User manual

version 1.1

DALI4in

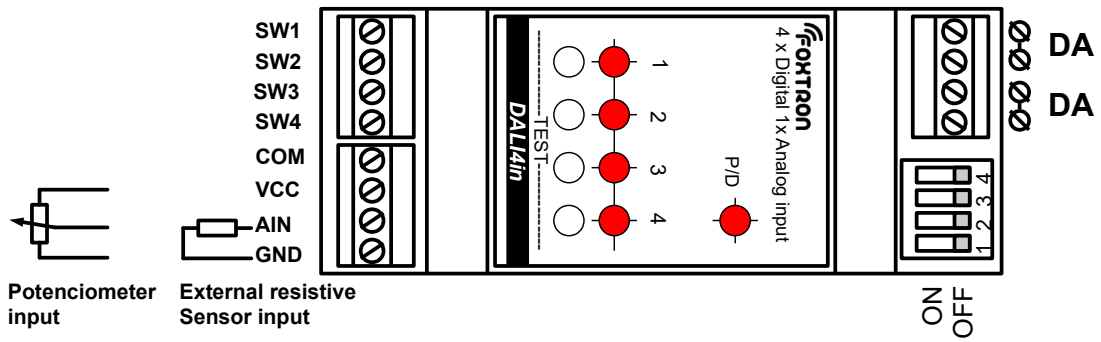
Universal push-button DALI controller
4 independently adjustable digital inputs
Analog input (e.g. thermometer)
LED indication
DIN rail mount
12 function modes for each button
Powered from DALI bus

DALI4in is universal button controller for DALI bus with 4 inputs which are independently adjustable. Each of the inputs is possible to set to 12 different function modes. Setup is done by program DALIconfig which is downloadable for free from www.foxtron.eu.
DALI4in is DIN rail mount.

Technical specification		
bus	DALI	
number of digital inputs	4	
Number of analog inputs	1	
Power supply (from DALI bus)	4	mA
Maximal length of wires to the button	1	m
Wires cross section	2	mm^2
Ingress protection rating	IP20	
Working ambient temperature	0 ÷ 50	°C
Storage temperature	-10 ÷ 70	°C
weight	50	g

Signalization	
P/D	Flashing of LED signals receiving or sending of message on DALI bus
1-4	Signaling pressing of corresponding input (test button and external device connected to terminals)

Terminals connection



Designation	Description	
DA/DA	DALI bus, two interchangeable wires	
SW1 - SW4	Inputs of each buttons	
COM	Common wire for buttons	
VCC	3,3V	
AIN	Analog input	Connection of external sensor
GND	Ground for analog input	
DIP switch setting for external sensor		
1	100Ω	
2	1kΩ	
3	10kΩ	
4	100kΩ	

Setting dip switches for external resistive sensor

For the input of an external resistive sensor, it is advisable to select (ON) that resistance value which is closest to the sensor´s resistance during normal operation.
For potentiometer input all dip switches are set to OFF.

Function – digital inputs

All 4 buttons (inputs) can have assigned one of the 11 function modes. For each mode are another settings available. Most often are 2 commands sent which are designated X and Y in this manual. Both commands can be set to switch on to certain level or on any of DALI bus commands. If it is reasonable to set start speed it may be a part of X/Y command also setting of this speed. X/Y command may send several commands on DALI bus.

List of function modes	
0	• None
1	• **Push-button: short or long press = 1*command X**
2	• **Push-button: short = 1*command X, long = 1*command X then 1*command** • Short press of button sends command X one time. • Long press of button sends command X one time and then it sends command Y one time.
3	• **Push-button: short = 1*command X, long = 1*command X then repeatedly command Y** • Short press of button sends command X one time. • Long press of button sends command X one time and then it sends command Y periodically every 200ms.
4	• **Push-button: short = 1*command X, long = repeatedly command Y** • Short press of button sends command X one time. • Long press of button sends command Y periodically every 200ms.
5	• **Push-button (toggle): short or long = toggle between command X and Y** • Short press of button sends alternately command X and Y. First is command X sent.
6	• **Push-button (toggle): short or long = toggle between command X and Y; lighting based** • Short press of button sends alternately command X and Y based on lighting state
7	• **Push-button (toggle): short = toggle between command X and Y, long = dimming; lighting based** • Short press of button sends alternately command X and Y. First is command X sent. • Long press alternates dimming up and down
8	• **Switch: close = command X, open = command Y**
9	• **Changeover switch: close = command X, open = command Y; lighting based** • Short press or release of button sends alternately command X and Y. First is command X sent.
10	• **Stairwell function: close = command X, start run-on time, run-on time elapsed = command Y** • Short press or long press of button sends command X one time. After set time will be command Y send.
11	• **Push-button: short = 1*command Z then 1*command X, long = 1*command Z then repeatedly command Y** • Short press of button sends command X. • Short press of button sends command Z a long press of button sends command Y periodically every 200ms.

12	• **Blinds function: close = command X, open after long press = command Y** • Short press of button sends command X, • Long press of button sends command X, release of button sends command Y

Factory setting of DALI4sw				
Inputs	Function mode	Function X	Function Y	Function Z
SW1	11	RecallMaxLevel	Up	OnAndStepUp
SW2	4	Off	Down	
SW3	1	GoToScene 0		
SW4	1	GoToScene 1		

Each switch has following factory setting:

SW1 – Short press recalls maximal level. Long press first turns the lights on and then gradually increases the lighting level.

SW2 – Short press turns the lights off. Long press gradually decreases the lighting level up to minimal value.

SW3 – Recalls scene 0.

SW4 – Recalls scene 1.

Note: Factory setting is type broadcast. That means all connected lights are controlled.

Push button settings – DALI2

Name	Possible values	Function description
Instance enabled	Yes/no	Enables/disables each input
Instance groups	0-31	
Event filter	If enabled – information about given state will be sent to DALI bus	
	Button release	
	Button pressed	
	Short press	
	Double press	
	Long press start	
	Long press repeat	
	Long press stop	
	Button stuck/free	
Even priority	2-5	Priority of messages sent by push button to DALI bus (lower number = higher priority)
Event scheme	The way button input is reported	
	0: instance	Reported as instance type and 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 device group and instance type
	4: instance group	Reported as group of instances and type of instances
Short timer	10-255	Short press time
Double timer	10-255	Double press time
Repeat timer	5-100	Long press repeat time
Stuck Timer	5-255	The time after which the button is declared to be stuck

Function – analog input

Analog input is for external sensor. For example, it may be a temperature sensor.

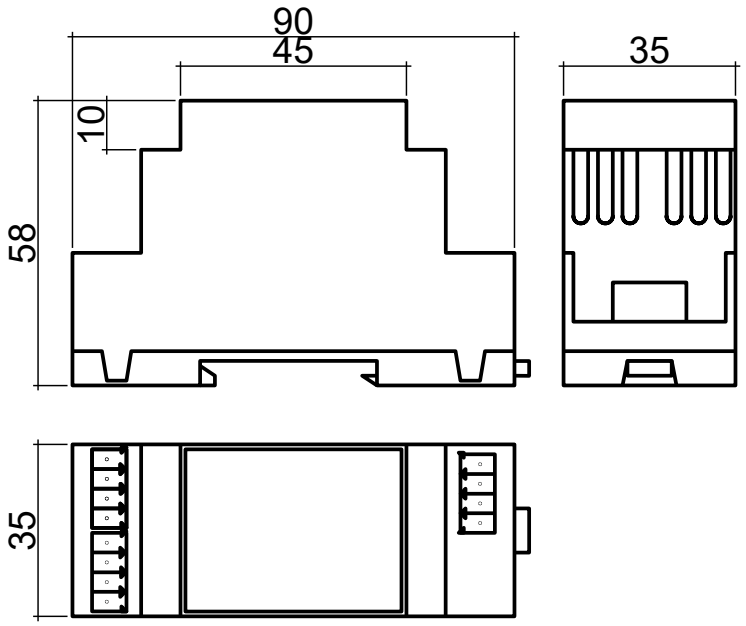
Depending on the sensor used, the DIP switches are set. One DIP switch is always in the on position and the others will be in the OFF position (bottom). The values for DIP switches are in the table “DIP switch setting for external sensor” in the “Terminal connection” section.

Analog input values setting – DALI2 parameters		
Instance enabled	Yes/no	
Instance groups	0-31	
Event filter and value	Yes/no	Sensor sends /does not send sensed values
Even priority	2-5	Messages priority of push-button on DALI bus (lower number = higher priority)
Event scheme	The way, button input is reported	
	0: instance	Reported as instance type and 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 device group and instance type
	4: instance group	Reported as group of instances and instance types
Report timer	1 – 255 (s) 0 – does not send	The time after which the device itself sends information
Hysteresis	0 – 25 (%)	
Hysteresis min	0 – 255 (°C)	Minimal hysteresis
Deadtime timer	0 – 12750 (ms)	The minimum time for the device sends another event

Analog input values setting – DALI2+ parameters		
Measurement / Refresh	Yes/no	The value is refreshed in DALIconfig
Ambient temper. Control	Yes/no	Regulation to desired level
Termostat group	G0 – G15, Bcast	
Desired temp. comfort	-37 – 129 (°C)	Hodnota, na kterou se má regulovat při běžném provozu
Desired temp. saving	-37 – 129 (°C)	The value to which it is to be regulated in economic operation
Hysteresis	0 – 25 (°C)	

Response to scene recall	When the scene is recalled, some of the following options will happen	
	off	Sensor will be turned off
	comfort	Regulation to comfort value starts
	saving	Regulation to saving value starts
	-	Nothing will happen
Temperature sensor table	The values must be selected according to the sensor used	The resistor is set by the DIP switch and the corresponding values are then filled

Dimensions (in mm)



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