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What tools and parts should I have on my truck when deploying an SDN shade system?

When installing SDN shades, a best practice is to have extra parts such as extra SDN gateway, a USB to 485 adapters, a limit setting tool and some extra 6 and 8 button Decoflex keypads.

It is also a best practice to have an extra Wireless router, access points and 4G or better hot spot for advanced diagnostics or remote assistance.
Introduction

This SI.FI SDN Design Guide was developed for you, our Integration partner, and your clients. We have provided this simple guide to help assist in the design of a Screen Innovation wired shade system, and to provide some best practices which can help yield the best possible performance from deployments.

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

The simple truth is that even with all the advances in wireless technologies such as Screen Innovations' RTS systems, a wired technology system provides more design choices regarding shade sizes for both width and drop as well as strength which can allow for a wider selection in fabrics and materials that can be used.

Wired systems also have historically proven to provide the absolute highest levels of system performance, robustness and overall reliability. When wired systems are not possible, the next best choice would be with our Screen Innovations RTS wireless solutions. If you and your client have selected this option, then refer to our Link Pro RTS DESIGN GUIDE.

Screen Innovations wired solutions offer a wide variety of options to control your shade solution from independent controls like wireless keypads to simple and elegant hand-held remotes, all of which do not need to be pointed and simply just work.

We also offer the very latest in voice control technology with popular systems like Josh.ai.

What control system are compatible with SI's SDN system?

The Screen Innovations SDN system are compatible with all popular control systems in the market today including the following.

Screen Innovations is not only our name, but it is really at the core of what we do every day. We develop innovative patent pending and state-of-the-art optics, motorization, and control technologies for both residential and commercial applications.

We have also attracted some of the world's finest partners for technology co-development, and co-marketing for industry leading and exclusive product solutions for the CEDIA®, AVIXA®, and Integrated Systems markets all over the world.

At Screen Innovations our goal is to make the experience of using technology Fun, seamless, and as invisible to the user as possible.

Our shading system motors and solutions were co-developed in an exclusive technology and partnership with worldwide leader of marketing Somfy the Silent motors.
Introducing flow, a secret weapon that will change your life.

As a Screen Innovations dealer, you have access to the industry’s first complete Shade Builder tool called FLOW™.

This innovative and exclusive dealer tool will help ensure your designs have everything needed to quote, sell and complete the job the first time and every time.

What is a Wired Shade System?

Screen Innovations has developed a state-of-the-art wired shade solution using the SDN for the most flexibly and robust shading solution in the industry.

This system can use most any type of wiring infrastructure and topology from our power panels to silent and powerful motorized box and open roll shades.

We offer both indoor shade solutions in our Nano® and Veil lines as well as exterior shade solutions with our Zen™, and Sail lines of motorized systems that are all easy to design, deploy, install and use.

What is SDN, and why does my client need it?

SDN stands for Somfy Digital Network® and was developed by Screen Innovation’s exclusive CEDIA channel partner Somfy.

The SDN technology inside Screen Innovations shade products provide the ultimate combination of luxury and performance for any lifestyle. Your client can also take advantage of automated features such as scheduling, sensor, or astronomical capabilities that can enhance or improve energy consumption, which can result in utility savings.

SDN system consists of SDN shades, SDN power panels, SDN data hubs and devices (like SDN keypads), and an SDN Gateway like SI.FI.
How do I terminate the wire for CAT5/6 cables?

For UTP wires, please use the above wire diagram with the Blue pair as Power positive +, and the Brown pair as Power negative -, and the green pair as the data ground, and the orange wire as the data negative (-) and the orange + orange and white wire as the data positive (+) and the maximum run is 150’.

What kind of wire do I need to pull and how long can I run it?

You can use most any kind of wire for SDN shade deployments. Depending on the gauge and type of wire will determine how large or a shade you can use and the distance you can pull the wire from. SDN technology uses a 5-conductor wire as standard, and this wire is designed in a home run start-type topology from the shades to the power panel(s) at the head-end. Please reference the wire chart below will help you determine the appropriate wire gauge for specific wire lengths for each shade.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>150’</th>
<th>200’</th>
<th>240’</th>
<th>300’</th>
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<tr>
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<td>SI 201 UTP (CAT6) min 23AWGx8</td>
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<td>✔</td>
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<td></td>
</tr>
<tr>
<td>LUTRON-P-RED (18AWGx5) + (16AWGx2) plenum</td>
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</tbody>
</table>

How do I terminate the wire for 5 conductor cables?

For 5-conductor cables, please use the largest gauge in the bundle for power, and these may be colored red and black but even if they are not, use the largest gauge for power. Then use brown when available for data ground, and Orange for data negative -, and Orange + Orange and white for data positive +. Do not connect the drain or any shields. This is the same for plenum or non-plenum wire types. Please see chart for maximum wire lengths.

How do I terminate the wire for 4 conductor cables?

For 4-conductor cables, please use the largest gauge in the bundle for power, and these may be colored red and black but even if they are not, use the largest gauge for power. Then use a jumper wire from the data ground to the power supply negative ground, and Orange for data negative -, and Orange + Orange and white for data positive +. Do not connect the drain or any shields. This is the same for plenum or non-plenum wire types. Please see chart for maximum wire lengths.

Contact SI technical support teams for more information on wire types, and colors and wire lengths.

How do I terminate the wire for CAT5/6 cables?

For UTP wires, please use the above wire diagram with the Blue pair as Power positive +, and the Brown pair as Power negative -, and the green pair as the data ground, and the orange wire as the data negative (-) and the orange + orange and white wire as the data positive (+) and the maximum run is 150’.
What are some common pre-wire types and colors?

Wire lengths up to 150’

Where do I power the shades & terminate the home run wire?

Screen Innovations provides a head-end product called the Power Panel.

How many shades can I connect to a Power Panel?

Each power panel can connect to 10 shades each power panel.

If I have more than 10 shades, can I connect multiple power panels?

Yes, you would connect the SDN regulated OUT to the SDN regulated IN on the next power panel.

What are the maximum number of shades I can have on an isolated segment of an SDN system?

The maximum shades you can place on any single isolate bus segment would be 255 shades and you can have up to 4000’ of combined wire for this segment.

What if I need more than 255 shades in my project?

If your project has more than 255 shades, then first call SI so we can help you with the design of this deployment.

You will need to add a #1870260 DATA PANEL to the project which would provide four segmented bus segments, for a total of over 1000 shades.
Do I need a gateway for an SDN shade system?

Yes, you will need to use a Screen Innovations exclusive part called SI.FI. Only one gateway is needed for the project no matter how large.

This gateway can be powered by a standard bus power supply and connects to your standard 802.3 Ethernet.

The gateway can be din rail mounted and rack mounted din rails are available.

The SDN gateway has two primary functions on an SDN network, first and foremost it is your limit setting tool for all the shades, and second it is the single point of contact for control of all your shades for 3rd party control systems. has FCC, and CE

How do I set the motor limits with SI.FI?

Using a standard web browser connect to the IP address of a SI.FI to gain access to the provisioning software called PILOT. You will have the ability to test and control your system from this connection.
Example System #1
1,500 SF, 1 floor, 1 Room, 4 total shades.
1 Power panel, 1 Data Hub, 1 Bus Power Supply (not shown),
1 Decoflex Keypad, 1 SI.FI SDN gateway
1 spool 101 wire, 1 box 201 wire

Example System #2
1,500 SF, 1 floor, 3 Rooms, 6 total shades.
1 Power panel, 1 Data Hub, 1 Bus Power Supply (not shown),
3 Decoflex Keypad, 1 SI.FI SDN gateway
1 spool 101 wire, 1 box 201 wire
What commands are available for use with 3rd party control?

The SDN technology API allows you to control one or more shades and or groups. You can send commands to send the shades up, down, stop and preset selections (any) you can also create and send scenes and you can receive unsolicited feedback and incremental controls and absolute position.

We have software modules for all popular control systems and these also may include sample programs and demo graphics for touch panels.

If you would like to have access to all commands download the String Calculator at the below link and this will give you the hex commands to all commands and queries for any status feedback.

https://www.somfypro.com/services-support/software

This software is free.
What SDN control options do I have?

Screen Innovations offers several types of keypads controls. These options should be considered even if you have a 3rd party control system. A best practice should be that all sub systems should be able to stand alone regardless of the control system status.

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