



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.

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BAS-PRD032E-EN

TRANE
TECHNOLOGIES



Trademarks

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

Introduction

Trane Air-Fi® wireless systems provide significant advantages to better 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.

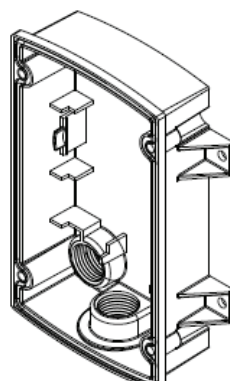
(a) ZigBee® is a registered trademark of the ZigBee Alliance.

Air-Fi Wireless Communication Interface Part Numbers

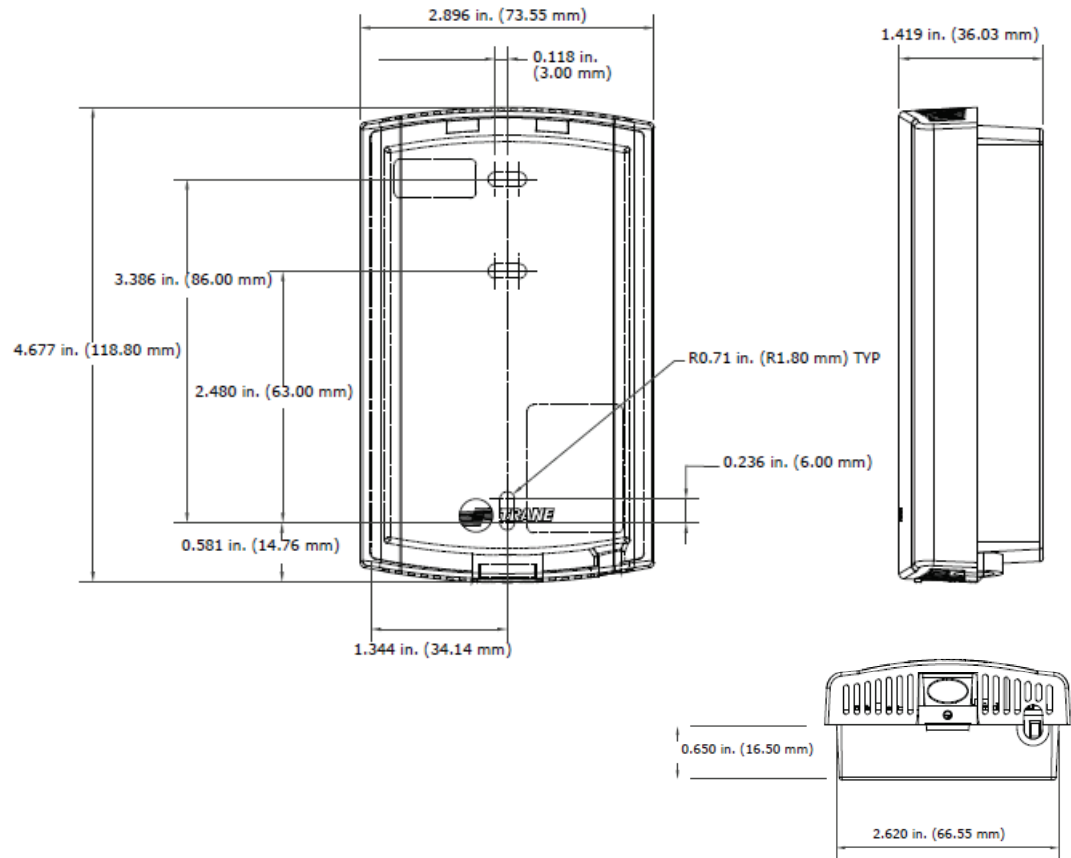
Air-Fi® Wireless model		Part number	BAYSENS	Global part	
Wireless communications interface (WCI)	Indoor	Field installed or service	X13790901030	BAYWCII189*	MOD02969
	Outdoor		X13790941030	BAYWCII187*	MOD02971
	Indoor–BAA ^(a)		X13790963030	N/A	MOD03069
	Outdoor–BAA ^(a)		X13790964030	N/A	MOD03070
	Indoor 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
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) (2405–2480 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.
Power consumption	<2.5 VA
Indoor mounting	Mount the WCI backplate using self-drilling M3.5 x 20mm screws provided.
Outdoor mounting	<p>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.</p> 
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

WCI Dimensions



Agency Compliance

United States	<p>UL listed: UL 94, 5 VA flammability rating and UL916.</p> <p>Energy Management Equipment FCC CFR47, Sec. 15.247 & subpart E, Digital Modulation Transmission with no SAR (FCC ID: TPF-251701).</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.</p> <p>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.
Canada	<p>CSA-C22.2 No. 205-M1983 Signal Equipment Industry Canada (IC: 6178A-251701)</p> <p>Cet appareil est conforme à la partie 15 du règlement du FCC. Son fonctionnement fait l'objet des deux conditions suivantes : (1) Cet appareil ne produit pas de brouillages nuisibles, et (2) cet appareil doit pouvoir recevoir n'importe quel type d'interférence, y compris les brouillages pouvant occasionner un fonctionnement non désiré.</p> <p>Les changements et les modifications n'ayant pas été approuvés expressément par le fabricant comme étant conformes, pourraient rendre nulle le droit de l'utilisateur à faire fonctionner cet équipement.</p> <p>Remarque: Cet équipement a été testé et reconnu comme étant conforme aux limites des appareils numériques de classe B, tel qu'indiqué dans la partie 15 du règlement du FCC. Ces limites ont été établies afin de fournir un niveau de protection raisonnable contre le brouillage nuisible dans les installations résidentielles. Cet appareil produit, utilise, et peut aussi émettre des fréquences radioélectriques. Si celui-ci n'est pas installé et utilisé conformément aux instructions, il peut provoquer des brouillages nuisibles dans les communications radioélectriques. L'absence d'interférence n'est cependant pas garantie dans toutes les installations. Si cet équipement provoque des brouillages nuisibles dans la réception des communications radioélectriques ou de télévision (ceci pouvant être déterminé en allumant et en éteignant l'équipement), l'utilisateur est encouragé à essayer de corriger l'interférence en utilisant un ou plusieurs des moyens suivants :</p> <ul style="list-style-type: none"> • Réorienter ou changer l'emplacement de l'antenne réceptrice. • Éloigner l'équipement et le récepteur l'un de l'autre. • Brancher l'équipement à une prise de courant se trouvant sur un circuit différent de celui sur lequel le récepteur est branché. • Faire appel aux services du fournisseur ou d'un technicien radio/TV qualifié.
IEEE/radio frequency range	<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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