

Wi-Fi Adapter and HMI Operation

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Introduction

Qualified Persons

WARNING

The equipment covered by this publication must be installed, operated, and maintained by qualified persons who are knowledgeable in the installation, operation, and maintenance of substation and overhead electric power transmission and distribution equipment along with the associated hazards. A qualified person is someone who is trained and competent in:

- The skills and techniques necessary to distinguish exposed live parts from nonlive parts of electrical equipment
- The skills and techniques necessary to determine the proper approach distances corresponding to the voltages to which the qualified person will be exposed
- The proper use of the special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment

These instructions are intended **ONLY** for such qualified persons. They are not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment.

Read this Instruction Sheet

NOTICE

Thoroughly and carefully read this instruction sheet and all materials included in the product's S&C Instruction Handbook before installing or operating your Micro-AT Source-Transfer Control HMI and Wi-Fi Adapter. Be familiar with the Safety Information on page 4. The latest version of this publication is available online in PDF format at sandc.com/en/support/product-literature/. In addition, please familiarize yourself with Instruction Sheet 515-500, "S&C Micro-AT Source Transfer Controls: *Field Programming and Operation*."

Retain this Instruction Sheet

This instruction sheet is a permanent part of your Micro-AT Source-Transfer Control. Retain this instruction sheet in a location where you can easily retrieve and refer to this publication.

Proper Application

WARNING

The equipment in this publication must be selected for a specific application. The application must be within the ratings furnished for the equipment.

NOTICE

Physical security of the Micro-AT control and its accessories is essential to prevent unauthorized access.

The adapter should only remain connected to the Micro-AT control for the duration of the user's administrative session. Failure to do so can result in unauthorized access of the Micro-AT control.

The backup data for the Micro-AT control should be stored in a secure location to prevent unauthorized modification.

Warranty

The warranty and/or obligations described in S&C's standard conditions of sale, as set forth in Price Sheet 150, plus any special warranty provisions, as set forth in the applicable product-line specification bulletin, are exclusive. The remedies provided in the former for breach of these warranties shall constitute the immediate purchaser's or end user's exclusive remedy and a fulfillment of all seller's liability. In no event shall the seller's liability to the immediate purchaser or end user exceed the price of the specific product that gives rise to the immediate purchaser's or end user's claim. All other warranties, whether express or implied or arising by operation of law, course of dealing, usage of trade or otherwise, are excluded. The only warranties are those stated in Price Sheet 150, and THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY EXPRESS WARRANTY OR OTHER OBLIGATION PROVIDED IN PRICE SHEET 150 IS GRANTED ONLY TO THE IMMEDIATE PURCHASER AND END USER, AS DEFINED THEREIN. OTHER THAN AN END USER, NO REMOTE PURCHASER MAY RELY ON ANY AFFIRMATION OF FACT OR PROMISE THAT RELATES TO THE GOODS DESCRIBED HEREIN, ANY DESCRIPTION THAT RELATES TO THE GOODS, OR ANY REMEDIAL PROMISE INCLUDED IN PRICE SHEET 150.

Warranty Qualifications

The seller's standard warranty does not apply to components not manufactured by S&C that are supplied and installed by the purchaser or to the ability of the seller's equipment to work with such components.

Safety Information

Understanding Safety-Alert Messages

Several types of safety-alert messages may appear throughout this instruction sheet as well as on labels and tags attached to your Micro-AT Source-Transfer Control and Wi-Fi Adapter. Familiarize yourself with these types of messages and the importance of these signal words:

DANGER

“DANGER” identifies the most serious and immediate hazards that will likely result in serious personal injury or death if instructions, including recommended precautions, are not followed.

WARNING

“WARNING” identifies hazards or unsafe practices that can result in serious personal injury or death if instructions, including recommended precautions, are not followed.

CAUTION

“CAUTION” identifies hazards or unsafe practices that can result in minor personal injury if instructions, including recommended precautions, are not followed.

NOTICE

“NOTICE” identifies important procedures or requirements that can result in product or property damage if instructions are not followed.

Following Safety Instructions

If you do not understand any portion of this instruction sheet and need assistance, contact your nearest S&C Sales Office or S&C Authorized Distributor. Their telephone numbers are listed on S&C’s website sandc.com, or call the S&C Global Support and Monitoring Center at 1-888-762-1100.

NOTICE

Read this instruction sheet thoroughly and carefully before installing your Micro-AT Source Transfer Control Wi-Fi Adapter and HMI.



Replacement Instructions and Labels

If additional copies of this instruction sheet are needed, contact your nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

It is important that any missing, damaged, or faded labels on the equipment be replaced immediately. Replacement labels are available by contacting your nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

Purpose

The purpose of this document is to instruct users how to install and operate the Human Machine Interface (HMI) software used to control the Micro-AT Source Transfer Control. In addition, instructions to install and operate the Wi-Fi adapter are provided to enable the local user to wirelessly connect to the Micro-AT control.

Note: For Micro-AT control programming and operating instructions, refer to Instruction Sheet 515-500, “S&C Micro-AT Source Transfer Controls: *Field Programming and Operation.*”

Installing the Micro-AT Control HMI Application Software

Complete the following steps to install the Micro-AT control HMI application software:

STEP 1. Locate the following items needed to install and set up the Micro-AT control HMI application software:

1. A personal computer (PC) with a Microsoft® Windows® 7 or 10 64-bit operating system
2. Internet access to **sandc.com**

STEP 2. Go to **sandc.com/en/support/sc-customer-portal/** to download the Micro-AT control HMI application software installer.

Note: The latest versions of the Micro-AT control HMI application software are posted at **sandc.com/en/support/sc-customer-portal/**.

STEP 3. Launch the installer file **MAT_HMI_installer_signed.exe**. See Figure 1.

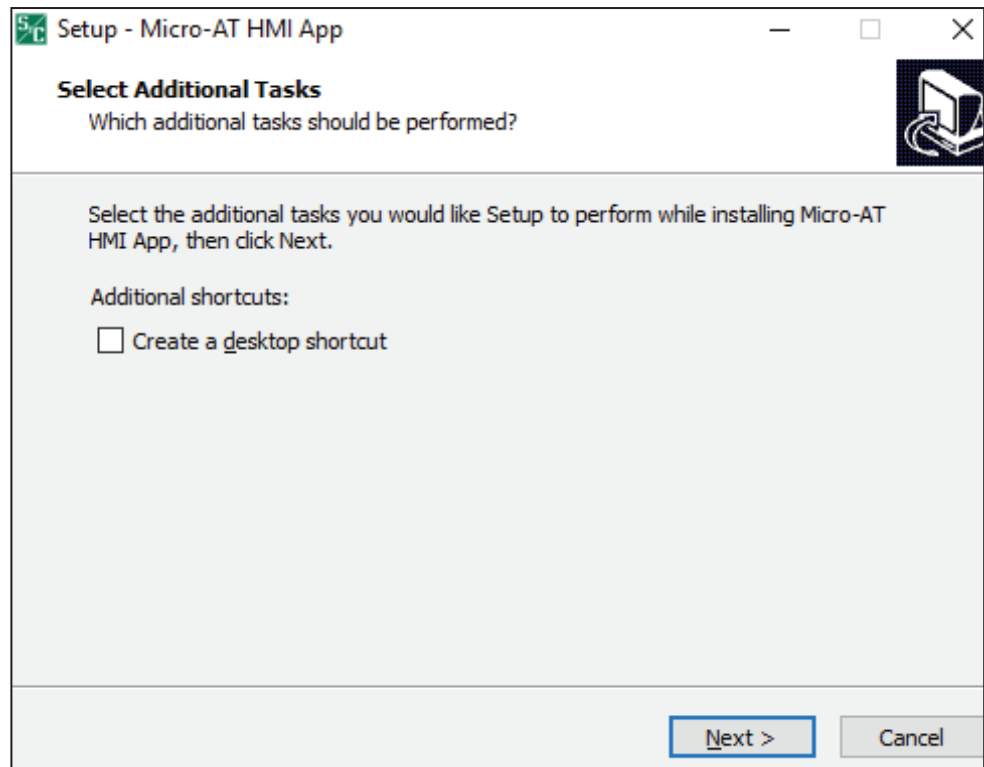


Figure 1. The screen to execute the HMI installer.

STEP 4. Click the **Next** button through the screens. As a default, the program will be installed under the **C:\Program Files (x86)\MAT_HMI** and will add a shortcut icon in the Programs folder under the **Start** menu. These settings can be changed, if desired.

STEP 5. Click the **Install** button to install the Micro-AT control HMI application software. See Figure 2(a) and (b).

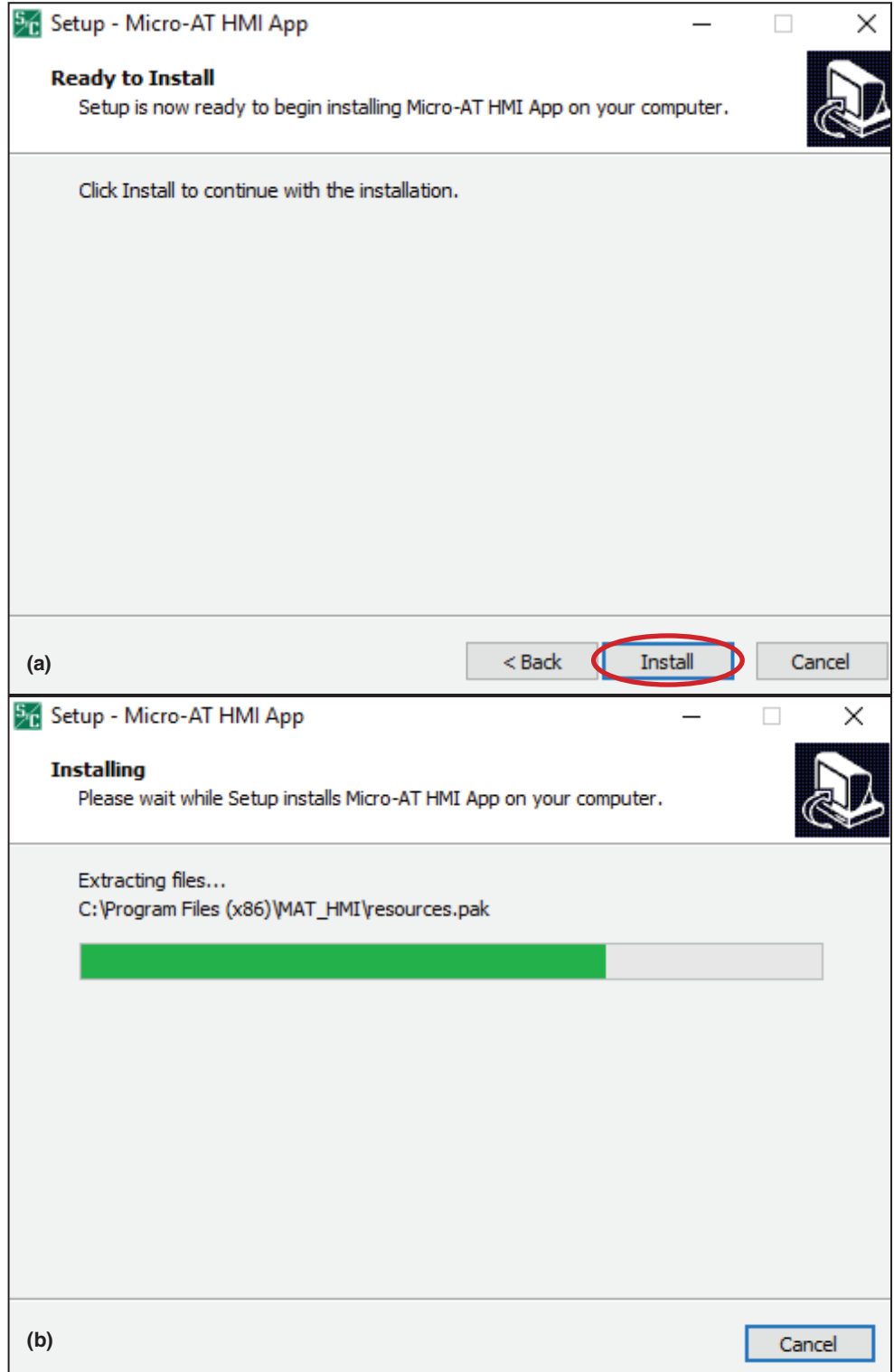


Figure 2. The screens to install the HMI application software.

Components

Wi-Fi Adapter Kit

The Wi-Fi Adapter kit enables Wi-Fi connection to the Windows 7 or 10 64-bit operation system platform. To install the adapter to the Micro-AT control, the following items (as shown in Figure 3) are needed:

1. A Wi-Fi adapter
2. USB-serial cable (blue)
3. Micro-USB charging cable (white)
4. An RJ45-to-DB9 connector

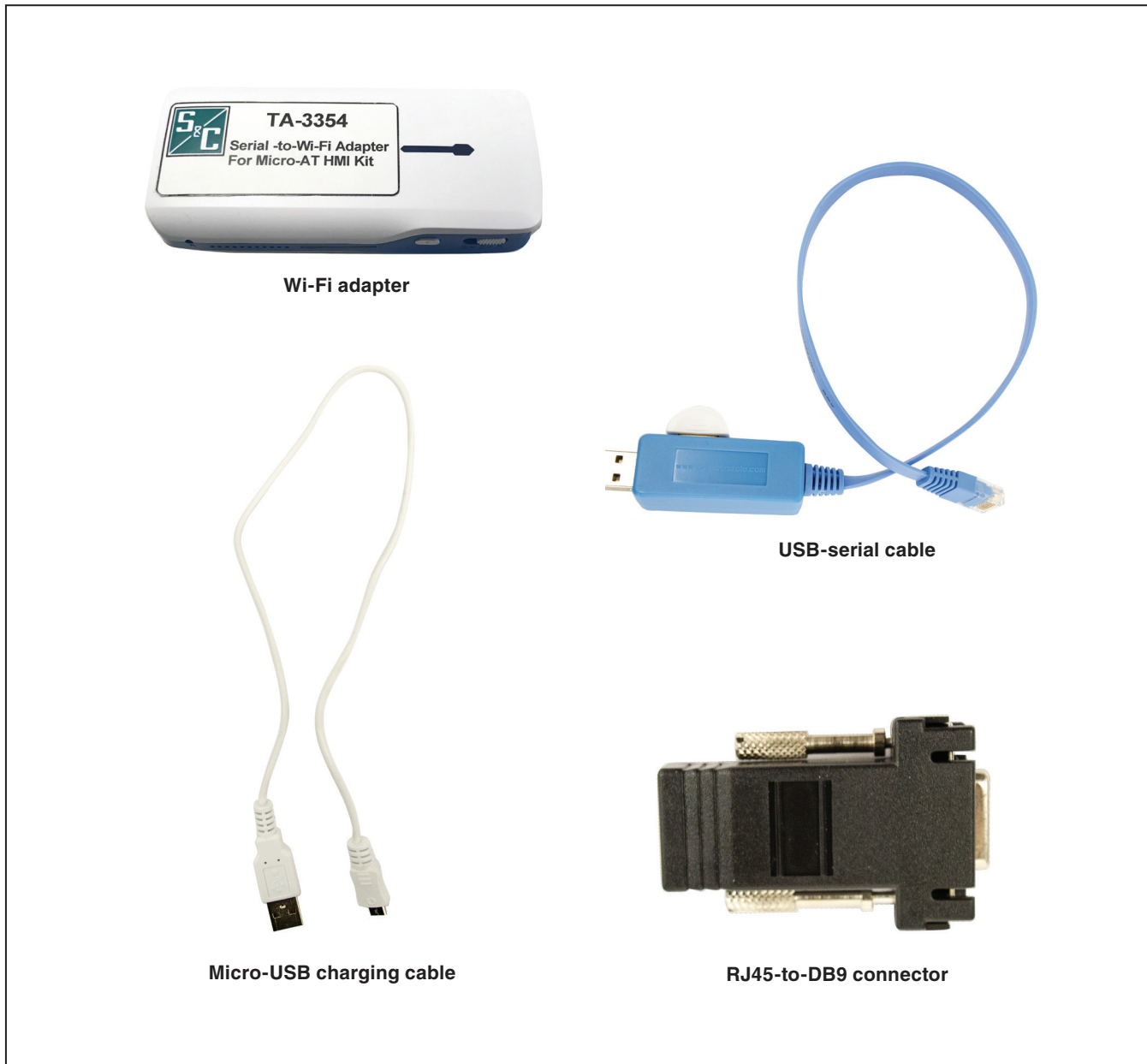


Figure 3. The Wi-Fi adapter kit components.

Charging the Wi-Fi Adapter

NOTICE

Before proceeding, refer to Quick-Start Programming Instruction Sheet 515-530 or to Instruction Sheets 515-500 or 515-600 for instructions on field-programming and operation of the Micro-AT Source-Transfer Control.

Complete the following steps to charge the Wi-Fi adapter:

STEP 1. Make sure the Wi-Fi adapter slider switch is in the **Off** position (**Power** button symbol to the far left). See Figure 4.

NOTICE

Do not use the **C** position on the slider switch to charge the Wi-Fi adapter. This feature is used to charge other devices.

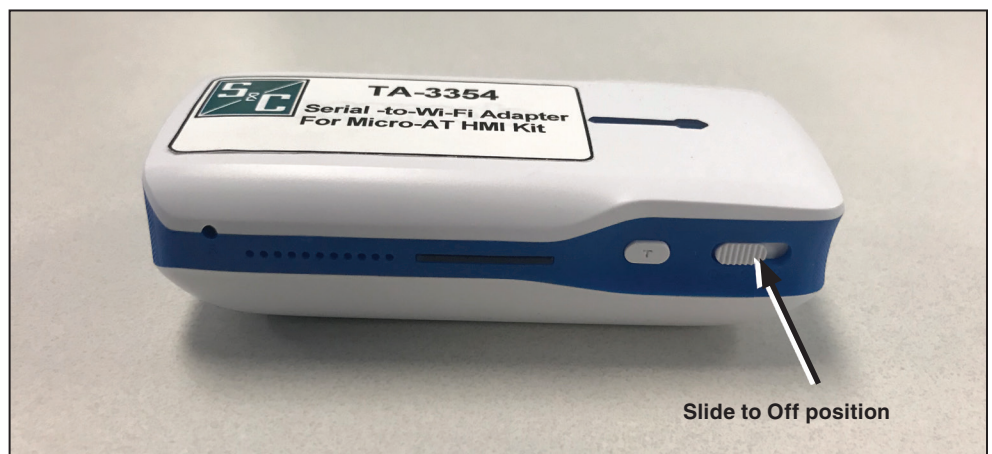


Figure 4. The adapter in the Off position.

STEP 2. Connect the supplied micro-USB charging cable to the PC's USB port and the micro-USB end of the cable to the micro-USB port on the Wi-Fi adapter. A blue light by the adapter micro-USB port will turn on, indicating the adapter is charging. Full charging takes about 45 minutes. See Figure 5.

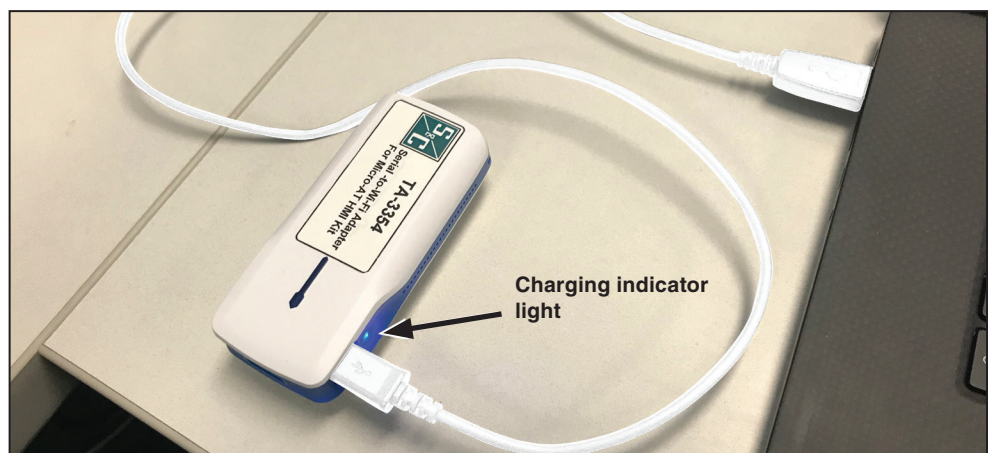


Figure 5. Charging the adapter.

STEP 3. To verify the power level, press the **T** tester button next to the slider switch. Three (or four, depending on the model) blue indicator lights should appear when the unit is fully charged (4-5 hours of runtime). See Figure 6.

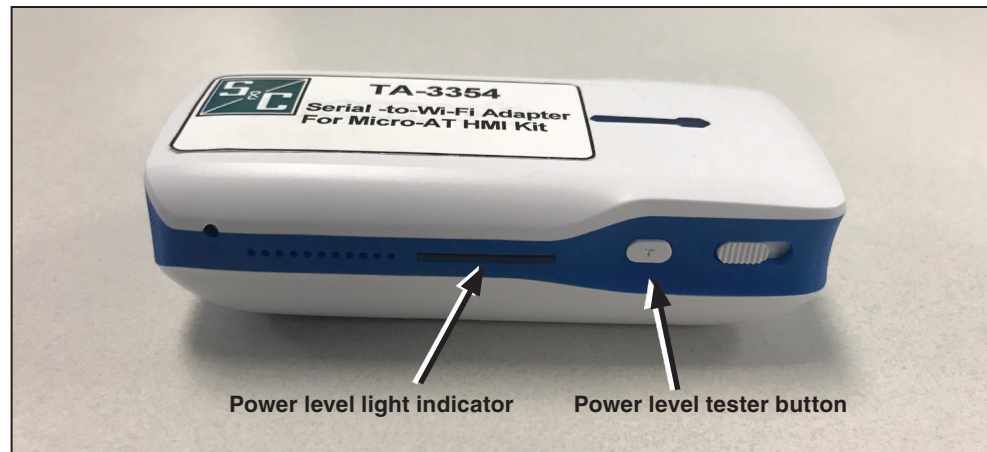


Figure 6. The light indicator and testing button used when verifying the adapter's power level.

STEP 4. Remove the micro-USB cable when charging is complete.

Connecting the Wi-Fi Adapter to the Micro-AT Control

NOTICE

Use the Wi-Fi adapter for limited Wi-Fi connectivity on a temporary basis. The device is not intended for use with equipment other than the Micro-AT control Wi-Fi connection. Use with other equipment is at the user's own risk.

Complete these steps to connect the adapter to the Micro-AT control:

STEP 1. Power up the Wi-Fi adapter by moving the slider switch to the **R** position. See Figure 7(a). The device takes about 20 seconds to boot. The light on the top will transition from red to blinking blue. See Figure 7(b) and (c). When the light has been blinking blue for about 10 seconds, the device is fully operational.

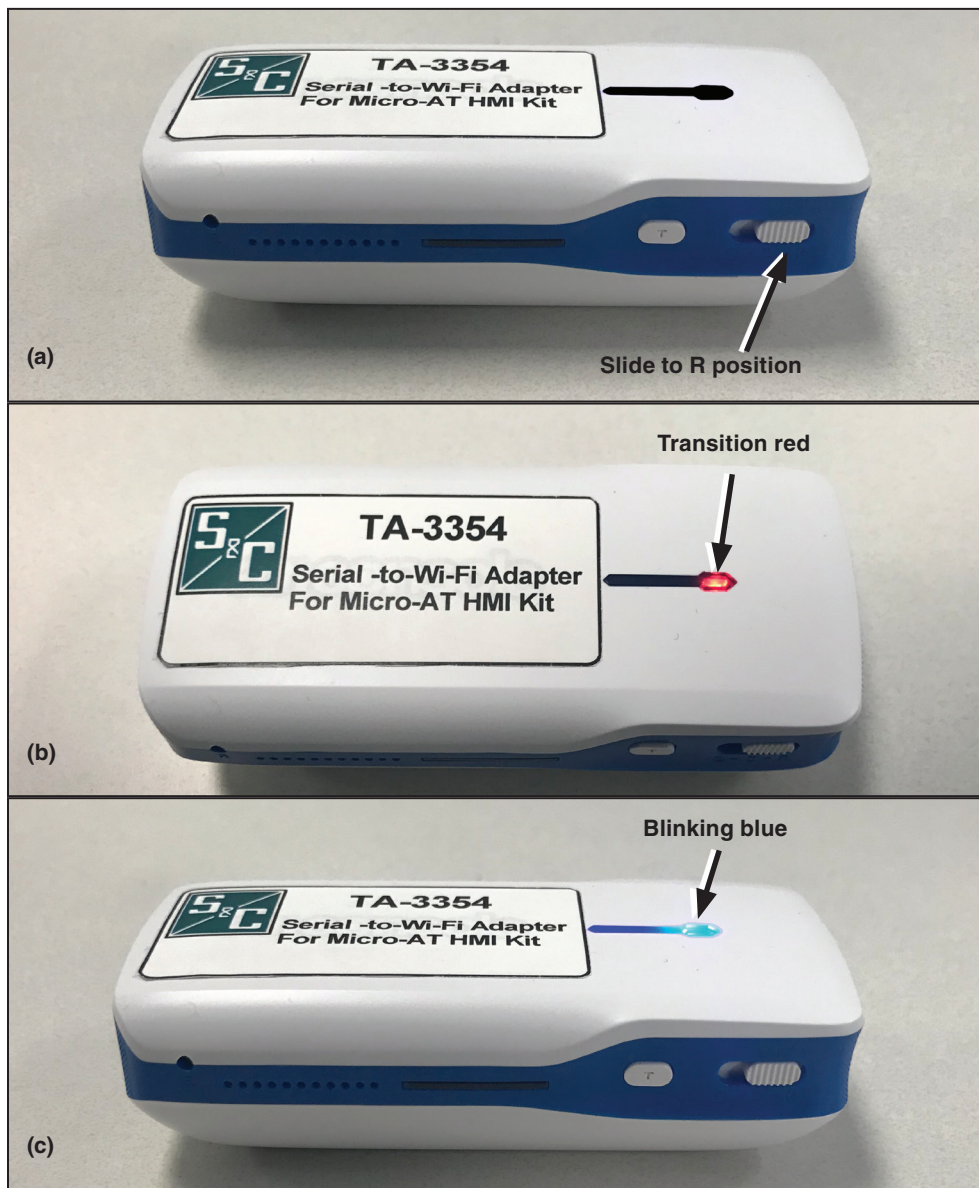


Figure 7. Powering up the adapter for operation.

STEP 2. Connect the supplied blue RJ45 serial cable to the USB port on the Wi-Fi adapter. See Figure 8(a). Also connect the RJ45 end to the RJ45-to-DB9 connector. See Figure 8(b).

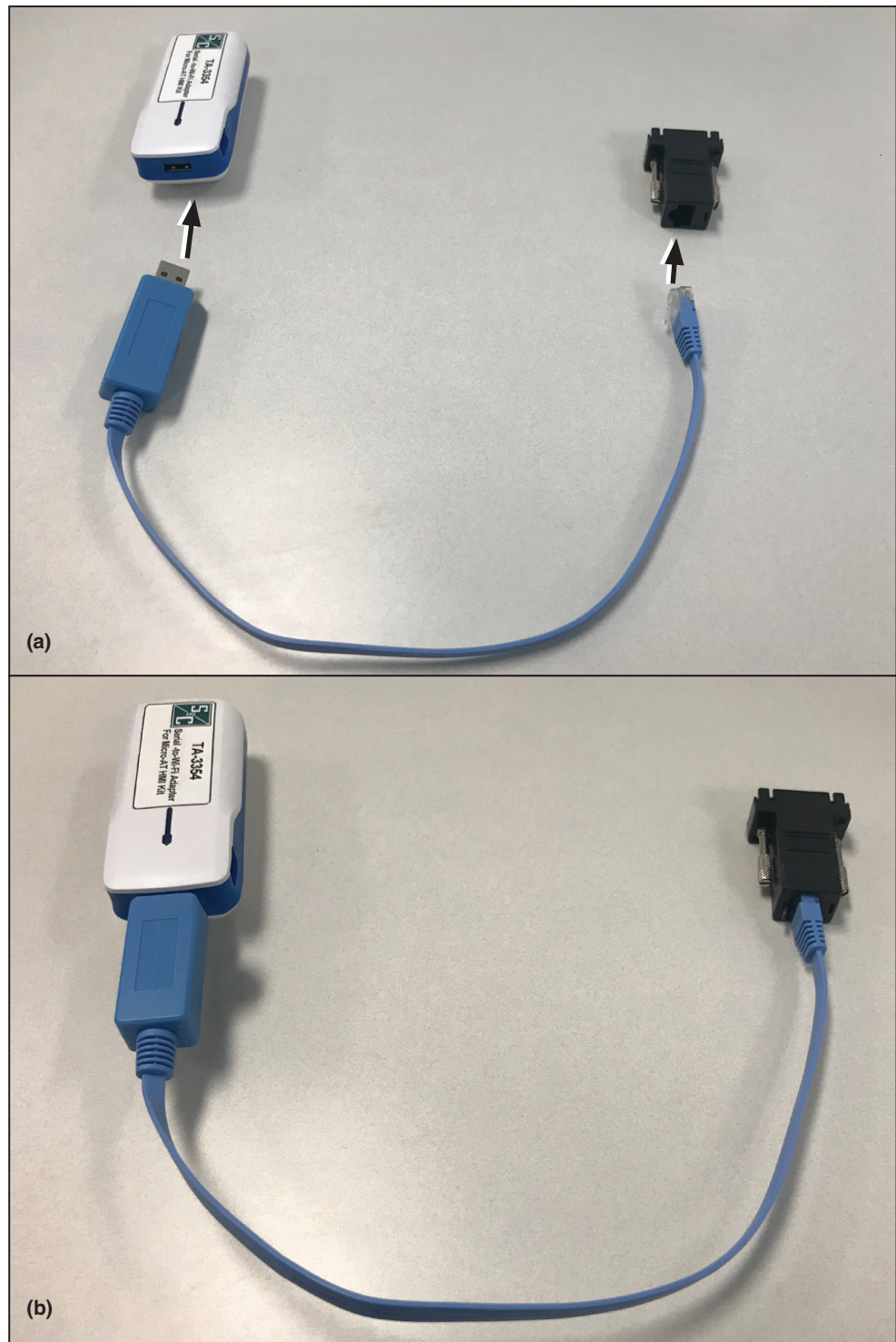


Figure 8. Connecting the RJ45 cable (blue cable) to the Wi-Fi adapter and the RJ45-to-DB9 connector.

STEP 3. Connect the DB9 connector end of the RJ45-to-DB9 connector into the serial port of the Micro-AT control communication port. See Figures 9(a) and 9(b).

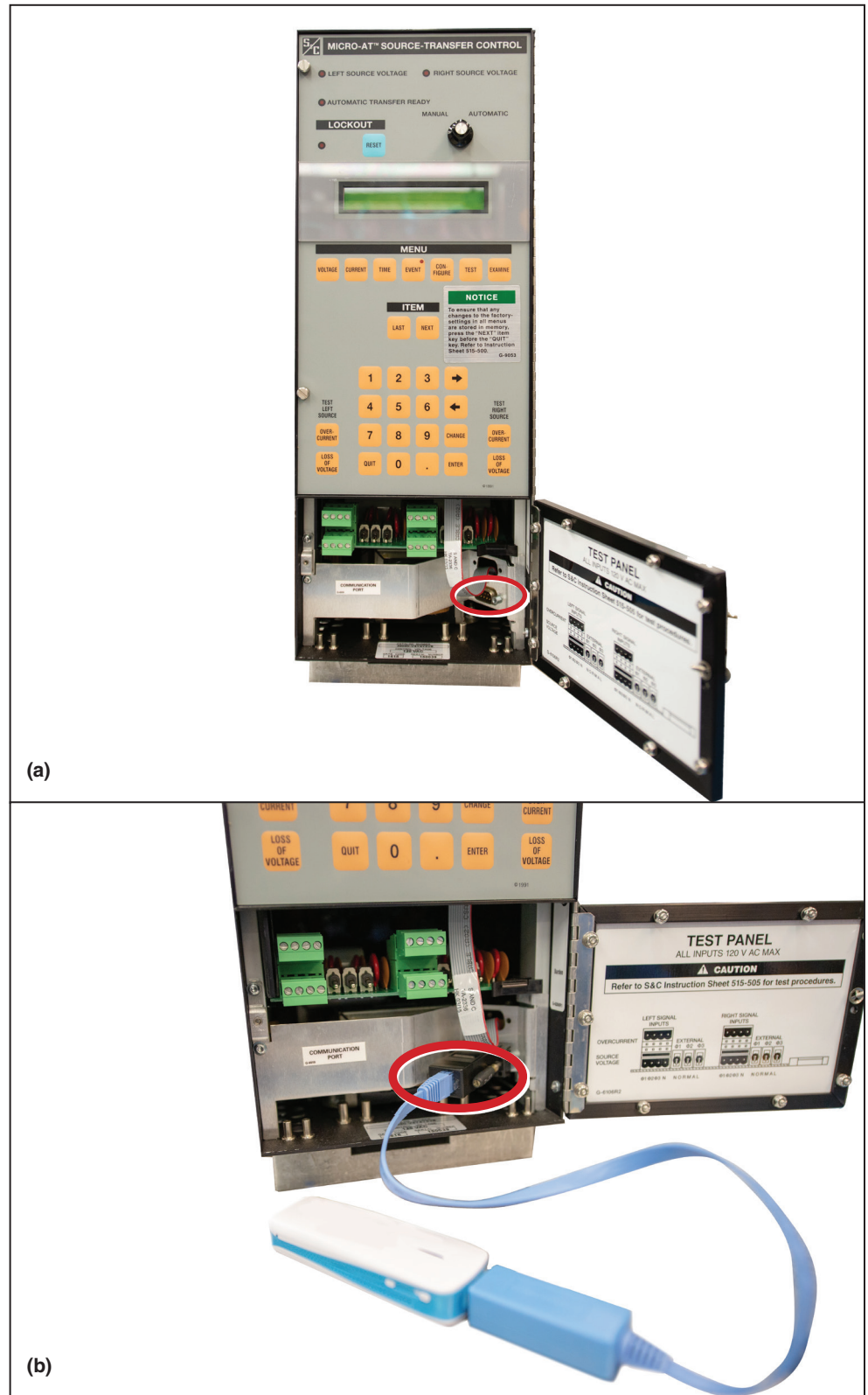


Figure 9. Connecting the RJ45-to-DB9 connector to the serial port of the Micro-AT control.

Connecting a PC to the HMI Application via the Wi-Fi Adapter

Follow these steps to connect a computer to the Wi-Fi adapter:

- STEP 4.** After turning on the Wi-Fi adapter and physically connecting it to the Micro-AT control, join a computer to the wireless network containing the name Airconsole-XX. See Figure 10 for an example.

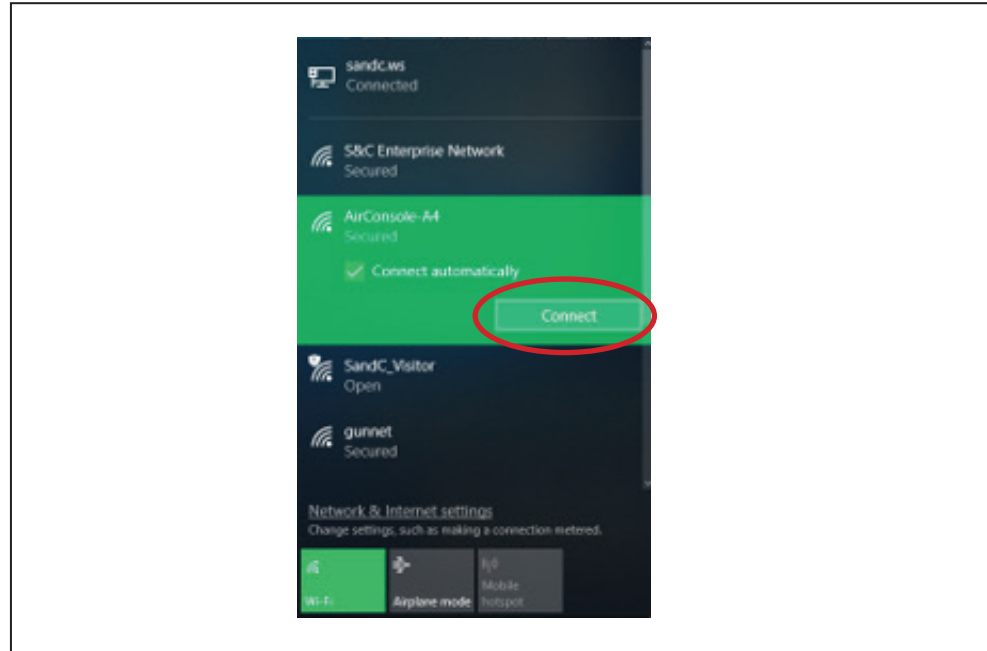


Figure 10. Connecting to the Wi-Fi adapter.

- STEP 5.** If prompted to enter a network password, it can be found on the back of the device. A message may come up indicating limited connectivity. This is expected because the device is not providing an Internet connection to the computer. Wait until the computer indicates a connection to the network.

STEP 6. Launch the Micro-AT control HMI application by double-clicking on the HMI application icon. See Figure 11(a). The application can also be launched from the list of programs under the Start menu. See Figure 11(b).

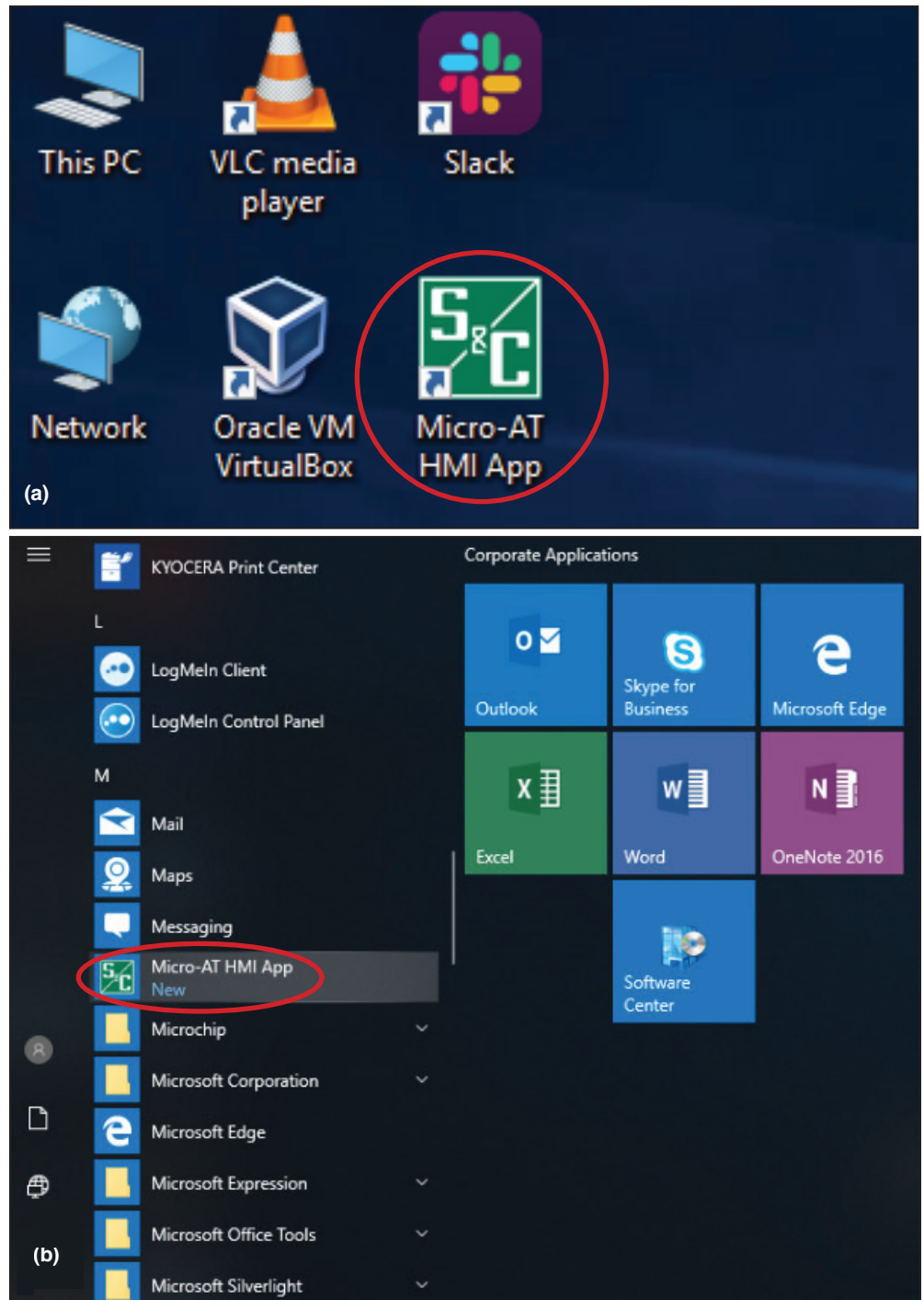


Figure 11. The HMI application.

STEP 7. Click the **Connect** button located at the top-right side of the screen. Verify the message of “GOOD” in the **Comms** field appears. See Figure 12.

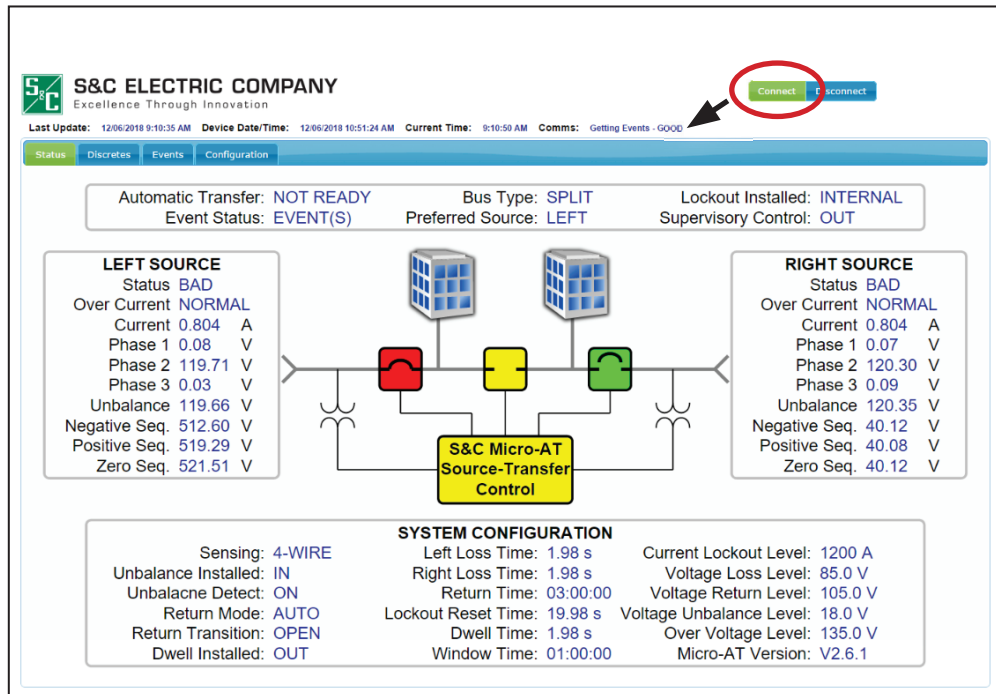


Figure 12. Click on the **Connect** button to connect to the Micro-AT control and verify the connection is good through the **Comms** field.

If there is no connection to the HMI application, the computer has not finished or had trouble connecting to the wireless network. If this occurs, disconnect from the wireless network ID (if it reads there’s a connection) and repeat Steps 1 through 4 on pages 11 through 14.

When connected, the software will collect status and immediately begin downloading all the events recorded and stored within the unit. While downloading events, the software will not maintain real-time status with the Micro-AT control. When all events have been retrieved, the software will resume collecting status every 3 to 4 seconds and collect any new events as they occur.

Note: The HMI is designed to connect to the Wi-Fi adapter device. IP communication by default uses address 192.168.10.1 and TCP port 8080.

Data shown on the HMI may be slightly different from the readings on the Micro-AT control LCD screen due to data transfer delay. Refer to the LCD screen on the Micro-AT control for the latest reading.

Navigating the Micro-AT Control HMI Application

Note: The definitions of the terms and parameters stated in the HMI application can be found in Instruction Sheet 515-500, “S&C Micro-AT Source Transfer Controls: *Field Programming and Operation.*”

Status Screen

When the application is launched, the software *Status* screen will open. See Figure 13.

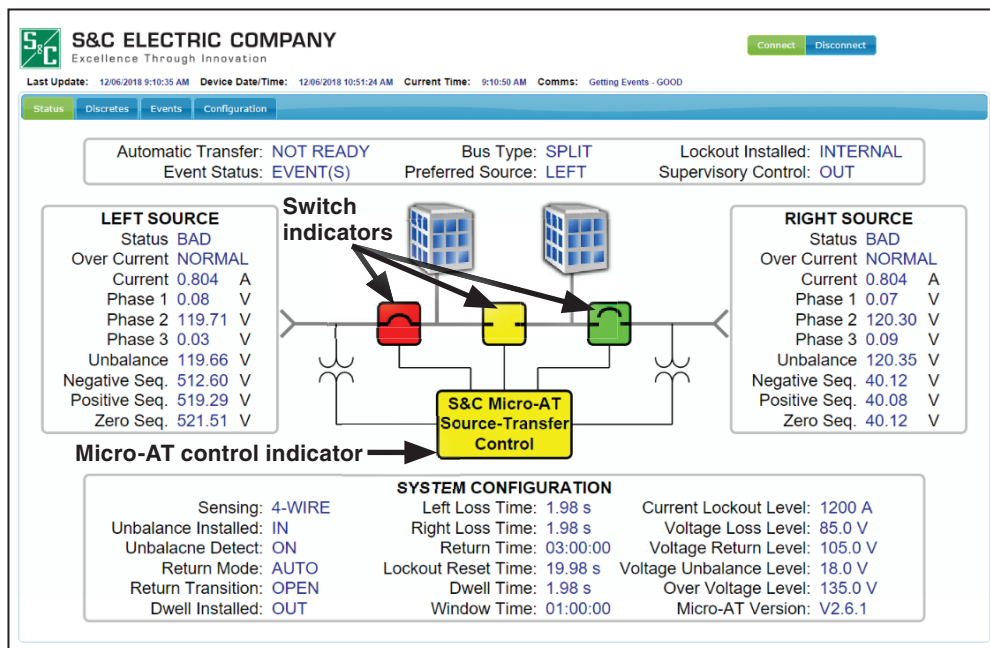


Figure 13. The Status screen.

This screen shows the general state of the system and the sources the Micro-AT control is controlling. To ensure the software is connected to the system, click on the **Connect** button and make sure it is highlighted green.

There are color indicators to show the status of the switches and the Micro-AT control. See Table 1 for the switch color indicators and Table 2 for the Micro-AT control indicators.

Table 1. Color indicators for switches

Color Indicator	Switch Status
Red	Closed
Green	Open
Yellow	Conflicted or Decoupled
Gray	Unknown

Table 2. Color indicators for the Micro-AT control

Color Indicator	Micro-AT Control Status
White	Ready
Yellow	Not Ready
Gray	Unknown

Discretes Screen

The *Discretes* screen shows the status of the binary points. If a parameter is active, a blue indicator will be shown next to the parameter. See Figure 14.

NOTICE

The input and output parameters stated in the *Discretes* screen are defined in Appendix A on pages 26 and 27.

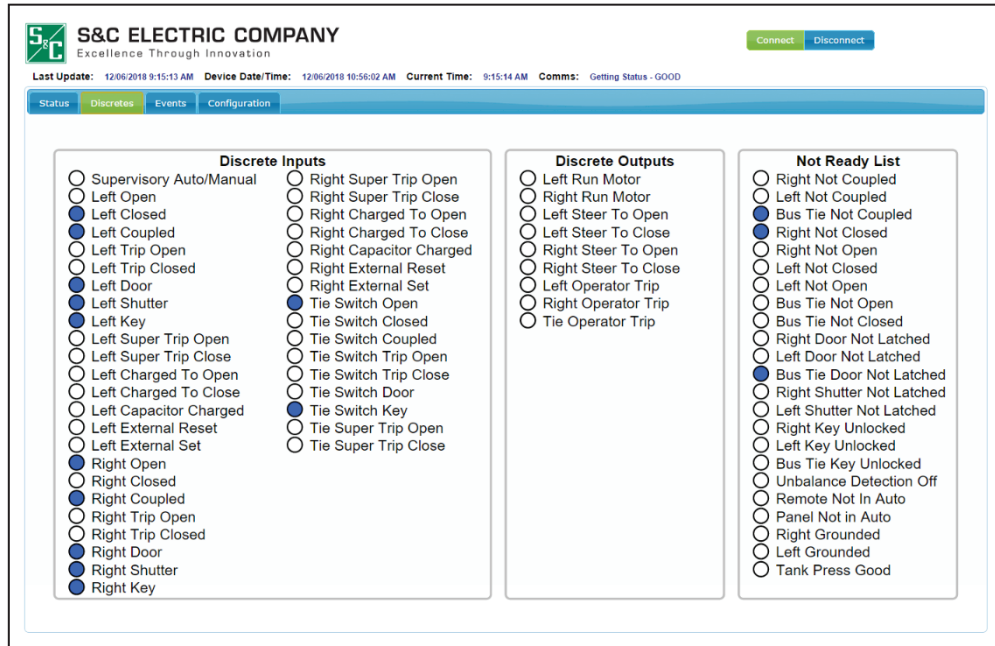


Figure 14. The *Discretes* screen.

The status items include the inputs, outputs, and Micro-AT control “Not Ready” items. The “Not Ready” list indicates the items that must be addressed for the Micro-AT control to be in **Ready** mode. Table 3 contains the description of each “Not Ready” parameter.

Table 3. Micro-AT Control Not Ready Parameter and Descriptions

Parameter	Description
Right Not Coupled	Right switch is not coupled
Left Not Coupled	Left switch is not coupled
Bus Tie Not Coupled	Bus tie switch is not coupled
Right Not Closed	Right switch is not closed
Right Not Open	Right switch is not open
Left Not Closed	Left switch is not closed
Left Not Open	Left switch is not open
Bus Tie Not Open	Bus tie switch is not open
Bus Tie Not Closed	Bus tie switch is not closed
Right Door Not Latched	Right switch door is not latched
Left Door Not Latched	Left switch door is not latched
Bus Tie Door Not Latched	Bus tie switch door is not latched
Right Shutter Not Latched	Right switch shutter is not latched

TABLE CONTINUED ►

Table 3. Micro-AT Control Not Ready Parameter and Descriptions—continued

Parameter	Description
Left Shutter Not Latched	Left switch shutter is not latched
Right Key Unlocked	Right switch key is unlocked
Left Key Unlocked	Left switch key is unlocked
Bus Tie Key Unlocked	Bus tie switch key is unlocked
Unbalance Detection Off	Unbalance detection is off
Remote Not in Auto	Control is placed in Manual mode remotely
Panel Not in Auto	MANUAL/AUTOMATIC selector switch on the control is switched to Manual mode
Right Grounded	Right switch is grounded
Left Grounded	Left switch is grounded
Tank Press Good	Tank pressure is good

NOTICE

The active parameters on the Not Ready List are latched and do not clear when the conditions clear. The parameters clear when another Not Ready event happens and that parameter becomes active on the list or when the Micro-AT control is rebooted/ power cycled.

Events Screen

The *Events* screen shows the record of system status and the status of the circuits each time an operation occurs. Each such operation, referred to as an “event,” is stored and can be searched through this screen. Up to 130 events can be stored before the data are overwritten.

Also recorded for each event are the operating conditions at the time of the control operation. Included are the source conditions, overcurrent and operator statuses, transfer states, flags (for service), and voltages. See Figure 15.

Note: All event descriptions can be found in Appendix B on pages 28 and 29.

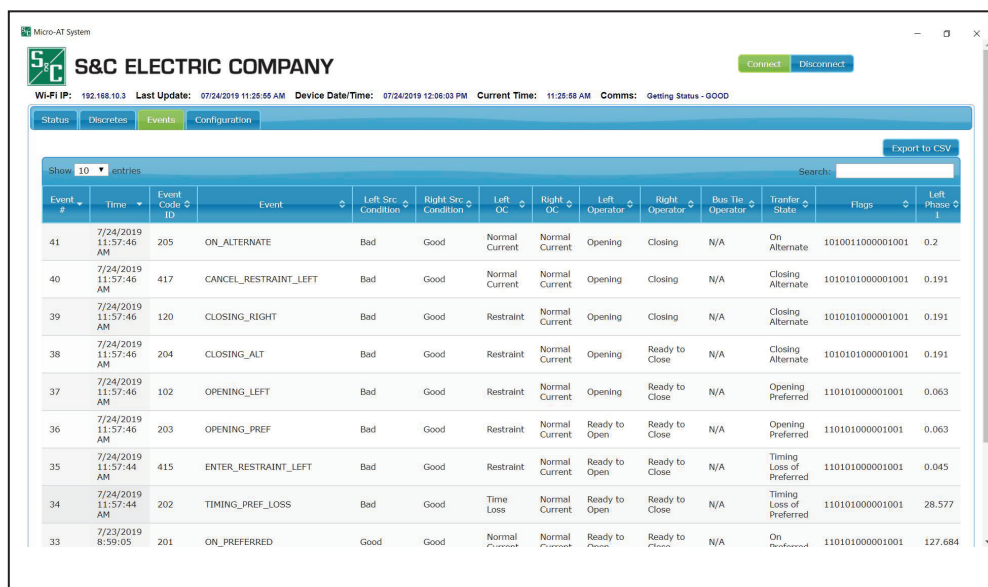


Figure 15. The Events screen.

Configuration Screen

The *Configuration* screen allows the user to configure the system through the HMI application. See Figure 16.

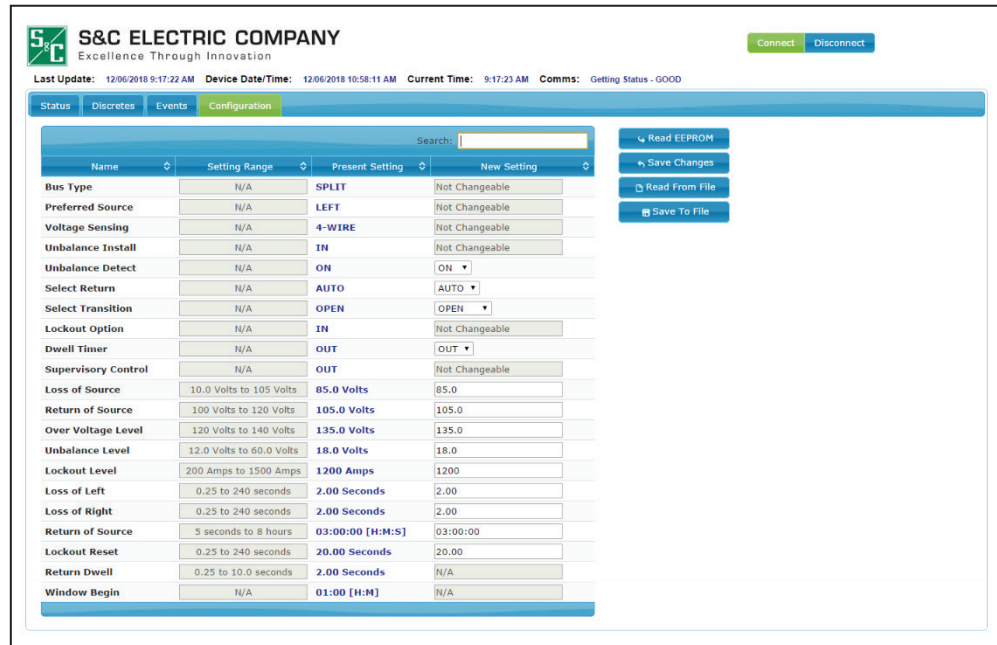


Figure 16. The Configuration screen.

Note: Recommended configuration values, ranges, and field options can be found in Appendix C on page 30.

To configure and save settings to the Micro-AT control:

STEP 1. Find the desired setting fields by scrolling down the screen or by using the Search field at the top of the screen. See Figure 17.

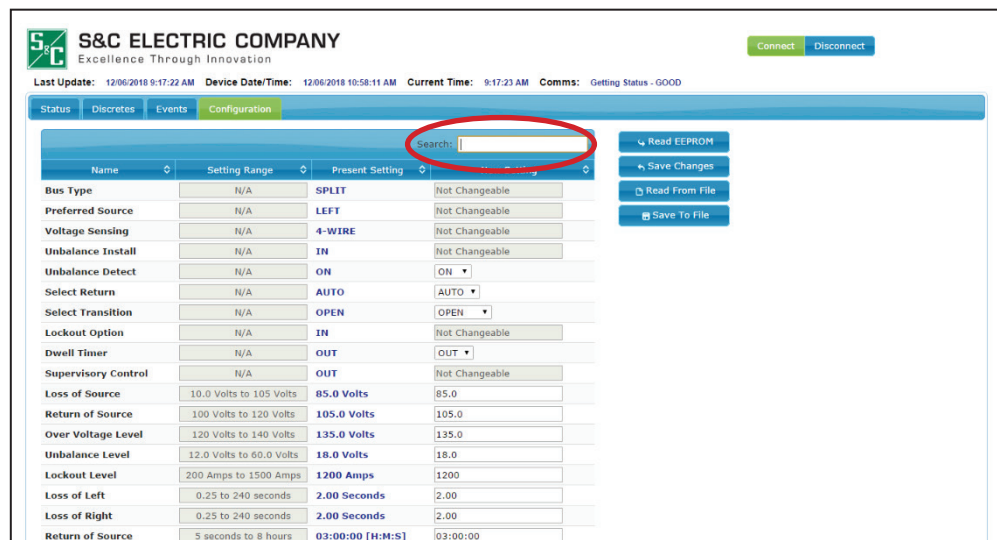


Figure 17. The Search field.

STEP 2. When the field(s) is found, enter the desired value, range, or field option. The greyed out fields are factory-configured and cannot be configured by the user. The new setting field for the factory-configured settings is also labeled “Not Changeable.” See Figure 18.

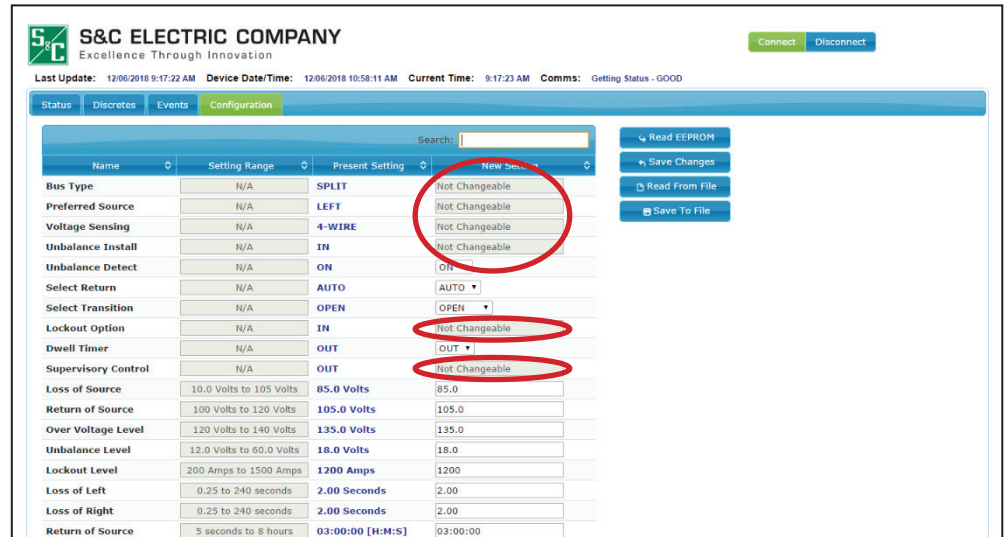


Figure 18. The factory-configured fields.

STEP 3. Make sure the desired settings have been entered and formatted correctly per the values shown in the “Setting Range” column. If there are invalid entries, the invalid fields will be highlighted. When the desired parameters have been set, click on the **Save Changes** button to save the settings to the Micro-AT control. See Figure 19.

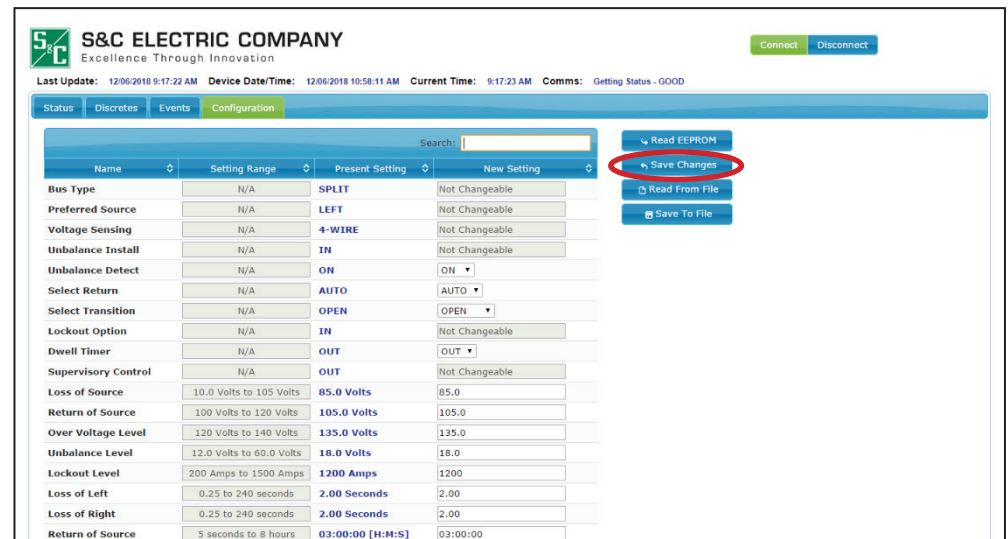


Figure 19. The Save Changes button.

Note: The user will be prompted to enter an access code to save the new settings. Please contact S&C Electric Company for the standard access code. To create a custom access code, please refer to instruction sheet 515-500.

STEP 4. To verify the settings are being saved, look for the progress status to appear as shown in Figure 20.

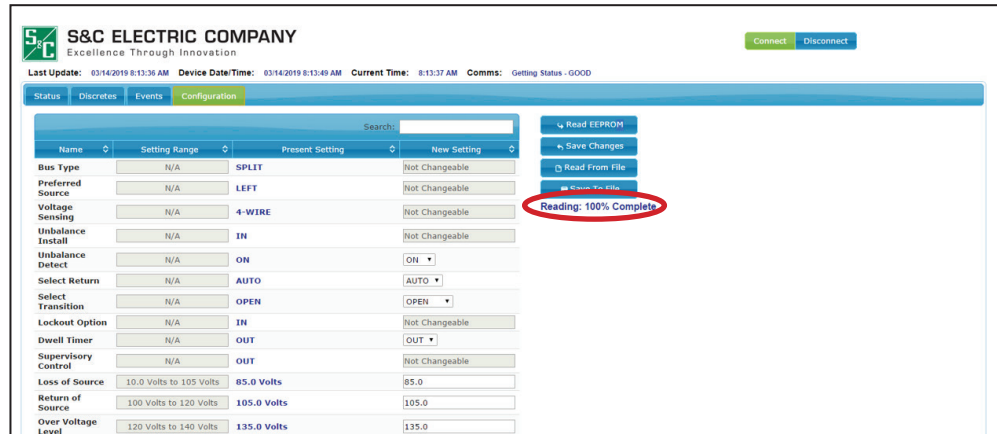


Figure 20. The progress status bar when saving settings.

Note: Settings can also be verified by checking the Micro-AT control panel. To check settings on the control, refer to Instruction Sheet 515-500, “S&C Micro-AT Source Transfer Controls: *Field Programming and Operation.*”

To save settings to a file:

STEP 1. Find the desired setting fields by scrolling down the screen or by using the **Search** field at the top of the screen. See Figure 17 on page 20.

STEP 2. When the field(s) is found, enter the desired value, range, or field option. The greyed out fields are factory-configured and cannot be configured by the user. The new setting field for the factory-configured settings is also labeled “Not Changeable.” See Figure 18 on page 21.

STEP 3. Make sure the desired parameters have been set. If there are invalid entries, the invalid field will be highlighted. When the desired parameters have been set, click on the **Save Changes** button to save the settings to the Micro-AT control. See Figure 19 on page 21.

STEP 4. Click on the **Save To File** button to save the settings to a file. See Figure 21.

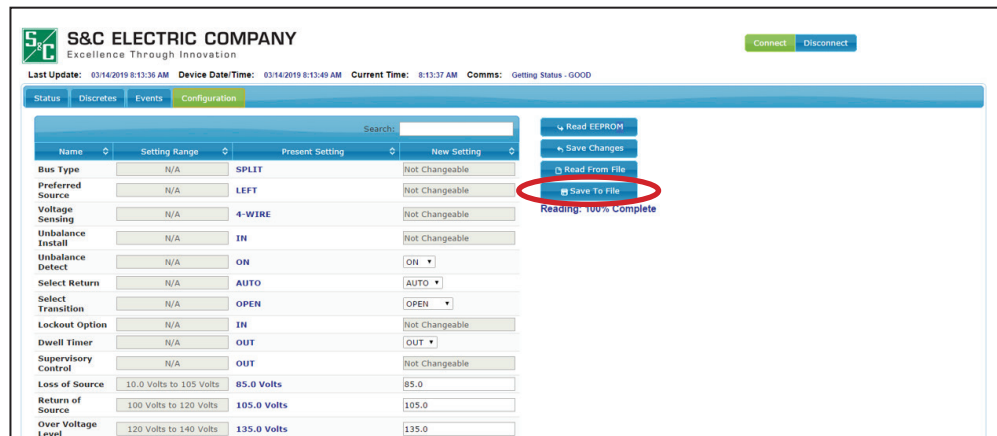


Figure 21. The Save to File button.

To read settings from a file and save them to the Micro-AT control:

STEP 1. Click on the **Read From File** button to choose a file to read. See Figure 22.

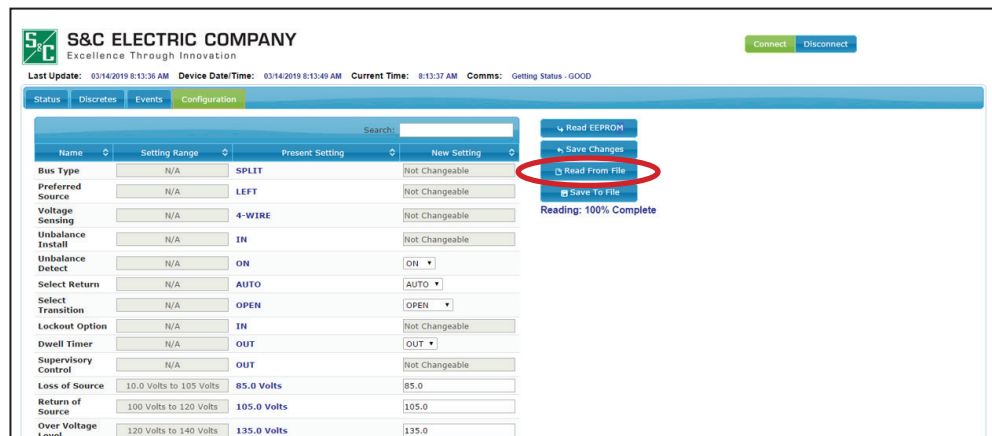


Figure 22. The Read From File button.

STEP 2. When the file is chosen, the fields in the *Configuration* screen will be updated with the settings. The settings are automatically saved to the Micro-AT control.

Read EEPROM button – The user can read the present settings saved on the Micro-AT control (EEPROM chip) by clicking on this button. See Figure 23.

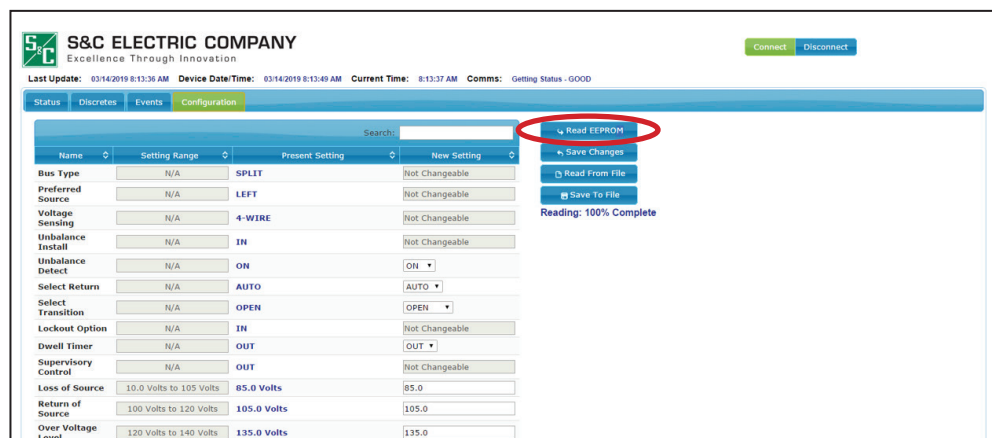


Figure 23. The Read EEPROM button.

Note: The **Read EEPROM** button action is automatically executed with the *Configurations* screen selected for display or when the settings are saved.

Disconnecting the Wi-Fi Adapter from the Micro-AT Control

STEP 1. Move the slider switch to the **Off** position. See Figure 24.



Figure 24. Adapter in the Off position.

STEP 2. Disconnect the Wi-Fi adapter and store the device, USB serial cable, RJ45-to-D89 connector, and charging cable.

NOTICE

Do not leave the Wi-Fi adapter connected to the Micro-AT control after use. Failure to do so can enable unauthorized use of the adapter.

Resetting the Wi-Fi Adapter

The user can reset the Wi-Fi adapter to its original factory settings by using a thin tool to depress the pinhole **Reset** button. Make sure the adapter is on before resetting. See Figure 25.

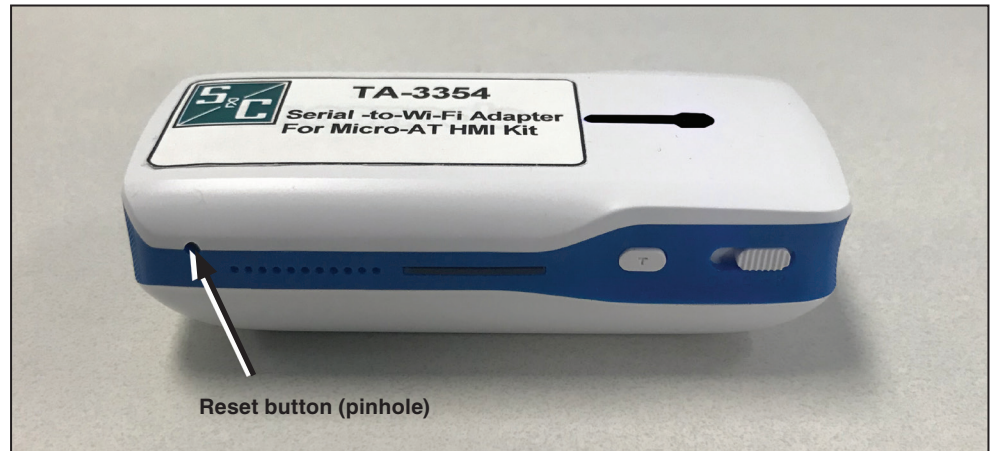


Figure 25. The Reset button.

After pressing the **Reset** button with the tool, the computer will need to be connected to the adapter's Wi-Fi network to use the HMI software application. See the "Connecting a PC to the HMI Application via the Wi-Fi Adapter" section on pages 14 to 16.

Appendix A

Table 4. Discrete Input Parameters on the HMI Discrete Screen

Discrete Input	Description
L SW OPEN L OP OPEN ^{①②} L SW CLOSED L OP CLOSED ^{①②} L OP GROUNDED ^{①②} L SW COUPLED ^{③④⑤} L SW TR OPEN L SW TR CLOSED L SPRING CHRG OP ^③ L SPRING CHRG CL ^③ L SHUTTER INT ^③ L DOOR INT ^④ L KEY INT ^{③④⑤}	Left Switch Open Left Operator Open Left Switch Closed Left Operator Closed Left Operator Grounded Left Switch Coupled Left Switch Trip to Open (Manual Open pushbutton) Left Switch Trip to Close (Manual Close pushbutton) Left Spring Charged to Open Left Spring Charged to Close Left Shutter Interlock Left Door Interlock Left Key Interlock
R SW OPEN R OP OPEN ^{①②} R SW CLOSED R OP CLOSED ^{①②} R OP GROUNDED ^{①②} R SW COUPLED ^{③④⑤} R SW TR OPEN R SW TR CLOSED R SPRING CHRG OP ^③ R SPRING CHRG CL ^③ R SHUTTER INT ^③ R DOOR INT ^④ R KEY INT ^{③④⑤}	Right Switch Open Right Operator Open Right Switch Closed Right Operator Closed Right Operator Grounded Right Switch Coupled Right Switch Trip to Open (Manual Open pushbutton) Right Switch Trip to Close (Manual Close pushbutton) Right Spring Charged to Open Right Spring Charged to Close Right Shutter Interlock Right Door Interlock Right Key Interlock
Local Enabled ^{①②} Tnk Pressure Low ^{①②}	Vista Rack Faceplate Pushbutton Inputs Enabled Vista Tank Internal Pressure Is Low
T SW OPEN ^⑤ T OP OPEN ^② T SW CLOSED ^⑤ T OP CLOSED ^② T SW COUPLED ^⑤ T SW TR OPEN ^⑤ T SW TR CLOSED ^⑤ T DOOR INT ^⑤ T KEY INT ^⑤	Tie Switch Open Tie Operator Open Tie Switch Closed Tie Operator Closed Tie Switch Coupled Tie Switch Trip to Open (Manual Open pushbutton) Tie Switch Trip to Close (Manual Close pushbutton) Tie Door Interlock Tie Key Interlock
SUPER AUTO/MAN ^⑥ L SUPV TR OPEN ^⑥ L SUPV TR CLOSE ^⑥ R SUPV TR OPEN ^⑥ R SUPV TR CLOSE ^{④⑥}	Supervisory Auto/Manual Left Supervisory Trip to Open (Supervisory Open) Left Supervisory Trip to Close (Supervisory Close) Right Supervisory Trip to Open (Supervisory Open) Right Supervisory Trip to Close (Supervisory Close)
L CAP CHARGED ^③ R CAP CHARGED ^③	Left Capacitor Charged Right Capacitor Charged
T SUPV TR OPEN ^{⑤⑥} T SUPV TR CLOSE ^{⑤⑥}	Tie Switch Supervisory Trip to Open (Supervisory Open) Tie Switch Supervisory Trip to Close (Supervisory Close)
L EXT OC SET ^⑦ R EXT OC SET ^⑦ L EXT OC RESET ^⑧ R EXT OC RESET ^⑧	Left External Overcurrent Set Right External Overcurrent Set Left External Overcurrent Reset Right External Overcurrent Reset

① Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "VISTA COM" bus type.

② Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "VISTA SPLIT" bus type.

③ Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "PAD MNT" bus type.

④ Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "COMMON," "SPLIT," or "SPLTCOM" bus type.

⑤ Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "SPLIT" or "SPLTCOM" bus type.

⑥ Displayed if CONFIG: SUPERVISORY CONTROL has been factory-set for "IN."

⑦ Displayed if CONFIG: LOCKOUT OPTION has been factory-set for "EXTERNAL."

⑧ Displayed if CONFIG: LOCKOUT OPTION has been factory-set for "EXTERNAL" or "INTERNAL."

Table 5. Discrete Output Parameters on the HMI Discrete Screen

Discrete Output	Description
R OPERATOR TRIP R RUN MOTOR ^① R STEER TO CLOSE ^{①②} R STEER TO OPEN ^①	Right Operator Trip Right Run Motor Right Steer to Close Right Steer to Open
L OPERATOR TRIP L RUN MOTOR ^① L STEER TO CLOSE ^{①②} L STEER TO OPEN ^①	Left Operator Trip Left Run Motor Left Steer to Close Left Steer to Open
T OPERATOR TRIP ^③	Tie Operator Trip
LOCAL ENABLED ^④	Vista Rack Faceplate Pushbutton Inputs Enabled
VISTA SOURCE SEL ^④	Vista LVE Control Power Source Selection

^① Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "PAD MNT" bus type.

^② Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "VISTA COM" bus type.

^③ Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "SPLIT," or "SPLTCOM" or "VISTA SPLIT" bus type.

^④ Displayed if CONFIG: SELECT BUS TYPE has been factory-set for "VISTA COM" or "VISTA SPLIT" bus type.

Appendix B

Table 6. Event Identification Code Numbers and Descriptions

Code Number	Description	Code Number	Description
General Events		Source-Transfer Control Events (Common-Bus, “Vistacom” and “Spltcom” Switchgear and Pad-Mounted Gear Only)	
0	System Startup	201	On Preferred
10	Local to Auto	202	Timing Preferred Loss
11	Local to Manual	203	Opening Preferred
12	Remote to Auto	204	Closing Alternate
13	Remote to Manual	205	On Alternate
20	Test keys enabled	206	Timing Alternate Loss
21	Test keys disabled	207	Timing Preferred Return
88	Illegal Power Fail	208	Opening Alternate
90	EEPROM Initialized	209	Closing Preferred
99	Power Fail	210	Delaying Return
		211	Delaying Forward Transfer
		212	Verify Preferred Loss
		213	Verify Alternate Loss
		217	Enter Lockout
		218	Enter Manual
		219	Enter Exception
		220	Waiting for Window
		221	Enter Grounded
Switch Operator Control Events		Source-Transfer Control Events (Split-Bus and “Vistasplit” Switchgear Only)	
100	Closing Left	301	Both on Preferred
101	Charge to Open Left ^①	302	Timing Left Loss
102	Opening Left	303	Verify Left Loss
103	Charge to Close Left ^①	304	Opening Left Switch
104	Operation Timeout Left	305	Timing Right Loss
105	Operation Limit Left	306	Verify Right Loss
111	Unexpected Opening Left	307	Opening Right Switch
112	Unexpected Closing Left	308	Delaying Transfer
113	Unknown Position Left	309	Closing Tie Switch
114	Unknown Spring Left ^①	310	Both on Left
115	Illegal Position Left	311	Timing Right Return
116	Illegal Spring Left ^①	312	Closing Right Switch
117	Presteer Left ^①	313	Both on Right
118	Cancel Presteer Left ^①	314	Timing Left Return
120	Closing Right	315	Closing Left Switch
121	Charge to Open Right ^①	316	Opening Tie Switch
122	Opening Right	317	Enter Lockout
123	Charge to Close Right ^①	318	Enter Manual
124	Operation Timeout Right	319	Enter Exception
125	Operation Limit Right	320	Waiting for Window
131	Unexpected Opening Right	321	Enter Grounded
132	Unexpected Closing Right		
133	Unknown Position Right		
134	Unknown Spring Right ^①		
135	Illegal Position Right		
136	Illegal Spring Right ^①		
137	Presteer Right ^①		
138	Cancel Presteer Right ^①		
Switch Operator Control Events (Split-Bus, “Vistasplit” and “Spltcom” Switchgear Only)			
140	Closing Tie		
142	Opening Tie		
144	Operation Timeout Tie		
145	Operation Limit Tie ^①		
151	Unexpected Opening Tie		
152	Unexpected Closing Tie		
153	Unknown Position Tie		
155	Illegal Position Tie		

① Pad-mounted gear applications only.

TABLE CONTINUED ►

Table 6. Event Identification Code Numbers and Descriptions—continued

Code Number	Description	Code Number	Description
Overcurrent Latch Events		Source Condition Events	
410	Latch OC Left	510	Loss of Left Due to Undervoltage
411	Start LR Timer Left	511	Loss of Left Due to Open Phase
412	Cancel LR Timer Left	512	Return of Left
413	Reset OC Latch Left	513	Overvoltage Left
414	Enter Normal Left	520	Loss of Right Due to Undervoltage
415	Enter Restraint Left	521	Loss of Right Due to Open Phase
416	Enter Reset Restraint Left	522	Return of Right
417	Cancel Restraint Left	523	Overvoltage Right
418	Cancel Confirm OC Left		
419	Cancel Reset Restraint Left		
420	Latch OC Right	Overcurrent Latch Events	
421	Start LR Timer Right	640	UPS Application set to UPS ON RIGHT
422	Cancel LR Timer Right	641	Transition set to OPEN
423	Reset OC Latch Right	642	Transition set to CLOSED
424	Enter Normal Right	643	Lockout set to OUT
425	Enter Restraint Right	644	Lockout set to IN
426	Enter Reset Restraint Right	645	Lockout set to EXTERNAL
427	Cancel Restraint Right	646	Restore Values Executed
428	Cancel Confirm OC Right	647	Dwell Timer set to OUT
429	Cancel Reset Restraint Right	648	Dwell Timer set to IN
430	Start Verify OC Timer Left	649	Supervisory Control set to OUT
431	Reset Verify OC Timer Left	650	Supervisory Control set to IN
440	Start Verify OC Timer Right	651	Normalize Left Executed
441	Reset Verify OC Timer Right	652	Normalize Right Executed
601	Bus Type changed to COMMON	653	Set Base Left Executed
602	Bus Type changed to SPLIT	654	Set Base Right Executed
603	Bus Type changed to SPLIT-COM	655	COM0 Bit Rate set to 2400
604	Bus Type changed to PAD MNT	656	COM0 Bit Rate set to 4800
605	Bus Type changed to VISTA COM	657	COM0 Bit Rate set to 9600
606	Bus Type changed to VISTA SPLIT	658	COM0 Bit Rate set to 19200
620	Preferred set to LEFT	659	COM0 Bit Rate set to 38400
621	Preferred set to RIGHT	700	System date changed
622	System Frequency set to 50 Hz	701	System time changed
623	System Frequency set to 60 Hz		
624	Voltage Sensing set to 2-WIRE		
625	Voltage Sensing set to 4-WIRE		
626	Voltage Sensing Configuration set to LINE-TO-GND		
627	Voltage Sensing Configuration set to LINE-TO-LINE		
628	Source Bad Criteria set to 1-PHASE		
629	Source Bad Criteria set to ALL PHASES		
630	Unbalance Detect set to OUT		
631	Unbalance Detect set to IN and OFF		
632	Unbalance Detect set to IN and ON		
633	Voltage Value Format set to VOLTS		
634	Voltage Value Format set to PERCENTAGE		
635	Return set to HOLD		
636	Return set to AUTO		
637	Return set to WINDOW		
638	UPS Application set to NO UPS		
639	UPS Application set to UPS ON LEFT		

Table 7. Configuration Screen Adjustable Items

Field Adjustable Item	Description	Operating State or Range ^①
UNBALANCE DETECT	Selection of unbalance detection feature “ON” or “OFF”	ON, OFF
SELECT RETURN	Selection of “HOLD,” “AUTO,” or “WINDOW” as means by which return-of-source transfer will be effected	HOLD, AUTO, WINDOW
SELECT TRANSITION	Selection of “OPEN” or “CLOSED” as type of transition by which automatic return-of-source transfer will be effected	OPEN,CLOSED
DWELL TIMER	Selection of transition-dwell time delay “IN” or “OUT”	IN, OUT
LOSS OF SOURCE	Voltage level on source serving the load (or voltage level on source serving one of the bus sections, in split-bus switchgear) which, if reduced below, will result in control initiating automatic loss-of-source transfer. Also, if “HOLD” return has been selected, voltage level on alternate source (or voltage level on source in use, in split-bus switchgear) which, if reduced below, will result in control initiating automatic return-of-source transfer	10-105 VOLTS (85 VOLTS)
RETURN OF SOURCE	Voltage level on source formerly serving the load (or voltage level on source formerly serving one of the bus sections, in split-bus switchgear) which, if equaled or exceeded, will result in control initiating automatic return-of-source transfer. (Applicable only if “AUTO” or “WINDOW” return has been selected)	100-120 VOLTS (105 VOLTS)
OVERVOLT DETECT	Voltage level on a source which, if equaled or exceeded, will result in the control posting an entry in the event log	120-140 VOLTS (135 VOLTS)
UNBALANCE DETECT	Unbalance level on source serving the load (or unbalance level on source serving one of the bus sections, in split-bus switchgear) which, if equaled or exceeded, will result in control initiating automatic transfer. Also, if “HOLD” return has been selected, unbalance level on alternate source (or unbalances level on source in use, in split-bus switchgear) which, if equaled or exceeded, will result in control initiating automatic return transfer	12-60 VOLTS (18 VOLTS) in switchgear and Vista UDS 30-60 VOLTS (30 VOLTS) in pad-mounted gear
LOSS OF LEFT SOURCE	Time delay between detection of loss of voltage on left source and initiation of automatic loss-of-source transfer	0.25-240 SECONDS (2.00 SECONDS)
LOSS OF RIGHT SOURCE	Time delay between detection of loss of voltage on right source and initiation of automatic loss-of-source transfer	0.25-240 SECONDS (2.00 SECONDS)
RETURN OF SOURCE	Time delay between return of preferred-source voltage (or voltage to the previously failed source, in split-bus switchgear) and initiation of automatic return-of-source transfer	5 SECONDS TO 8 HOURS (00:03:00)
LOCKOUT RESET	Time delay that voltage must remain on load, following its resumption after a momentary overcurrent, before lockout feature is automatically reset	0.25-240 SECONDS (20.0 SECONDS)
TRANSITION DWELL	Time delay, during automatic loss-of-source transfer, between opening of a source interrupter switch and closing of the other source interrupter switch (or closing of the bus-tie interrupter switch, in split-bus switchgear). Also, time delay, during automatic return-of-source transfer, between opening of a source interrupter switch (or opening of the bus-tie interrupter switch, in split-bus switchgear) and closing of the other source interrupter switch	0.25-10 SECONDS (2.00 SECONDS)
WINDOW BEGIN	The beginning of a time “window” in which an automatic return-of-source transfer can occur; the window is adjustable from 1 minute to 3 hours. (Transfer will take place after the return-of-source time delay has expired—provided that the time of day is within the window selected)	hh:mm (hour: minute— 24-hour format) (01:00)

^① Factory-settings are shown in boldface type.