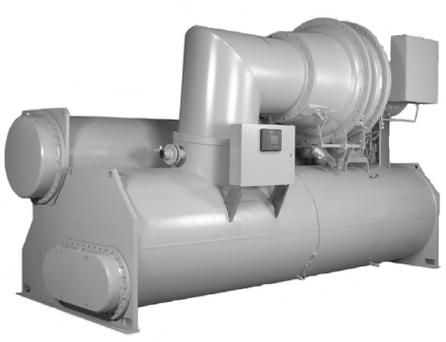
TRANE®

LCI-C Data Sheet

LonTalk® Communication Interface for Chillers



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Trane Open Solution

Today's building professionals demand products that enable them to design and install open solutions. In response, Trane offers equipment, controllers, and systems that fully support open protocols. More importantly, Trane offers the system integration knowledge to combine products and services into answers that meet a variety of needs. As an HVAC leader, Trane knows and understands HVAC equipment. This knowledge and expertise make Trane uniquely qualified to control equipment for the most efficient operation within the building automation system. While some applications demand open communication, many building owners find an all Trane system best meets their needs. Trane controls and HVAC components are designed to work together, resulting in easier commissioning and start-up. In ongoing operation, there is a single source available for parts and service. With support for standard industry protocols built in, a total Trane system is still open for auxiliary systems and future building options. Whether a specific application calls for a single source supplier, or complex system integration, Trane can deliver a solution.

LonTalk® Communication Interface for Chillers (LCI-C)

The optional LCI-C, available factory installed or field retrofitted, is an integrated communication board that enables the chiller controller to communicate over a LonTalk network. While monitoring alarms and status, the LCI-C is capable of controlling chiller setpoints and operating modes. The Trane LCI-C adds, to the standard chiller profile, an additional set of points to satisfy a broader range of system interoperable applications. These added points, or open extensions, build on the standard LonMark® chiller profile. The LCI-C is certified to the LonMark Chiller Controller Functional Profile 8040 version 1.0 and follows LonTalk FTT-10A free topology communications.

Trane Water Chiller Overview

Trane water chillers are designed for comfort cooling, process cooling and ice-making applications. All Trane chillers utilize direct digital control (DDC) to provide accurate, reliable control and protection. The following chiller models have LonTalk® certified profiles:

Water-cooled CenTraVac™ liquid chiller

- Models CVHE, CVHF and CDHF (170-3950 tons)
- Models CVHG, CVGF and CDHG (170-2500 tons, international only)
- Centrifugal compressor

Reference Trane catalog, CTV-PRC007-EN

Water-cooled Series R™ liquid chiller

- Model RTWA and RTUA (70-125 tons)
- Model RTWD (70-150 tons)
- Model RTHD (175-450 tons)
- Helical-rotary (screw) compressor

Reference Trane RTWA catalog, RLC-PRC027-EN
Reference Trane RTWD catalog, RLC-PRC029-EN
Reference Trane RTHD catalog, RLC-PRC020-EN

Air-cooled Series R™ liquid chiller

- Model RTAA (70-125 tons)
- Model RTAC (140-500 tons)
- Model RTXA+ (70-200 tons) for China only
- Helical-rotary (screw) compressor

Reference Trane RTAA catalog, RLC-PRC016-EN
Reference Trane RTAC catalog, RLC-PRC006-EN

Water-cooled and air-cooled Scroll liquid chiller

- Model CGWF and CCAF (20-60 tons) water-cooled
- Model CGAF (20-60 tons) air-cooled
- Model CGWH, CGWN, CGAN, and CGCL (15-130 tons, international only)
- Model CGAM, CXAM (20-170 tons) air-cooled
- Scroll compressor

Reference Trane CGWF and CCAF catalog, CG-PRC012-EN
Reference Trane CGAF catalog, CG-PRC007-EN

	Water Cooled Centrifugal		Air and Water Cooled Screw					Air and Water Cooled Scroll			
Variable Name	CDHF/CDHG CH530	CVHE/CVHF CVHG/CVGF CH530/531	RTHD CH530	RTAC CH530	RTWD CH530	RTXA+ CH530	RTAA/RTWA RTXA/RTUA UCM	CGWF CCAF CH530	CGAF Intellipak	CGWH/CGWN CGUH/CGUN CGAN/CGCL CH530	CGAM/CXAM CH530
Program ID revision	02	02	04	06	09	05	08	03	07	03	0A
Inputs											
Chiller Enable/Disable Command	X	X	X	X	X	X	X	X	X	X	X
Chiller Mode [9, 10]	X	X	X	X	X	X	X	X	X	X	X
Base Loading Auto/On Request	X	X	X								
Base Loading Setpoint Input	X	X	X								
Chilled Water Setpoint	X	X	X	X	X	X	X	X	X	X	X
Current Limit Setpoint	X	X	X	X	X	X	X	X	X	X	X
Heating Setpoint	X[11]	X[11]			X[11]	X	X[1]			X[11]	X
Noise Reduction Auto/On Request					X	X					X
Heat Recovery Auto/On Request											X
Heat Recovery Water Temperature Setpoint											X
Outputs											
Evaporator Water Pump Request	X	X	X	X	X	X	X	X	X	X	X
Condenser Water Pump Request	X	X	X		X		X	X		X	
Evaporator Water Flow Status	X	X	X	X	X	X	X	X	X	X	X
Condenser Water Flow Status	X	X	X		X		X	X		X	
Evaporator Flow Rate [4]	X	X								X	
Condenser Flow Rate [4]	X	X								X	
Evaporator Leaving Water Temp	X	X	X	X	X	X	X	X	X	X	X
Evaporator Entering Water Temp	X	X	X	X	X	X	X	X	X	X	X
Condenser Entering Water Temp	X	X	X		X		X	X		X	
Condenser Leaving Water Temp	X	X	X		X		X	X		X	
2nd Condenser Entering Water Temp [7]		X									X
2nd Condenser Leaving Water Temp [7]		X									X
Evaporator Refrigerant Temp/circuit	X	X	X	X	X	X	X	X	X	X	X
Evaporator Refrigerant Press/circuit	X	X	X	X	X	X	X	X	X	X	X
Condenser Refrigerant Temp/circuit	X	X	X	X	X	X	X	X	X	X	X
Condenser Refrigerant Press/circuit	X[5]	X[5]	X	X	X	X	X	X	X	X	X
Refrigerant Discharge Temp/circuit	X[6]	X[6]	X		X						
Outdoor Air Temperature				X	X	X	X	X	X	X	X
Condenser Fan Running Output							X	X	X		
Condenser Control Output			X		X						
Condenser Airflow				X	X		X	X	X	X	X
Active Chilled/Hot Water Setpoint	X	X	X	X	X	X	X	X	X	X	X
Active Current Limit Setpoint	X	X	X	X	X	X	X	X	X	X	X[13]
Active Baseloading Setpoint	X	X	X								
Head Relief Request	X	X	X		X						
Compressor Running Output	X	X	X	X	X	X	X	X	X	X	X
Maximum Capacity	X	X		X	X	X	X	X	X	X	X
Noise Reduction Mode					X	X					X
Defrost Mode						X					X
Alarm Description [2]	X	X	X	X	X	X	X	X	X	X	X
Run Modes	X	X	X	X	X	X	X	X	X	X	X
Operating Modes [9, 10]	X	X	X	X	X	X	X	X	X	X	X
State (Alarm, Run, Local, Limited)	X	X	X	X	X	X	X	X	X	X	X
Base Loading	X	X	X								
Hot Gas Bypass [8]		X						X	X		
Actual Capacity (% RLA)	X	X	X	X	X	X	X	X	X	X	X[14]
Current per Line	X	X	X	X	X	X	X	X	X		
Voltage per Phase	X	X	X	X	X	X	X				
Power per compressor (kW)	X	X			X[12]						
Oil Temp per Compressor	X	X		X		X	X				
High Side Oil Pressure/compressor	X	X	X	X	X	X					
Low Side Oil Pressure/compressor	X	X									
Compressor Starts	X	X	X	X	X	X	X	X		X	X
Compressor Run Time	X	X	X	X	X	X	X	X		X	X
Purge Status [3]	X	X									
24 Hour Pumpout Average/circuit	X	X									

	Water Cooled Centrifugal			Air and Water Cooled Screw					Air and Water Cooled Scroll		
Variable Name	CDHF/CDHG CH530	CVHE/CVHF CVHG/CVGF CH530/531	RTHD CH530	RTAC CH530	RTWD CH530	RTXA+ CH530	RTAA/RTWA RTXA/RTUA UCM	CGWF CCAF CH530	CGAF Intellipak	CGWH/CGWN CGUH/CGUN CGAN/CGCL CH530	CGAM/CXAM CH530
Program ID revision	02	02	04	06	09	05	08	03	07	03	0A
Heat Recovery Command Percent											X
Supplemental Heater Percent											X

Notes:

1. Heating setpoint is available only on RTXA
2. Alarm Description denotes alarm severity and description of event
   Severity: no alarm, warning, normal shutdown, immediate shutdown
3. Regenerating, refrigeration circuit on, pumping out

Unit Requirements:

4. Variable flow compensation
5. Based on termperatures without enhanced protection package
6. Enhanced protection package
7. Heat recovery or auxilary condenser
8. Hot gas bypass
9. Free cooling
10. Chiller should be selected for ice making
11. Leaving condenser water temperature control
12. Power meter
13. Capacity Limit
14. Percent of compressor running

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