



TRANE[®]



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Trane Building Advantage

Symbio Connect Control upgrade

Manage your HVAC equipment
performance from anywhere

TRANE
TECHNOLOGIES

Operate your equipment from anywhere... Trane Symbio Connect solution offers:

Full flexibility for operating and monitoring your HVAC equipment

Your time is tight and you need to manage, operate and monitor your HVAC equipment accordingly. Trane Symbio Connect uses our Symbio 800 controller with new generation hardware and a cloud infrastructure to streamline your workload.

Symbio 800 offers a range of communication protocols and flexible user interfaces to operate the equipment. A local graphic display provides a user-friendly interface for convenient operation. Embedded Internet protocol communication capability allows operation via web pages from anywhere.

Provide your equipment with a secure cloud connection

Trane Symbio 800 can be connected to the internet through your own company network, or through a 4G router. A firewall protects your equipment from malicious access. Symbio Connect upgrade offers a cloud based server for fully secure 24/7 access to your equipment.

Extend your equipment controller scope

Your HVAC equipment is surrounded by ancillaries which need to be controlled as well. Symbio Connect solution allows many of these ancillaries, sensors and actuators to be controlled and monitored directly from the Symbio 800 device through optional I/O expansion modules and custom programming.

Operate your Trane HVAC from anywhere:

Whether you are working on site or on the move, operating your Trane equipment has never been easier. Symbio 800 local UI (TD7) offers a full color graphic display of every key parameter while the Web Interface delivers same information through Web pages. You can access these pages using any web browser. Trane Connect cloud infrastructure secures the connection and provides authorized users access to summary dashboards on the fly and detailed pages on the equipment.



TD7 local display



Trane Connect dashboards



Local graphic user Interface



Trane Symbio 800 Controller



Remote web user interface

Symbio Connect offers full flexibility



- Improve performance
- Anticipate problems
- Protect equipment
- Avoid costly downtime

Connect your equipment to the cloud



- Operate your equipment either locally or remotely
- Access convenient dashboards remotely
- Save money by using Symbio 800 to control ancillaries
- Securely operate your equipment through Trane cloud

Trane Symbio Connect merges local and remote operations



Symbio Connect solution includes both hardware and IT infrastructure. The hardware is based on Trane Symbio 800 controller. This device can handle communication to Trane Plant controller or any third party BMS through standard protocols such as Modbus (RTU or TCP), BACnet (MS/TP or IP), LonTalk(option). It can also simultaneously serve secured web pages through HTTPS.

In order to secure remote connections, Symbio Connect includes a set of cloud services (Trane Connect), which easily connect to Symbio 800. The latest IT security technologies such as Open VPN, data encryption, or MFA are embedded on the system to prevent cyber attacks. Symbio 800 firmware can be easily upgraded should any security breach be uncovered.



Tracer™ SC System Controller



Seamless integration: Access your plant control remotely using a laptop, tablet or smartphone. Trane can provide custom graphics integration into your facility.



Get the Trane app on Tracer® BAS Operator Suite



Trane Plant Control Optimizer

Supported Communication Protocols

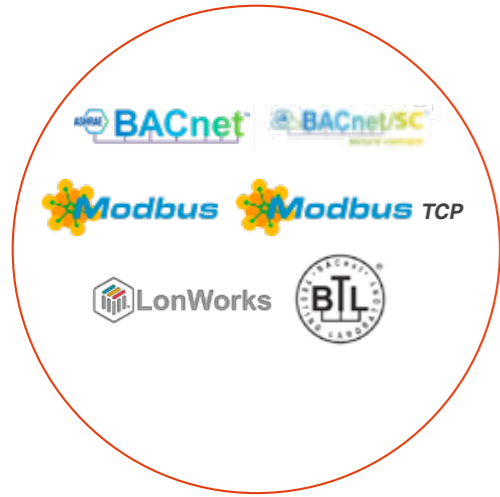


Custom Control Ancillary sensors & actuators

Secured Cloud connection

Local User Interface for advanced operation

Local User Interface for daily operation



Protocol support

Symbio Connect hardware supports many industrial standard protocols enabling Symbio 800 controller to be seamlessly integrated into Trane Plant Control solution or any third party BMS. In this way Symbio 800 can be easily integrated into any Plant Manager, such as Trane Tracer SC+.



Secured Cloud

Symbio Connect is the key to flexible operation of your HVAC equipment. While Symbio 800 local controller communicates with its peers on a local network, it establishes a secure connection to a cloud server so the user can access web pages anywhere, any time. Through this path, you can monitor live information, adjust daily parameters, run trend logs and adjust Time Of Day schedules.

All data displayed on the dashboards is maintained in the cloud and regularly updated.



Custom Control

Symbio Connect hardware, Symbio 800, offers full flexibility to address custom control of ancillary equipment or components. It can be equipped with I/O extension modules with custom applications developed by Trane using standard TGP2 programming language. This offers flexibility while avoiding the cost of adding a dedicated programmable controller and simplifies the overall control system architecture.



Trane Plant Control Optimizer

HVAC equipment always comes with lots of ancillaries. When it comes to optimizing system operation, Trane Plant Controller is the perfect solution. This application comes with pre-engineered control algorithms allowing it to operate as little equipment as possible to cope with the demand while optimizing energy usage. Many HVAC equipment configurations are included in the application, such as parallel units, series and pony machines. If your configuration is unique, Trane experts can adjust the standard control algorithm with custom programming.



Local user interface

TD7 user interface offers several ways of managing and controlling the unit:

- Part of the pages on screen is dedicated to monitoring the equipment and displaying daily control parameters such as setpoints or running mode commands.
- Information is grouped by logical sets with pages for entire unit running parameters and individual component parameters.

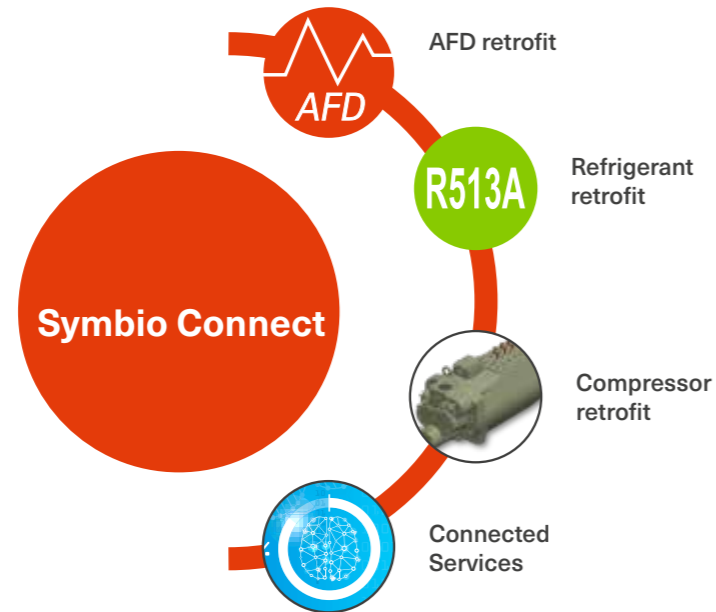
TD7 can also offer advanced features with:

- Diagnosis of equipment running performance
- Charting trend logs such as temperature variations
- Alarm tagging or event logging.



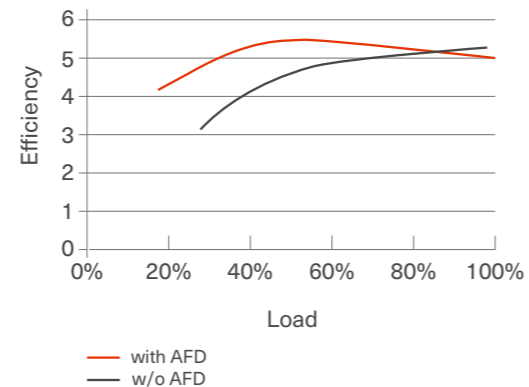
Much more than a control upgrade

A unit control upgrade does much more than display information and support diagnosis; it is the key component that enables further important performance enhancements including:



Adaptive Frequency Drive:

Saves up to 30% in energy costs by automatically adapting compressor speed to building load requirements. Trane will add one adaptive frequency drive on each circuit, increasing your unit part load performances by up to 50%. In addition, the operation of your equipment will be smoother at low loads avoiding stop start and increasing compressor life.



Refrigerant retrofit:

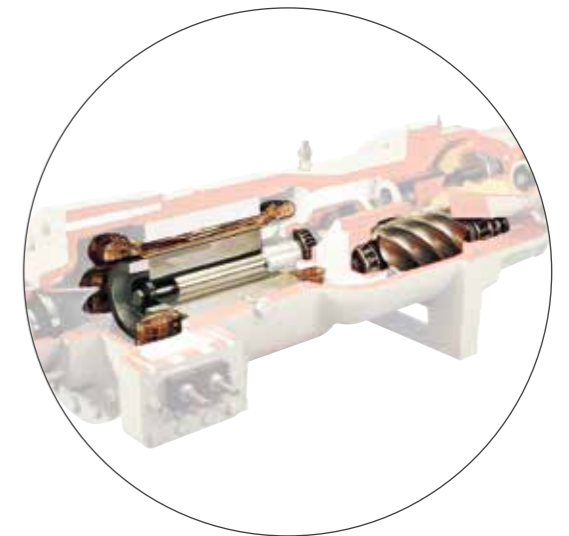
While pressure grows on price and availability of R134a, a refrigerant retrofit will have the added advantages of dramatically reducing the GWP of a unit and therefore reducing its equivalent carbon footprint.

	R134a	R513A	R1234ze
GWP	1300	573	0
Equivalent CO ₂ footprint for 100 kg of refrigerant	130 ton of CO ₂	57 ton of CO ₂	0 ton of CO ₂

Compressor retrofit:

Take advantage of the latest Trane compressor technology for increased performance and a 5% efficiency gain:

- Improved motor cooling
- Reduced pressure drop.



Connected Services:

- Manage your equipment from anywhere
- Get real time notifications
- Build up your own dashboards in the cloud to display your chosen KPI's.



Trane continuous unit improvement

Because Trane equipment is built to last, we propose upgrades on a wide range of units. The upgrade starts with control and can be expanded with Adaptive Frequency Drive, compressor, refrigerant or connected services.

We apply new technology on 15+ year old units, so you can increase your unit performance while your organization is aiming to minimize its environmental footprint.



Unit	RTAC	RTAD	RTAF	CGAM	CGAX	CGAF
Symbio 800	-	-	x	-	1Q 2023	x
AFD*	x	x	x	-	-	-
Refrigerant*	x	x	x	-	-	-



Unit	RTHC	RTHD	RTWB	RTWD	RTWF	RTHF
Symbio 800	-	4Q 2022	-	x	x	3Q 2022
AFD*	x	x	x	x	x	x
Refrigerant*	-	-	x	x	x	-

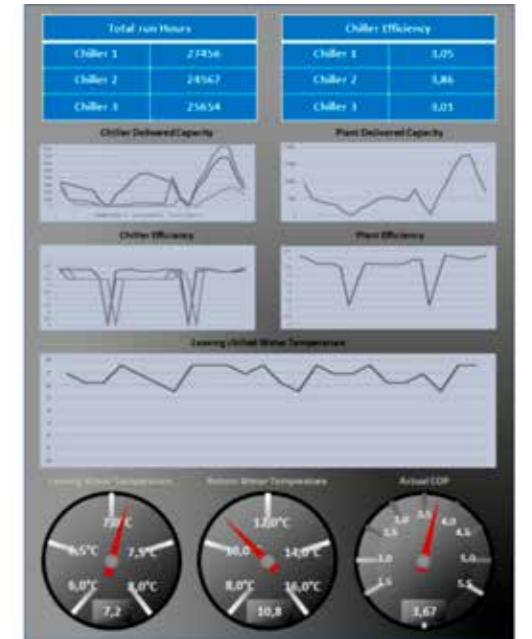


Unit	GVAF	RTSF	CTV	GVWF
Symbio 800	x	x	x	x
AFD*	-	-	-	-
Refrigerant*	x	x	x	x

* Requires Adaptview upgrade

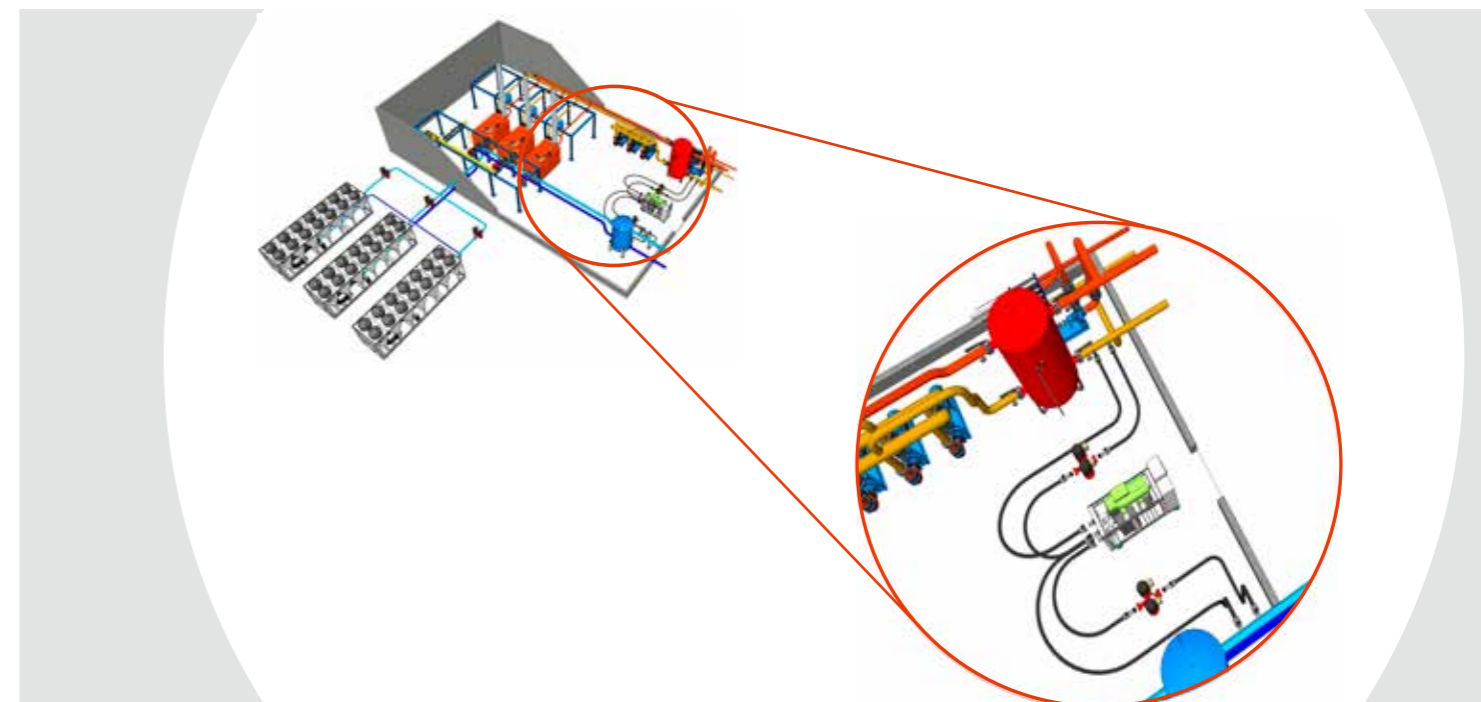
Upgrading your HVAC equipment? Think bigger

While upgrading your unit control, you might consider upgrading your installation. With a new control, you will have access to more information leading to better control of your installation. With Trane Tracer SC+, Trane can help improve the overall performance of your HVAC by managing your plant based on unit efficiency pattern. Dedicated dashboards are pre-engineered to give a real time insight into your system's operation.



Electrification of heating

Trane has become a leader in heating solutions. We can turn your HVAC system into an extremely efficient heating system by leveraging the energy that is available on the hot side of your units. Trane has many solutions including hot water production up to 125°C. These initiatives will deliver energy savings, cost avoidance and carbon footprint reduction. In many cases, these solutions allow you to qualify for subsidies.





Trane Services

The real expertise of a manufacturer



- Systems approach
- Dependable installations
- Energy saving solutions
- Operating cost optimization
- HVAC plant management solutions
- Chilled and hot water production solutions.

At Trane, we are committed to providing a comprehensive portfolio of HVAC solutions throughout your system lifecycle.



Breakdown resolution

No one plans for breakdowns, but when they happen you need the right partner. Our expert Service Engineers use the latest diagnostic tools to guide you through your options to Repair, Renew, Replace or ReThink.



Secure operations

At every point during the lifetime of your equipment - installation, commissioning, maintenance or breakdown - Trane can offer an effective solution with commissioning, first-aid kits and service agreements.



System upgrade

Trane Building Advantage

Trane is committed to bringing the latest technological advantages to our customers through a wide portfolio of solutions which increase the Efficiency, Reliability and Sustainability of their HVAC plants. Our Service Engineers use their expertise together with the latest diagnostic tools to future-proof your system and make it "better than before".



Equipment rental

For special events, exceptional needs or when you want to ReThink HVAC management, Trane Rental Services have the right solution. With our extensive fleet of equipment, we can perfectly match your temporary heating and cooling requirements.



Contact us

With over 1000 of the best trained sales engineers and service technicians in the industry, Trane is in the best position to serve your needs. Just call us and we will help you configure the Trane Free Cooling solution for your HVAC system.



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit trane.eu or tranetechnologies.com.