

Technical Bulletin

Number	057
Subject	Hitachi Compressor Protection
Date	Friday, 03 December 2010

In low ambient temperatures compressors will not run if the shell temperature is typically less than 40°C.

This can cause issues and confusion for engineers common on commissioning or cold starts when the system is turned on after a weekend or for the first time as a heating system.

The protection is to protect the compressor and to prevent oil from losing its consistency.

This applies to Utopia and Set Free systems.

You can check the compressor temperature either via the controller or via the seven segment display on the condensing unit.

To check this via the controller refer to Technical Bulletin 036 (Service Mode 01) and inspect bA record.

To check via the seven segment display follow this procedure.

Press and hold **PSW2** for three seconds. “**CP**” will be displayed (see table below)

Continue to press **PSW2**, cycling forward until “**rd**” is displayed (see table below)

Press once more and this will show the compressor temperature.

If you go too far press **PSW3** to cycle back.

Item	Item		Indication data	
	Check No.	Indic.	Indic.	Contents
Total Capacity of Indoor Unit Connected	01	CP	22	00~96
Input/Output State of Outdoor Micro-Computer	02	SC	- =	Indicates only for the segments corresponding to the equipment in the figure. (See figure above)
Alarm Code for Abnormal Stoppage of Compressor	03	AC	02	Alarm Code on Compressor
Inverter Order Frequency to Compressor	04	H1	90	30~115 (Hz) In case that Frequency is higher than 100Hz, the last two digits flicker
Indoor Order Frequency to Compressor	05	H2	90	30~115 (Hz) In case that Frequency is higher than 100Hz, last two digits flicker
Air Flow Ratio	06	Fa	80	00~100 (%) In case that air flow ratio is 100%. "00" flashes
Outdoor Unit Expansion Valve Opening	07	Ea	50	00~100 (%) In case that Expansion Valve Opening is 100%, "00" flashes
Temperature at the top of Compressor	08	Fd	82	00~142 (°C) In case that Temperature is higher than 100°C, the last two digits flash
Evaporating Temperature at Heating	09	FE	-3	-19~80°C
Ambient Air Temperature	10	Fa	12	-19~80°C
Cause of Stoppage at Inverter	11	f	9	(See table at the next page)
Control Information	12	FF	82	Internal Information of Outdoor Unit PCB
Control Information	13	R1	10	Internal Information of Outdoor Unit PCB
Inverter Secondary Current	14	R2	10	00~199 (A)
Outdoor Unit Address	15	nA	00	00~15
Indoor Unit Expansion Valve Opening	16	EA	20	00~100 (%) In case that opening is 100%. "00" flashes
Liquid Pipe Temperature of Indoor Unit (Freeze Protection)	17	LA	05	-19~127 (°C)
Indoor Unit Intake Air Temperature	18	IA	28	-19~127 (°C)
Indoor Unit Discharge Air Temperature	19	oA	20	-19~127 (°C)
Cause of Indoor Unit Stoppage	20	dA	05	(See table at the next page)

In case of Twin/Triple/Quad-Type Unit, the information of 2nd to the 4th indoor units is indicated repeatedly. The right character of the indication represents the indoor unit setting No.
Single: A
Twin: A, b
Triple: A, b, c
Quad: A, b, c, d