



General Service Bulletin

Tracer™ CH530/CH531 Pluggable Connector System Product Code: 0064 (PART)

ATTENTION: Warnings, Cautions, and Notices appear at appropriate sections throughout this literature. Read these carefully:

- ⚠ WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 - ⚠ CAUTION** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
 - NOTICE:** Indicates a situation that could result in equipment or property-damage only accidents.
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⚠ 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.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury. All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in NEC and your local/state electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Installing/servicing this unit could result in exposure to electrical, mechanical and chemical hazards.

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Material Safety Data Sheets (MSDS)/Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate MSDS/SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

Failure to follow instructions could result in death or serious injury.

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Revision History

PART-SVB16C-EN (22 Jun 2015)

- Part number and graphic updates

Introduction

The purpose of this bulletin is to advise field service technicians of a change associated with Tracer™ CH530/CH531 chiller controllers. This literature piece provides an overview to the new system and illustrates the various components utilized in a typical system. This new connector system began to ship on La Crosse, Pueblo, and Global Parts CH530/CH531 products in second quarter of 2006.

This service bulletin is informational only and does not authorize any parts or labor.

Typical product applications include La Crosse Simplex and Duplex™ CenTraVac™ chiller products: CVHE, CVHF, CVHG, CDHF, CDHG, Pueblo: RTAC, RTHD, CGWF, CCAF, and Global Parts: Earthwise™ purge PRGD and CVRD chiller controllers. This bulletin does not address a safety concern, only a product change.

The new connector system will be installed on units with the following design sequence. Refer to digit 10 and 11 in the model number for the unit design sequence.

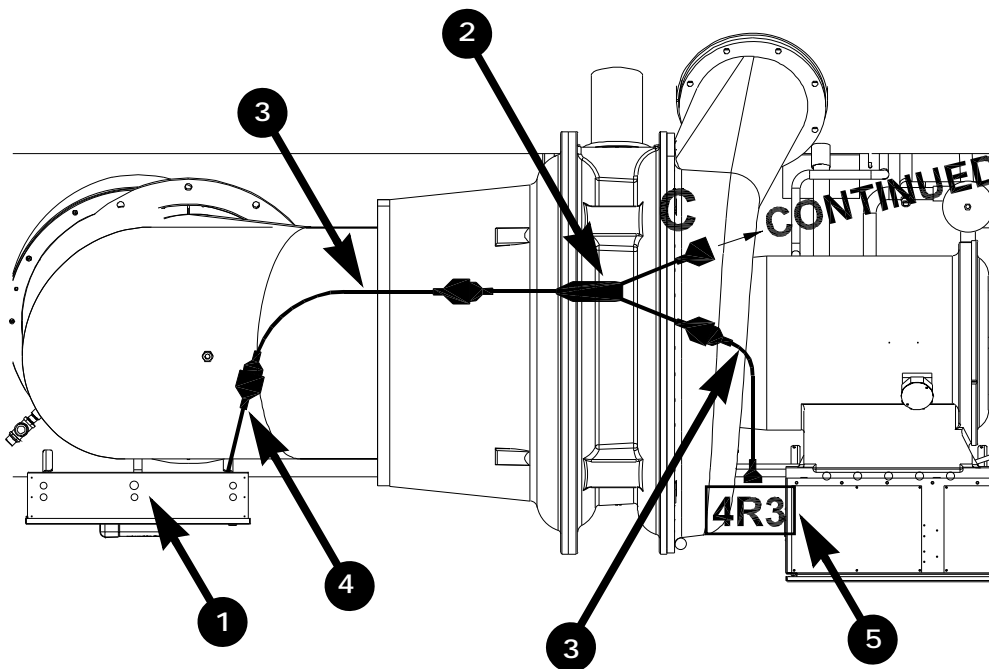
CVHE	-	4F and later
CVHF	-	2W and later
CVHG	-	2M and later
CDHF	-	1J and later
CDHG	-	1J and later
CCHC	-	2A and later (China direct drive)
CCGC	-	B0 (China gear drive)
CVRD	-	F0 and later
PRGD	-	E0 and later
RTAC	-	N0 and later (Pueblo)
RTHD	-	H0 and later (Pueblo)
CGWF/CCAF	-	D0 and later

Discussion

- This bulletin will:
- Explain product changes.
- Identify the various components which make up the new unit wiring system. Use it to identify parts for units that have been changed to the new system.
- Illustrate a typical system of components.

This literature piece is informational only and written to inform parts and service personnel of a product change.

Figure 1. Example of new IPC routing



1. Control Panel
2. CAB01146 - Branching harness, male to 2 female
3. CAB01149 - Short extension, male to female
4. CAB01155 - Extension, leads to female
5. TDR00334 - Transducer

Parts Information

Use the following reference table to familiarize yourself with the various parts of the new unit wiring system.

Table 1. Identification of parts

Description	Figure	Part Number
Branching harness, male to 2 female, 19.69 in (500 mm)	Figure 2, p. 5	CAB01146
Branching harness, male to 2 female, 39.37 in (1000 mm)	Figure 3, p. 5	CAB01147
Branching harness, male to 3 female, 19.69 in (500 mm)	Figure 4, p. 5	CAB01148
Short extension, male to female, 39.37 in (1000 mm)	Figure 5, p. 5	CAB01149
Long extension, male to female, 78.74 in (2000 mm)	Figure 6, p. 5	CAB01150
Extension, male to stripped leads, 39.37 in (1000 mm)	Figure 7, p. 5	CAB01152
Extension, female to stripped leads, 39.37in (1000 mm)	Figure 8, p. 5	CAB01155
Frame to panel LLID adapter, male to white LLID connector, 39.37 in (1000 mm)	Figure 9, p. 5	CAB01151
Frame to panel LLID adapter, male to white LLID connector, 78.74 in (2000 mm)	Figure 9, p. 5	CAB01153
Frame to panel LLID adapter, female to white LLID connector, 39.37 in (1000 mm)	Figure 10, p. 6	CAB01154
Actuator, stepper drive for CTV inlet vanes	Figure 11, p. 6	ACT00680
Temperature Sensor - Standard range	Figure 12, p. 6	SEN02133
Temperature Sensor - High range, Purge regeneration	Figure 12, p. 6	SEN01960
Pressure transducer - Low range (0–50 psi), CTV	Figure 13, p. 6	TDR00495
Pressure transducer - Standard Range (0–475 psi), RTAC, RTHD, CGWF, CCAF	Figure 13, p. 6	TDR00354
Liquid level sensor, RTAC, RTHD	Figure 14, p. 6	SEN02128 ^(a)
Electronic expansion valve, EXV, RTHD, RTAC	Figure 15, p. 6	See CATS ^(b)
White 4-place screw terminal connector	Figure 16, p. 6	^(c)
Adapter Kit, four flat wire harness female connector kit	Figure 17, p. 7	KIT12559
Adapter Kit, four flat wire harness male connector kit	Figure 18, p. 8	KIT13723
Cable for communication and power, 18 AWG, 4 conductor round jacketed, twisted non-paired configuration, 600 Vac, 150 ft (45 M) roll, bare leads on both ends to be used for remote starters, etc.	no image	CAB01163

(a) May require ADP01123 for first-time change-out.

(b) There are several expansion valves that replace the group of expansion valves. Use the complete unit model number and the CATS™ parts identification system to determine which LLID replaces the original parts. Like the original expansion valves these new valves have replacement motor parts. These are detailed in the notes associated with the new LLID part numbers.

(c) Procure locally.

New connector system:

- Aesthetically pleasing.
- Automotive industry grade.
- Sealed connector system.
- Easier connection for factory and field.
- Repeated manual dis-connection and re-connection allowed.
- No special tools required with new system.
- Supports take apart machines, supports water box removal, supports unit bus troubleshooting circuit breakdown.
- Has plug to flat wire adapters available for new LLIDs with plugs to connect to old comm bus. Or, old LLIDs can be connected to new comm bus.
- Okay to paint.

As with the existing IPC system there are proper techniques to follow:

- Do not leave unused female or male plugs on harness; use correct piece.
- Do not cut off unused plugs. An unused plug means you did not select the right parts.
- Do not tie wrap over the plug latch as this could allow plugs to separate.
- Do not attempt to repair a plug, piece parts are not available; only replacement cable assemblies are available, as listed in this literature.

WARNING

Hazardous Voltage!

Failure to disconnect power before servicing could result in death or serious injury. Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized.

Important: Do not disconnect these plugs with the IPC powered up, as this will cause communications diagnostics, and shutdown of an operating chiller.

Figure 2. CAB01146 - Branching harness, male to 2 female, 19.69 in. (500 mm)



Figure 3. CAB01147 - Branching harness, male to 2 female, 39.37 in. (1000 mm)



Figure 4. CAB01148 - Branching harness, male to 3 female, 19.69 in. (500 mm)



Figure 5. CAB01149 - Short extension, male to female, 39.37 in. (1000 mm)



Figure 6. CAB01150 - Long extension, male to female, 78.74 in. (2000 mm)



Figure 7. CAB01152 - Extension, male to stripped leads, 39.37 in. (1000 mm)



Figure 8. CAB01155 - Extension, female to stripped leads, 39.37 in. (1000 mm)



Figure 9. CAB01151 or CAB01153 - Frame to panel LLID adapter, male to white LLID connector



Figure 10. CAB01154 - Frame to panel LLID adapter, female to white LLID connector, 39.37 in. (1000 mm)



Figure 11. ACT00680 - Actuator, stepper drive for CTV inlet vanes



Figure 12. SEN02133 or SEN01960 - Temperature sensor - high and standard range

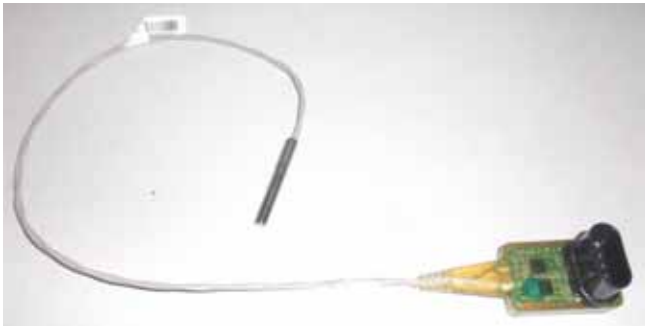


Figure 13. TDR00355 or TDR00354 - Pressure transducer - low and standard range



Figure 14. SEN02128 - Liquid level sensor



Figure 15. Electronic expansion valve



Figure 16. Procure locally - White four place screw terminal connector (used on CTV Industrial option INDP)

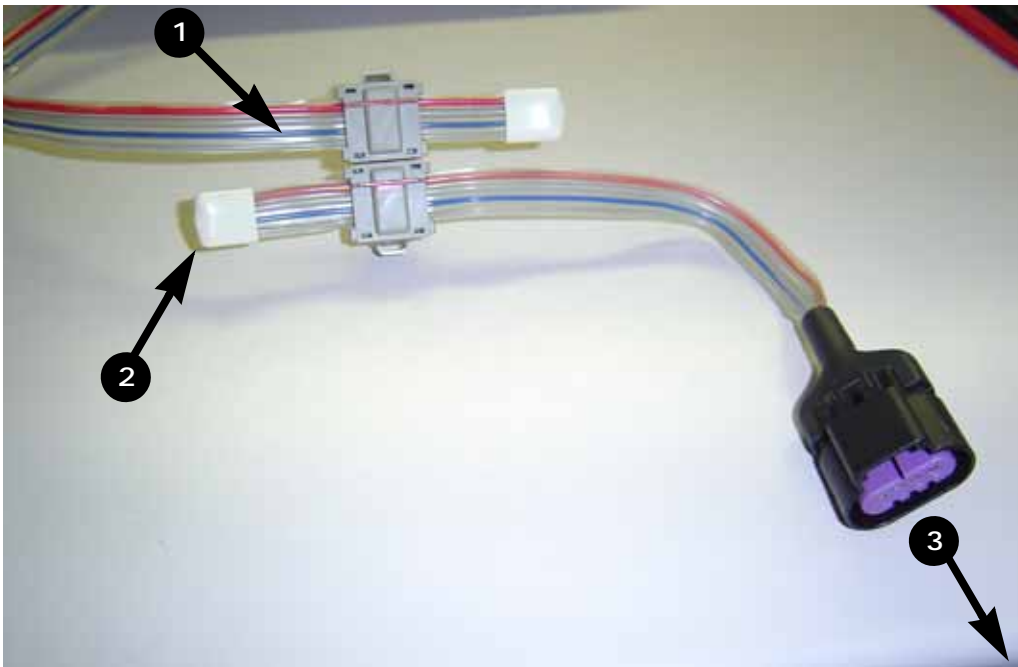


Connect a New Sensor to Existing Four-Wire Bus

The original design flat wire LLIDs will remain available for a short time. The following adapter kits will be available for connecting various configurations of old or new LLIDs and

cable. When the flat wire LLIDs are no longer available, the PRIDE™ distribution system along with CATS™ parts identification system will substitute to the newer LLIDs having the pluggable connector. There will be notes that specify that an adapter kit may be needed to connect to the flat wire bus. The adapter kit will NOT ship in the package with the new LLIDs.

Figure 17. KIT12559 - Adapter Kit, four flat wire harness female connector kit



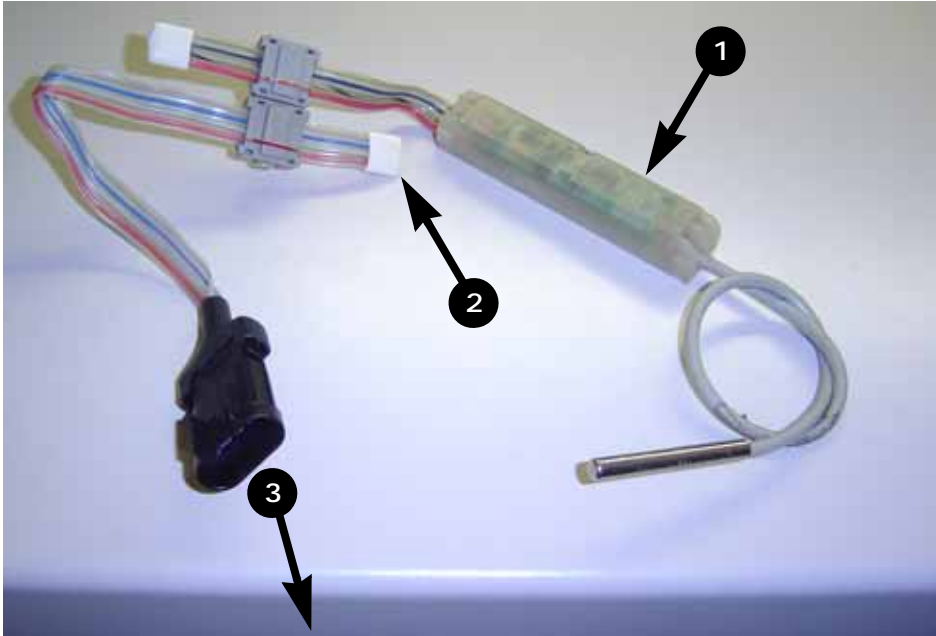
Kit includes female adapter butterfly connector and two white caps.

1. Existing LLID bus wiring
2. White cap
3. Connect adapter to new LLID

Use a butterfly connector to connect adapter. Always install white caps to prevent problems due to moisture. Use ADH00038 to install caps.

Connecting an Existing LLID to the Pluggable Connector System

Figure 18. KIT13723 - Adapter Kit, four flat wire harness male connector kit



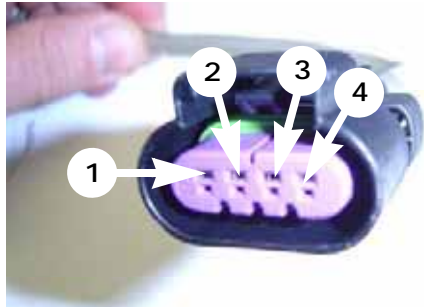
Kit includes male adapter butterfly connector and two white caps.

1. Existing LLID
2. White cap
3. Connect adapter to new bus

Use a butterfly connector to connect adapter. Always install white caps to prevent problems due to moisture. Use ADH00038 to install caps.

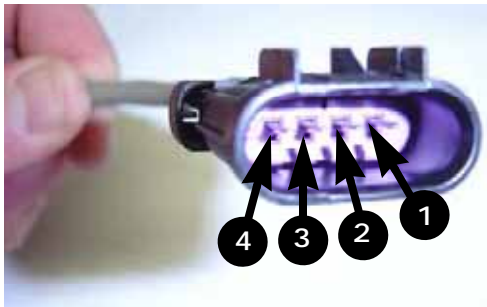
Plug Wire Identification

Figure 19. Female Plug wire identification (Wire color referenced to round cable)



1. IPC - (Gray)
2. IPC + (Blue)
3. Grd (Blk)
4. 24 Vdc (Red wire)

Figure 20. Male Plug wire identification (Wire color referenced to round cable)



1. IPC - (Gray)
2. IPC + (Blue)
3. Grd (Blk)
4. 24 Vdc (Red wire)

Product Changes

Units built with the design sequence listed below or later have the new connector system installed. Refer to digits 10 and 11 of the unit model number.

CVHE	- 4F and later
CVHF	- 2W and later
CVHG	- 2M and later
CDHF	- 1J and later
CDHG	- 1J and later
CCHC	- 2A and later (China direct drive)
CCGC	- B0 (China gear drive)
CVRD	- F0 and later
PRGD	- E0 and later
RTAC	- N0 and later (Pueblo)
RTHD	- H0 and later (Pueblo)
CGWF/CCAF	- D0 and later

Questions

Contact the Product Technical Service department with questions regarding this Service Bulletin. They can be reached at:

La Crosse	techservice@trane.com Products: CVHE, CVHF, CVHG, CDHF, CDHG, and PRGD
Pueblo	techservicepueblo@trane.com Products: RTHD, RTAC, CGWF, and CCAF
Global Parts	atechnicalservice@trane.com Products: Global Parts PRGD and CVRD



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RT-SVN10B-EN (02 May 2008)

