Service Alert

Tracer CH530 / CH531 Electronic Modules (LLID) Failures

Order No: CTV-SVA05A-EN Date: June 23, 2003

This service alert contains preliminary information. An investigation is underway to verify the situation. If confirmed, we will issue a service bulletin with full details and any required corrective action. Regardless of the outcome, this service alert is cancelled 60 days from the issue date.

To: District Managers
District Service Managers
Parts Center Managers

From: Jerry Tripp, Jeff Rasor, and Charlie Lipke
La Crosse, Pueblo and Aftermarket Technical Service

Introduction

The purpose of this communication is to alert your organizations to a problem we have begun to investigate. It is a problem that has just recently appeared in the field but we want you to be prepared to watch for it. In addition, we will need your help to document any problems that do appear.

Typical product applications involved in this alert include the Tracer™ CH530 chiller controller family of La Crosse and Pueblo chillers. This also includes the Aftermarket products like Earthwise™ purge and CH531 controls. The action discussed in this alert is related to chiller reliability. The CH530 DynaView/EasyView and Starter module are not included in this problem so this is a chiller reliability issue and not considered a safety concern.

Thus far our experience shows that microprocessors most often fail on initial power up of the controls within the first few hours with some failing in four days and possibly longer. Do not replace LLID's that are functioning fine unless directed to do so by appropriate Technical Service group. The scope of this problem is still being defined.

Discussion

⚠ WARNING

Hazardous Voltage!

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

The problem we are investigating relates to the potential component failure on some of the CH530 LLIDs. Two criteria must be met in order for a LLID to be considered suspect. First the LLID date code must be within the range shown in Table 1. If this is true then the microprocessor date code must have a date code of 0305. Note that there are a large quantity of microprocessors with a date code of 0305 that are perfectly okay. Again, both the LLID date code and the microprocessor date code must be looked at to determine if this is a suspect LLID.

Table 1 - LLIDs involved included in this action

Part # on LLID	Trane Service #	Description	TechView Min Date Code	Max Date Code	LLID Code Label (White Sticker)
X13650726-06	SEN00981	Temperature Sensor, standard	1031100000	1031400483	0311-0314
X13650910-02	SEN01068	High Temperature Sensor	1031100002	1031200022	0311-0312
X13650728-04	BRD02096	Dual binary input	1031300000	1031400263	0313-0314
X13650729-03	BRD02103	Dual high voltage binary input	1031100000	1031300100	0311-0313
X13650731-04	BRD02095	Dual analog I/O	1031200000	1031200209	0312-0312
X13650733-05	BRD02098	Dual relay output	1031100000	1031300133	0311-0313
X13650734-04	BRD02097	Dual triac output	1031100173	1031300488	0311-0313
X13650796-03	SEN00982	Level sensor input (Pueblo)	1031100000	1031500004	0311-0315
X13650806-03	BRD02099	Quad relay output	1031100347	1031400461	0311-0314
X13650902-01	MOD01214	High power relay output	1031200001	1031300053	0312-0313

Those parts not affected include: DynaView/EasyView, Starter, pressure transducers, Rockwell/Trane AFD communications card, Triple winding temperature input, Dual Inverter Interface, Comm3, Comm 4, Comm 5, Inlet Guide Vane Actuator, and power supply. Expansion valves remain under investigation.

PARTS CENTER STOCK

After June 3, 2003 all parts that have been shipped from the La Crosse warehouse are outside of the suspect date codes. If a parts center has local stock of these parts that were obtained after mid March 2003 and before June 3, we would suggest a stock check be completed using component marking information from this alert to sort out any possible defective parts. At this time we would suggest that these parts not be used for any repairs.

SYMPTOMS

- Loss of communication with a specific LLID
- Loss of communication to most or all LLIDs.(where the failed LLID is pulling down the entire communication bus)
- Service LED went on with magnet, but did not stay on when removed magnet
- Bound okay, but then lost binding. May or may not rebind.
- If rebound, possible loss of binding at a future time
- Service LED or output goes on and off on its own.
- A power cycle seems to make the failure go away for a while. It most likely will fail again with time. Could be a non-recoverable failure at some time.
- Corrupted memory data like a hardware part number or LLID date code with all zeros or random data (as viewed with TechView).

Thus far our experience shows that the microprocessor most often fails on initial start-tup of the controls, typically within the first few hours after power application. If you experience these symptoms follow the troubleshooting procedures below.

TROUBLESHOOTING PANEL MOUNTED LLIDs

- Use TechView version 7.01, and JAVA JRE 1.4.1_02 (posted 6/10/03)
- Inspect the IPC buss and connectors to be sure they are not the cause.
- Check the date code per Table 1 on the LLID sticker (may contain defective microprocessors, see figures 1 & 2). If the component has suspect LLID code then check the microprocessor part for date code 0305 (see figure 3) and replace the LLID only if it has both (suspect LLID and 0305 microprocessor). LLIDs like temperature sensors are referred to as Frame Mounted and the method for checking date codes is described later in this alert.
- Or, LLIDs with green status in binding view communicate the LLID date code to TechView. The LLID date code when viewed via TechView's Binding View will display a 10311 to 10315, look at the 2nd through 5th digits to determine if LLID has suspect date code (reference Table 1).
- LLIDs with red status in binding view are not communicating and need to be checked for proper IPC buss connections and replaced as necessary.
- Cycling the control power to the unit in order to reset the system will sometimes temporarily restore operation.

DATE CODE INFORMATION

Figure 1 - LLID Date Code Label.

Determine date code of suspected LLID. (Example here is 0214:
02 = 2002
14 = 14th week)

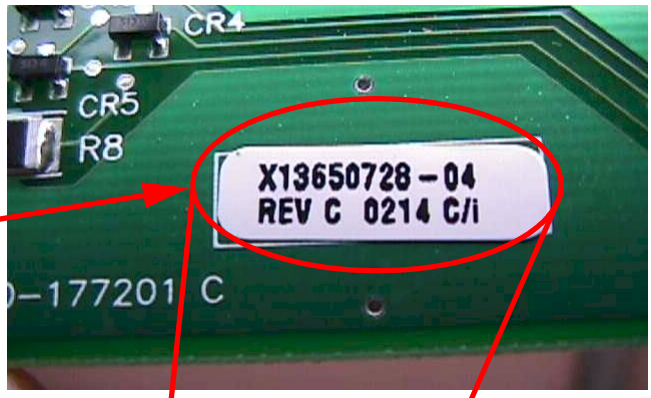


Figure 2 - Panel mounted LLID PCB date code example.

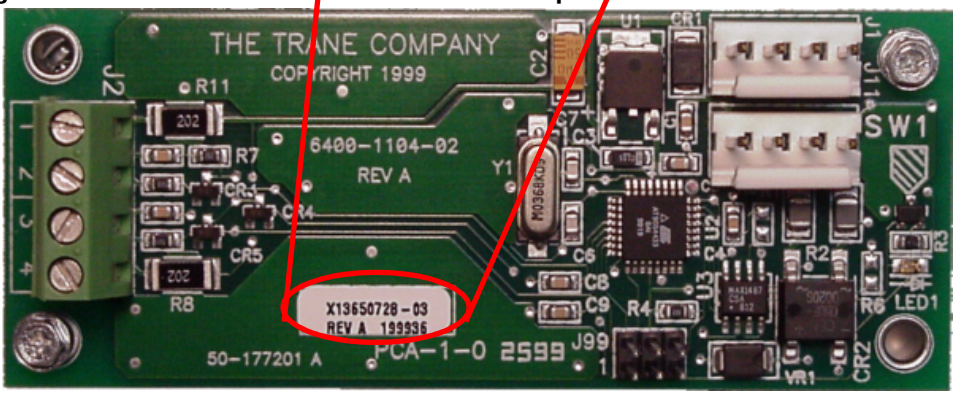
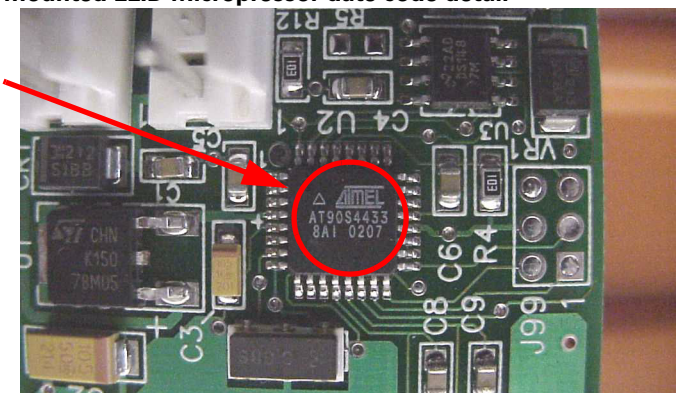


Figure 3 - Panel mounted LLID Micropressor date code detail

Microprocessor
(Example here is 0207:
02 = 2002
07 = 7th week)



TROUBLESHOOTING FRAME MOUNTED LLIDs

- Frame Mounted LLID's (temperature sensors mounted outside the control panel) have a label with LLID date code on the backside of the assembly. Check this label for the same date code range of 0311 to 0314. The Microprocessor date code is not visible on frame mounted LLIDs (see figures 4 & 5).
- Inspect the IPC bus and connectors to be sure they are not the cause.
- Or, LLID's with green status in binding view communicate the LLID date code to TechView. The LLID date code when viewed via TechView will have a 10311 to 10314, look at the 2nd through 5th digits to determine if LLID has suspect date code.

- LLIDs with red status in binding view are not communicating and need to be checked for proper IPC buss connections and replaced as necessary.

Figure 4 - Frame mounted LLID; Temperature sensor example with back side label shown.

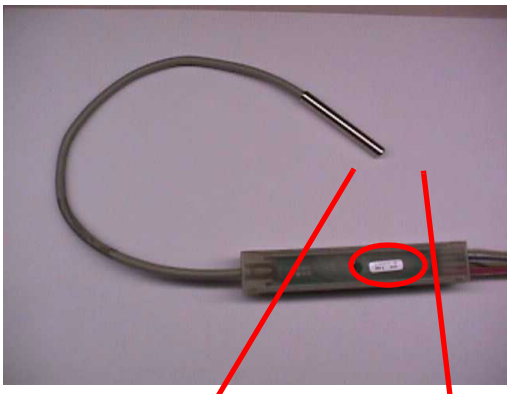


Figure 5 - Frame mounted Label detail.

Date code of suspected LLID is 0311 to 0314. (Example here is 0020:
00 = 2000
20 = 20th week)
Look for 0311 to 0314 in the same position.

Units Affected

Parts, CVRD, and PRGD	2003 CH531
RTAC	U03C09344 through U03F00742
CVHE, CVHF, CVHG, CVGF, CDHG, CDHF	L03C03323 through most L03F xxxxx serial numbers. Approx. June 20th

ACTION

- Do not replace LLID's that are functioning fine unless specifically directed to do so by the respective Technial Service group. The scope of the suspect LLID's is still under investigation.
- Be aware of this potential problem and know how to recognize date codes involved and parts involved so you don't over-react.
- Check local parts stock to be sure it is outside of the date codes involved.
- Notify Product Technical support when symptoms occur by filling out the attached form and notifying (send to) respective technical support team listed.
- In cases where this problem is confirmed, ask Product Technical Support for further instructions. At this time we are still investigating and your data is going to help us determine the appropriate action.

- Return defective parts via Falcon™ claim handling system.
- Always use new IPC Bus connector when replacing frame monted LLID's.

LIDD Failure Information request
Chiller Serial Number:
LLID Name and Type:
Chiller Start date:
LLID Fail Date:
Approx. Hours powered up:
Chiller run hours:
LLID Date Code (white sticker) i.e. 0311-0315:
LLID Date Code obtained with TechView i.e. 1031100109:
LLID Microprocessor Date Code (0305):
LLID serial number found on yellow sticker under bar code:
Symptoms: (see page 3)

Questions

Contact the Product Technical Service department in La Crosse, Pueblo or Global Aftermarket with questions regarding this Service Alert.

Product Models	**Technical Service Group**
Parts, CVRD, and PRGD	Global Aftermarket: 608-787-3921 E-mail: ATechnicalService@trane.com Fax:608-787-3304
RTAC	Pueblo: 888-244-5537 E-mail: ProdSupportOnline@trane.com Fax: 719-585-3996
CVHE, CVHF, CVHG, CVGF, CDHG, CDHF	La Crosse: 608-787-3943 E-mail: TechnicalService@trane.com Fax: 608-787-3024

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Supersedes	New
Stocking Location	Electronic Only