Chrystal CPC401

nstallation, operation & maintenance manual

	DANGER
⚠️	Before attempting installation, please make sure to read this manual. Improper installation or handling of the device may result in damaging the device, serious injury or even death.

	DANGER
⚠️	This device is not designed to work with 120V, 240V, or 600V electrical panels. Do not use it to control a contractor or other device that requires more than 24V (AC or DC). Doing so can result in destruction of the unit and severe injury or death.

	DANGER
⚠️	Although the device is powered by 5Vdc, having it connected to an electrical panel may place the device's electronics at a high potential. Do not open the device while powered or while connected to an electrical panel. Doing so can result in severe injury or death.

	CAUTION
⚠️	This device is connected to the Internet and can be activated autonomously and unexpectedly. Disconnect from panel before servicing panel.

	WARNING
⚠️	It is the installer's responsibility to follow all safety, code and standards.

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Technical Specifications

Chrystal CPC401 Ethernet/WiFi Weather-Based Snow Melting Controller

Item	Specification
Package Dimensions	51/8 x 75/8 x31/8 in / 19.3 x 13.1 x 7.9 cm
Device Dimensions	2.95 x 2.95 in / 7.5 x 7.5 cm
Fastening Cups Spacing	2.64 in / 6.75 cm (horizontally and vertically)
Package Weight	1lb / 450g
Ingress Protection	IP20
Operating Temperature	0 - 40 degrees Celcius
Connectivity	2.4 GHz WiFi, Ethernet 100Mb
Power Supply Voltage	5Vdc 2.1mm jack center positive
Power Supply Current Consumption	150 mA max / 80 mA typical
Number of Contacts	2 SPDT dry contacts
Dry Contact Current	15 A max / Below 10 A recommended
Dry Contact Voltage	240 V max / Below 24 V recommended

Package Contents

When you open your package, you will find:

1. The Chrystal CPC401 Ethernet/Wifi Weather-Based Snow Melting Controller
2. Set of four metallic fastening screws
3. 1 5Vdc wall adapter
4. 1 2.1mm power jack adapter with terminals for powering directly from your electrical panel
5. 1 Reset pin
6. This Chrystal installation guide

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Installation

Fastening

The Chrystal CPC401 Ethernet/Wifi Weather-Based Snow Melting Controller uses a magnetic fastening method using four strong Neodymium magnets on the back of the enclosure. It can be installed directly on a ferromagnetic surface if available by simply placing it on it.

If no ferromagnetic surface is available, or if a higher level of stability is required:

1. Using a level, draw a horizontal pilot line where desired on a wooden or drywall surface;
2. Peel the back of the fastening template provided in the package and place the sticker on the surface, aligned with the drawn pilot line;
3. Place each of the metallic cups onto a marked corner of the template sticker and fasten it using the tapered screw provided.

NOTE: It is important to place the cups at the exact locations marked on the template and that the fastening screws coincide exactly with the marked X, as only slight misalignment will prevent the magnets from properly fitting into the cups.

Wiring

Power

In order to power the Chrystal CPC401 Ethernet/Wifi Weather-Based Snow Melting Controller, you can either use the wall plug provided (A), or connect the device to a suitable 5Vdc power supply from your electrical panel (B).

A.   Plug the 5Vdc wall adapter provided in a 120Vac or 240Vac power outlet, then connect the 2.1mm power jack to the dedicated connector on the bottom left of the device.

B.   To power from your electrical panel's 5Vdc power supply: Use the supplied 2.1mm jack adapter and connect a 2 x 18 AWG / 1 mm Copper wire cable cut to the desired length between the 2.1 mm jack adapter and your electrical panel's 5Vdc output terminals.

Note: Make sure to connect the +5V wire to the 2.1 power jack terminal marked with a $\oplus$ and the 0V wire to the 2.1 power jack adapter marked with a $\ominus$.

Electrical Panel

In order to connect the Chrystal CPC401 Ethernet/Wifi Weather-Based Snow Melting Controller to your electrical panel:

1. Cut a 2 x 14 AWG / 1.63mm Copper wire cable to the desired length to route from the Chrystal device to your electrical panel, and crimp the ends using a suitable ferrule.
2. Hook up the two wires of one end of the cable to the N.O. and COM terminals of dry contact #1 located on the bottom of the Chrystal device
3. Hook up both wires of the other end of the cable to the 24V terminals of your electrical panel used to trigger the desired contactor

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Connecting

Ethernet

If available at your location, you can connect your Chrystal CPC401 Ethernet/Wifi Weather-Based Snow Melting Controller to the Internet using a standard Ethernet cable. The Chrystal device will automatically connect to the Internet and will be ready to be added in your MyChrystal account.

When the Ethernet cable is disconnected, the Chrystal device will attempt to connect over WiFi.

WiFi

Note: In order to connect to your MyChrystal account and perform optimally, the Chrystal CPC401 Ethernet/Wifi Weather-Based Snow Melting Controller requires a strong and stable WiFi signal.

In order to connect your Chrystal device to WiFi:
1. Power the device
2. Using the pin provided in the package, press and hold the recessed Reset button on the front of the device for approximately 5 seconds, or until you see the blue light start blinking
3. Using any WiFi enabled device (mobile phone, tablet, or laptop), find the WiFi network labeled "My Chrystal" and connect to it - There is no Password. You can also scan the following QR code if supported by your WiFi enabled device.
4. If it doesn't launch automatically, open your web browser and enter the following address in the Address Bar: **192.168.4.1**
5. Click or tap on "Configuration"
6. Enter the SSID and Password of your local WiFi network, then click "OK"

Note: It may take a few minutes for the network to appear after you power the Chrystal device.

You can also scan the following QR code, if supported by your device:

Once these steps are done, your Chrystal device will automatically shut down the "Chrystal Box" WiFi network and connect to your WiFi network.

Note: These steps are only done once, the first time you connect your Chrystal device to your WiFi network. The WiFi credentials are then saved in the device.

If you need to modify or re-enter your WiFi credentials, using the pin provided in the package, press and hold the recessed Reset button on the front of the device for approximately 5 seconds, or until you see the blue light start blinking, then follow the steps above to re-enter your credentials.

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Account Setup

If you don't yet have a MyChrystal account, using your mobile phone, tablet or PC, go to the following website: www.mychrystal.com
You can also scan the following QR code:

Click on "Sign up" & follow the instructions on the screen.

Troubleshooting

Blue Light (Connection)

Bliking Pattern	Interpretation
No Lights	No power
Short bursts of light	Looking for known WiFi network
Fast blinking	No known WiFi Network found. Chrystal in Access Point mode. Use phone to connect to "My Chrystal" WiFi Network and enter desired WiFi credentials
Slow blinking	WiFi connected but Weather Server not found
Continuous Light	Fully connected and operational

Red Light (Heating Status)

Bliking Pattern	Interpretation
Light OFF	Heating Output OFF
Light ON	Heating Outout OFF

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Limited Warranty

Your Chrystal device is covered by a limited lifetime warranty provided by the manufacturer. During the warranty period, the Chrystal device is warranted against defects in materials and workmanship.

If the Chrystal device malfunctions due to such defects, it will be repaired, replaced or refunded, at the manufacturer's discretion. To initiate a warranty claim, please contact the manufacturer's Customer Support.

Please note that this warranty does not cover damage caused by misuse, mis installation, unauthorized modifications, natural disasters, or software-related issues. The manufacturer provides no other warranties, express or implied, except for this limited warranty.

The manufacturer's liability is limited to the purchase price of the Chrystal device. The manufacturer is not liable for any indirect or consequential damages.

For further information or assistance, please contact the manufacturer's Customer Support team.

Support

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