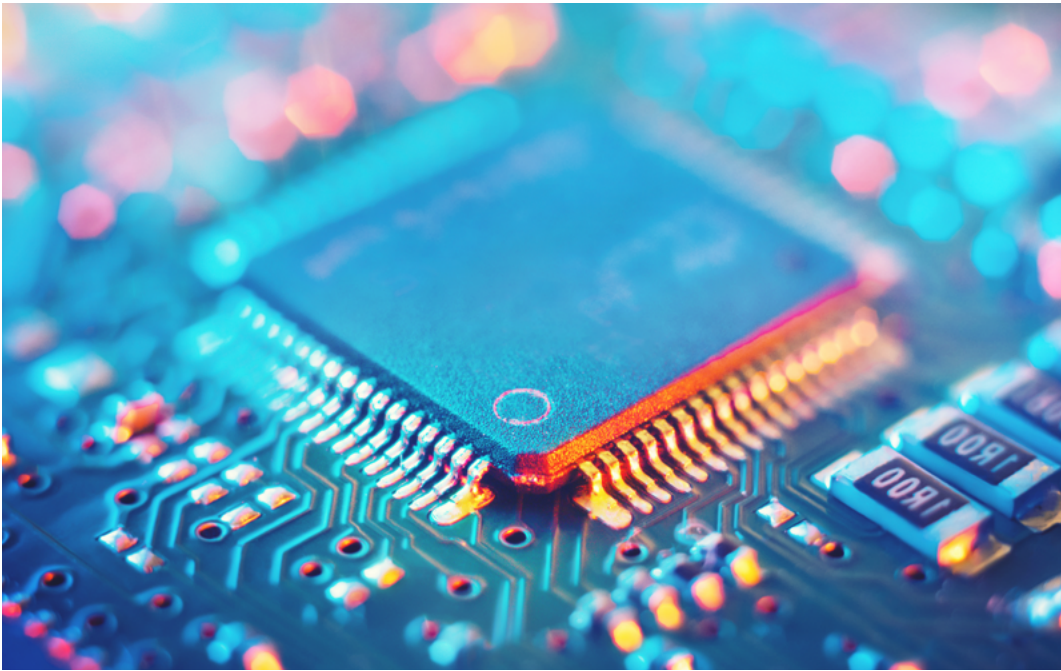# Trane Symbio® 800 Cybersecurity Summary

What is it?

The Trane Symbio® 800 unit controller is a factory-installed, application specific, and programmable hardware controller designed to control chillers, air-handlers, and large-packaged HVAC equipment. Tracer TD7 and TD12 are touch-sensitive color screens that provide the facility manager with at-a-glance operating status, performance monitoring, scheduling changes, and operating adjustments day-to-day. The TD display (7" and 12") is standard or optional depending on the type of equipment. The Symbio user interface (Symbio UI) provides a graphical web interface for the specific HVAC equipment setup and troubleshooting. It can be accessed using most modern web browsers via usb connection.

Endpoint Security

The Symbio 800 interfaces can be accessed in physical proximity via the Tracer TD display or via USB connection to access the Symbio UI. For access from outside your facility, it is recommended to use Trane® Connect™ remote access over HTTPS. Trane Connect is an initial outbound-only secure connection that uses WebSocket Authentication to connect to the Symbio controller.

Symbio 800 web user authentication and authorization are managed in the Symbio UI application. Symbio UI is a term for web pages that are served up from the USB service tool port of the Symbio 800 at address 198.80.18.1 through an optional USB cable to the technician's laptop.

A specific application-level permission can be assigned to individual users to limit access and abilities. As an example, individual permissions can allow a user to view, edit, add or delete data associated with specific equipment or specific buildings.

Network Security

Symbio 800 should be installed behind the customer's firewall. Connectivity between Symbio 800 and BAS controllers is via one of the following protocols: BACnet/IP (UDP port), BACnet MS/TP (Shielded Twisted Pair), BACnet/ Zigbee® (referred to as Trane Air-Fi® wireless communications, utilizing Zigbee wireless mesh network and optional USB radio), Modbus® TCP/IP (UDP port), Modbus RTU (Shield Twisted Pair), and LonTalk (via optional radio).

BACnet/IP is the most common communication protocol for building automation and control networks, and it uses specified UDP ports. The default port is UDP/47808. All the network connectivity options, and port designation are configurable for above-mentioned communication channels via Symbio UI.

Symbio 800 does not listen on any ethernet ports. Network security can be enhanced by limiting user access over the IP network, restricting access to HTTPS only, and disabling the user interface through a Web browser. The customer's IT staff should be consulted when setting up enhanced security.
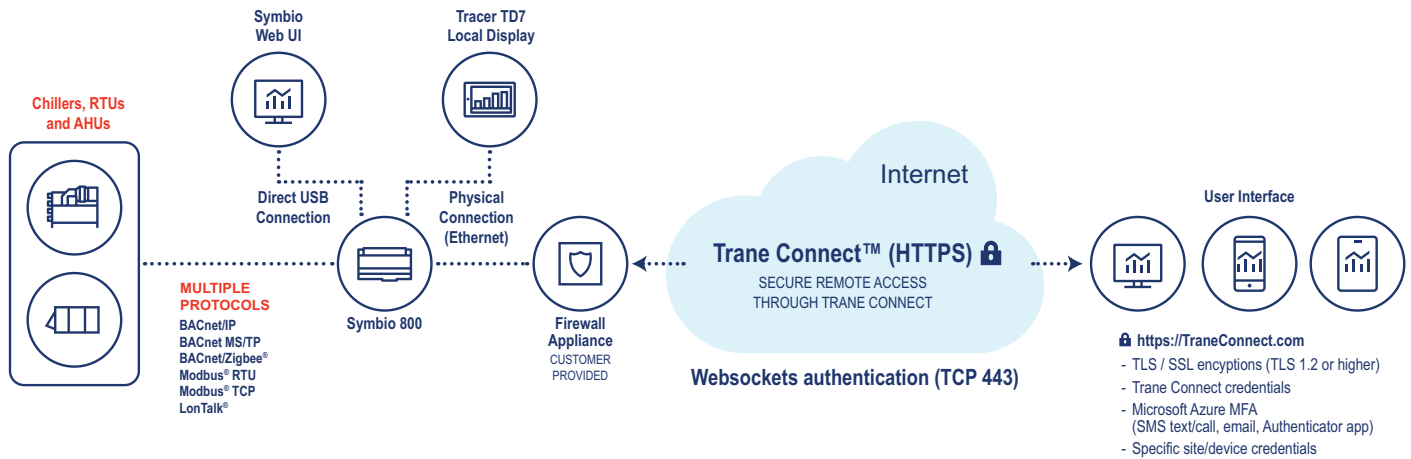
Data Privacy

Trane Technologies™ Company, LLC ("Trane Technologies") respects individual privacy and values the confidence of its customers, employees, vendors, consumers, business partners and others. To learn more about Trane Technologies Privacy Policies, please visit https://www.tranetechnologies.com/en/index/privacy-policy.html.

Data Security

Symbio 800 utilization of data is limited to HVAC machine data only. HVAC machine data is data generated and collected from the product or furnished service without manual entry. It is data relating to the physical measurements and operating conditions of a HVAC system, such as but not limited to, temperatures, humidity, pressure, HVAC equipment status. HVAC machine data does not include personal data, however, if any such user chooses to use his/her name(s) in the created accounts within the controls product (e.g.,firstname.lastname@address.com) such data may be used by Trane:

a. to provide better support services and/or products to users of its products and services;

b. to assess compliance with Trane terms and conditions;

c. for statistical or other analysis of the collective characteristics and behaviors of product and services users;

d. to backup user and other data or information and/or provide remote support and/or restoration;

e. to provide or undertake: engineering analysis; failure analysis; warranty analysis; energy analysis; predictive analysis; service analysis; product usage analysis; and/or other desirable analysis, including, but not limited to, histories or trends of any of the foregoing; and

f. to otherwise understand and respond to the needs of users of the product or furnished service. Our privacy policy as linked above covers how we manage personal data of customers.

Data Storage Information

Symbio 800 stores data on its embedded flash memory, and it can be set up to share data with Trane digital services per the customer's request.

Maintenance Considerations

Symbio 800 controller firmware and software are signed and encrypted. Controller backups can be stored on the device, on an installed micro-SD card, and external USB device. Symbio 800 supports automated controller backup. The controller backups are encrypted. New features are released semi-annually, while hotfixes and Service Packs are released as necessary. Trane recommends updating frequently to have the latest features and the latest cybersecurity updates. These updates are typically installed by the local Trane office.