

User manual

document version 2.2 for firmware from 5.1

DALI4in



DALI universal push button controller

4 independently adjustable Digital Inputs

Analog input (e.g. thermometer)

Indication LED

DIN rail installation

10 basic preset functions

any user functions

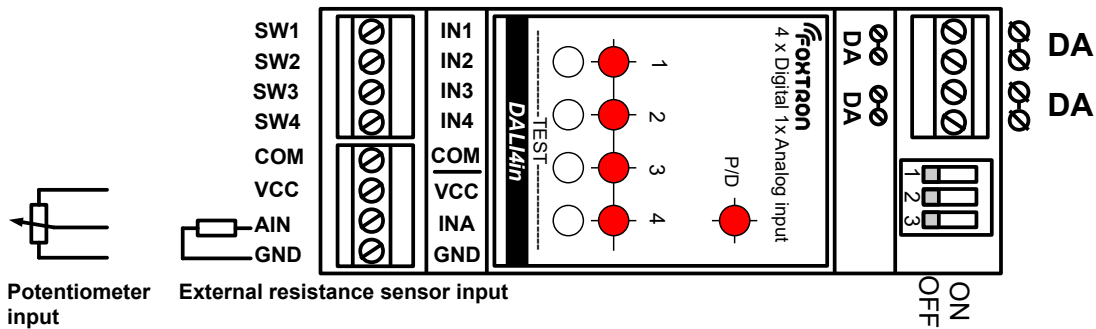
Power supply from DALI bus

DALI4in is a universal push button controller for DALI bus with 4 digital inputs that are independently adjustable and one analogue input. Each of the inputs can be freely configured with the DALIconfig program, which is available for free download at www.foxtron.eu.

Technical Specifications		
buses	DALI / DALI2	
number of digital inputs	4	
number of analog inputs	1	
power supply (from DALI bus)	4	mA
maximum length of leads to buttons	1	m
cross section of wires	2	mm ²
degree of coverage	IP20	
ambient working temperature	0 ÷ 50	°C
storage temperature	-10 ÷ 70	°C
weight	50	g

Signaling	
P/D	Flashing LED indicates receipt or sending of a message on the DALI bus
1-4	Signalling of pressing the corresponding input (test button and external input on the terminals)

Connecting the terminals



marking	Description
DA/DA	DALI bus, two wires interchangeable
SW1 - SW4	inputs of individual buttons
COM	common wire for buttons
VCC	3,3V
AIN	Analog input
GND	Ground for analog input
DIP switch settings for external sensor	
1	1kΩ
2	10kΩ
3	100kΩ

Setting dipswitches for external resistance sensor

For the input of the external resistance sensor it is advisable to select (ON) the resistance value that is closest to the resistance of the sensor during normal operation. For the potentiometer input, leave all dipswitches OFF.

Digital input functions - DALI2

The buttons have functions according to the DALI2 specification. They can therefore send information about the following events to the bus.

Button pressed	Button pressed
Button released	Button released
Short press	The button is pressed and released in close succession. The maximum press time is determined by the "Short timer" parameter
Double press	Double click (if the "Double timer" parameter is not equal to 0)
Long press start	The button is pressed for a longer period of time. The minimum press time is determined by the "Short timer" parameter
Long press repeat	When the button is held down continuously, this event is sent every 200ms
Long press stop	Releasing the button after a long hold.
Button stuck/free	Button jam/release. The button has been pressed for a very long time as defined by the "Stuck timer" parameter. From this time on, the "Long press repeat" event will no longer be sent.

Advanced digital input functions - DALI2+

All 4 buttons (inputs) are independent of each other and can be set to any function. The setting is done by the DALIconfig program, which is free to download on the website www.foxtron.eu and via the DALI232, DALI-net or DALI2net converter.

Preset functions

The DALIconfig program has preset the most commonly used functions to facilitate configuration.

0 - No function

Without function

A button without a function does not send commands. DALI2 events can be sent.

1 - Push-button OFF

Lights out

The lights are switched off when the button is pressed.

2 - Push-button ON

Lighting up

When the button is pressed, the lights are switched on to maximum.

3 - Dimming DOWN

Dimming down

When you press it briefly, the lights are switched off. With a long hold, the lights are continuously dimmed to the minimum and when released, dimming is stopped at the current level.

4 - Dimming UP**Dimming up**

When pressed briefly, the lights are switched on to maximum. With a long hold, the lights are continuously dimmed to maximum and when released, dimming is stopped at the current level.

5 - Toggle OFF/ON**OFF/ON shifting**

When pressed briefly, the lights are alternately switched off or on at maximum.

6 - Dimming single button**One-button dimming**

When pressed briefly, the lights are alternately switched off and on at maximum. With a long hold, the lights are alternately dimmed continuously to maximum or minimum. When released, dimming is stopped at the current level.

7 - Switch**Switch**

When the button is pressed, the lights are switched on to maximum. When the button is released, the lights are switched off.

8 - Staircase**Stair switch**

When the button is pressed or released, the lights are alternately switched off and on at maximum. It is possible to control the lights from multiple buttons set in the same way.

9 - Timer**Timer**

Lights on for a set period of time (pulse) When pressed briefly, the lights are illuminated to the maximum. After a set time from the short press, the lights are switched off.

10 - Blinds**Blinds**

Blinds: press=ON, short=OFF after timer reach

User-defined functions

Each button can perform an action on the selected event.

List of events on which actions can be performed.

After start	When DALI bus power is restored
Button pressed	Button pressed
Button released	Button released
Short press	The button is pressed and released in close succession. The maximum press time is determined by the "Short timer" parameter
Long press start	The button is pressed for a longer period of time. The minimum press time is determined by the "Short timer" parameter
Long press repeat	When the button is held down continuously, this event is sent every 200ms
Long press stop	Releasing the button after a long hold.
Double press	Double-click.
Button stuck start	Button jam. The button has been pressed for a very long time as defined by the "Stuck timer" parameter. From this time on, the "Long press repeat" event will no longer be sent.
Button stuck stop	Releasing the button when it is stuck.
Timer reached	The set time has elapsed.
Counter	The button press counter has reached the "Max counter" set limit. The counter is reset.

A sequence of commands can be invoked on an event. Several command sequences can be defined and it is possible to select which one will be sent.

DALI command	Sending a command to the DALI bus, which can for example control the lights. Multiple commands can be sent.
Selecting a sequence of commands	Selects the sequence of commands that will be executed when the event is subsequently fired. If the "Lighting based" function is set and a command to the set address is detected on the DALI bus, then: a) if it is a command to turn the lights on, the first sequence will be executed subsequently. b) if it is a command to turn the lights off, the second sequence will be executed subsequently.
Starting the counter	The counter is running. When the "Timer" time is reached, the "Timer reached" event is triggered. By setting the time to 0s, the counter is stopped.

Up to 32 commands can be defined for each button.

Factory button settings

Access	Functions
SW1	Dimming up - preset function 4 When pressed briefly, the addressed lights are illuminated to the maximum. When long held, the lights are continuously dimmed to maximum and when released, dimming is stopped at the current level.
SW2	Dimming down - Preset function 3 When pressed briefly, the addressed lights are switched off. When long held, the lights are continuously dimmed to the minimum and when released, dimming is stopped at the current level.
SW3	Without funkce
SW4	Without funkce

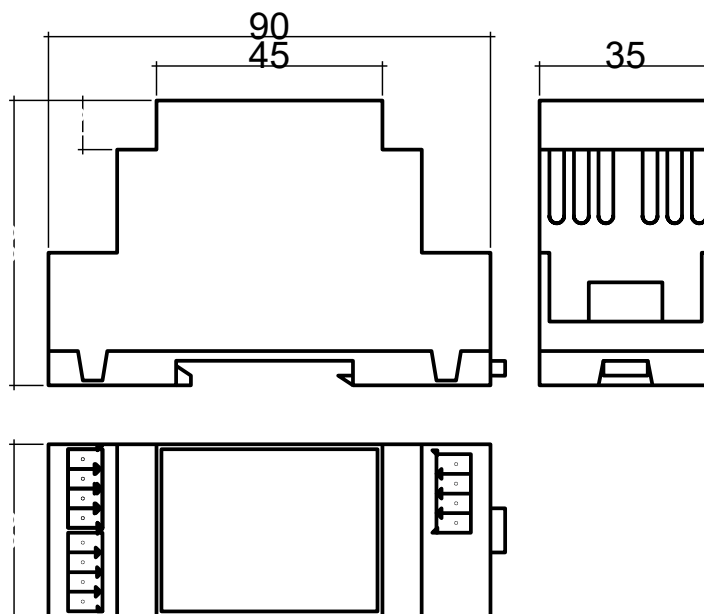
The analog input is designed for an external sensor. This can be, for example, a temperature sensor. The DIP switches are set according to the sensor used. Always one dip switch will be in the ON position (top), the others will be in the OFF position (bottom). The values for the dip switches can be found in the table "Setting dip switches for external sensor" in the section "Connecting terminals".

Setting analog input DALI2 parameters		
Instance enabled	Yes/no	Enables/disables single entry
Instance groups	0-31	Group of the input
Event filter and value	Ano/ne	Sensor sends/does not send measured values
Even priority	2-5	Priority of button input messages on DALI (lower number = higher priority)
Event scheme	The way the button input is reported	
	0: instance	It is reported as an instance type and an instance number
	1: device	Reported as device address and instance type
	2: device / instance	Reported as device address and instance number
	3: device group	Reported as a device group and instance type
	4: instance group	Reported as a group of instances and an instance type
Report timer	1 – 255 (s) 0 – is not sent	Time after which the device sends the information itself
Hysteresis	0 – 25 (%)	Hysteresis
Hysteresis min	0 – 255 (°C)	Minimal hysteresis
Deadtime timer	0 – 12750 (ms)	Minimum time for the device to send the next event

Setting analog input DALI2+ parameters		
Measurement / Refresh	Yes/no	The value is updated in DALIconfig
Ambient temper. Control	Yes/no	Regulation to the desired value
Thermostat group	G0 – G15, Bcast	The group in which the thermostat is
Desired temp. comfort	-37 – 129 (°C)	Value to be controlled during normal operation

Desired temp. saving	-37 – 129 (°C)	Value to be regulated in economic operation
Hysteresis	0 – 25 (°C)	Hysteresis
Response to scene recall	When the scene is called, one of the following happens	
	off	The sensor switches off
	comfort	The comfort level control is switched on
	saving	The control is switched on to the saving level
	-	Nothing will happen
Temperature sensor table	The values need to be selected according to the sensor used	Resistance is set by DIP switch and the corresponding temperature values are filled in accordingly

Dimensions[mm]





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