

HUSSMANN®



Store Connect Predictive Analytics System

Site Planning & Provisioning Guide

IMPORTANT

Keep in Store for Future Reference

SC-21 INSTALLATION

P/N 3148885_B

July 2021

French P/N 3148886






BEFORE YOU BEGIN
Read the safety information completely and carefully.



SAFETY

Please wear all required personal protective equipment according to OSHA regulations, and be sure to comply with the precautions described in this manual to protect you and others from possible harm. The ANSI definitions below detail and clarify the magnitude and urgency of potential harm, damage and problems arising from misuse or improper installation. Relative to their potential danger, the definitions are divided into four parts as defined by ANSI Z535 Series.

ANSI Z535.5 DEFINITIONS

- 
 - **DANGER** – Indicate[s] a hazardous situation which, if not avoided, will result in death or serious injury.
- 
 - **WARNING** – Indicate[s] a hazardous situation which, if not avoided, could result in death or serious injury.
- 
 - **CAUTION** – Indicate[s] a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE** – *Not related to personal injury* – Indicates[s] situations, which if not avoided, could result in damage to equipment.

WORKING NEAR THE PUBLIC

Cordon off all work areas with cones, caution tape, warning signs and/or barricades. Maintain a work area of at least 5 feet from the public. Is a second person required to prevent the public from entering the work area when the work area cannot be adequately cordoned off?

ELECTRICAL HAZARDS

Are all live electrical hazards protected from public access; i.e., de-energized/locked out or cordoned off? Is proper signage in place? Make sure the work area is cordoned off.

ELECTRICAL / LOTO

Does the project require you to work with live electricity? If yes, have you received appropriate training? Do you have appropriate locks and tags to de-energize or isolate the electrical supply?

- Read and observe all CAUTIONS and WARNINGS shown throughout these instructions.
- Each person working on or near the installation described must wear safety glasses or goggles.
- Block access to the work area by customers or other personnel to prevent injury.
- Read and follow all industry safety recommendations and established procedures.
- Wiring must be 2 wire with ground and rated for 75°C (176°F).



This warning does not mean that Hussmann products will cause cancer or reproductive harm, or is in violation of any product-safety standards or requirements. As clarified by the California State government, Proposition 65 can be considered more of a 'right to know' law than a pure product safety law. When used as designed, Hussmann believes that our products are not harmful. We provide the Proposition 65 warning to stay in compliance with California State law. It is your responsibility to provide accurate Proposition 65 warning labels to your customers when necessary. For more information on Proposition 65, please visit the California State government website.

TABLE OF CONTENTS

SAFETY BEFORE YOU BEGIN.....2

SAFETY STATEMENTS & FCC DECLARATION OF CONFORMITY.....3

STORECONNECT SC-21 DEVICE OVERVIEW.....5

SPECIFICATIONS.....5

MECHANICAL.....5

ELECTRICAL.....5

ENVIRONMENTAL OPERATING PARAMETERS.....5

STORAGE PARAMETERS.....5

SITE INFORMATION FORM.....6

PRE-INSTALLATION PROVISIONING.....6

WHAT IS PROVISIONING?.....6

WHAT STEPS ARE REQUIRED AND WHO COMPLETES THEM?.....6

STORECONNECT EQUIPMENT.....6

STORECONNECT LITE.....7

STORECONNECT.....7

EQUIPMENT ANATOMY.....7

RECOMMENDED MATERIAL LIST.....9

STORECONNECT GENERAL INSTALLATION GUIDELINES.....9

TIME ALLOTMENT.....9

SPACE CONSTRAINTS & PLANNING.....9

INTERNET CONNECTIVITY.....9

ETHERNET CABLES.....9

STORECONNECT SITE INSTALLATION.....10

FIND A LOCATION FOR STORECONNECT HARDWARE.....10

INSTALL THE SC-21.....10

CONNECTING THE REFRIGERATION CONTROLLER TO THE SC-21.....11

COMPLETE APPLICATION CONNECTIONS VIA PROVISIONING.....12

STORECONNECT INSTALLATION CHECKLIST.....12

FREQUENTLY ASKED QUESTIONS.....13

CONTACT INFORMATION AND SUPPORT.....14

WARRANTY INFORMATION.....15

Pre-Installation Planning

StoreConnect SC-21 device overview

The StoreConnect SC-21 is the center of the on-premise StoreConnect hardware. The SC-21 is the data concentrator (aka Hub) for all information being fed to the StoreConnect Analytics cloud. The SC-21 has the following features:

- Small form factor, wall mountable.
- 5 - 1GB Ethernet ports – 1 for WAN, 2 for Controllers, 2 for Sensors.
- Built in LTE modem
- Memory, storage and computing power for all StoreConnect configuration installations.
- Low power, uses 24 volt, 1 Amp DC. AC Adapter included.

Specifications:

ELECTRICAL

- Input Voltage: 8 to 60VDC
- Operating Current: 0.25A Typical @ 24VDC

MECHANICAL

- Dimensions: 215 x 115 x 50mm (8.5 x 4.5 x 2.0in)
- Weight: 1.0lb (454.0g)

ENVIRONMENTAL

Operating Parameters

- Temperature: -20C to +50C (-5 to 120F)
- Humidity (non-condensing): 20% to 90%
- MTBF: 30.3 Years at 55C

Storage Parameters

- Temperature: -40C to +85C
- Humidity (non-condensing): 5% to 95%

Note: The SC-21 is intended to be installed in a restricted access area

Site Information Form

The StoreConnect Site Information Form is used as a guideline for electricians, store IT, store support, and site managers to gather up the necessary information for creating a database entry for a site on the StoreConnect Provisioning Tool in addition to providing the proper required equipment and connections for each StoreConnect site. If the refrigeration controller is an Emerson E2 controller, the firmware version must be 3.0 or higher.

The content of the Site Information Form addresses site information (such as the name, address of store, key personnel, etc.), store networking information, refrigeration controller information, and other information that needs to be sent such as a circuit schedule of the store's refrigeration system and the store layout. It is recommended to designate spaces to hang hardware before the installation.

Pre-Installation Provisioning

What is Provisioning?

Provisioning is the process of connecting all the hardware, controller applications and algorithms into the StoreConnect cloud and onsite at the site. The StoreConnect Provisioning Tool is an application used to enter store information into StoreConnect's database by the user. This tool helps the user go step by step through the store's information and make it readable by the database. For an in-depth explanation of the StoreConnect Provisioning Tool, see the Provisioning Tool Handbook.

What steps are required and who completes them?

Once the circuit schedule and completed Site Information Form has been sent to the StoreConnect Administrator and StoreConnect Provisioning Tool user, the pre-installation provisioning process can start. Follow the pre-installation steps listed in the StoreConnect Provisioning Tool Handbook for direction. It's important to note, this is a time-consuming process and needs to be completed before the installation.

NOTE: StoreConnect logins will need to be created for first-time users of the provisioning tool or StoreConnect.

StoreConnect Equipment

Based on what equipment is needed for a site (determined from the Installation Form, provisioning, and site layout), Hussmann will send all necessary inventory to the qualified installation team or the store itself. Shipping will need to be determined in advance of the installation. The estimate and proposal will determine what equipment will be provided by the StoreConnect and what, if any, equipment/parts will be procured during installation.

The following shows the typical StoreConnect equipment is typically required for an installation:

StoreConnect Lite:

- SC-21 Communications Data HUB
- AC Power Adapter for SC-21 Communications Data HUB
- High-Gain LTE Antennas
- Ethernet CAT5/6 Cables – to be built on site due to individual site length requirements
- Shielded RJ45 Connectors

StoreConnect:

- StoreConnect Lite components (above)
- 5 or 8 port Ethernet switch (optional)
- Power Meters and Current Transducers (CT's) for all devices to be monitored.

Equipment Anatomy

Figure 1: Case front and bottom with mounting tabs shown

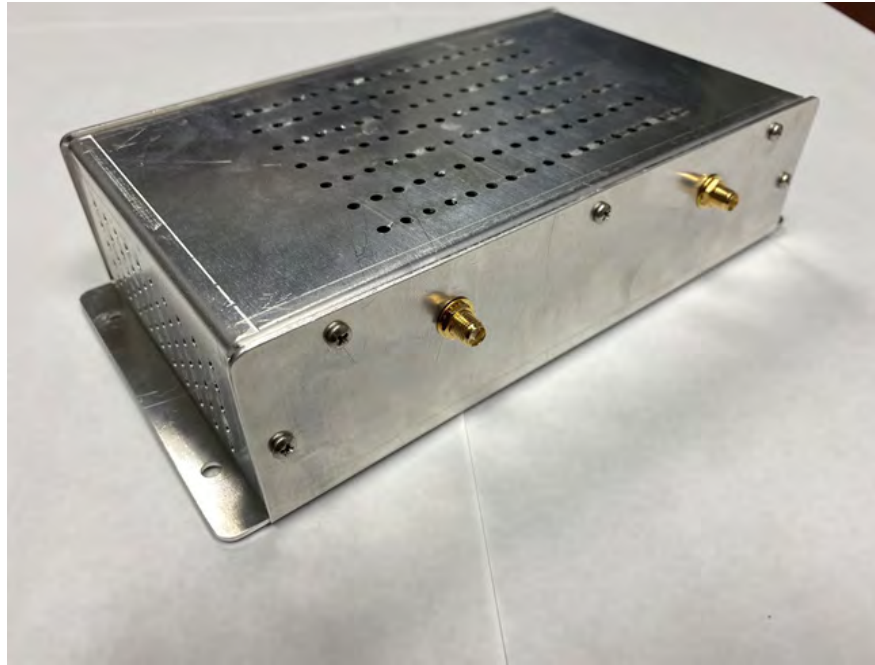


Figure 2: Top of case showing LTE Antenna SMA connectors

The photo below shows the Ethernet and power connections. For any questions, please reference the StoreConnect Handbook or contact your StoreConnect representative.

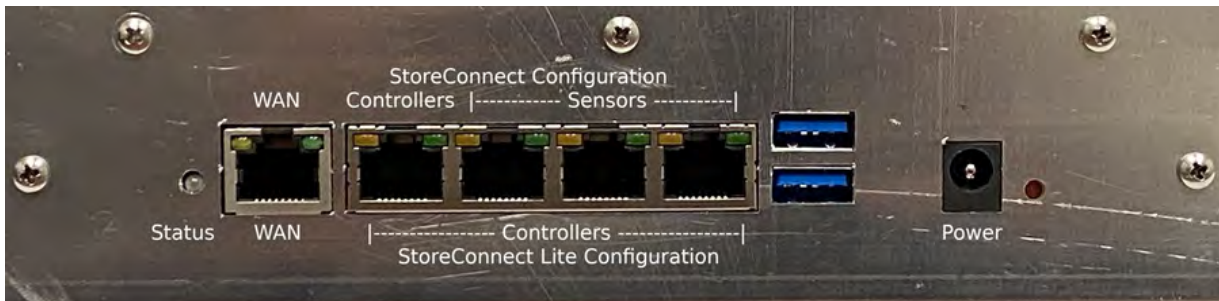


Figure 3: Ethernet and Power connectors

Recommended Material List

The following is a list of standard and recommended materials that are used for a StoreConnect installation. The StoreConnect Equipment and any quantities will be specific to the actual estimate, proposal and job site. The electrician and carpenter material lists are general requirements. It is recommended that a site visit take place prior to installation day in order to properly plan the layout and any carpentry, electrical conduit, and additional electrical connections that may be required.

StoreConnect Equipment	Electrician Material List	Special Tools or Other Materials
SC-21 Hub	120v outlet materials	UPS Power Supply
Long Range Antennae	Ethernet Cat5/6 Cables	
SC-21 AC adapter	Shielded RJ45 connectors	

StoreConnect General Installation Guidelines

Time Allotment

A typical StoreConnect Lite installation generally takes 2 team members (1 being an electrician) ½ - 1 day to properly install the solution. StoreConnect installation with power meters can take anywhere from ½ to 2 days to complete. For a distributed protocol application, the duration may be longer due to the location of the assets and connection points at the site. In this case, we would recommend 1-4 days for an installation. Be aware of where the network switch for the store is located. It may be required that the installation have a Cat5/6 cable run from the SC-21 to the network switch which will also include additional time.

Space Constraints & Planning

Depending on the refrigeration system equipment configuration, space may be an issue. If the site includes Power Meters, it is best to locate the Power Meters on the rack or protocols in order to minimize any extension of the connected Current Transformers. The SC-21 can be mounted to any wall, preferably close to the site network main switch in the refrigeration system room. Note: The SC-21 must be mounted with the SMA Antenna connectors facing up.

Internet Connectivity

Internet connections can be made in 2 ways: 1) via the internal LTE Modem, 2) through the store's LAN (local area network) or store's VLAN (vendor network) using the WAN Ethernet port on the SC-21. If the site will be using the LAN connection, a separate site networking document and release will need to be completed prior to installation in order to verify and test network requirements.

Ethernet Cables

Cat5e or Cat6 shielded cable must be used along with shielded RJ45 connectors to reduce unintended radio emissions. The RJ45's look like the following:



StoreConnect Site Installation

In the Pre-Installation Form, the electricians can visualize how a site is supposed to be installed given the site's specific equipment demands. A typical installation takes at least a full day of work and can take even longer if the store is a protocol site. The site installation will also require the electrician and site personnel to complete some forms of provisioning while on site. The list below is the step-by-step procedure necessary to successfully complete a StoreConnect installation.

Find a location for StoreConnect hardware

If the site is using Cellular LTE for its internet connection, it is important to find a location for the SC-21 that has good cellular reception and an AC power outlet nearby. Finding a central location between the refrigeration controllers and the power meters to minimize Cat5 cabling runs will reduce install time. Generally, a good location for the SC-21 is in the site's networking closet or inside the mechanical room near the refrigeration racks. Power meter locations are best placed in close proximity to their respective suction group, rack or protocol unit.

Install the SC-21

- **Electrical Connection:**

Requires a 120V connection, via the included power supply adapter.

Requirements: Standard AC wall outlet nearby, reasonable cell reception.

- **Hang SC-21:**

Typically, the SC-21 (the HUB) is located on a wall across from the refrigeration systems equipment. Mount the SC-21 in the designated location.

Install or find a 120V plug for the power supply to the SC-21.

Connect antennas to the SMA antenna connectors on the top of the unit.

Using the adhesive on the antennas, stick the antennas to a non-metallic surface.

Plug SC-21 AC power adapter into a power outlet.

- **Intermediate Testing:**

Be sure the power source is supplying power to the SC-21. You can verify this visually by making sure there is a green heartbeat LED on the SC-21.



Figure 4: Wall mount orientation - SMA Antenna connectors facing up

Connecting the Refrigeration Controller to the SC-21

- Identify all Controllers at the site. If there are multiple, they will meet at a shared networking switch.
- Run CAT5 cable from Controller / Controller switch to the SC-21, this may require use of a lift to route cabling properly.
- Connect CAT5 cable from Controller / Controller switch to the SC-21 computer port labeled “Contollers.”

Complete Application Connections via Provisioning

View the StoreConnect Provisioning Tool Handbook for clarification on this step. This may be able to be completed on site. If the installation team has access to the provisioning tool, this can be completed on site. If not, please contact the StoreConnect team for help in this process.

General Information:

- Use the StoreConnect Provisioning Tool to create application connections.
- Use the StoreConnect Provisioning Tool to generate a configuration file via the Site Information page.
- Go to MyStoreConnect website to confirm Controller connectivity by verifying case information from each of the Controller on site.

StoreConnect Installation Checklist

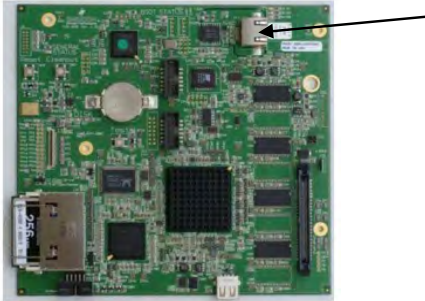
The following is a standard Verification Test List and steps to complete.

- SC-21
Install SC-21 and verify connectivity over LTE with StoreConnect Admin.
- Provision SC-21 MAC Address / Serial Number
Commit changes
Contact StoreConnect networking support staff
- Connected Refrigeration Controller
Run CAT5 cable and verify connectivity to SC-21
Contact designated the provisioning personnel
 - Personnel check Application Connections step in Provisioning for populated
 - If designated Provisioning personnel is out of contact, contact StoreConnect networking support staff
- Finishing
Non-LTE Site
 - Plug in store internet cable to WAN port
 - Check with StoreConnect networking support staff
 - If connectivity is verified, remove antennae

Optional: If networking is failing by both LTE and Store network,
contact StoreConnect Networking support staff

Frequently Asked Questions

The following is a list of Frequently asked Questions (FAQs) that often arise during installation of StoreConnect. If the FAQ is not listed, please check the next section of Troubleshooting. If the question still cannot be answered, please use our Contact and Support Page for further troubleshooting.

Question	Answer
Where is the Ethernet port for the E2?	<p>Below is a photo of the E2 motherboard with an arrow pointing at the ethernet port. To access the motherboard, open the enclosure.</p> 
How do I access the StoreConnect Provisioning Tool?	In order to login to the StoreConnect Provisioning Tool at (provisioning.mystoreconnect.com). In the StoreConnect Provisioning Tool, users assigned as “provisioners” are able to login to their assigned sites and use the tool.
Status LED	

State LED states	State
Solid Green	System booting
Flashing	System operating normally and connected to the Internet
Red Flashing	Attempting to connect to the Internet
Solid Red	System Fault

Troubleshooting

The following is a list of potential issues that may arise during installation. Please follow the troubleshooting steps or refer back to the original process steps for installation.

Problem Area	Symptom	Suggested Corrective Actions
SC-21 Communications Data HUB	SC-21 connected via LAN or VLAN, cannot be seen by StoreConnect Admin or provisioning.	<ol style="list-style-type: none"> a. Check that the SC-21 has power. Flashing green should be illuminated on left hand side of SC-21. b. Power Cycle the SC-21 by remove the power connector. Wait 30 seconds, then reconnect the power connector. c. Check with customer IT that all URL’s and web services for StoreConnect have been approved. Be sure SC-21 has approved IP address. d. Verify that all Cat5 and data connections are properly enabled and set. Physically in the store and also virtually. e. For any further issues, if not resolved, contact StoreConnect HelpDesk

Contact & Support Information

For installation support, please contact the Hussmann Project Manager who coordinated the installation or your on-site Hussmann Representative. For all other StoreConnect sales and support inquiries, please contact the Hussmann Service Contact Center:

Hussmann Service Contact Center
(800) 592-2060
HSM.Service@Hussmann.com

HUSSMANN®

HUSSMANN CORPORATION WARRANTY

SC-21 StoreConnect Hub

Limited Equipment Warranty Coverage

Hussmann warrants to the original purchaser the new equipment and all original parts to be free from defects in material and workmanship under normal use and service for a period of **180 days from date of shipment from Hussmann**. A new part will be provided without charge, provided the defective part is returned to Hussmann and deemed a true warranty failure. The replacement part assumes the unused portion of the warranty remaining. Any parts determined not to be warrantable or not returned, will be charged to the account on file at the time the part order was placed.

Limited Equipment Warranty Labor Coverage

Labor will be **60 days from date of shipment from Hussmann**.

***Any warranty claim filed, must be submitted to Hussmann within 45 days of the warranty repair date with required current warranty documentation and submitted via email to SCWarranty@hussmann.com.** Hussmann reserves the right to request installation, service and inspection documents for claims review and processing and may reject any claim where the customer cannot provide this information were performed pursuant to the corresponding IO manual.

NEW EQUIPMENT PARTS WRONG/MISSING:

Any part(s) wrong/missing must be reported to Hussmann not more than 30 working days from delivery to site, **not to exceed 60 days** from date of shipment from Hussmann

PATENT WARRANTY

Hussmann warrants that its products do not infringe the claims of any existing United States patent, but Hussmann makes no warranty against infringement by reason of the use thereof either in combination with other products or in the operation of any process or use of the products other than for their intended purpose. This warranty is subject to purchaser promptly notifying Hussmann in the event of any action for such infringement brought against purchaser and permitting Hussmann to participate in the defense of such action. Hussmann reserves the right to modify or replace any product alleged to constitute an infringement, or to remove such product and refund the amount paid by purchaser, therefore. This warranty is not transferable. The foregoing patent warranty shall not apply to any product or part thereof made to purchaser's design, and as such product or part. Hussmann assumes no liability for patent infringement. The foregoing states the entire liability of Hussmann regarding patent infringement.

Any warranty repair made by Hussmann or other providers shall not extend the term of the warranty.

THE WARRANTIES RECITED ABOVE ARE THE ONLY WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, MADE BY HUSSMANN WITH RESPECT TO ITS PRODUCTS, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, AND HUSSMANN NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS OR ANY PART THEREOF.

HUSSMANN CORPORATION**Warranty Exclusions**

THIS WARRANTY SHALL NOT APPLY TO LOSS OF FOOD OR CONTENTS OF THE PRODUCTS DUE TO FAILURE FOR ANY REASON. HUSSMANN SHALL NOT BE LIABLE:

- For payment of labor due to failure of the power supply, antennas, and/or customer data network.
- For payment of labor for any removal or installation of warranted parts.
- For travel to and from store locations and work sites—this includes truck charges, fuel surcharges, mileage, driver's fees, parking and tolls.
- For diagnostic charges.
- For items related to lack of maintenance or operational environmental conditions. (Such as but not limited to mold, biological growth, water intrusion, corrosion, etc.)
- For tools/items used for repair.
- For costs related to expedited shipping or handling of replacement parts; item freight and duty.
- For mark-ups on any items used for repairs.
- For per diem (such as but not limited to lodging, meals, rentals, etc.).
- Improper electrical connections, incorrect supply voltage, low or unstable supply voltage, the use of extension cords.
- When operation of the product is impaired due to improper installation.
- When the product is subject to negligence, abuse, misuse or when the serial number of the product has been removed, defaced, or altered.
- For damages during shipment, handling or installation; or caused by fire, flood, strikes, or other circumstances beyond its control.
- For any damages, delays, or losses, direct, consequential, incidental or otherwise, which may arise in connection with such product or part thereof; including loss of profit, additional labor cost, or injury to personnel or property caused by defective material or parts.
- For delays or damages caused by carriers or customer scheduling conflicts with provider which incur costs; or caused by fire, flood, strikes, or other circumstances beyond manufacturer's control.
- For any repair or replacements made without the written consent of Hussmann, or when the product is installed, operated, or maintained in a manner contrary to printed instructions covering installation and service which accompanied such product, or put into use other than as recommended by Hussmann.
- To defend, indemnify or hold harmless any purchaser or end-user for any claims, demands, lawsuits or actions of any nature.

***Hussmann reserves the right to alter or change the terms of its limited warranty at any time without notice. The warranty policy that applies to your purchase shall be the one in effect on the date of product shipment. For current policy guidelines, additional warranty schedules, warranty claim procedures and forms; go to www.hussmann.com**