



Product Data

Air-Fi® Wireless Communication Interface (WCI)

Data Sheet

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.



Trademarks

All trademarks referenced in this document are the trademarks of their respective owners.

Revision History

Updated Specifications and Agency Compliance table.

Introduction

Trane Air-Fi® wireless systems provide significant advantages to meet customer requirements by providing a lower initial cost, ease of installation for reduced risk, increased reliability and flexibility for easier problem solving, and fewer maintenance issues for worry-free operation and cost savings over the life of the system. Trane Air-Fi wireless systems help save time and money with industry-leading technology and performance.

Features and Benefits

Feature		Benefit
Reduced project labor and complexity		Reduces installation time and risks for on-time project completion while increasing return on investment.
Reliable and secure		Based on the IEEE 802.15.4 standard. The Institute of Electrical and Electronics Engineers (IEEE) is an international non-profit, professional organization, in which coexistence is a fundamental requirement and includes methods for network key establishment, network key transport, frame protection, and device management.
Life-cycle savings		By avoiding (re)wiring, savings are incurred both for the initial installation and whenever the spaces are reconfigured or expanded.
Wireless communications interface (WCI)	Factory or field installed	Factory installation, testing, and addressing increases installed quality and further reduces installation labor. Field installation is available when factory installation is not practical, when the Tracer SC is field installed, or when the WCI is installed as a repeater.
	BACnet/Zigbee ^(a)	Air-Fi® Wireless runs BACnet® protocol over ZigBee®. Adding other BACnet/Zigbee devices down the road, will be easy and affordable.
	Indoor and outdoor mounting	Outdoor mounting is ideal for any outdoor equipment or for network setup above a roof deck. Indoor mounting is suitable for plenum applications.

(a) ZigBee® is a registered trademark of the ZigBee Alliance.

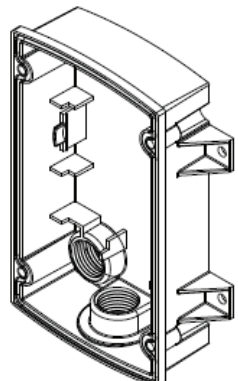
Air-Fi® Wireless Communication Interface Part Numbers

Air-Fi® Wireless Model			Part Number	BAYSENS	Global Part
Wireless communications interface (WCI)	Indoor	Field installed or service	X13790901030	BAYWCII189*	MOD02969
	Outdoor		X13790941030	BAYWCII187*	MOD02971
	Indoor–BAA ^(a)		X13790963030	N/A	MOD03069
	Outdoor–BAA ^(a)		X13790964030	N/A	MOD03070
	Indoor flush	Service part only	X13790902030	N/A	MOD02970
	Indoor	Factory only	X13790903030	BAYWCII188*	N/A
	Indoor flush	Factory only	X13790904030	N/A	N/A

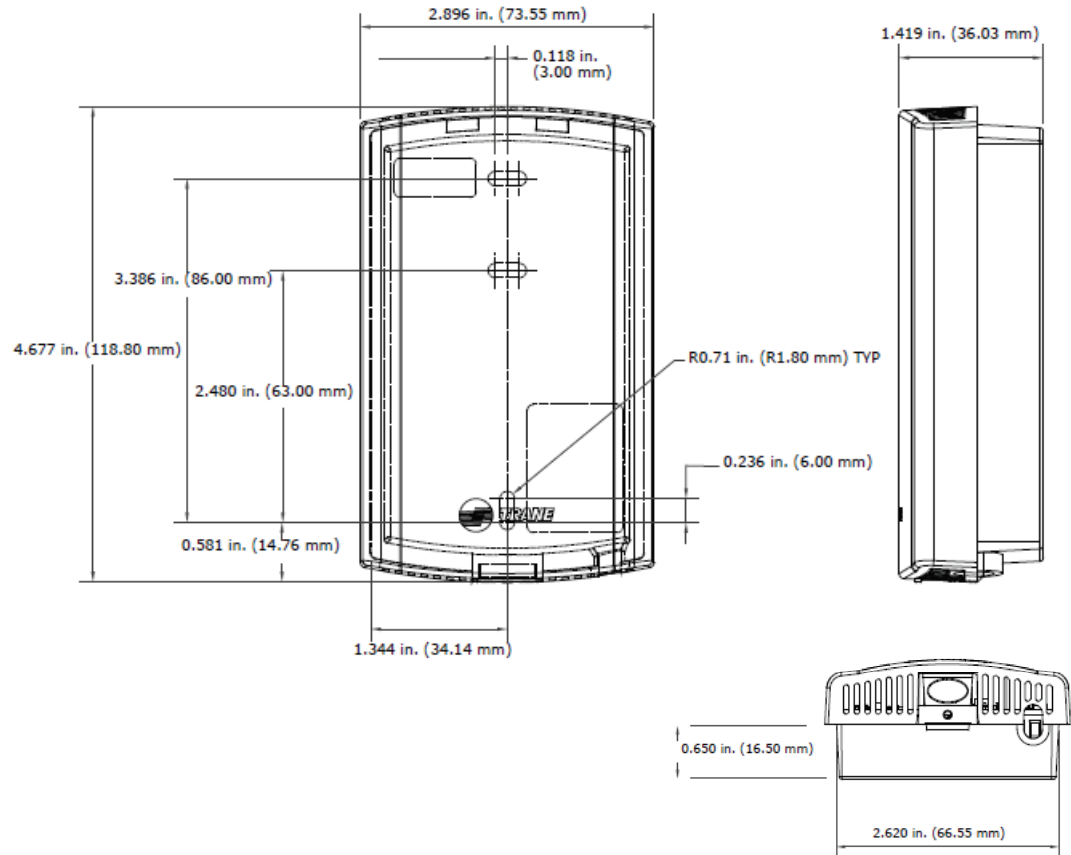
(a) Conforms to Buy America Act (BAA) guidelines.



Specifications

General Specifications	
Operating temperature	-40 to 158°F (-40 to 70°C)
Storage temperature	-40 to 185°F (-40 to 85°C)
Storage and operating humidity range	5% to 95% relative humidity (RH), non-condensing
Housing material	Polycarbonate/ABS (suitable for plenum mounting), UV protected, UL 94: 5 VA flammability rating. Outdoor unit is Acrylonitrile -Styrene- Acrylate (ASA) resin with HB flame rating. <i>Note: These ratings are for the two indoor models. Do not apply to the outdoor model.</i>
Range	Open range: 2,500 ft (762 m) with packet error rate of 2%. Indoor: Typical range is 200 ft (61 m); actual range is dependent on the environment. See <i>Air-Fi® Network Design Installation, Operation, and Maintenance</i> (BAS-SVX55*-EN) for more detail.
Output power	100 mW
Radio frequency	2.4 GHz (IEEE Std 802.15.4-2003 compliant) (2405 to 2480 MHz, 5 MHz spacing)
Radio channels	16
Wireless Communications Interface (WCI) Specifications	
Voltage	24 Vac/Vdc nominal ±10%. If using 24 Vdc, polarity must be maintained.
Impulse voltage	330V (PELV (Class)) Input and Output.
Power consumption	<2.5 VA
Indoor mounting	Mount the WCI backplate using self-drilling M3.5 x 20mm screws provided. Suitable for Plenum use.
Outdoor mounting	Position enclosure in desired flat mounting location and mount using four (4) #8 sheet metal screws with the conduit connection pointing down. If not mounted to the HVAC equipment exterior wall, the conduit connection on the bottom of the enclosure is also available. Please note that the supplied plug must be installed into the unused conduit connection. 
Wireless protocol	ANSI/ASHRAE Standard 135-2016 (BACnet® / Zigbee®) BACnet® is a registered trademark of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) ZigBee® is a registered trademark of the ZigBee Alliance
Purpose of control	Operating control, Wireless communication interface control or similar.
Software class	Class A
Pollution degree levels	Pollution degree 2

WCI Dimensions





Agency Compliance

<p>United States</p>	<p>UL listed: UL 94, 5 VA flammability rating and UL60730-1. Energy Management Equipment FCC CFR47, Sec. 15.247 and Digital Modulation Transmission with no SAR (FCC ID: TPF-251701) and (FCC ID: W7Z-ZICM357SP2).</p> <p>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.</p> <p>Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:</p> <ul style="list-style-type: none"> • Reorient or relocate the receiving antenna. • Increase the separation between the equipment and receiver. • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. • Consult the dealer or an experienced radio/TV technician for help. <p>Models X13790901, X13790902, X13790903, X13790904, and X13790963 only (Indoor mounting enclosures) - these units are intended to be installed in accordance with the manufacturer's installation instructions, the National Electrical Code or Canadian Electrical Code, Part 1, and in a manner acceptable to the local authority having jurisdiction. Sensor is Listed for installation in air handling spaces as referenced in the Standard for the Installation of Air Conditioning and Ventilating Systems, NFPA90A, and installation in plenums as referenced in the International Mechanical Code.</p>
<p>Canada</p>	<p>CSA-C22.2 No. 205-M1983 Signal Equipment Industry Canada (IC: 8254A-ZICM357SP2)</p> <p>This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement Canadien sur le matériel brouilleur.</p> <p>This device complies with Industry Canada license-exempt RSS standard(s). The operation is permitted for the following two conditions:</p> <ol style="list-style-type: none"> 1. The device may not cause interference, and 2. This device must accept any interference, including interference that may cause undesired operation of the device. <p>Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:</p> <ol style="list-style-type: none"> 1. L'appareil ne doit pas produire de brouillage, et 2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
<p>IEEE/radio frequency range</p>	<p>IEEE 802.15.4-2003, IEEE Standard for Information Technology – Telecommunications and information exchange between systems – Local and metropolitan area networks–Specific requirements, Part 15.4: Wireless Medium Access Control (MAC) and Physical Layer (PHY) Specifications for Low Rate Wireless Personal Area Networks (LR-WPANs)</p>



Notes

Trane - by Trane Technologies (NYSE: TT), a global climate innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or tranetechnologies.com.

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