regulations of the country in questions are to be obeyed, as well as all current KNX guide lines.
- For the installation the device must be switched to zero potential.
- The device must not be opened.
- Any faulty device is to be sent together with a return delivery to the manufacturer.

Technical data

POWER AND OUTPUTS SPECIFICATIONS		
Power supply	Supply Voltage: Max. Consumption: Additional power supply:	21..30VDC 9,4mA No
Number of outputs	Total outputs	4 outputs for DC shutter control with separated supply inputs
Rated Operational Voltage	Shutter	24V DC
Rated Current	Per Channel	6A
Load Type		Motor 24V DC
Output life expectance	Mechanical: Electrical:	$> 5x10^6$ operations (at 180 times/min) $> 1x10^5$ cycles with 10A load
Connections	KNX bus connection terminal: Terminal screw block: Tightening torque for terminal screw:	0,8 mm Ø solid max. 6 mm Ø solid maximum 0.6 Nm
GENERAL SPECIFICATIONS		
Control and display elements	Programming button: LED, red: 8 x buttons: (for manual channels control) 8 x LEDs, red:	To assign the physical address Displays addressing mode To Move Up/Down To display actual outputs/channels status
Mechanical data	REG casing 4TE: Width: Hight: Lenght: Weight Mounting:	Plastic ABS – V0 72 mm 58 mm 90 mm 235 g 35 mm DIN rail
Electrical safety	Pollution class: Protection type:* Protection class:** Overvoltage category: KNX Bus:	2 IP20 III III SELV DC 30V
EMC requirements	Complies with:	EMC directive 2014/30/EU
Environmental conditions	Weather resistance: Environmental conditions in operation: Storage emperature: Transportation temperature: Rel. humidity: (non condensing)	EN 50090-2-2 -5°C to +45°C -25°C to +55°C -25°C to +70°C 5 % to 93 %
Certification CE-Signage	KNX registered: According to EMC-Guidelines:	Yes (Residential and commercial buildings), Low Voltage guidelines

* (according to EN 60529); ** (according to IEC 1140)

Location and function of the LEDs and control elements
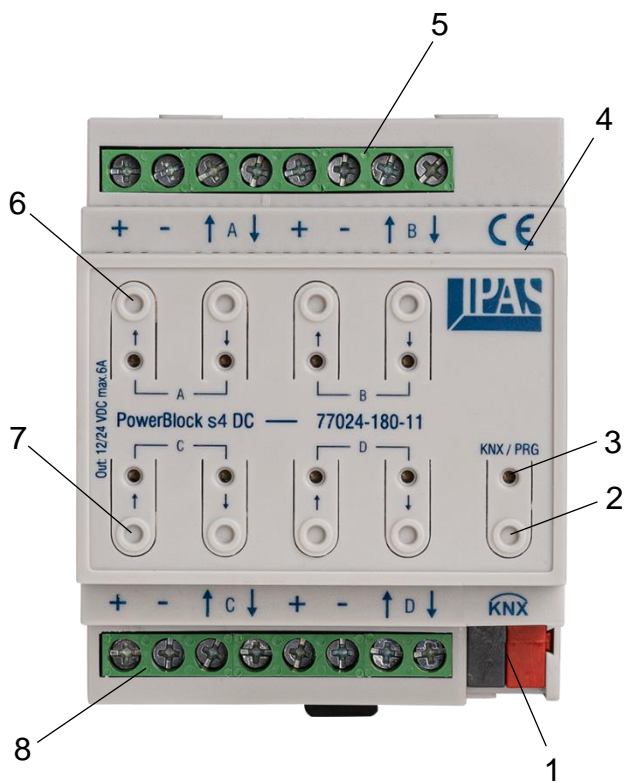
1: KNX bus connector
2: Programming button
3: Programming LED
4: SD card slot (only for internal use)
5: 24VDC input and shutters output terminal
6: Manual control: Long press: move up / Short press: Stop/Step
7: Manual control: Long press: move up / Short press: Stop/Step
8: 24VDC input and shutters output terminal

Mounting and wiring

As an REG device, the Power Block 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 Outputs should be attached to the upper and lower connectors. However, please make sure that these are labelled clearly.

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 shutter channel for DC motor:
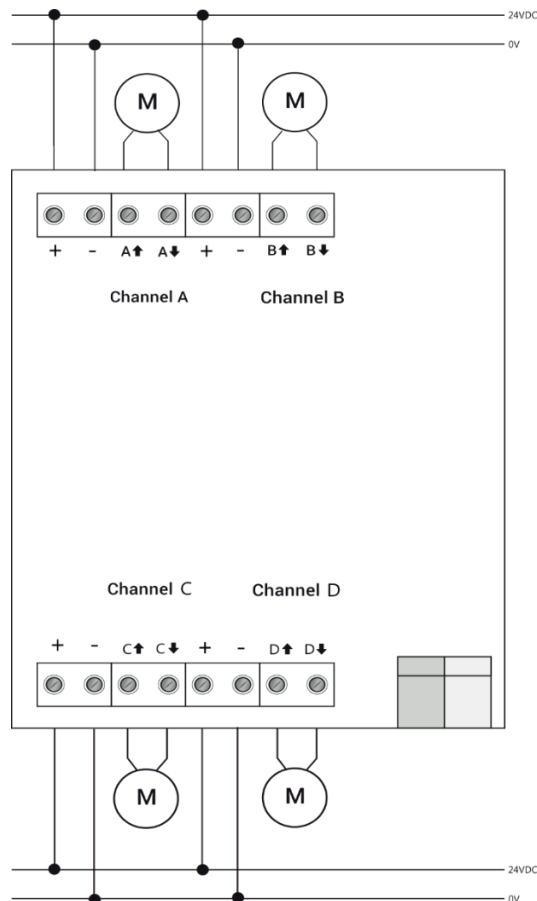
ANNEX 1: Manual Control

The Power Block actuator has 2 push buttons and 2 status LEDs for each channel 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 Shutter/Blinds. The LEDs are arranged in two rows, whereas the LEDs represent:

- The top row: A ->UP, A->DOWN, B->UP, B->DOWN
- The bottom row: C->UP, C-> DOWN, D-> UP, B->DOWN

MANUAL CONTROL PARAMETER

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.

SHUTTER
Long press action:
Sends a UP command "0" to the "Move" object.
Long press action (Channel output 2):
Sends a DOWN command "1" to the "Move" object.

Short press action (while shutter/blind is moving) of same button:
Sends a Stop command to the "Stop…" object

⤓ LED blinks while moving UP/DOWN during parameterized time

LED channel status
- Shutter: LED blinks while moving UP
- Shutter: LED blinks while moving DOWN