PROGRAMMING GUIDE

SOMFY DIGITAL NETWORK™ (SDN) 0-10V INTERFACE V2



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SDN 0-10V INTERFACE V2

VERSION 2.2 | AUGUST 2025

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I. OVERVIEW

The SDN 0-10V Interface V2 is a device which accepts the lighting industry standard 0-10V analog dimming signal and converts it to a Somfy Digital Network™ (SDN) or animeo® IP command. This device receives a 0-10V input from a third-party lighting control system and drives a motor in 10% increments (0%-100%).

SYSTEM REQUIREMENTS

Set pro by Somfy Configuration Software

animeo IP Visual Configuration Software

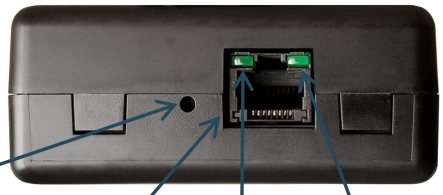
Fully commissioned standalone SDN or animeo IP project

CONNECTIONS & INDICATORS



0-10V Input & Power
Flying leads for power & 0-10V wiring

DIP Switch Bank
Mode selection for shade operation and SDN group address assignment



Push Button
Used for sequencing motor operation, animeo IP discovery & power cycle

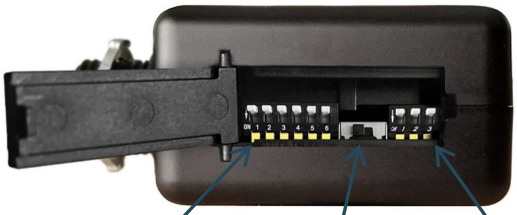
SDN Output
Supplies SDN bus power & communication

Main Power LED
Solid green when powered

Bus Activity LED
Blinks green with SDN bus activity

DIP SWITCHES

The DIP Switch Bank is located behind the access door. Refer to Appendix A and Appendix B for the appropriate DIP Switch settings. The Bus Power Switch enables +24V bus power to be supplied to an SDN segment (LEFT=OFF or RIGHT=ON).



Bank B DIP Switches
Adjust to select a specific SDN group address
Default Setting:
All switches DOWN

Bus Power Switch
Adjust to turn bus power OFF or ON
Default Setting:
Switch to the LEFT

Bank A DIP Switches
Adjust to select a specific control function
Default Setting:
All switches UP

II. INSTALLATION

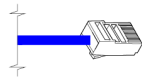
MOUNTING & POWER

The SDN 0-10V Interface V2 utilizes a junction-box-mountable, plenum-rated enclosure and is powered by line voltage. It is also connected to a standard 0-10V input signal inside the junction box via 2 wires. There is a single RJ45 port on the control which provides the connection to the SDN Bus via a standard CAT-5e or higher cable.

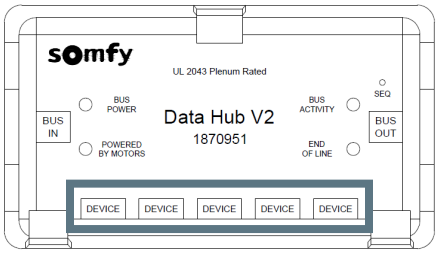
This device is powered by AC line voltage and must be installed by an Electrician.

WIRING TO SYSTEM FOR OPERATION

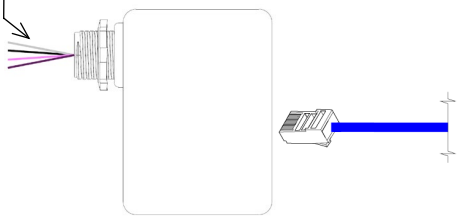
0-10V Control & Power Inputs	
18AWG 4-Conductor Cable	
FUNCTION	**COLOR**
0-10V (+)	Violet
0-10V (-)	Pink
Neutral	White
Line	Black



SDN Data Hub V2
#1870951



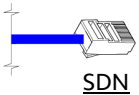
0-10V & Line Voltage Input from Third-Party



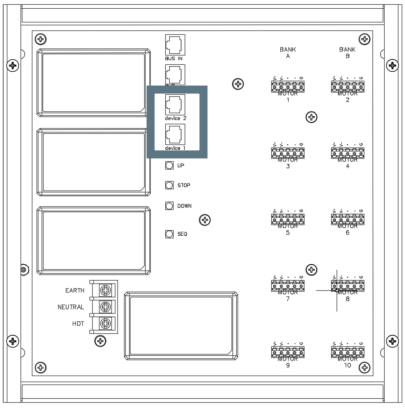
SDN 0-10V Interface V2
#1870857

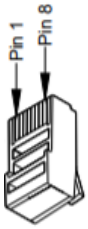
To any SDN "DEVICE" port

Bus Power Switch must be OFF

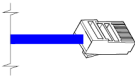


SDN PowerConnect™ Surface Mount
#1871026



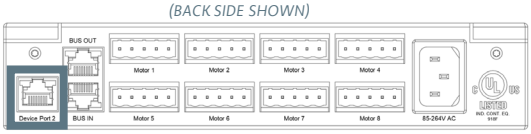


SDN Bus Wiring Pinout		
CAT-5e or higher TIA-568B standard with RJ-45		
Pin #	Color	Function
1	Orange White	SDN RS485 (+)
2	Orange	SDN RS485 (-)
3	Green White	Reserved
4	Blue	Power 24v DC
5	Blue White	Power 24v DC
6	Green	Reserved
7	Brown White	SDN RS485 Ground
8	Brown	SDN RS485 Ground



SDN PowerConnect™ Rack Mount
#1871027

(BACK SIDE SHOWN)



Device Port 1 is located on the front side of the product

III. SET UP

SOMFY DIGITAL NETWORK™ (SDN) MODE

The SDN 0-10V Interface V2 operates in 2 different modes: SDN Mode (standalone) and animeo IP mode. These modes are accessible by the setting of DIP switches. Refer to Appendix A to enable the Bank A DIP switches before setting a specific SDN group address.

SDN MODE OPTIONS

- Motor All Configuration - Will communicate on the SDN bus using the FFFFFF broadcast address
- Group Specific Configuration - Will communicate on the SDN bus with group addresses 010100 through 01013D
- Percent Position - Will move the motors on the SDN bus from 0% - 100% depending on 0-10V input
- Intermediate Position - Will move the motors on the SDN bus from IP1 through IP11 depending on 0-10V input
  Each motor requires Intermediate Positions to be programmed via the Set pro Configuration Software or a Somfy Connect UAI Plus.

SDN MODE PUSH BUTTON OPERATION

PUSH BUTTON ACTION	RESPONSE	LED ACTION
Press & Release < 30 seconds	Sequence operation – Motors will travel UP-STOP-DOWN-STOP as the push button is repeatedly pressed and released.	LED flashes once each time the push button is released.
Press & Hold 30+ seconds	Software Reset – Once the push button is released, the reset will be executed. Motors do not move.	LED is OFF up to 30 seconds. LED begins to flash at 30 seconds and continues flashing while the button is held. Once the button is released the LED turns OFF.

SDN MOTOR ALL CONFIGURATION

1. OPEN the DIP switch bank access door
2. SET the appropriate bus power function with the Bus Power Switch

   The default setting for this DIP switch bank is OFF in the LEFT position.

   a. Bus Power Switch - Select OFF = Left to disable Bus Power
   Select ON = Right to enable Bus Power
3. SET the appropriate 0-10V control function in Bank A - Function DIP Switches (Refer to Appendix A)

   The default setting for this DIP switch bank is all switches in the UP position.

   a. DIP Switch 1 - Select OFF = Up to enable Percent Position motor movements
   Select ON = Down to enable Intermediate Position motor movements

   b. DIP Switch 2 - Select OFF = Up to enable SDN Mode Output

   c. DIP Switch 3 - Select OFF = Up to enable Standard Operation
   Select ON = Down to enable Reverse Operation
4. SET 0-10V control Motor All address in Bank B - Specific Group Address DIP Switches (Refer to Appendix B)

   The default setting for this DIP switch bank is all switches in the DOWN position.

   a. DIP Switch 1 through 6 - Select ON = Down to enable the Motor All FFFFFF broadcast address
5. CLOSE the DIP Switch Bank access door
6. PRESS & RELEASE the Push Button to test (all motors move)
7. TEST operation from the Third-Party 0-10V output control

Refer to Appendix C for 0-10V input levels and the corresponding SDN outputs.

Refer to the Somfy Connect UAI Plus Integration Report to identify the specific group address required or use the Set pro by Somfy configuration software to assign the specific group address to each motor to be controlled. Refer to Appendix A to enable the Bank A DIP switches before setting a specific SDN group address. Refer to Appendix B to set a specific SDN group address.

SDN GROUP SPECIFIC CONFIGURATION

1. OPEN the DIP switch bank access door
2. SET the appropriate bus power function with the Bus Power Switch

   The default setting for this DIP switch bank is OFF in the left position.

   a. Bus Power Switch - Select OFF = Left to disable Bus Power
   Select ON = Right to enable Bus Power
3. SET the appropriate 0-10V control function in Bank A - Function DIP Switches (Refer to Appendix A)

   The default setting for this DIP switch bank is all switches in the UP position.

   a. DIP Switch 1 - Select OFF = Up to enable Percent Position motor movements
   Select ON = Down to enable Intermediate Position motor movements

   b. DIP Switch 2 - Select OFF = Up to enable SDN Mode Output

   c. DIP Switch 3 - Select OFF = Up to enable Standard Operation
   Select ON = Down to enable Reverse Operation
4. SET the appropriate 0-10V control specific group address in Bank B - Specific Group Address DIP Switches

   The default setting for this DIP switch bank is all switches in the DOWN position.

   Refer to Appendix B to set the specific group address. Only 62 addresses are available.
5. CLOSE the DIP Switch Bank access door
6. PRESS & RELEASE the Push Button to test (the specific group of motors will move)
7. TEST operation from the Third-Party 0-10V output control

ANIMEO® IP MODE

The SDN 0-10V Interface V2 integrates with animeo IP using the animeo IP Visual Configuration software. The control is discovered and configured as a 6-Button Non-Eco Mode keypad that will move motors on the SDN bus to the full UP, full DOWN, 25%, 50%, and 75% positions depending on the 0-10V input. Refer to Appendix A to enable animeo IP Mode.

ANIMEO IP MODE PUSH BUTTON OPERATION

BUTTON ACTION	RESPONSE	LED ACTION
Press & Release < 7 seconds	Sequence operation – Motors will travel UP-STOP-DOWN-STOP as the button is repeatedly pressed and released.	LED flashes once each time the button is released. The Sequence command is sent when the button is released.
Press & Hold 7-30 seconds	animeo Discovery – The animeo Discovery signal is sent to the Building Controller. Motors do not move.	LED is OFF up to 7 seconds. LED turns ON at 7 seconds, then will turn OFF once the button is released. The animeo Discovery signal is sent once the button is released.
Press & Hold 30+ seconds	Software Reset – Once the button is released, the reset will be executed. Motors do not move.	LED begins to flash at 30 seconds and continues flashing while the button is held. Once the button is released the LED turns OFF.

ANIMEO IP MODE CONFIGURATION

1. OPEN the DIP switch bank access door
2. SET the appropriate bus power function with the Bus Power Switch
   The default setting for this DIP switch bank is OFF in the left position.
   a. Bus Power Switch - Select OFF = Left to disable Bus Power
      Select ON = Right to enable Bus Power
3. SET the appropriate 0-10V control function in Bank A - Function DIP Switches (Refer to Appendix A)
   The default setting for this DIP switch bank is all switches in the UP position.
   a. DIP Switch 1 - Select OFF = Up to enable Percent Position motor movements
      Only 0%, 25%, 50%, 75%, and 100% positions are available per the 6-Button Non-Eco Mode keypad profile.
   b. DIP Switch 2 - Select ON = Down to enable animeo IP Mode Output
   c. DIP Switch 3 - Select OFF = Up to enable Standard Operation
      Select ON = Down to enable Reverse Operation
4. SET the appropriate 0-10V control specific group address in Bank B - Specific Group Address DIP Switches
   The default setting for this DIP switch bank is all switches in the DOWN position. (Refer to Appendix B)
5. CLOSE the DIP Switch Bank access door
6. In the animeo IP Visual Configuration software, SELECT the Wrench icon to enter Configuration Mode
   a. In the left Remotes pane, Physical remotes tab, SELECT "+" to enter the Remote Wizard
7. PRESS & HOLD the Push Button for 7-30 seconds to discover the device
8. SELECT the device in the Remote Wizard window when discovered, then SELECT "Next"
   a. In the Remote name field, ENTER a device name for the area or group of motors it will control
   b. In the Remote owner, purpose, located at room, and floor fields ENTER details if required
   c. In the Remote ergonomy dropdown, SELECT "6 Button Decoflex Keypad Presets - No Eco"
   d. SELECT "Finish" to add the device to the Physical Remote list
   e. REPEAT the above steps to add more 0-10V controls
   f. UPLOAD the configuration to the animeo IP Building Controller to apply changes
   g. TEST the newly added device(s) - SELECT the device, then RIGHT-CLICK for Up/Stop/Down control
9. PRESS & RELEASE the Push Button to test the programmed operation
10. TEST operation from the Third-Party 0-10V output control

APPENDIX

[APPENDIX A] BANK A - FUNCTION DIP SWITCHES

The SDN 0-10V Interface V2 operates in 2 different modes: SDN Mode and animeo IP Mode. These modes are accessible by the setting of DIP switches enabling specific functions. See DIP switch 1-3 settings below (OFF=DIP SWITCH UP↑ or ON=DIP SWITCH DOWN↓).

The default setting for this DIP switch bank is all switches in the UP position.

DIP SWITCH SETTING	DIP SWITCH 1	DIP SWITCH 2	DIP SWITCH 3
↑	PERCENT POSITION	SDN MODE OUTPUT	STANDARD OPERATION
↓	INTERMEDIATE POSITION	ANIMEO IP MODE OUTPUT	REVERSE OPERATION

[APPENDIX B] BANK B - SPECIFIC GROUP ADDRESS DIP SWITCHES

The SDN 0-10V Interface V2 can reside on the standalone SDN bus with a Somfy Connect UAI Plus. The Bank B DIP switches allow setting a specific SDN address for this device to control. There are 62 available hexadecimal group addresses.

When using the following software versions, refer to the group address column needed below:

- ***Set pro by Somfy Configuration Software*** *- Refer to the Address ID column to set the motor group address*
- ***SDN Configuration Tool Software*** *- Refer to the Address ID column to set the motor group address*
- ***SDN Motor Configuration Software*** *- Refer to the Inverted ID column to set the motor group address*
- ***SDN Keypad Configuration Software*** *- Refer to the Inverted ID column to set the group address in the SDN Keypads*
- ***Somfy Connect UAI Plus*** *- Refer to the Integration Report to identify the specific Inverted ID required to program SDN Keypads*

See DIP switch 1-6 settings below (OFF=DIP SWITCH UP↑ or ON=DIP SWITCH DOWN↓).
Refer to Appendix A to enable the Bank A DIP switches before setting a specific SDN group address.
The default setting for this DIP switch bank is all switches in the DOWN position.

DIP SWITCH SETTING	ADDRESS ID (HEX)	INVERTED ID (HEX)
1 2 3 4 5 6		
DEFAULT SETTING ↓ ↓ ↓ ↓ ↓ ↓	00 00 00	FF FF FF
↓ ↓ ↓ ↓ ↓ ↑	01 01 00	FF FE FE
↓ ↓ ↓ ↓ ↑ ↓	01 01 01	FE FE FE
↓ ↓ ↓ ↓ ↑ ↑	01 01 02	FD FE FE
↓ ↓ ↓ ↑ ↓ ↓	01 01 03	FC FE FE
↓ ↓ ↓ ↑ ↓ ↑	01 01 04	FB FE FE
↓ ↓ ↓ ↑ ↑ ↓	01 01 05	FA FE FE
↓ ↓ ↓ ↑ ↑ ↑	01 01 06	F9 FE FE
↓ ↓ ↑ ↓ ↓ ↓	01 01 07	F8 FE FE
↓ ↓ ↑ ↓ ↓ ↑	01 01 08	F7 FE FE
↓ ↓ ↑ ↓ ↑ ↓	01 01 09	F6 FE FE
↓ ↓ ↑ ↓ ↑ ↑	01 01 0A	F5 FE FE
↓ ↓ ↑ ↑ ↓ ↓	01 01 0B	F4 FE FE
↓ ↓ ↑ ↑ ↓ ↑	01 01 0C	F3 FE FE
↓ ↓ ↑ ↑ ↑ ↓	01 01 0D	F2 FE FE
↓ ↓ ↑ ↑ ↑ ↑	01 01 0E	F1 FE FE
↓ ↑ ↓ ↓ ↓ ↓	01 01 0F	F0 FE FE
↓ ↑ ↓ ↓ ↓ ↑	01 01 10	EF FE FE
↓ ↑ ↓ ↓ ↑ ↓	01 01 11	EE FE FE

DIP SWITCH SETTING	ADDRESS ID (HEX)	INVERTED ID (HEX)
1 2 3 4 5 6		
↓ ↑ ↓ ↓ ↑ ↑	01 01 12	ED FE FE
↓ ↑ ↓ ↑ ↓ ↓	01 01 13	EC FE FE
↓ ↑ ↓ ↑ ↓ ↑	01 01 14	EB FE FE
↓ ↑ ↓ ↑ ↑ ↓	01 01 15	EA FE FE
↓ ↑ ↓ ↑ ↑ ↑	01 01 16	E9 FE FE
↓ ↑ ↑ ↓ ↓ ↓	01 01 17	E8 FE FE
↓ ↑ ↑ ↓ ↓ ↑	01 01 18	E7 FE FE
↓ ↑ ↑ ↓ ↑ ↓	01 01 19	E6 FE FE
↓ ↑ ↑ ↓ ↑ ↑	01 01 1A	E5 FE FE
↓ ↑ ↑ ↑ ↓ ↓	01 01 1B	E4 FE FE
↓ ↑ ↑ ↑ ↓ ↑	01 01 1C	E3 FE FE
↓ ↑ ↑ ↑ ↑ ↓	01 01 1D	E2 FE FE
↓ ↑ ↑ ↑ ↑ ↑	01 01 1E	E1 FE FE
↑ ↓ ↓ ↓ ↓ ↓	01 01 1F	E0 FE FE
↑ ↓ ↓ ↓ ↓ ↑	01 01 20	DF FE FE
↑ ↓ ↓ ↓ ↑ ↓	01 01 21	DE FE FE
↑ ↓ ↓ ↓ ↑ ↑	01 01 22	DD FE FE
↑ ↓ ↓ ↑ ↓ ↓	01 01 23	DC FE FE
↑ ↓ ↓ ↑ ↓ ↑	01 01 24	DB FE FE

DIP SWITCH SETTING						ADDRESS ID (HEX)	INVERTED ID (HEX)
1	2	3	4	5	6		
↑	↓	↓	↑	↑	↓	01 01 25	DA FE FE
↑	↓	↓	↑	↑	↑	01 01 26	D9 FE FE
↑	↓	↑	↓	↓	↓	01 01 27	D8 FE FE
↑	↓	↑	↓	↓	↑	01 01 28	D7 FE FE
↑	↓	↑	↓	↑	↓	01 01 29	D6 FE FE
↑	↓	↑	↓	↑	↑	01 01 2A	D5 FE FE
↑	↓	↑	↑	↓	↓	01 01 2B	D4 FE FE
↑	↓	↑	↑	↓	↑	01 01 2C	D3 FE FE
↑	↓	↑	↑	↑	↓	01 01 2D	D2 FE FE
↑	↓	↑	↑	↑	↑	01 01 2E	D1 FE FE
↑	↑	↓	↓	↓	↓	01 01 2F	D0 FE FE
↑	↑	↓	↓	↓	↑	01 01 30	CF FE FE
↑	↑	↓	↓	↑	↓	01 01 31	CE FE FE

DIP SWITCH SETTING						ADDRESS ID (HEX)	INVERTED ID (HEX)
1	2	3	4	5	6		
↑	↑	↓	↓	↑	↑	01 01 32	CD FE FE
↑	↑	↓	↑	↓	↓	01 01 33	CC FE FE
↑	↑	↓	↑	↓	↑	01 01 34	CB FE FE
↑	↑	↓	↑	↑	↓	01 01 35	CA FE FE
↑	↑	↓	↑	↑	↑	01 01 36	C9 FE FE
↑	↑	↑	↓	↓	↓	01 01 37	C8 FE FE
↑	↑	↑	↓	↓	↑	01 01 38	C7 FE FE
↑	↑	↑	↓	↑	↓	01 01 39	C6 FE FE
↑	↑	↑	↓	↑	↑	01 01 3A	C5 FE FE
↑	↑	↑	↑	↓	↓	01 01 3B	C4 FE FE
↑	↑	↑	↑	↓	↑	01 01 3C	C3 FE FE
↑	↑	↑	↑	↑	↓	01 01 3D	C2 FE FE
↑	↑	↑	↑	↑	↑	RESERVED	

[APPENDIX C] INPUT LEVELS & SDN OUTPUT

When the SDN 0-10V Interface V2 is properly connected and powered, it will accept an analog voltage in the range of 0-10V and convert that voltage to a corresponding SDN command. As the input voltage rises between 0 and 10 volts, the control processes the various levels and transmits motor commands on to the SDN bus as either increasing motor percentages of 0-100% or intermediate positions IP1-IP11. The control is optimized to work best with discrete voltage inputs rather than a sliding scale. This is done to ensure a stable motor position.

The SDN 0-10V Interface V2 is optimized for operation with a wireless control module manufactured by Encelium, as well as standard analog voltages in the range of 0.75V to 9.1V. This allows the control to operate with a broad range of 0-10V inputs that may slightly vary between lighting manufacturers.

SDN CONFIGURATION

ENCELIUM INPUT	MOTOR % POSITION	MOTOR INTERMEDIATE POSITION
.750 V	0%	IP1
1.088 V	10%	IP2
2.037 V	20%	IP3
2.973 V	30%	IP4
3.901 V	40%	IP5
4.897 V	50%	IP6
5.813 V	60%	IP7
6.73 V	70%	IP8
7.71 V	80%	IP9
8.66 V	90%	IP10
9.58 V	100%	IP11

NON-ENCELIUM INPUT	MOTOR % POSITION	MOTOR INTERMEDIATE POSITION
.750 V	0%	IP1
1 V	10%	IP2
2 V	20%	IP3
3 V	30%	IP4
4 V	40%	IP5
5 V	50%	IP6
6 V	60%	IP7
7 V	70%	IP8
8 V	80%	IP9
9 V	90%	IP10

ANIMEO IP CONFIGURATION

NON-ENCELIUM INPUT	MOTOR % POSITION	KEYPAD BUTTON COMMAND
0-3 V	0%	UP
3-4.7 V	25%	Preset 1
4.7-6.5 V	50%	Preset 2
6.5-8.2 V	75%	Preset 3
8.2-10 V	100%	DOWN

FOR QUESTIONS OR ASSISTANCE PLEASE CONTACT TECHNICAL SUPPORT:

(800) 22-SOMFY (76639)

Get answers to your questions from our Somfy FAQ page: www.somfysystems.com/en-us/support/faq

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