



Installation Instructions

Air-Fi® Wireless Communications Interface (WCI)

Model Number: X13790901030, X13790902030, X13790903030, X13790904030, X13790941030

X39641361001

SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe

NOTICE

Indicates a situation that could result in equipment or property-damage only accidents.

June 2020

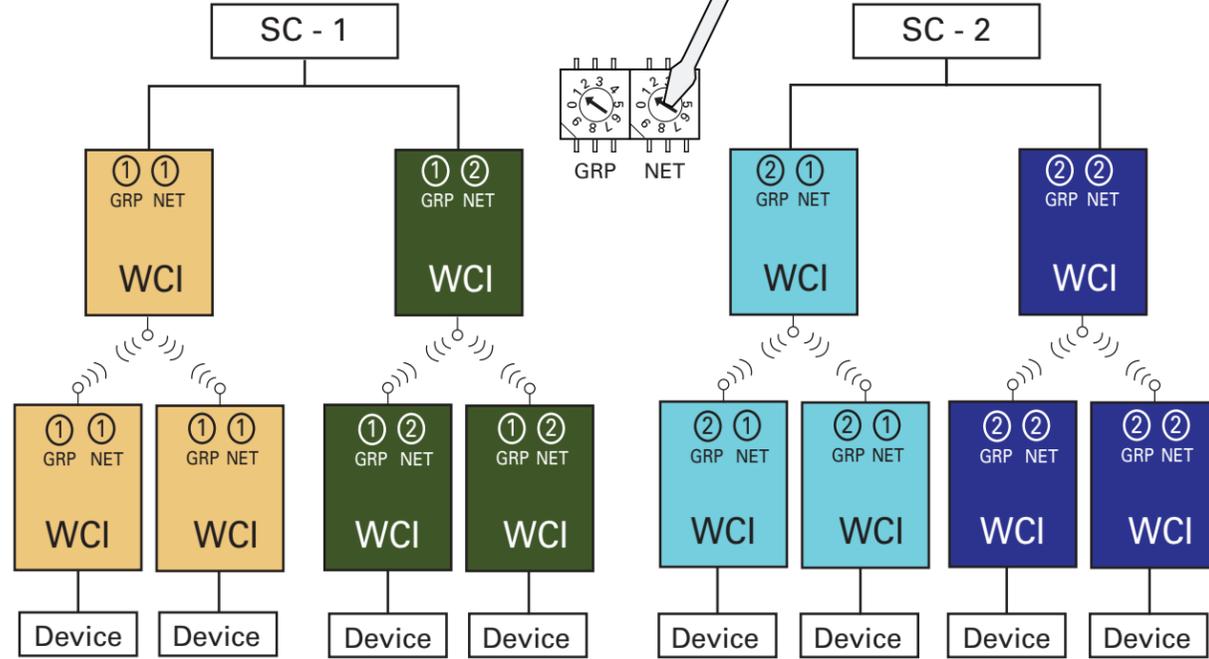
BAS-SVN038C-EN

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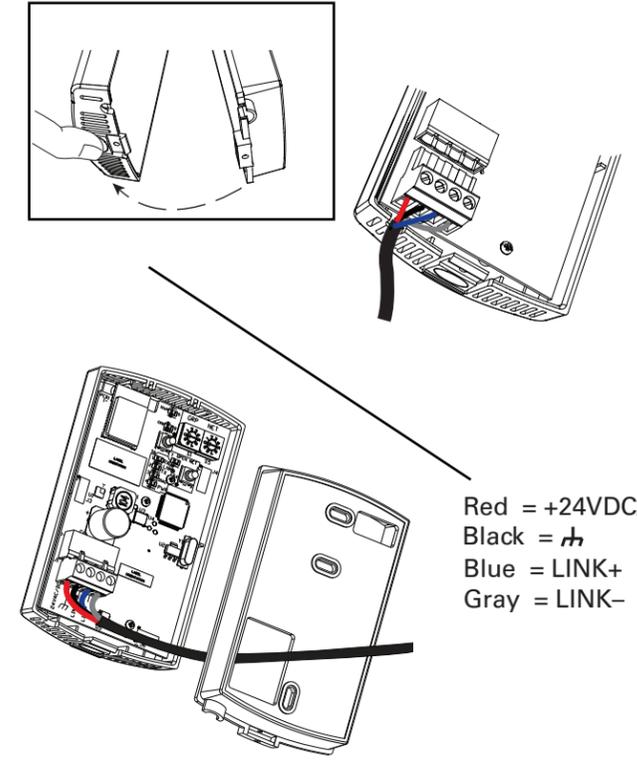


1 Set Addresses

For detailed information and procedures, refer to the following documents:
• Air-Fi® Wireless Installation, Operation, and Maintenance (BAS-SVX40*)
• Air-Fi® Wireless Network Design Best Practices Guide (BAS-SVX55*)

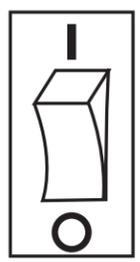


2 Connecting the Wiring Harness to the WCI

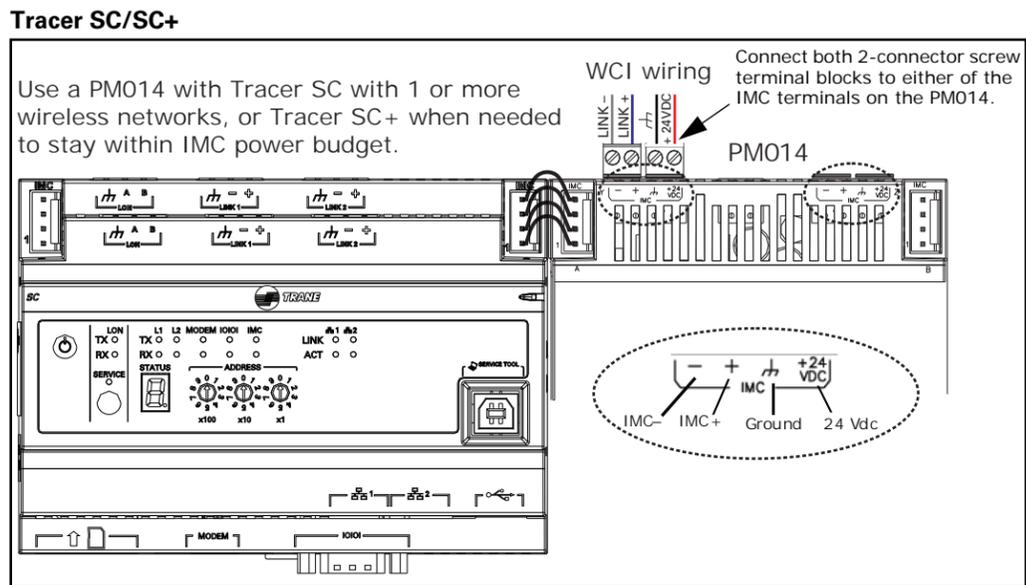
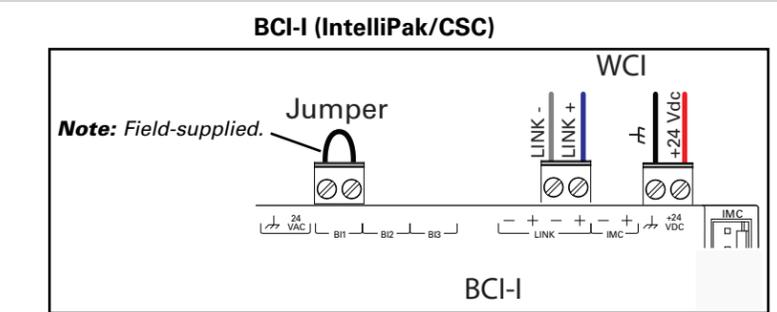
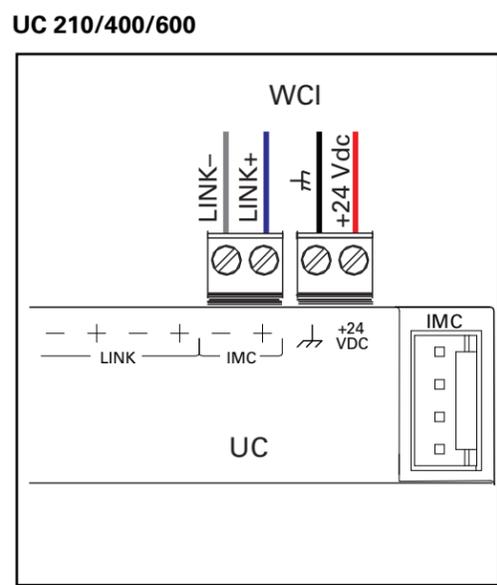


3 Power OFF Device

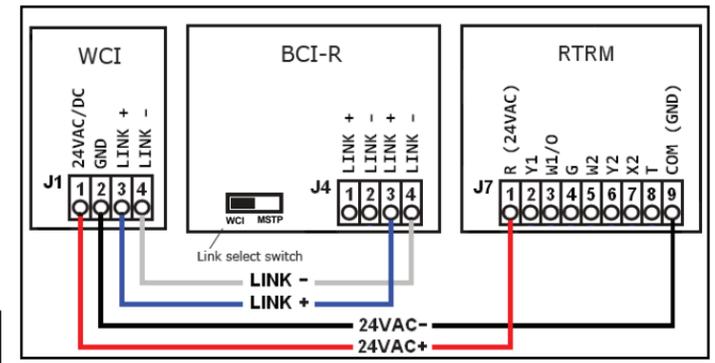
Hazardous voltage!
Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure that power cannot be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.



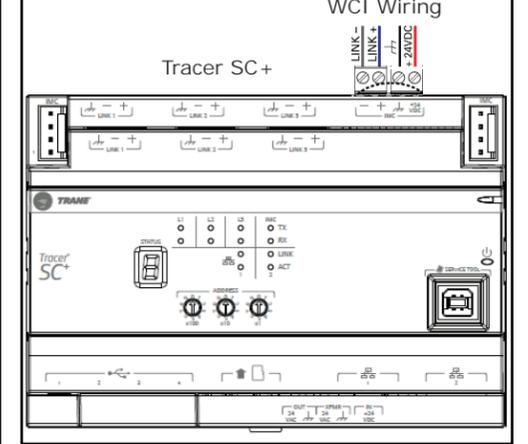
4 Connect WCI Wires to Controller Device



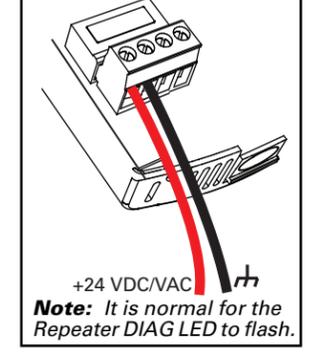
BCI-R (ReliaTel™: Voyager™, Precedent™, and Odyssey™)



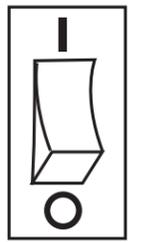
Tracer SC+ when IMC power budget allows



WCI as Repeater



5 Power ON Device



Note: If all devices cannot be powered on at the same time, the best practice is to power them on in the following order:
1. All WCIs
2. All unit controllers: UC210, UC400, UC600, BCI-I, BCI-R
3. All Tracer SCs
4. All WCSs

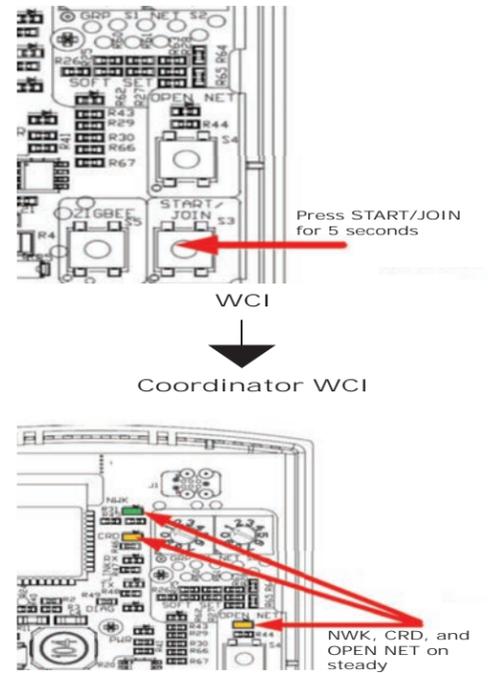
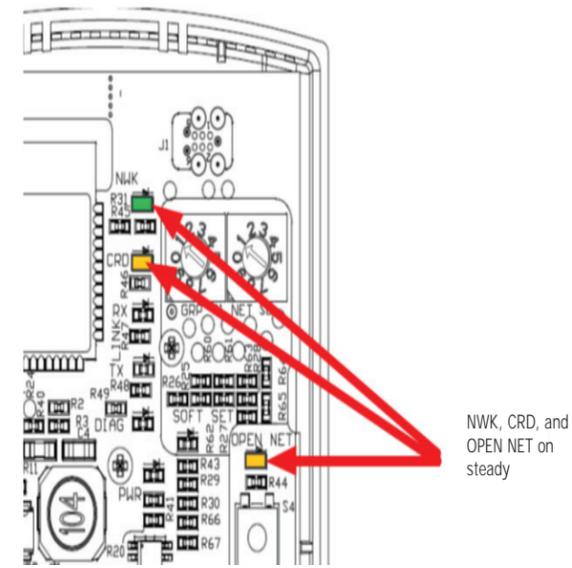
Identifying the Network Coordinator (One per Network) and Initiating Network Formation

If a Tracer SC is present when the WCI is powered:

- The WCI that is wired to Tracer SC becomes network coordinator and network formation is initiated.
- The network automatically opens and remains open for 60 minutes.
- The LEDs illuminate on the network coordinator as shown. See Table 1 for details.

If no Tracer SC is present when the WCI is powered:

1. Identify a centrally located WCI to be the network coordinator.
2. Manually open the network by pressing the Start button for 5 seconds on the WCI that is to be network coordinator. The WCI becomes network coordinator and network formation is initiated.
3. Observe the LEDs on the network coordinator. See Table 1 for details.

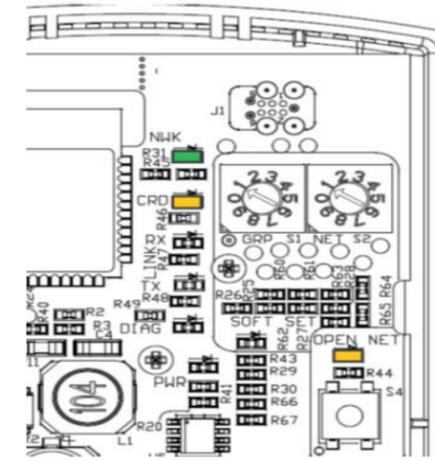


The Network Forms

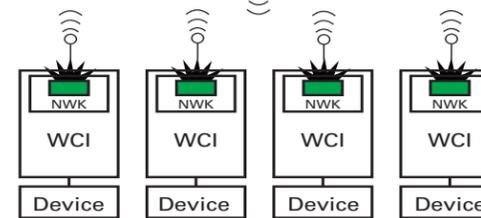
The NWK LED illuminates on every WCI that joins the network.

Notes:

- Network automatically stays open 1 hr. After each WCI joins, the 1 hr. timer starts over. If time expires, press OPEN NET to re-open the network.
- The coordinator opens all WCIs in the network. A member WCI can only open itself for 10 minutes.



Coordinator WCI



LED Identification and Interpretation

Table 1. LED identification and interpretation

LED	LED activity	Indicates
Network LED (green) NWK	On solid	WCI is a network member.
	Flashes for 10 seconds every 2.5 minutes.	WCI is not a member of a network The WCI will join a network when the NWK LED is flashing. If there is an open network nearby with the same rotary settings and the WCI joins the network, the NWK LED turns on solid and then the OPEN LED turns on solid.
Coordinator LED (yellow) CRD	On solid	WCI is network coordinator
Open Net LED (yellow) OPEN NET	On solid	Network is open for joining
	Off	Network is closed for joining
Reception LED (yellow) RX LINK	Flashes ^(a)	Data received
	On ^(b)	Data received
	Off ^(c)	No data received
Transmission LED (green) TX LINK	Flashes ^(a)	Data transmitted
	On ^(b)	Data transmitted
	Off ^(c)	No data transmitted
Diagnostic LED (red) DIAG^(d)	Off	Normal operation
	Flashes (½ second on, ½ second off repeating)	Hardware failure or failed re-flash of a radio. Corrective action: Replace WCI
	Triple flash pattern.	Failed to join network. Occurs for 30 seconds after failing to join a network. Will continue this pattern until successful join. Corrective Action: Insure network is formed and open, then allow time for WCI to join on its own.
	Double flash pattern	<ul style="list-style-type: none"> • Normal for a repeater. • WCI lost IMC communication to the UC/BCI/Tracer SC/SC+. Corrective action: Check IMC wiring, then cycle power to the controller/WCI to establish communication. <ul style="list-style-type: none"> • WCI was not configured correctly. (WCI did not get BACnet ID from UC/BCI/SC/SC+, and/or WCI did not get rotary address from the UC/BCI/SC/SC+.) Corrective Action: Cycle power to the controller/WCI.
Power LED (green) PWR	On solid	WCI has power.
	Off	WCI does not have power. Corrective Action: Check WCI power wiring for 24v DC or AC.

(a) LED will flash steady (about 3 flashes per second) on WCI that was built prior to 2019.
 (b) LED will appear to be on steady for WCI built 2019 and after. Will appear dim and flicker occasionally according to how much data is passing.
 (c) LED is off for all WCI.
 (d) If more than one condition is present, the priority is in the order listed.

Firmware Requirements for Devices in an Air-Fi® Wireless Network

This table lists the minimum firmware levels required to allow devices to participate in an Air-Fi® Wireless network.

Table 2. Minimum firmware levels required

Device	Minimum firmware level required for devices on a Air-Fi® Wireless network	
	One or no WCSs	Multiple WCSs or an RH sensor module (WCS-SH)
Tracer SC	V3.6.xxx	N/A
UC210	All versions	V2.00.xxx.mod
UC400	V6.00.xxx.mod	V8.00.xxx.mod
UC600	V4.00.xxx.mod	V5.00.xxx.mod
BCI-I	V25.00.xxx.mod	V28.00.xxx.mod
BCI-R	V5.02.xxx.mod	V6.00.xxx.mod
RTRM	V12 or higher (requires physical board replacement)	N/A
Tracer TU	V8.2	V8.6
TU Adapter	V1.00.xxx.mod	N/A

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