User Manual

(Product version 1.032)

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Introduction

In this section you can find the description of all DEVISE HOME components and features.

Wifi_mod

TI CC3000 It is recommended to use this shield on Arduino Mega or higher. Arduino Uno or similar size could not have enough

Adafruit WI-FI breakout based on TI CC3000 It is recommended to use this shield on Arduino Mega or higher. Arduino Uno or similar size could not have enough memory to host your application.

Properties

Property	Description	Range	Default
name	Name of the wi-fi device	-	-
mac	MAC address of the device. It is a sequence of six hexadecimal values (like '0xNN' where N is 0-9 or A-F) separed by a comma. The sequence of these values must be unique in your local network (theoretically in the world). So if you have more controllers attached to your local network, you must change the sequences and make them different each other, otherwise nothing works any more.	-	0xD4,0xFF,0x76,0x44,0x55,0x44
ssid	Network SSID.	-	-
passw	Network password.	-	-
security	Type of Ethernet device	UNSEC WEP WPA WPA2	WPA2
irq	IRQ pin - To Be Correctly Autoassigned!!!!!!!!	-	-
sdce	CE pin for SD card	-	-
vbat_en	Power enable pin	-	-
ethce	CE pin for WI-FI	-	-
light	Ready led pin number. The ready led will switch on when the WiFi module is connected to the AP and ready to work. Leave it empty if you don't want a Rx led.	-	-
descr	description of Ethernet device	-	-

static	When the static box is not checked, the system configures the IP properties automatically through the DHCP. That means that the values are automatically reassigned, and could change, every time the DHCP restart its procedure. When the static box is checked, you need to configure all the following ip, gw, dns and mask properties and they will never change untill you chenge them again, as they are defined as static.	Yes/No	No
ip	IP address	-	192.168.1.10
gw	default gateway address	-	192.168.1.1
dns	DNS address	-	192.168.1.2
mask	network mask	-	255.255.255.0

Wifi_shld

CC3000 It is recommended to use this shield on Arduino Mega or higher. Arduino Uno or similar size could not have enough

Adafruit WI-FI shield based on TI CC3000 It is recommended to use this shield on Arduino Mega or higher. Arduino Uno or similar size could not have enough memory to host your application.

Properties

Property	Description	Range	Default
name	Name of the wi-fi device	-	-
mac	MAC address of the device. It is a sequence of six hexadecimal values (like '0xNN' where N is 0-9 or A-F) separed by a comma. The sequence of these values must be unique in your local network (theoretically in the world). So if you have more controllers attached to your local network, you must change the sequences and make them different each other, otherwise nothing works any more.	-	0xD4,0xFF,0x76,0x44,0x55,0x44
ssid	Network SSID.	-	-
passw	Network password.	-	-
security	Type of Ethernet device	UNSEC WEP WPA WPA2	WPA2
light	Ready led pin number. The ready led will switch on when the WiFi module is connected to the AP and ready to work. Leave it empty if you don't want a Rx led.	-	-
descr	description of Ethernet device	-	-
static	When the static box is not checked, the system configures the IP properties automatically through the DHCP. That means that the values are automatically reassigned, and could change, every time the DHCP restart its procedure. When the static box is checked, you need to configure all the following ip, gw, dns and mask properties and they will never change untill you chenge them again, as they are defined as static.	Yes/No	No

ip	IP address	-	192.168.1.10
gw	default gateway address	-	192.168.1.1
dns	DNS address	-	192.168.1.2
mask	network mask	-	255.255.255.0

Radio24

Radio device for 2.4Ghz bidirectional communication

Radio device for 2.4Ghz bidirectional communication

Properties

Property	Description	Range	Default
name	Name of the radio device	-	-
device	Type of radio device. The device must be compatible inside an interconnection network.	nRF24L01 nRF24L01_plus nRF24L01_wa	nRF24L01
csn	Pin Number for csn	-	-
ce	Pin Number for ce	-	-
light	Rx activity led pin number. The activity led will blink any time a message is received. Leave it empty if you don't want a Rx led.	-	-
light1	Tx activity led pin number. The activity led will blink any time a message is sent on air. Leave it empty if you don't want a Tx led.	-	-
channel	TX/RX Channel Make sure channel is legal in your area.	-	20
descr	description of radio element	-	-
library	nRF24L01 library.	RF24 Mirf	RF24

Radio Tx

TX Radio device for 315Mhz or 433Mhz communication.

TX Radio device for 315Mhz or 433Mhz communication.
In a network should be present one TX only and one or more RXs.
Caution for Arduino users:
VirtualWire library used with this device takes over Arduino Timer1,
and this will affect the PWM capabilities of the digital pins 9 and 10

Properties

Property	Description	Range	Default
name	Name of the radio device	-	-
device	Frequency of radio device. 315Mhz is compliant with USA regulations, 433Mhz is compliant with European regulations. 	XD315-TX XD433-TX	XD433-TX
txPin	Pin number for TX data	-	-
light1	Tx activity led pin number. The activity led will blink any time a message is sent on air. Leave it empty if you don't want a Tx led	-	-
descr	description of radio device	-	-

Radio Rx

RX Radio device for 315Mhz or 433Mhz communication.

RX Radio device for 315Mhz or 433Mhz communication.
In a network should be present one TX only and one or more RXs.
Caution for Arduino users:
VirtualWire library used with this device takes over Arduino Timer1,
and this will affect the PWM capabilities of the digital pins 9 and 10

Properties

Property	Description	Range	Default
name	Name of the radio device	-	-
device	Frequency of radio device. 315Mhz is compliant with USA regulations, 433Mhz is compliant with European regulations. 	XD315-RX XD433-RX	XD433-RX
rxPin	Pin number for RX data	-	-
light	Rx activity led pin number. The activity led will blink any time a message is received. Leave it empty if you don't want a Rx led	-	-
descr	description of radio device	-	-

Ethernet

shield for ethernet communication

shield for ethernet communication

Properties

Property	Description	Range	Default
name	Name of the ethernet device	-	-
mac	MAC address of the device. It is a sequence of six hexadecimal values (like '0xNN' where N is 0-9 or A-F) separed by a comma. The sequence of these values must be unique in your local network (theoretically in the world). So if you have more controllers attached to your local network, you must change the sequences and make them different each other, otherwise nothing works any more.	-	0xD4,0xFF,0x76,0x00,0x00,0x01
device	Type of Ethernet device	W5100	W5100
x	-	-	10
y	-	-	30
sizeX	-	-	86
sizeY	-	-	48
descr	description of Ethernet device	-	-
static	When the static box is not checked, the system configures the IP properties automatically through the DHCP. That means that the values are automatically reassigned, and could change, every time the DHCP restart its procedure. When the static box is checked, you need to configure all the following ip, gw, dns and mask properties and they will never change until you change them again, as they are defined as static.	Yes/No	No
ip	IP address	-	192.168.1.10

gw	default gateway address	-	192.168.1.1
dns	DNS address	-	192.168.1.2
mask	network mask	-	255.255.255.0

Lcd

2 rows LiquidCrystal standard.

2 rows LiquidCrystal standard.
This display can be used as 'local display'.
This means that only devices attached to
the same controller board can be displayed.
If you do not want to cable too many wires,
use the I2C version instead.

Properties

Property	Description	Range	Default
name	Name of the lcd	-	-
rs	Pin number	-	-
e	Pin number	-	-
db4	Pin number	-	-
db5	Pin number	-	-
db6	Pin number	-	-
db7	Pin number	-	-
showdate	Show date and time as first line in display. NOTICE: You need a project connected to Internet to adjust date and time!	Yes/No	No
compact	Show 1 or 2 values in a row	Yes/No	No
device	Type of radio device. The device must be the same inside an interconnection network	LCM1602C-Blue LCM1602C-Green	LCM1602C-Green
descr	description of pin	-	-

Lcd_i2c

2 rows LiquidCrystal I2C.

2 rows LiquidCrystal I2C.
This display can be used as 'local display'.
This means that only devices attached to
the same controller board can be displayed.

Properties

Property	Description	Range	Default
name	Name of the lcd	-	-
sleepTime	Time to sleep (sec)	-	10
showdate	Show date and time as first line in display	Yes/No	No
compact	Show 1 or 2 values in a row	Yes/No	No
device	Type of radio device. The device must be the same inside an interconnection network	LCM1602-I2C-Blue LCM1602-I2C-Green	LCM1602-I2C-Green
descr	description of pin	-	-

Clap

Double Clap ON/OFF

Double Clap ON/OFF

Properties

Property	Description	Range	Default
name	Name of the Gas/Smoke Sensor	-	-
number	Pin number	-	-
Sensitivity	-	LOW MEDIUM HIGH CUSTOM	MEDIUM
THRESHOLD	Custom Threshold Value	-	90
claps	Single clap / double clap	Single Double	Double
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the Gas/Smoke Sensor	-	-

Pot

Linear Potentiometer.

Linear Potentiometer.

Properties

Property	Description	Range	Default
name	Name of the potentiometer	-	-
number	Pin number	-	-
device	-	1K 4K7 10K 47K 100K	10K
min	Min shown value	-	0
max	Max shown value	-	1
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the potentiometer	-	-

Switch

Generic Switch with pull-up

Generic Switch
off value = 0
on value = 1

Properties

Property	Description	Range	Default
name	Name of the button	-	-
number	Pin number	-	-
negate	Set the status active low.	Yes/No	No
displayshow	Show in local display if any	Yes/No	Yes
descr	description of button	-	-

Button

Generic Push Button with pull-up

Generic Push Button with pull-up
rest value = 0
push value = 1

Properties

Property	Description	Range	Default
name	Name of the button	-	-
number	Pin number	-	-
negate	Set the status active low.	Yes/No	Yes
displayshow	Show in local display if any	Yes/No	No
descr	description of button	-	-

Rtc

Device for high precision Real Time Clock.

Device for high precision Real Time Clock.
Normally the master controller (i.e. the module connected to your home router) takes from Internet the time synchronization, so a RTC device is not needed to keep date and time updated.
However, in some circumstances, RTC device allows the home system to maintain the current date and time in any (e.g. in absence of Internet connectivity, a 'power off'-'power on' cycle happens).

Properties

Property	Description	Range	Default
name	Name of the RTC device	-	-
sclk	sclk pin number	-	-
io	io pin number	-	-
ce	ce pin number	-	-
device	Type of RTC device	DS1302	DS1302
setting	Setting of RTC date and time	Auto Manual	Auto
descr	description of RTC device	-	-

L293d

L293D driver for up to 2 DC motors or 1 step motor

L293D driver for up to 2 DC motors or 1 step motor

Properties

Property	Description	Range	Default
name	Name of the motor driver	-	-
M1A	-	-	-
M1B	-	-	-
M2A	-	-	-
M2B	-	-	-
descr	description of the Motor shield	-	-

Dc Motor

DC Motor with speed control

DC Motor with speed control

Properties

Property	Description	Range	Default
name	Name of the Servo Motor	-	-
socket	Socket number	-	-
MaxSpeed	Max speed value	-	100
descr	-	-	-

Limit Dcm

DC Motor with start/end limit switches

DC Motor with start/end limit switches

Properties

Property	Description	Range	Default
name	Name of the Servo Motor	-	-
socket	Socket number	-	-
MaxSpeed	Max speed value	-	100
hold	-	Yes/No	No
descr	-	-	-

Servo

Servo with Angle Control

Servo with Angle Control

Properties

Property	Description	Range	Default
name	Name of the Servo Motor	-	-
number	Pin number	-	-
MaxVal	Max speed value	-	180
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the Servo Motor	-	-

Motor Shld

L293D shield for up to 4 DC motors or 2 step motors and 2 servos

L293D shield for up to 4 DC motors or 2 step motors and 2 servos
WARNING:
1. cannot use this shield together to ethernet shield,
nrf24L01 and any other device using SPI,
because of conflicts on some pins.
2. It doesn't have the female connection strip on his top,
so other devices need to be soldiered to pins.

Properties

Property	Description	Range	Default
name	Name of the motor shield	-	-
descr	description of the Motor shield	-	-

Dc Motor

DC Motor with speed control

DC Motor with speed control

Properties

Property	Description	Range	Default
name	Name of the Servo Motor	-	-
socket	Socket number	-	-
MaxSpeed	Max speed value	-	100
descr	-	-	-

Limit Dcm

DC Motor with start/end limit switches

DC Motor with start/end limit switches

Properties

Property	Description	Range	Default
name	Name of the Servo Motor	-	-
socket	Socket number	-	-
MaxSpeed	Max speed value	-	100
hold	-	Yes/No	No
descr	-	-	-

Servo

Servo with Angle Control

Servo with Angle Control

Properties

Property	Description	Range	Default
name	Name of the Servo Motor	-	-
socket	Socket number	-	-
MaxVal	Max speed value	-	180
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the Servo Motor	-	-

Motor Drv

L293D driver board for up to 2 DC motors or 1 step motor

L293D driver board for up to 2 DC motors or 1 step motor

Properties

Property	Description	Range	Default
name	Name of the motor driver	-	-
M1A	-	-	-
M1B	-	-	-
M2A	-	-	-
M2B	-	-	-
descr	description of the Motor shield	-	-

Dc Motor

DC Motor with speed control

DC Motor with speed control

Properties

Property	Description	Range	Default
name	Name of the Servo Motor	-	-
socket	Socket number	-	-
MaxSpeed	Max speed value	-	100
descr	-	-	-

Limit Dcm

DC Motor with start/end limit switches

DC Motor with start/end limit switches

Properties

Property	Description	Range	Default
name	Name of the Servo Motor	-	-
socket	Socket number	-	-
MaxSpeed	Max speed value	-	100
hold	-	Yes/No	No
descr	-	-	-

Limit Sw

Limit switch

Limit switch

Properties

Property	Description	Range	Default
name	Name of the button	-	-
number	Pin number	-	-
device	-	mechanical magnetic inductive	mechanical
negate	Set the status active low.	Yes/No	Yes
descr	description of button	-	-

Watering

Components for watering control.

Components for watering control.
This component is composed of three devices: a solenoid electro valve, a relay and a 12V power supply. All the watering staff like pipes, nozzles etc are not included.

Properties

Property	Description	Range	Default
name	Name of the watering device	-	-
number	Pin number	-	-
displayshow	Show in local display if any	Yes/No	Yes
descr	description	-	-

Digital Led

Led connected to Digital pin

Led connected to Digital pin

Properties

Property	Description	Range	Default
name	Name of Led	-	-
number	Pin number	-	-
device	-	red green yellow blue white	red
displayshow	Show in local display if any	Yes/No	Yes
descr	description of Led	-	-

Relay

Generic 5V Relay.

Generic 5V Relay.

Properties

Property	Description	Range	Default
name	Name of Relay	-	-
number	Pin number	-	-
protocol	Type of relay. Switch: chose it if the relay status is sensible to its input level. Pulse: chose it if the relay toggles its status every rising input transition. 	Switch Pulse	Switch
displayshow	Show in local display if any	Yes/No	Yes
descr	description of Relay	-	-

Laser

Laser dot diode

Laser dot diode

Properties

Property	Description	Range	Default
name	Name of laser	-	-
number	Pin number	-	-
device	-	laser-device laser-board	laser-device
displayshow	Show in local display if any	Yes/No	Yes
descr	description of laser	-	-

Analog Led

Led connected to Analog (PWM) pin

Led connected to Analog (PWM) pin

Properties

Property	Description	Range	Default
name	Name of Led	-	-
number	Pin number	-	-
device	-	red green yellow blue white	red
displayshow	Show in local display if any	Yes/No	Yes
descr	description of Led	-	-

Ultrasonic

Ultrasonic Sensor HCSR04.

Ultrasonic Sensor HCSR04.

Properties

Property	Description	Range	Default
name	Name of the ultrasonic sensor	-	-
number	Pin number	-	-
number1	Pin number1	-	-
unit	-	cm inch	cm
delay	Milliseconds between sensor pings (29ms is about the min to avoid cross-sensor echo)	-	50
min	Min shown value	-	2
max	Maximum distance we want to ping for (in centimeters). Maximum sensor distance is rated at 400-500cm.	-	200
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the ultrasound sensor	-	-

Photores

Photoresistor.

Photoresistor.

Properties

Property	Description	Range	Default
name	Name of the photoresistor	-	-
number	Pin number	-	-
displayshow	Show in local display if any	Yes/No	No
descr	description of the potentiometer	-	-

Water Level

Liquid Water Level Sensor Horizontal Float Switch rest vaule = 0 push value = 1

Liquid Water Level Sensor Horizontal Float Switch rest vaule = 0 push value = 1

Properties

Property	Description	Range	Default
name	Name of the button	-	-
number	Pin number	-	-
negate	Set the status active low.	Yes/No	Yes
displayshow	Show in local display if any	Yes/No	Yes
descr	description of button	-	-

Thermo

Temperature Sensor based on DS18B20 digital component

Temperature Sensor based on DS18B20 digital component

Properties

Property	Description	Range	Default
name	Name of the temperature sensor	-	-
number	Pin number	-	-
device	All the devices are based on the DS18B20 component, so there is no difference from the the handling point of view. DS18B20-TO-92: it is the temperature sensor component as it is. DS18B20-Module: it is the temperature sensor component mounted on a small board, more convenient to be used than the previous one. DS18B20-Probe: it is the temperature sensor component mounted inside a probe. It is water resistant, so it is the better choice to measure the temperature of a liquid.	DS18B20-TO-92 DS18B20-Module DS18B20-Probe	DS18B20-Module
unit	Display unit: Celsius / Fahrenheit	Celsius Fahrenheit	Celsius
min	Min shown value	-	-55
max	Max shown value	-	125
Fmin	Min shown value	-	-67
Fmax	Max shown value	-	257
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the temperature sensor	-	-

Clima

Humidity and Temperature Sensors based on DHTxx digital components

Humidity and Temperature Sensors based on DHTxx digital components

Properties

Property	Description	Range	Default
name	Name of the thermometer	-	-
number	Pin number	-	-
device	-	DHT11-device DHT11-board-1 DHT11-board-2 DHT22-device DHT22-board-1	DHT22-board-1
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the thermometer	-	-

Irmotion

Motion sensor (PIR) This component allows to trigger functionalities when is recognised a movement in a range of 7 meters

Motion sensor (PIR) This component allows to trigger functionalities when is recognised a movement in a range of 7 meters

Properties

Property	Description	Range	Default
name	Name of the PIR sensor	-	-
number	Pin number	-	-
active_time	Activation time (sec)	-	5
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the PIR sensor	-	-

Gas

Sensor of smoke, gas and alchool.

Sensor of smoke, gas and alchool.

Properties

Property	Description	Range	Default
name	Name of the sensor	-	-
number	Pin number	-	-
device	-	MQ-2 MQ-3 MQ-4 MQ-5 MQ-6 MQ-7 MQ-8 MQ-9 MQ-nano 135	MQ-2
Sensitivity	-	LOW MEDIUM HIGH CUSTOM	MEDIUM
THRESHOLD	Custom Threshold Value	-	20
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the Gas/Smoke Sensor	-	-

Ntc

perature Sensor based on 10K NTC Thermistor. Note that for a more accurate temperature reading, thermo device is much be

Temperature Sensor based on 10K NTC Thermistor. Note that for a more accurate temperature reading, thermo device is much better.

Properties

Property	Description	Range	Default
name	Name of the thermometer	-	-
number	Pin number	-	-
device	NTC-10K: it is the temperature sensor component as it is. KY-013: it is the temperature sensor component mounted on a small board, more convenient to be used than the previous one.	KY-013 NTC-10K	KY-013
unit	Display unit: Celsius / Fahrenheit	Celsius Fahrenheit	Celsius
min	Min shown value	-	-273.15
max	Max shown value	-	328.58
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the thermometer	-	-

X Switch

Cross connection from an analog to a digital objects.

Cross connection from an analog to a digital objects.
Read the value from an object (i.e. sensor) and switch on or off the output according to the read value.
To avoid rapid switch events when the read value is very close to the switch level, a hysteresis can be applied.

Properties

Property	Description	Range	Default
name	Name of the cross connect service	-	-
switchLevel	Level for trigger switch. The output is actived when the input is over the switch level value. The output is deactived when the input is below the switch level value. This value can be set to any values in the range of the input device.	-	0.5
hysteresis	Trigger hysteresis amplitude. It is expressed absolute units of value. It can be used to compensate for contact bounce in bad quality switches (a minimum bounce is already handled by Dome without the need of a hysteresis) or to avoid rapid switch events when the read value is very close to the switch level.	-	0.02
negate	Set the output active low	Yes/No	No
displayshow	Show in local display if any	Yes/No	No
descr	description of cross connection	-	-

Probe

mixer for analog inputs. The output will be the normalized sum of input levels

mixer for analog inputs. The output will be the normalized sum of input levels

Properties

Property	Description	Range	Default
name	Name of the Analog Mixer service	-	-
min	-	-	0
max	-	-	1
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the purpose of the Mixer service in your project.	-	-

D Connect

s connection between two digital objects. Read the value from an object (i.e. switch or button) and set it to another (i.e. led or t

Cross connection between two digital objects. Read the value from an object (i.e. switch or button) and set it to another (i.e. led or timer)

Properties

Property	Description	Range	Default
name	Name of the cross connect service	-	-
type	Cross connect behavior	Level Pulse	Level
ptime	Auto-off time, valid for Pulse type only. When the 'type' property is set to Pulse, the output will be kept active for 'auto-off time' number of seconds, after that it will fall back to the rest status.	-	1
negate	Set the output active low.	Yes/No	No
displayshow	Show in local display if any	Yes/No	No
descr	description of cross connection	-	-

A Connect

Cross connection between two analog objects. Read the value from an object (i.e. sensor) and set it to another (i.e. PWM)

Cross connection between two analog objects. Read the value from an object (i.e. sensor) and set it to another (i.e. PWM)

Properties

Property	Description	Range	Default
name	Name of the cross connect service	-	-
displayshow	Show in local display if any	Yes/No	No
descr	description of cross connection	-	-

Gate

Combine digital inputs using a logical operator.

Combine digital inputs using a logical operator.
Inputs will be combined together by applying the logical operators defined by the 'mode' property and the corresponding result will be provided as output.
Inputs can be one or more, depending of how much devices are linked to him.

Properties

Property	Description	Range	Default
name	Name of the Gate service	-	-
trigger	Set this property when the linked object is a timer or other object that have a time depending behaviour. In other words when the linked object is sensible to the edge of the signal and not its level level. In this way all the commands are not confirmed again after the first has been submitted, and the overall behaviour is correct. In case of trigger property unset, it can happen that the level is periodically confirmed (e.g. if there is a radio connection). This is done to be sure that the status of the target object is the desired one.	Yes/No	No
mode	Gate mode. It defines what logic operator shall be applied for the Gate.	And Or Xor Nand Nor Xnor	And
displayshow	Show in local display if any	Yes/No	No
descr	description of the purpose of the Gate in your project.	-	-

Inc Dec

The output is triggered by input transitions

The output is triggered by input transitions and will increase or decrease between min and max (for step input objects).

Properties

Property	Description	Range	Default
name	Name of the cross connect service	-	-
min	-	-	0
max	-	-	5
step	-	-	1
displayshow	Show in local display if any	Yes/No	No
descr	description of cross connection	-	-

On Off

The output is triggered by input transitions and will toggle between 0 and 1.

The output is triggered by input transitions and will toggle between 0 and 1.

Properties

Property	Description	Range	Default
name	Name of the cross connect service	-	-
displayshow	Show in local display if any	Yes/No	No
descr	description of cross connection	-	-

Flag

Combine digital inputs using a logical operator.

Combine digital inputs using a logical operator.
Inputs will be combined together by applying the logical operators defined by the 'mode' property and the corresponding result will be provided as output.
Inputs can be one or more, depending of how much devices are linked to him.

Properties

Property	Description	Range	Default
name	Name of the Gate service	-	-
mode	Gate mode. It defines what logic operator shall be applied for the Gate.	And Or Xor Nand Nor Xnor	And
trigger	Set this property when the linked object is a timer or other object that have a time depending behaviour. In other words when the linked object is sensible to the edge of the signal and not its level level. In this way all the commands are not confirmed again after the first has been submitted, and the overall behaviour is correct. In case of trigger property unset, it can happen that the level is periodically confirmed (e.g. if there is a radio connection). This is done to be sure that the status of the target object is the desired one.	Yes/No	No
displayshow	Show in local display if any	Yes/No	Yes
descr	description of the purpose of the Gate in your project.	-	-

Mixer

mixer for analog inputs. The output will be the normalized sum of input levels

mixer for analog inputs. The output will be the normalized sum of input levels

Properties

Property	Description	Range	Default
name	Name of the Analog Mixer service	-	-
displayshow	Show in local display if any	Yes/No	No
descr	description of the purpose of the Mixer service in your project.	-	-

Up Down

The output is triggered by input transitions

The output is triggered by input transitions and will be set up or down between min and max (for analog input objects).

Properties

Property	Description	Range	Default
name	Name of the cross connect service	-	-
step	-	-	0.1
displayshow	Show in local display if any	Yes/No	No
descr	description of cross connection	-	-

Atimer

Timer service with analog output

Timer service with analog output

Properties

Property	Description	Range	Default
name	Name of the Analog Timer service.	-	-
modeOn	Start transition mode Fade: the analog output will increase it value from min to max in 'time on' lapse of time Delay: The analog output will be kept to min for a 'time on' lapse of time, after that it will raised to max.	Fade Delay	Fade
modeOff	End transition mode	Fade Delay	Fade
mode	timer mode. Pulse: the time counter is restarted from the beginning every time the trigger is set. Tempor: start the timer at the first trigger and stop the timer at the second trigger. Step: any new triggers add a new time period to the counter. For instance if the 'time' is 60 sec, three consecutive triggers set the counter to 3 * 60 = 180 sec.	Tempor Pulse Step	Pulse
tOn	Start transition time. The analog output will increase it value from min to max in 'time on' lapse of time.	-	2
tOf	End transition time. The analog output will decrease it value from max to min in 'time off' lapse of time.	-	2
tm	Timer period.	-	3
unit	Time unit: m: minutes s: seconds ms: milliseconds	m s ms	s
displayshow	Show in local display if any	Yes/No	No
descr	description of the purpose of the Analog Timer service in your project.	-	-

Dtimer

Timer service with digital output.

Timer service with digital output.

Properties

Property	Description	Range	Default
name	Name of the Digital Timer service	-	-
mode	timer mode. Pulse: the time counter is restarted from the beginning every time the trigger is set. Tempor: start the timer at the first trigger and stop the timer at the second trigger. Step: any new triggers add a new time period to the counter. For instance if the 'tm' is 60 sec, three consecutive triggers set the counter to 3 * 60 = 180 sec.	Tempor Pulse Step	Pulse
tm	Timer period.	-	1
unit	Time unit: m: minutes s: seconds ms: milliseconds	m s ms	s
displayshow	Show in local display if any	Yes/No	No
descr	description of the purpose of the Digital Timer service in your project.	-	-

Chrono

Chrono service for time scheduled event generation.

Chrono service for time scheduled event generation.
This service is useful to automate actions on a time based event scheduling. All the time programming of the scheduled events can be done through the browser on your Mobile or Tablet.
Typical applications are the control of the home heating system, the control of the garden watering, the control of the food feeding to the fish in the fishbowl and so on.
It is also possible to make the scheduled events dependent on external factors, as environment temperature, grass humidity etc. To make it possible it is needed to put sensors in the project and connect n some way them to the Chrono. Please refer to our project examples to understand how to make those connections.

Properties

Property	Description	Range	Default
name	Name of the Chrono service	-	-
seasons	Number of seasons. For this version of Dome up to two seasons (summer and winter) are settable. For any season a complete set of timing configuration is available. The switching between seasons is manual. If only one season is set, this control will act as enabling/disabling of the whole Chrono program. If two seasons are set, you can manually switch among Disable, Summer program and Winter program.	1 2	1
instances	Number of timetables. A timetable is a pair of start and stop events. It is possible to program the start time and the stop time for each timetable. For instance, if you have set two timetables, you can program your heating system to switch on and off twice a day, one in the morning and one in the evening.	1 2	1
programs	Number of schedulers. The purpose of this property is to differentiate the timing programs of the Chrono service for different situations. For instance it is possible to set a program for the working days and a different program for the week end.	1 2 3	2

mode	Chrono temporization mode. Here it is possible to set the behaviour of the Chrono service: Daily: The timetables are active every day. WorkDaily: The timetables are active from Monday to Friday. WeekDaily: it is possible to set which days of the week the timetables are active. Weekly: The timetables cover more week days. It is possible to program the start in one day of the week and the stop in a different day of the same week. The timetable events will be repeated for any weeks. Monthly: The timetables cover more month days. It is possible to program the start in one day of the month and the stop in a different day of the same month. The timetable events will be repeated for any months. Yearly: The timetables cover more year days. It is possible to program the start in one day of the year and the stop in a different day of the same year. The timetable events will be repeated for any years. FullSchedule: It is possible to set the absolute date and time for the start and the absolute date and time for the stop. In this mode the timetable events are not ripetitive: they will happen one shot only. 	Daily WorkDaily WeekDaily Weekly Monthly Yearly FullSchedule	WeekDaily
displayshowconfig	Show in local display if any	Yes/No	No
descr	description of the purpose of the Chrono service in your project.	-	-

Manual

Chrono Manual Switch service.

Chrono Manual Switch service.
This control allows the user to manually activate services that are under time scheduling control. It is possible either to activate them when they are in rest status or to stop them when they have been already activated by the scheduler. Both the activation and the deactivation are settable for one or more time periods defined by the 'time' and 'unit' properties. By giving more positive commands to this control it is possible tu accumulate the sum of time periods to increase the time of activation. By giving more negative commands to this control it is possible tu accumulate the sum of time periods to increase the time of deactivation.

Properties

Property	Description	Range	Default
name	Name of the Manual Switch service	-	-
time	Lapse of time after that the Chrono output fall back to the current active value. For any positive trigger a new 'time' period is added to the time counter. For any negative trigger a 'time' period is subttracted to the counter	-	30
unit	Time unit: h: hours m: minutes s: seconds	h m s	m
displayshow	Show in local display if any	Yes/No	No
descr	description of the purpose of the Manual Switch service in your project.	-	-

Transition

Analog gradual transition timer

Analog gradual transition timer

Properties

Property	Description	Range	Default
name	Name of the Analog Timer service.	-	-
tOn	Start transition time. The analog output will increase it value from min to max in 'time on' lapse of time.	-	2
tOf	End transition time The analog output will decrease it value from max to min in 'time off' lapse of time.	-	2
unit	Time unit: m: minutes s: seconds ms: milliseconds	m s ms	s
displayshow	Show in local display if any	Yes/No	No
descr	description of the purpose of the Analog Timer service in your project.	-	-

Pattern

Pattern generator with digital output.

Pattern generator with digital output.

Properties

Property	Description	Range	Default
name	Name of the Pattern generator	-	-
tm	Timer period.	-	1
unit	Time unit%3A m%3A minutes s%3A seconds ms%3A milliseconds	m s ms	s
dutycycle	The params represent the time periods of subsequent high and low output values inside a cycle. Any params must be greater than zero and the sum of all params must be less than 100. For instance the value of 50 means the pattern is a square wave with 50%25 of duty cycle.	-	50
displayshow	Show in local display if any	Yes/No	No
descr	description of the purpose of the Digital Timer service in your project.	-	-

Web Service

Web connectivity service for remote control

Web connectivity service for remote control

Properties

Property	Description	Range	Default
name	Name of the Web Server service	-	-
descr	description of the Web Server service	-	-

Get_analog

Web server display analog value

Web server display analog value

Properties

Property	Description	Range	Default
name	Name of the get value. This is the name that will be shown on your Mobile or Tablet related to the controlled object.	-	-
display	Display mode	Integer Float	Float
graph	Enable graph recording	Yes/No	No
descr	description of get field	-	-

Get_digital

Web server display digital value

Web server display digital value

Properties

Property	Description	Range	Default
name	Name of the get value. This is the name that will be shown on your Mobile or Tablet related to the controlled object.	-	-
light	Status light pin number. Leave it empty if you don't want a status light	-	-
descr	description of get field	-	-

Set_analog

Web server control to set an analog value

Web server control to set an analog value

Properties

Property	Description	Range	Default
name	Name of the get value. This is the name that will be shown on your Mobile or Tablet related to the controlled object.	-	-
format	Input format for value setting Integer: defines an input field for integer values in the range from 'min' to 'max'. Float: defines an input field for numbers with two decimals values in the range from 'min' to 'max'. StepSlider: defines a slider with 'max'-'min' integer steps. ContSlider: defines a slider with contious steps from 'min' to 'max'. The minmum step size is ('max'-'min')/256.	Integer Float StepSlider ContSlider	ContSlider
min	Min admitted input value	-	0
max	Max admitted input value	-	255
blind	The user command will set the value to the controlled device without reading its status. This property should be set when it is impossible to have a direct feedback from the controlled device. It happens for instance when the controlled device is reachable by a TX only radio channel.	Yes/No	No
descr	description of the purpose of the Set Analog control in the project.	-	-

Set_digital

Web server control to set a digital value.

Web server control to set a digital value.

Properties

Property	Description	Range	Default
name	Name of the get value. This is the name that will be shown on your Mobile or Tablet related to the controlled object.	-	-
format	Input format for value setting Push: A On/Off button is displayed on the remote browser. By acting to this button the status of the controlled object will be toggled. Switch: Two buttons, On and Off, are displayed on the remote browser. Acting to these two buttons the status of the controlled object can be switched on or off. By giving more 'On' consecutive commands, the connected device can accumulate the values and take consequent actions (e.g. step timers will increase their own time counter). Pulse: A blind push button is displayed on the remote browser. By acting to this button the output is activated for one second, after that it is deactivated again.	Push Switch Pulse	Push
trigger	Set this property when the linked object is a timer or other object that have a time depending behaviour. In other words when the linked object is sensible to the edge of the signal and not its level level. In this way all the commands are not confirmed again after the first has been submitted, and the overall behaviour is correct. In case of trigger property unset, it can happen that the level is periodically confirmed (e.g. if there is a radio connection). This is done to be sure that the status of the target object is the desired one.	Yes/No	No

blind	The user command will set the value to the controlled device without reading its status. This property should be set when it is impossible to have a direct feedback from the controlled device. It happens for instance when the controlled device is reachable by a TX only radio channel.	Yes/No	No
light	Status light pin number. When a led is connected to this pin, it will assume the same status as the target object, so that it can be monitored in a centralized panel. Leave it empty if you don't want a status light	-	-
descr	description of the purpose of the Set Digital control in the project.	-	-

Set_step

Web server control to set an incremental value.

Web server control to set an incremental value.
It is possible to define both the small step (e.g. +/-1) and the big step (e.g. +/-10) and four buttons will be displayed in the remote browser (e.g. [-10][-1][+1][+10]).
This control can be connected to step devices only (e.g. 'manual' objects of 'chrono' services).

Properties

Property	Description	Range	Default
name	Name of the get value. This is the name that will be shown on your Mobile or Tablet related to the controlled object.	-	-
step1	Minstep value	-	1
step2	Max step value	-	10
min	Min admitted input value	-	-100
max	Max admitted input value	-	100
blind	The user command will set the value to the controlled device without reading its status. This property should be set when it is impossible to have a direct feedback from the controlled device. It happens for instance when the controlled device is reachable by a TX only radio channel.	Yes/No	No
light	Status light pin number. When a led is connected to this pin, it will assume the same status as the target object, so that it can be monitored in a centralized panel. Leave it empty if you don't want a status light	-	-
descr	description of set control	-	-