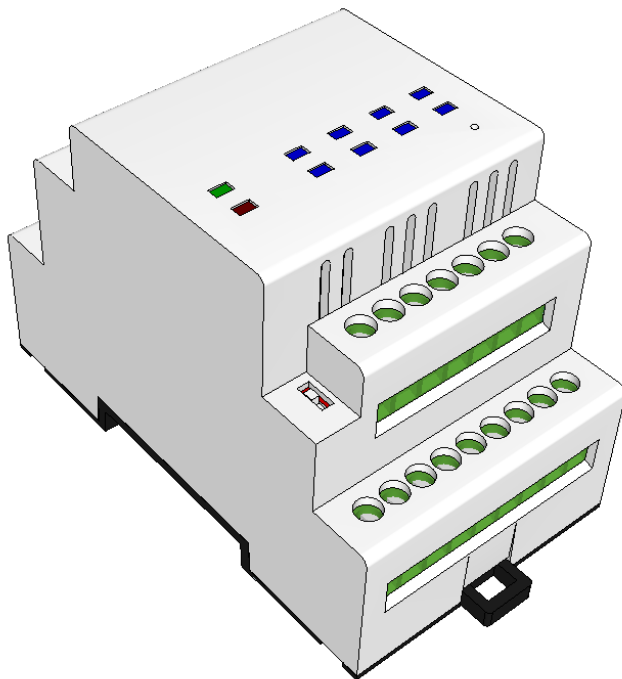




CS-8 Central switch

Standard Solutions Album



www.smart-ion.com

05.05.2026

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The Standard Solutions Album provides information on configuring the CS-8 using two options:

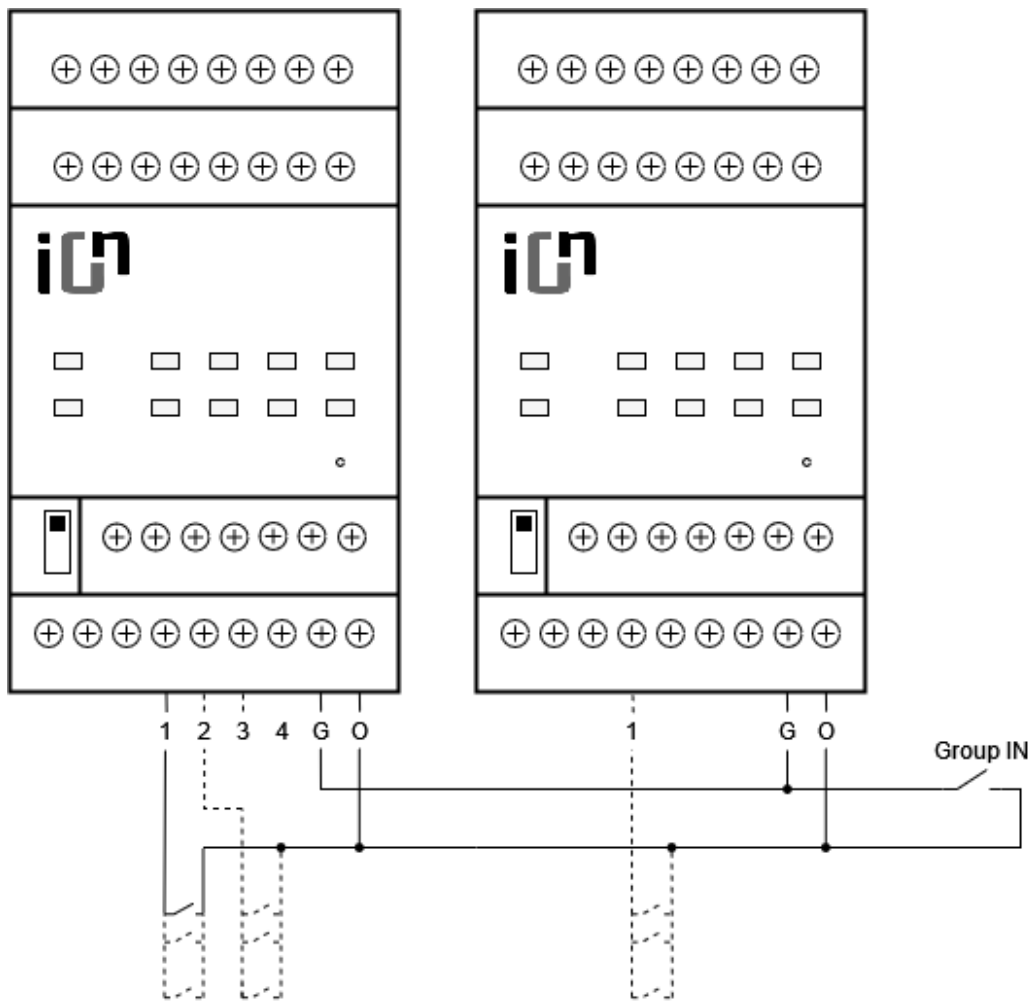
- a) setup via the [online configurator](#);
- b) via the Modbus RTU protocol.

Use the option that best suits your needs :)

CONNECTING MULTIPLE DEVICES

Objective: Several devices installed on the premises require a single "master" switch.

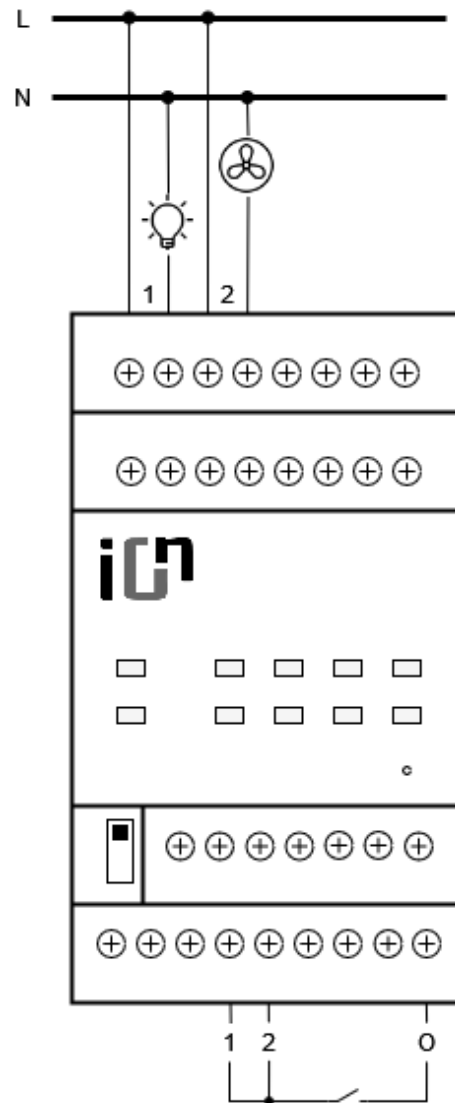
Solution: The master switch terminals are connected in parallel.



BATHROOM LIGHT & FAN CONTROL

Objective: Controlling both light and ventilation fan in a bathroom using a single switch. Both activate simultaneously; however, upon switching the light off, the fan remains operational for a 2-minute delay.

Solution: Bridge Inputs 1 and 2. Configure Output 2 with the required off-delay duration.



a) Configurator setup:

LOGIC SETTINGS

[Input Type \(Toggle / Momentary\)](#)

[Group-Input Setting](#)

[Power-up Output State](#)

[Retain Output Status](#)

[Input-Output Link \(Switch Behavior\)](#)

[Virtual Groups \(Momentary Press\)](#)

[Output 'On' Time Limit](#)

Output 'Off' Delay

Output	1	2	3	4	5	6	7	8
0 - no delay	<input type="text" value="0"/>	<input type="text" value="2"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
	sec ▾	min ▾	sec ▾	sec ▾	sec ▾	sec ▾	sec ▾	sec ▾

Reload
Save

b) Register configuration:

The function "0x10 – WRITE_MULTIPLE_REGISTERS" is used. Upon successful execution of the command, the response format is as follows: function, starting address, and the number of written registers.

Slave Address	1 byte	0x07
Function Code	1 byte	0x10
Write Starting Address	2 bytes	0x0431
Quantity of Registers	2 bytes	0x0008
Number of Bytes	1 byte	0x0010
Write Value 1	2 bytes	0x0000
Write Value 2	2 bytes	0x0202
Write Value 3	2 bytes	0x0000
Write Value 4	2 bytes	0x0000
Write Value 5	2 bytes	0x0000
Write Value 6	2 bytes	0x0000
Write Value 7	2 bytes	0x0000
Write Value 8	2 bytes	0x0000
CRC	2 bytes	0xFFFF

To write a single value, the function "0x06 – WRITE_REGISTER" can be used. Upon successful execution of the command, the device returns a copy of the request.

Slave Address	1 byte	0x07
Function Code	1 byte	0x06
Register Address	2 bytes	0x0432
Write Value	2 bytes	0x0202
CRC	2 bytes	0XXXXX

Note: Other unused inputs and outputs (3–8) can be used for other purposes.

ENTRY LIGHTING WHEN LEAVING THE BUILDING

Objective: When leaving the premises, the master switch turns off all the lights in the house and simultaneously turns on the standby lighting on the porch. The porch lighting automatically turns off after 5 minutes (the standby lighting is connected to Output 8).

Solution: Configure the output response triggered by the master switch: Output 8 is set to ON, and all other outputs are set to OFF.

a) Configurator setup:

LOGIC SETTINGS

Input Type (Toggle / Momentary)

Group-Input Setting

Functionality	Momentary: each click activates outputs							
Output	1	2	3	4	5	6	7	8
Activation Mode	Off	Off	Off	off	Off	Off	Off	On
Deactivation Mode	none	none	none	none	none	none	none	none

Reload
Save

Power-up Output State

Retain Output Status

Input-Output Link (Switch Behavior)

Virtual Groups (Momentary Press)

Output 'On' Time Limit

Output	1	2	3	4	5	6	7	8
0 - no limit	0	0	0	0	0	0	0	5
	sec	sec	sec	sec	sec	sec	sec	min

Reload
Save

Output 'Off' Delay

b) Register configuration:

The function "0x06 – WRITE_REGISTER" is used. Upon successful execution of the command, the device returns a copy of the request.

To configure this scenario, three commands (requests) must be executed.

Request 1 – Setting the output response.

Slave Address	1 byte	0x07
Function Code	1 byte	0x06
Register Address	2 bytes	0x0503
Write Value	1 byte	0x00FF
CRC	2 bytes	0XXXXX

Request 2 – Setting the output state upon group input activation.

Slave Address	1 byte	0x07
Function Code	1 byte	0x06
Register Address	2 bytes	0x0504
Write Value	1 byte	0x0080
CRC	2 bytes	0XXXXX

Request 3 – Limiting the closed-state duration of Output 8.

Slave Address	1 byte	0x07
Function Code	1 byte	0x06
Register Address	2 bytes	0x0428
Write Value	1 byte	0x0205
CRC	2 bytes	0XXXXX

LIGHTING CONTROL UPON RETURNING HOME

Objective: The master switch type is a latching (maintained) switch. Upon returning to the premises, the master switch is toggled to the OFF state (deactivation mode), which turns on the hallway lighting (Output 2) and simultaneously turns off the porch lighting (Output 3). Other outputs remain unchanged.

Solution: Configure the output response for the master switch deactivation mode: Output 2 is set to ON, Output 3 is set to OFF, and the rest remain unchanged.

a) Configurator setup:

LOGIC SETTINGS

[Input Type \(Toggle / Momentary\)](#)

[Group-Input Setting](#)

Functionality	Toggle Switch: follow input state							
Output	1	2	3	4	5	6	7	8
Activation Mode	off	off	off	off	off	off	off	off
Deactivation Mode	none	On	Off	none	none	none	none	none

[Power-up Output State](#)

[Retain Output Status](#)

[Input-Output Link \(Switch Behavior\)](#)

[Virtual Groups \(Momentary Press\)](#)

[Output 'On' Time Limit](#)

[Output 'Off' Delay](#)

b) Register configuration:

The function "0x06 – WRITE_REGISTER" is used. Upon successful execution of the command, the device returns a copy of the request.

To configure this scenario, two commands (requests) must be executed.

Request 1 – Setting the output response.

Slave Address	1 byte	0x07
Function Code	1 byte	0x06
Register Address	2 bytes	0x0505
Write Value	1 byte	0x0006
CRC	2 bytes	0XXXXX

Request 2 – Setting the output state upon turning off (deactivation mode) the group input.

Slave Address	1 byte	0x07
Function Code	1 byte	0x06
Register Address	2 bytes	0x0506
Write Value	1 byte	0x00FB
CRC	2 bytes	0XXXXX

TURNING ON THE BEDROOM LIGHTS

Objective: Three switches are installed in the bedroom: one near the entrance (controlling the main lighting) and on each side of the bed (controlling the respective reading lamps). The system must allow turning off all lighting (the main light and both reading lamps) using any of these switches.

Solution: For the specified switches (Inputs 1, 2, and 3), long-press detection is configured to trigger the virtual group "[A]" (which combines Outputs 1 through 3). A short press on a switch changes the state only of the output linked to that specific input. A long press on any of the switches turns off the entire virtual group.

a) Configurator setup:

LOGIC SETTINGS

[Input Type \(Toggle / Momentary\)](#)

[Group-Input Setting](#)

[Power-up Output State](#)

[Retain Output Status](#)

[Input-Output Link \(Switch Behavior\)](#)

[Virtual Groups \(Momentary Press\)](#)

Input	1	2	3	4	5	6	7	8
Enable?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group Control	[A] ▾	[A] ▾	[A] ▾	? ▾	? ▾	? ▾	? ▾	? ▾
[A] Output Action	off ▾	off ▾	off ▾	none ▾	none ▾	none ▾	none ▾	none ▾
[B] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾
[C] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾
[D] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾

Reload
Save

[Output 'On' Time Limit](#)

[Output 'Off' Delay](#)

b) Register configuration:

The function "0x10 – WRITE_MULTIPLE_REGISTERS" is used. Upon successful execution of the command, the response format is as follows: function, starting address, and the number of written registers.

Slave Address	1 byte	0x07
Function Code	1 byte	0x10
Write Starting Address	2 bytes	0x0311
Quantity of Registers	2 bytes	0x0008
Number of Bytes	1 byte	0x0010
Write Value 1	2 bytes	0x0205
Write Value 2	2 bytes	0x0205
Write Value 3	2 bytes	0x0205
Write Value 4	2 bytes	0x0000
Write Value 5	2 bytes	0x0000
Write Value 6	2 bytes	0x0000
Write Value 7	2 bytes	0x0000
Write Value 8	2 bytes	0x0000
CRC	2 bytes	0XXXXX

Note: The remaining unused inputs and outputs (4–8) can be used for other purposes, including the creation of additional virtual groups.

BEDROOM LIGHTING CONTROL WITH NIGHT LIGHT

Objective: The example is similar to the previous one, with the addition of night lighting that does not have a dedicated switch. The switches are connected to Inputs 5, 6, and 7. The outputs are assigned as follows: Output 5 – main lighting, Outputs 6 and 7 – reading lamps, and Output 8 – night lighting..

Solution: Long-press detection is configured for the specified switches (Inputs 5, 6, and 7), which triggers the virtual group "[B]" (comprising four outputs: 5–8). A short press on a switch changes the state only of the output linked to that specific input. A long press causes Output 8 (night lighting) to change state (toggle), while all other outputs in the group turn off.

Additional Options: The operating time of the night lighting can be restricted by using the closed-state duration setting of the outputs.

a) Configurator setup:

LOGIC SETTINGS

[Input Type \(Toggle / Momentary\)](#)

[Group-Input Setting](#)

[Power-up Output State](#)

[Retain Output Status](#)

[Input-Output Link \(Switch Behavior\)](#)

[Virtual Groups \(Momentary Press\)](#)

Input	1	2	3	4	5	6	7	8
Enable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Group Control	? ▾	? ▾	? ▾	? ▾	[B] ▾	[B] ▾	[B] ▾	[B] ▾
[A] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾
[B] Output Action	none ▾	none ▾	none ▾	none ▾	Off ▾	Off ▾	Off ▾	toggle ▾
[C] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾
[D] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾

Output 'On' Time Limit

Output	1	2	3	4	5	6	7	8
0 - no limit	0	0	0	0	0	0	0	30
	sec ▾	sec ▾	sec ▾	sec ▾	sec ▾	sec ▾	sec ▾	min ▾

[Output 'Off' Delay](#)

b) Register configuration:

The function "0x10 – WRITE_MULTIPLE_REGISTERS" is used. Upon successful execution of the command, the response format is as follows: function, starting address, and the number of written registers.

Slave Address	1 byte	0x07
Function Code	1 byte	0x10
Write Starting Address	2 bytes	0x0311
Quantity of Registers	2 bytes	0x0008
Number of Bytes	1 byte	0x0010
Write Value 1	2 bytes	0x0000
Write Value 2	2 bytes	0x0000
Write Value 3	2 bytes	0x0000
Write Value 4	2 bytes	0x0000
Write Value 5	2 bytes	0x0206
Write Value 6	2 bytes	0x0206
Write Value 7	2 bytes	0x0206
Write Value 8	2 bytes	0x0306
CRC	2 bytes	0XXXXX

ONE SWITCH – TWO LOADS

Objective: A single switch is installed, but multiple lighting points need to be controlled independently.

Solution: Use virtual groups. The switch is connected to Input 1 (Input 2 is not connected). A short press of the switch toggles the first output, and a long press toggles the second output.

a) Configurator setup:

LOGIC SETTINGS

[Input Type \(Toggle / Momentary\)](#)

[Group-Input Setting](#)

[Power-up Output State](#)

[Retain Output Status](#)

[Input-Output Link \(Switch Behavior\)](#)

[Virtual Groups \(Momentary Press\)](#)

Input	1	2	3	4	5	6	7	8
Enable?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group Control	[A] ▾	[A] ▾	? ▾	? ▾	? ▾	? ▾	? ▾	? ▾
[A] Output Action	none ▾	toggle ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾
[B] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾
[C] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾
[D] Output Action	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾	none ▾

Reload
Save

[Output 'On' Time Limit](#)

[Output 'Off' Delay](#)

b) Register configuration:

The function "0x10 – WRITE_MULTIPLE_REGISTERS" is used. Upon successful execution of the command, the response format is as follows: function, starting address, and the number of written registers.

Slave Address	1 byte	0x07
Function Code	1 byte	0x10
Write Starting Address	2 bytes	0x0311
Quantity of Registers	2 bytes	0x0008
Number of Bytes	1 byte	0x0010
Write Value 1	2 bytes	0x0005
Write Value 2	2 bytes	0x0305
Write Value 3	2 bytes	0x0000
Write Value 4	2 bytes	0x0000
Write Value 5	2 bytes	0x0000
Write Value 6	2 bytes	0x0000
Write Value 7	2 bytes	0x0000
Write Value 8	2 bytes	0x0000
CRC	2 bytes	0XXXXX

MULTI GROUP LIGHTING CONTROL

Objective: There are several rooms, each containing multiple lighting points. A long press on any switch in a room turns off all lighting points in that room. Activating the master switch turns off all lighting in all rooms, except for the second output.

Solution: Use virtual groups ("[A]" for the first room, "[B]" for the second room, and "[C]" for the third room). A long press on any input turns off the outputs of the corresponding virtual group.

a) Configurator setup:

LOGIC SETTINGS

Input Type (Toggle / Momentary)

Group-Input Setting

Functionality	Momentary: each click activates outputs							
Output	1	2	3	4	5	6	7	8
Activation Mode	Off	none	Off	Off	Off	Off	Off	Off
Deactivation Mode	none	none	none	none	none	none	none	none

Reload
Save

Power-up Output State

Retain Output Status

Input-Output Link (Switch Behavior)

Virtual Groups (Momentary Press)

Input	1	2	3	4	5	6	7	8
Enable?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Group Control	[A]	[A]	[A]	[B]	[B]	[C]	[C]	[C]
[A] Output Action	off	off	Off	none	none	none	none	none
[B] Output Action	none	none	none	off	Off	none	none	none
[C] Output Action	none	none	none	none	none	Off	Off	off
[D] Output Action	none	none	none	none	none	none	none	none

Reload
Save

Output 'On' Time Limit

b) Register configuration:

To configure this scenario, three commands (requests) must be executed.

Request 1 – Creating and configuring the virtual groups.

Slave Address	1 byte	0x07
Function Code	1 byte	0x10
Write Starting Address	2 bytes	0x0311
Quantity of Registers	2 bytes	0x0008
Number of Bytes	1 byte	0x0010
Write Value 1	2 bytes	0x0205
Write Value 2	2 bytes	0x0205
Write Value 3	2 bytes	0x0205
Write Value 4	2 bytes	0x0206
Write Value 5	2 bytes	0x0206
Write Value 6	2 bytes	0x0207
Write Value 7	2 bytes	0x0207
Write Value 8	2 bytes	0x0207
CRC	2 bytes	0xFFFF

Request 2 – Setting the output response.

Slave Address	1 byte	0x07
Function Code	1 byte	0x06
Register Address	2 bytes	0x0503
Write Value	1 byte	0x00FD
CRC	2 bytes	0xFFFF

Request 3 – Setting the output state upon group input activation.

Slave Address	1 byte	0x07
Function Code	1 byte	0x06
Register Address	2 bytes	0x0504
Write Value	1 byte	0x0000
CRC	2 bytes	0xFFFF