2020 Training Series:

cBoxX Controller Navigation - Basics

Models:

cBoxX Series

The Remote Panel

- The Remote Panel is typically mounted in the MRI control room.
- The Remote Panel display mirrors what can be seen at the chiller.
- Only one display (chiller or remote) can be viewed during operation.
- A switch **(7S1)** inside of the chiller determines what screen is powered on **(chiller or remote display).**

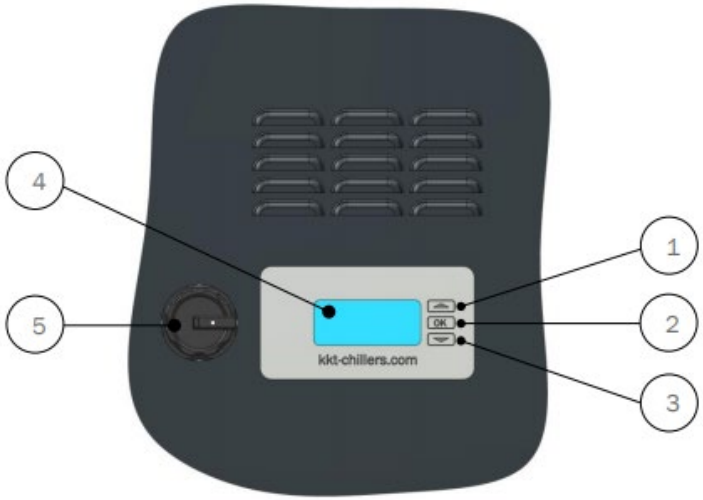
Display Switch

Chiller Display can be set to read either indoors at the remote display panel, or outside at the chiller. This is controlled by Switch 7S1 inside of the chiller.

To display at the remote display, the **(7S1)** switch must be to the down position **(OUT)**

To display at the chiller or If a remote panel isn't connected, the **(7S1)** switch must be to the up position **(IN)**

General Information



Number	Function
1	“UP” button
2	“OK” button
3	“DOWN” button
4	Display
5	Main Switch

General Information

Number	Function	During Operation
1	Number of pumps running	If the chiller is in the “On” position, the pump should always be activated. Status is shown with a “1” next to the pump icon.
2	Number of compressors running	Dependent only on heat-load, you may see multiple compressor activated (compressor number varies per model).
3	Number of fans running	Dependent only on heat-load, you may see multiple fans activated (fan number varies per model).
4	Date	Should display the correct date and time
5	Error (if active)	Caution will illuminate and the fault will appear
6	Chiller function	“On” for normal chiller operation” / “Standby” for filling the system and checking static pressure of the chiller loop
7	Menu Arrow	Access settings and error menu

General Information

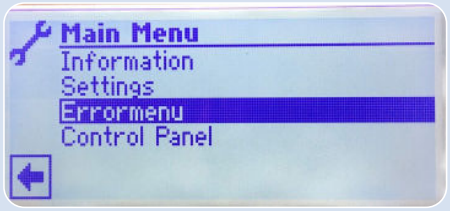
Faulted

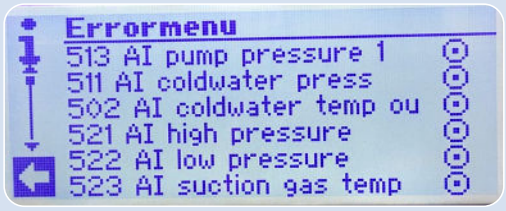
- When the chiller has faulted, the failure appears, and a caution sign is illuminated.
- The fault is displayed above the temperature read out.
- Depending on the type of failure the chiller may or may not continue to run.
- To access the “Error Menu” please follow the procedure on page 8.

Normal Screen

- When the chiller is not in the faulted condition, the system will maintain cooling and display the activated components on the left side of the screen.

Accessing the Error Menu





On the main screen highlight the "**RIGHT ARROW**" and press the "**OK**" button.

On the "**Main Menu**" screen scroll down to "**Error Menu**" and press the "**OK**" button.

In the "**Error Menu**" all active faults are shown.

Understanding the Error Menu

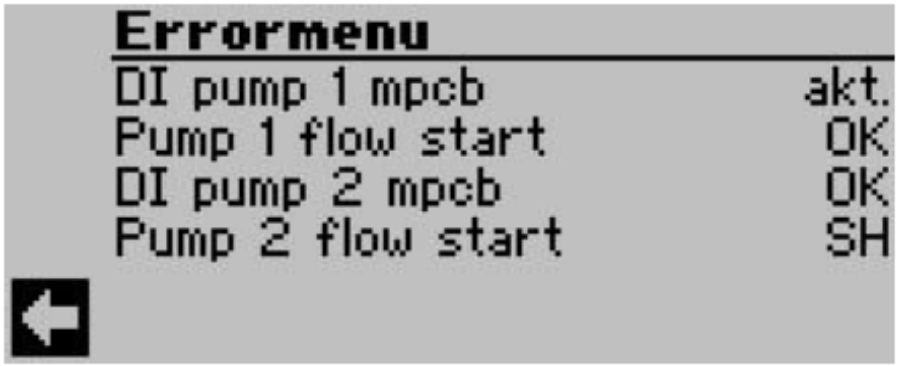
Alarms are acknowledged if the "**OK**" key is pressed for longer than eight seconds.

Alarm messages can assume three states:

• **akt**: The alarm is still active. (e.g. DI pump 1 mpcb; …) The motor protection switch has triggered.

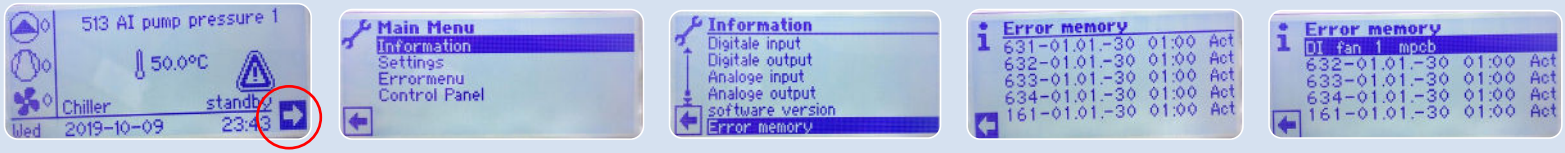
• **SH**: The alarm is no longer queued. E.g. the motor protection switch has been reset on the hardware side but has still not been acknowledged at the control.

• **OK**: The alarm is no longer queued and has been acknowledged at the control. The alarm entry no longer appears the next time the alarm menu is opened.



Alarm History

Viewing the Alarm History



In the main screen, highlight the "**RIGHT ARROW**" and press the "**OK**" button.	In the "**MAIN MENU**" screen, scroll down to "**INFORMATION**" and press the "**OK**" button.	In the "**INFORMATION** " menu, go to "**ERROR MEMORY**" and press the "**OK**" button.	Scroll down to the active fault to view the actual fault and press the "**OK**" button.	View the active fault selected.

Reset Faults

If a fault is present, it can be read above the temperature read out. To clear the fault see below:

In the main screen, highlight the **Right Arrow**, press the **OK** button.

In the Main Menu highlight the **LEFT ARROW**, press and hold the **OK** button for the 10 seconds.

While still holding the **OK** button the screen will clear the fault above the temperature read out.

If no faults appear above the temperature read out, you have successfully cleared the fault. If it didn't clear, call a KKT representative.

Understanding Alarm Codes

A list of alarm codes and explanation of alarm types can be found in the manual provided with your chiller.

It is a good idea to take a photo of the alarm shown before clearing as a reference.

This information should be provided when calling KKT for service to assist with basic troubleshooting

For 24/7 Technical Support, contact KKT chillers:

833.KKT.HELP (833.558.4357)

526	AI cool. water temp.	Combined fault from Version 2.60	Sensor defective, sensor break or sensor short-circuit	Sensor defective, sensor break or sensor short-circuit	Check electrical connections of the sensor, check sensor using the characteristic curve	Cooling water circuit is blocked. Refrigeration circuit goes to high pressure fault. Alarm is saved, (From V.2.60) Manual reset.
531	AI conductivity	Combined fault from Version 2.60	Sensor defective, sensor break or sensor short-circuit	Sensor defective, sensor break or sensor short-circuit	Check electrical connections of the sensor, check sensor using the characteristic curve	all components continue to run EV demineralization closes. Alarm is saved, (From V.2.60) Manual reset.
591	AI coding resistor	not in collective fault, omitted from Version 2.60	Coding resistor is missing	Coding resistor is missing	Check coding resistor	Chiller only continues to run with one compressor. Manual rest. (Up to V. 2.59)
592	Coding changed	Collective fault, omitted from Version 2.60	Coding error	The coding resistor measures a different encoding since the last switch-on (number of compressors)	Coding resistor defective, not connected, check the contact	Chiller only continues to run with one compressor. Alarm is saved. Manual reset. (Up to V. 259)
602	DI phase monitoring	Combined fault from Version 2.60	Phase monitoring has tripped	Error in relation to phase sequence, phase failure, undervoltage and asymmetry	Check feed	Chiller switches off immediately. Alarm is saved, (From V.2.60) Manual reset.
611	DI mpcb Pump 1	Group fault alarm	Motor protection switch has tripped	Motor current above the permissible range, Motor runs only on two phases, direction of rotation, poor contact at clip points, Winding fault, earth fault, rotor blocked.	Check the motor power consumption, check the operating point, check the electrical connection of the components	Pump 1 & 2 = Consumer pump - Pump 1 switches off, - Pump 2 and compressor continue to run. Pump 1 = Consumer pump Pump 2 = Evaporator pump Chiller switches off. Pump 1 = Consumer pump Pump 2 = Redundant - Pump 1 switches off, - Pump 2 switches on. Manual reset, Alarm is saved.