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## INTRODUCTION

This SI WIRED Programming Guide was developed for you, our Integration partner, and your clients. We have provided this simple guide to help assist in the commissioning and deployment of a Screen Innovation wired shade system.

This guide covers the configuration software used for both KEYPAD PROGRAMMING and SHADE CONFIGURATION.

Control - your way, at Screen Innovations we provide complete control of all your shade and screen products via both wireless and wired technologies.

Screen Innovations ${ }^{\circledR}$ has developed the most innovative shade system available to the CEDIA ${ }^{\circledR}$ market. Our revolutionary Shade Builder tools, ultra-high-quality interior and exterior motorized shades and the most extensive control and power options in the industry with our SICON ecosystem will provide an unmatched level of performance. We built our shade products to a world class level and are the absolute best you can buy.

We engineered the system in Austin Texas, USA and our products are all engineered and manufactured in the USA. We have some exclusive partnerships with world class raw parts suppliers such as Somfy the world leader in motors. These partnerships combined with our innovations and patent pending technologies mean not only do our shade products look amazing in your client's home, but more importantly "they just work"

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Can't find the answer to your SI WIRED questions in this Guide?
Please contact our technical support teams at the number and times above.

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## SI KEYPAD CONFIGURATION SOFTWARE

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## SI SDN SHADE CONFIGURATION SOFTWARE

## SHADE CONFIGURATION PARTS NEEDED

Software:

- SDN Motor Configuration Software from www.screeninnovations.com

Hardware:

- Field USB>Computer Download Upload Programming Cable from SI
- SI Nano ${ }^{\circledR}$ or Zen ${ }^{\text {TM }}$ SDN Shade(s)
- Windows Laptop PC


## SOFTWARE INSTALLATION

1. Download the latest SDN TOOLS FOLDER from the www.screeninnovations.com website. Extract all files and install the SDN Motor Configuration Software. *When possible, install as administrator.
2. Connect the Field USB>Computer Download Upload Programming Cable to any available USB port on your laptop.
3. Go to Windows Start Menu and search for Device Manager and open the program.
4. Go to Ports and click to expand it.
5. Make note the COM Port number listed for the USB Serial Port (COM\#)
6. Right click on the USB Serial Port and click Properties.
7. Click the tab for port settings and make sure that the settings are as follows:

- Bits per second: 4800
- Data Bits: 8
- Parity: Odd


8. Open the SDN Motor Configuration Software from the desktop Icon or Windows Start menu.
9. At the top left of the window, select the COM port that you noted from the Device Manager and click on the "Connect" button. You are now connected to the COM port and ready to start our configuration.

- NOTE: If there are no COM ports listed in the dropdown box, close the software and make sure the Field USB>Computer Download Upload Programming Cable is connected to your USB port on the laptop, and then reopen the software.



## Explanation of Software User Interface



Addressing Section:

- Group radio button - Is selected when you want to communicate with a group address that is entered in the field to the right
- Single radio button - Is selected when you want to communicate with a single motor address that is entered in the field to the right.
- Get Single Motor Address - Used to get a motor address when connected to only one motor.
- Auto Discovery - Searches the entire SDN network and lists all found device addresses in the Motor Addresses window on the right side. USB



## Movements Section:

- Stop - Stops the motor when it is moving.
- Up Limit - Takes the motor to its upper limit.
- Down Limit - Takes the motor to its lower limit.
- Jog Up (*10ms) - Moves the motor up by 10 milliseconds times the number entered in the box next to it.
- Jog Down (*10ms) - Moves the motor down by 10 milliseconds times the number entered in the box next to it.
- Jog Up (Pulses) - Moves the motor up by the number of pulses specified in the box next to it
- Jog Down (Pulses) - Moves the motor down by the number of pulses specified in the box next to it
- Pulse Position - Moves the motor to the specified pulse count entered in the box next to it.
- $0-100 \%$ Position - Moves the motor to the specified percentage that is entered in the box next to it.
- Go to IP - Moves the motor to the specified IP entered in the box next to it (If motor has IPs set).
- Next IP Up - Moves the motor up to the next IP if available (If motor has IPs set).
- Next IP Down - Moves the motor down to the next IP if available (If motor has IPs set).
- Clear Fields - Clears all fields in the Movements section.


DC Motor Speed Control Section:

- Roll Speed - Shows the main roll speed.
- Slow Speed - Shows the Start and stopping speed.
- Get - Gets the current speed setting of the motor.
- Set - Sets the speed to the motor.
- Clear - Clears the windows but does NOT clean the motor settings.


Pulse Count Section:

- Get Counts - Gets the same motor's current pulse counts.
- Clear - Clears the pulse counts on the screen, but does NOT clear anything in the motor



## Get IP Addresses Section:

- Get IP's - Will poll the motor and display any IP that are set in it.
- Erase All IP's - Deletes any IP in motor. Will NOT erase upper and lower limits.
- Set IP's @ Pulse - Sets an IP to the specific pulse count that you enter in the IP box.
- Set IP @ Current - Sets an IP at the current position of the motor.
- Set Equal \# of IP's - Takes the total pulse count from top to bottom and sets an equal pulse count for the amount of IPs that you specify below in the "IP \#" box.
- Delete IP \# - Deletes the IP that is specified in the "IP \#" box below.
- Set IP \# @ IP\% - Sets the specified IP to the specified \% entered in the IP\# \& IP\% boxes above.
- Clear Fields - Clears all IP fields in the section but does NOT delete anything from the motor.



## Group Addresses Section:

- Get Groups - Shows all of the groups that this motor belongs to.
- Set Groups - Allows you to assign groups to this motor.
- Erase Groups - Erases all groups assigned to this motor.
- Clear Fields - Clears all fields in the Group Addresses area.
- 1-16 boxes display what groups are programmed to the motors. You can enter any hexadecimal group names in these boxes and then press the "Set Groups" button to program it into the motor. $n$ the section but does NOT delete



## Lock Section:

- Lock Network - Get - Shows if the motor is locked and at what priority value.
- Lock Network - Lock - Lets you lock the motor off the network at the priority value that is in the box to the right.
- Lock Network - Unlock - Lets you unlock the motor from the network using a value equal to or greater than what the motor is locked with.
- Lock Position - Set - Lets you lock the motor from moving until it is unlocked with a priority value that is equal to or greater than what it is locked with.
- Note: When locked at a priority, it can only be unlocked with a priority equal to or greater than the lock priority. 1 is the lowest and 255 is the highest



## Adjust Limits Section:

- Up (Pulses) - Moves the motor up by the number of pulses specified in the box next to it.
- Up (ms*10) - Moves the motor up by the number of milliseconds specified in the box next to it times 10.
- Down (Pulses) - Moves the motor down by the number of pulses specified in the box next to it.
- Down (ms*10) - Moves the motor down by the number of milliseconds specified in the box next to it times 10.
- Reset Motor(s) - Resets all the limits that are set on the motor.
- Reverse Rotation - Sets the motor to run in the reverse direction.
- Standard Rotation - Sets the motor to run in the standard direction.
- Wink Motor - Jogs the motor up and down.
- Set Up @ Current - Sets the upper limit to the current position that the motor is in.
- Set Down @ Current - Sets the down limit to the current position that the motor is in.
- Set Down @ - Sets the down limit at the pulse count entered in the box next to it.
- Up (ms*10) - If the motor has no limits set, this button will allow you to move the motor up by the number of milliseconds specified in the box next to it, times 10 .
- Down (ms*10) - If the motor has no limits set, this button will allow you to move the motor down by the number of milliseconds specified in the box next to it, times 10 .


Motor Label Section:

- Get - Will get the motor name assigned to the motor if available.
- Set - Sets the motor name to the name entered in the box below.
- Clear - Clears the Label box below but does not clear the label in moto milliseconds


## PROGRAMMING \& TROUBLESHOOTING EXAMPLES

Programming an AC Motor for Basic functions:

1. Connect the USB to RS485 adapter to the computer's USB port.
2. Connect a CAT5 or higher cable to the RS485 adapter and to the Data Pass through port on the Bus Power supply, or to a device port on the SDN system.
3. Open Somfy Digital Network ${ }^{\text {TM }}$ Motor Configuration Software.
4. Click the dropdown and select the correct COM port and click Connect.
5. If you do not know the motor ID, use the Auto Discover button to get a list of all motors on the network.
6. Enter the motor ID that you want to program into the box under the Addressing field.
7. Click the Single radio button.
8. Enter desired group IDs, that you want this motor to belong to, in to the 1-16 boxes under the Group addresses field.
9. Click the Set Groups button.
10. Under the IP's field, in the box to the right of the Set IP\# @ IP\%, enter the number 1 in the first box and 25 in the second box.
11. Click the Set IP\# @ IP\% button.
12. Under the IP's field, in the box to the right of the Set IP\# @ IP\%, enter the number 2 in the first box and 50 in the second box.
13. Click the Set IP\# @ IP\% button.
14. Under the IP's field, in the box to the right of the Set IP\# @ IP\%, enter the number 3 in the first box and 75 in the second box.
15. Click the Set IP\# @ IP\% button.

## Testing the Programmed AC Motors:

1. Under the Addressing field enter in a group address that you just programmed in the motor.
2. Click the Group radio button.
3. Use the buttons below the Movements field to send the motor to its upper limit, lower limit, and IP1, IP2, \& IP3

## DIAGNOSTIC REPORT FUNCTION

Follow the steps below to enter the diagnostic reporting section in the program. These values may be needed during troubleshooting.


1. Connect to a single motor.
2. Type "diag" in the Motor Label box.
3. In the Get IP Addresses Section you will see three buttons; ST30 RS485, LSU RS485 (AC) and ST50 DC RS485. In the Group Addresses Section you will see:

- Movements - The number of movements the motor has had.
- Revs - The number of complete turns the motor has done.
- Thermal - Should always be 0 , unless the motor thermals out.
- Post Ther - Temperature after the motor thermals out.
- Obstacle - The number of obstacles the motor has had.
- Post Obst - Should always match the same number as Movements, but then restarts after an Obstacle occurs.
- Power Up - The number of times power has been reapplied to the motor.
- Reset - The number of times the motor has reset.
- Enc Errors - Should always be 0, unless something is physically wrong with the motor.

4. Click the Get Single Motor Address button.
5. Once it populates the motor address, click on the ST30 RS485, LSU RS485 (AC), or ST50 DC RS485.
6. The values will populate in boxes $8-16$ in the Group Address section.

## SI SDN KEYPAD CONFIGURATION SOFTWARE

## SDN KEYPAD CONFIGURATION PARTS NEEDED

Software:

- SDN Keypad Configuration Software from www.screeninnovations.com Hardware:
- Field USB>Computer Download Upload Programming Cable from SI
- Somfy SDN DecoFlex Digital Keypad (Somfy Part \#1811252, 1811311, 1811334, 1811253, 1811312, 1811335, 1811749, 1811750)
- Windows Laptop PC


## SOFTWARE INSTALLATION

1. Download the latest SDN TOOLS FOLDER from the www.screeninnovations.com website. Extract all files and install the SDN Keypad Setup Software. *When possible, install as administrator.
2. Connect the Field USB>Computer Download Upload Programming Cable to any available USB port on your laptop.
3. Go to Windows Start Menu and search for Device Manager and open the program.
4. Go to Ports and click to expand it.
5. Make note the COM Port number listed for the USB Serial Port (COM\#)
6. Right click on the USB Serial Port and click Properties.

7. Click the tab for port settings and make sure that the settings are as follows:

- Bits per second: 4800
- Data Bits: 8
- Parity: Odd
- Stop Bits: 1
- Flow Controls: None

8. Open the SDN Keypad Setup Software from the desktop Icon or Windows Start menu.
9. At the top left of the window, select the COM port that you noted from the Device Manager and click on the "Connect" button. You are now connected to the COM port and ready to start our configuration.


- NOTE: If there are no COM ports listed in the dropdown box, close the software and make sure the Field USB>Computer Download Upload Programming Cable is connected to your USB port on the laptop, and then reopen the software. Be sure the Keypad Config is the only software running on your computer. Also, if you cannot connect to the COM port, make sure that no other software is using that COM port.


## EXPLANATION OF SOFTWARE USER INTERFACE

## Configuration Section:

- Set Config - Sends all the programming on screen, to the keypad.
- Get Config - Checks and displays all that is currently programmed to the connected keypad.
- Set Keypad Type - Allows you to change the keypad to either an SDN or animeo IP keypad with default configuration. (Only available if keypad is running Firmware version 5.0 or higher)
- SDN RS485 - Sets the Keypad to work with standalone SDN systems (SI Shade Systems are in the category)
- ILT2 Animeo IP - Sets the Keypad to work with ILT2 motors and animeo IP
- Animeo Default - Programs the Keypad with the default configuration for animeo IP Keypads
- Set Group All Address - Allows you to enter a group address for the keypad to control. This also will be used as the keypad's address. When using animeo IP keypad programming, each keypad will need a unique address in this field.
- Save Settings - Will save all programming made onscreen, to a text file.
- Import Settings - Will import settings from a previously saved file.
- Clear Data Field - Clears all values onscreen.roup radio button
- Note: This does not clear the Keypad, unless you then press the Set Config button.
- Motor All Address - This is used when making a Keypad for testing/troubleshooting to control all motors on the system. Type "FFFFFF" in this box and select the Motor All radio button in the button boxes below. This field can also be populated with any motor address and when the Motor All radio button is selected on that switch button, it will communicate with that address.



## Keypad Button Programming Section:

- Each Keypad Button is represented by a window labeled "Switch, DC \#_".
- Note: When programming a 6-Button Keypad, "Switch, DC \#4" and "Switch, DC \#5" are not used, unless for Dry Contact closures on the back of keypad.
- Each Keypad Button has a dropdown to program a command to happen when you Press, Hold, or Release the button on the Keypad. (If you want nothing to happen when you Press, Hold or Release the button, then just leave the dropdown to say "On Press", "On Hold" or "On Release")
- Each section has a Sequence check box. When selected, it will turn the section of that Keypad Button purple. This option will enable sequential

- commands/functions.

- [See "Switch, DC \#5" below] The first dropdown box command (A) will act on the first button press, the second dropdown box command $(B)$ will act on the second button press, and so on, that each press on that Keypad Button will cycle commands from A-B-C-B-A.
- Note: During operation mode, 60 seconds after the last Keypad Button is pressed, the second dropdown box command (B) will be skipped; The Sequence function is not supported on button \#6-8 once the "Group" selection is made in any of buttons \#1-5.
- Each section has a choice of four radio buttons. These options will tell each Keypad Button which motor or group to send a command to.
- Group All - Makes this Keypad Button control all motors in the "Set Group All Address" box [See "Switch, DC \#1" below]
- Motor All - Makes this Keypad Button control all motors in the "Motor All Address" box [See "Switch, DC \#2" below]
- Specific Group - Makes this Keypad Button control only the motors in the specified group [See "Switch, DC \#3" below]
- Specific Motor - Makes this Keypad Button control only the single specified motor [See "Switch, DC \#4" below]


## Command Options:

- On Press is a placeholder to show where the dropdown is for programming the On Press feature. When changed to a function in the dropdown box, this button will activate the function. When On Press is left in the dropdown box, nothing will happen when the button is pressed.
- On Hold is a placeholder to show where the dropdown is for programming the On Hold feature. When changed to a function in the dropdown box, this button will activate the function. When On Hold is left in the dropdown box, nothing will happen when the button is pressed. NOTE: A hold is defined as a press that lasts more than 1.5 seconds.
- On Release is a placeholder to show where the dropdown is for programming the On Release feature. When changed to a function in the dropdown box, this button will activate the function. When On Release is left in the dropdown box, nothing will happen when the button is pressed.
- Up - Sends motor/groups up to the upper limit.
- Down - Sends motor/groups down to the lower limit.
- Stop - Stops motor/group movement
- Go to IP \# - Sends motor/group to a specific IP (Intermediate Position).
- Next IP Up - Sends motor/group up to next IP position programmed in the motor.
- Next IP Down - Sends motor/group down to next IP position programmed in the motor.
- Go to Pulse \# - Sends motor/group to specified pulse \#.
- Jog Up X 10 ms - Sends motor/group up 10 times milliseconds specified.
- Jog Down X 10 ms - Sends motor/group down 10 times milliseconds specified.
- Jog Up Pulse - Sends motor/group up specified \# of pulses.
- Jog Down Pulse - Sends motor/group down specified \# of pulses.
- Go to \% - Sends motor/group to specified \%.
- Lock @ Current - Locks motor/group at current location. (be sure to program a button to Unlock at the same or higher priority)
- Lock @ Up - Locks motor/group at upper limit. (be sure to program a button to Unlock at the same or higher priority)
- Lock @ Down - Locks motor/group at lower limit. (be sure to program a button to Unlock at the same or higher priority)
- Lock @ IP \# - Locks motor/group at specified IP. (be sure to program a button to Unlock at the same or higher priority)
- Unlock - Unlocks motor/group that has been locked (The highest priority lever of lock/unlock is \#255).
- Set IP \# - Programs current location as specified IP \#.
- Group - (See group programing section VII)



## KEYPAD PROGRAMMING

## Programming a Keypad for Basic Functions

1. Connect the Field USB>Computer Download Upload Programming Cable to any available USB port on your laptop
2. Open SDN Keypad Setup Software
3. Click the dropdown and select the correct COM port and click Connect
4. In the "Set Group All Address" box, type in the group address that you would like this Keypad to control
5. For "Switch, DC \#1" change the On Press dropdown to Go to \% and in the box that appears to the right type " 15 "
6. For "Switch, DC \#2" change the On Press dropdown to Go to \% and in the box that appears to the right type " 30 "
7. For "Switch, DC \#3" change the On Press dropdown to Go to \% and in the box that appears to the right type " 50 "
8. For "Switch, DC \#4" change the On Press dropdown to Go to \% and in the box that appears to the right type " 70 "
9. For "Switch, DC \#5" change the On Press dropdown to Go to \% and in the box that appears to the right type " 85 "
10. For "Switch, DC \#6" change the On Press dropdown to Stop
11. For "Switch, DC \#7" change the On Press dropdown to Down
12. For "Switch, DC \#8" change the On Press dropdown to Up
13. In each switch box make sure that the radio button for "Group All" is selected
14. Click on the "Set Config" button. While the program writes to the Keypad, the light on the front of the Keypad will flash. DO NOT DISCONNECT the Keypad until after the light goes out. (about 5 seconds)

You are now finished programming. Connect the Keypad to any Device Port on the SDN network to control the Group you programmed.

## POPULAR KEYPAD PROGRAMMING OPTIONS

[^0]1. Change the On Press dropdown to Down or Up
2. Change the On Release dropdown of Stop

- Create a single Keypad button to command Up, Stop \& Down:

1. Check the Sequence box under the Keypad button you want to program
2. Change the On Press dropdown to Up
3. Change the On Hold dropdown to Stop
4. Change the On Release dropdown to Down

- Dedicate a single 6-Button Keypad to move a specific group up, down or to a specific \% at the same time:

1. Select the Specific Group radio button option on each Keypad Button section
2. Enter the same Group Address on each section
3. For "Switch, DC \#1", change the On Press dropdown to Go to \% and in the box that appears to the right, type " 25 "
4. For "Switch, DC \#2", change the On Press dropdown to Go to \% and in the box that appears to the right, type " 50 "
5. For "Switch, DC \#3", change the On Press dropdown to Go to \% and in the box that appears to the right, type " 75 "
6. Keep "Switch, DC \#4" as is
7. Keep "Switch, DC \#5" as is
8. For "Switch, DC \#6", change the On Press dropdown to Stop
9. For "Switch, DC \#7", change the On Press dropdown to Down
10. For "Switch, DC \#8", change the On Press dropdown to Up

## 1-to-1 Configuration (1 Shade powers 1 Keypad)

- To program a momentary button to only move up or down while the button is depressed:

1. Using a CAT5 Cable with Power, connect Somfy Keypad (\#1811730) directly to a 120V AC RS-485 Motor
2. The Keypad will need to be programmed with the Motor's address, a group address that is programmed in the Motor, or the FFFFFF address
3. The Keypad buttons can be programmed in any configuration just like all other SDN Keypads (see Keypad Button Programming Section)

## Programming a Keypad for Group Functions

* This section pertains only to keypad firmware version 5.5 or greater:

Setting the keypad to have group functions

- When programming the keypad to have group functions, it will allow you to select a group by using buttons \#1-5 and then using buttons \#6-8 to control the selected group. In this mode, when you press buttons \#1-5 the corresponding LED will light for 12 seconds and you can use buttons \#6-8 to control the group that is lit. if the LED goes out after 12 seconds, and buttons \#6-8 are pressed, it will revert back to the last group that was selected.
- NOTE: Once the "Group" selection is made in any "On Press" dropdowns in buttons \#15 , buttons \#6-8 will become dedicated group control buttons and cannot be used as standard SDN buttons. After the "Group" selection is made buttons \#6-8 no longer support the sequence functions.



## Programming the buttons:

- Select "Group" in the "On Press" dropdown menu, as shown in button \#1 below
- Once selected, it will open the "Specific Group" address box, as shown in button \#3 below
- Enter the group address that you want the button to control
- Program buttons \#6, 7 \& 8 with the functions that you want to use to control the groups assigned to buttons \#1-5.
*Group command functions will only work with group addresses. You cannot use single motor addresses when programming buttons for groups. You will need to create a group for the single motor that you want to control, if using this feature.


## SI SHADE SYSTEM CONTROL OPTIONS



## Screen Innovations

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[^0]:    - Program a momentary button to only move up or down while the button is depressed:

