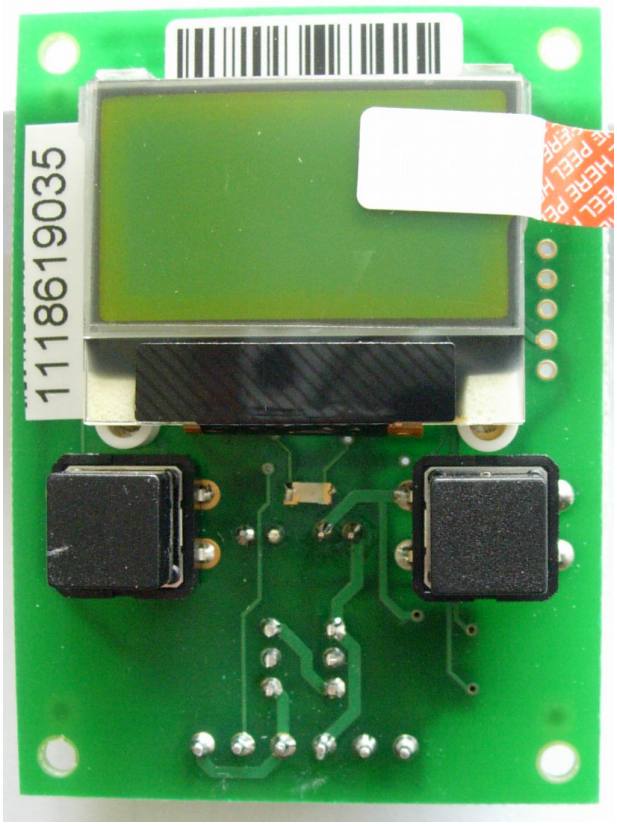
Peltier Controller QC-PC-D-100

User Manual
Display



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Technical specifications:

Dimension display:
34mm x 19mm
Dimension board:
ca.: 70mm x 50mm x 25mm
Temperature range:
Cooling:-20°C…+50°C
Heating:0°C…+100°C
Voltage supply: 10V…24V

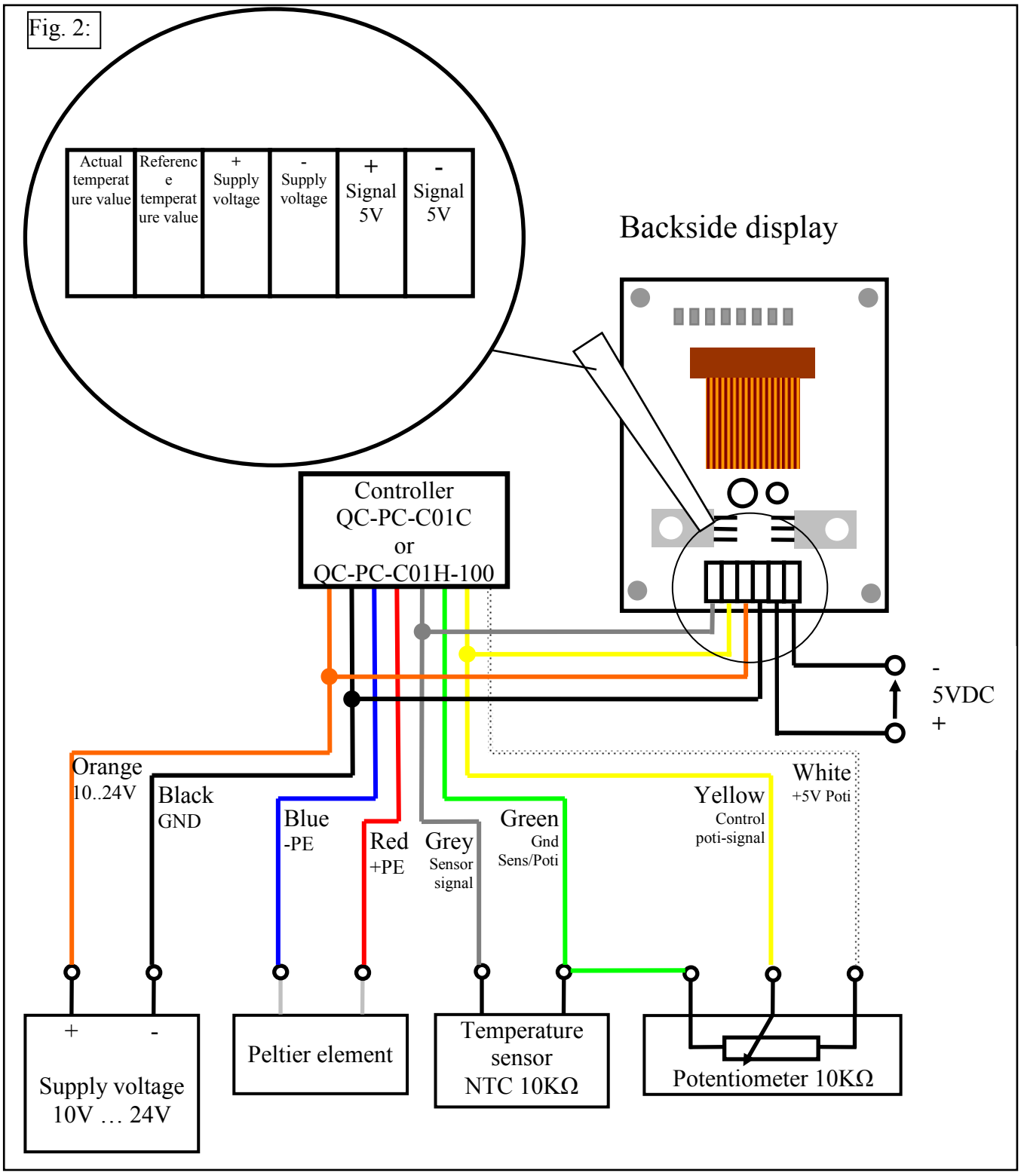
1. Usage of the display QC-PC-D-100:

The display QC-PC-D-100 has been developed to increase the convenience of the usage of the compact controllers QC-PC-C01C and QC-PC-C01H-100. The display does not substitute a controller; it gets integrated into an existent control and enables the read out of the adjusted target temperature, the actual temperature as well as the mode of operation. After the achievement of the adjusted target temperature an additional 5VDC signal (TTL) accompanied with a LED-indication gets switched. Thereby you sustain the ability to integrate and switch external devices into the control. The device provides a background illumination, which gets activated after every keystroke and which duration is adjustable.

2. The electrical setup:

To enable the application of the display, it has to be integrated into an existent control. During the wiring please follow the instructions shown in the following circuit diagram.

Fig. 2:



3. The Menu:

1) By hitting both keys for approximately 5 seconds at the same time, you will get from the display mode to the menu. If in the range of 90 seconds no other key is actuated, the device will switch back to the display mode.
2) By hitting the particular keys you browse back and forth. To change the settings of an already selected menu item, both keys have to be actuated again for 5 seconds at the same time. The changeable parameter will now be displayed in front of a dark background.
3) The actuation of a key increases (right) / decreases (left) the selected parameter and switches between the different selective variants, respectively**. The change is active immediately.**
4) If both keys are actuated for 2 seconds at the same time, the mark of the parameter will disappear.
5) By the repetition of the points 2 to 4 all parameters can be machined off.
6) By simultaneous hitting of both keys for approximately 5 seconds you come back from the menu to the display mode. If within of ca. 90 seconds no other key is hit, the device will switch back to the display mode.

Factory setting:
If you switch on the supply voltage while you hold down both keys until the display appears, all parameters will be reset to the factory adjustment.

4. The parameters:

Parameter label	Adjustment range/List box	Factory setting
Mode	Cooling/Heating	Cooling
TT offset	-5°C - +5 °C	0,0 °C
TA offset	-5°C - +5 °C	0,0 °C
Output hyst	+0,1°C - +5 °C	0,2 °C
Output offset	-5°C - +5 °C	0,0 °C
Output invert	Normal/Invert	Normal
Lcd backlight	OFF/ON/10Sec/15Sec…60Sec	10 Sec
Lcd contrast	1 - 10	5
Sw. version	*Display only*	*x.xx*

Mode:

If you use the display together with the blue QC-PC-C01C-100, choose *Cooling*. If you use the display together with the red QC-PC-C01H, choose *Heating*.

TT offset:

The value, which is set here, adds up to the displayed TT-value. If necessary, calibrate at this point the target temperature.

TA offset:

The value, which is set here, adds up to the displayed actual value. If necessary, calibrate at this point the actual temperature.

Output hyst:

Adjust here the hystersis, which is used for the switch-on and switch-off of the 5V-signal, respectively.

Output offset:

Delay here the switching threshold (switching threshold = target temperature + output offset) of the additional 5V-signal by the adjusted value.

Output invert:

Adjust here if the 5V-signal is set during the heat-up- and cool-down-phase, respectively (*normal*), or after the achievement of the target temperature (*inverted*).

Lcd backlight:

After every keystroke the display is illuminated for the adjusted time. Adjust here the switch-on duration. Choose *OFF*, if you do not want a background illumination. Choose *ON*, if the background should glow permanently under a connected supply voltage.

Lcd contrast:

Adjust here the contrast between display and ambience.

Sw. version:

Here the software-version is indicated.