

PCU-5TC

Operation manual

Congratulations to your new electronic **Power Control Unit PCU-5TC** with **5** power stages and **Temperature Compensation**. This is a premium product with outstanding reliability and unique features. Please read this instructions carefully before any attempt of installation.

If there are any questions unanswered, please contact us. We are happy to help.

Field of application

The electronic power control unit PCU-5TC is electric motorcycle accessory.

It is made to control the power level of (Coolride) grip heating systems, hot grips, electrically heated clothing, heated seats, etc.

Use only at vehicles with 12V negative ground electrical system. Use this product also for other power sports vehicles such as ATVs, snow scooters and trikes.

Technical data

Operating voltage:	10-15V DC
Power rating:	180W @ 12V respectively 216W @ 14,4V
Principle of operation:	Pulse width modulation
Operating temperature:	-40°C – 65°C / -40°F - 149°F

Technical features

- 5-stages power control + Off
- 10-step automatic compensation of air temperature change
- Memory-Function: Device saves setting from last ride
- Pre-heating mode: Variable from 0-15min
- Short circuit protection
- Over-temperature protection
- Error indication by flash codes
- Auto-reset of protection circuit
- Integrated electronic relay allows operation at modern motorcycles with current controlled circuits (e.g. BMW R1200GS)
- Waterproof according to IP67
- Single button control, push button waterproof according to IP67
- Bargraph display, waterproof according to IP67

Electrical connection

The device features an automatic fuse circuit. An external fuse is neither necessary nor recommended.

The positive pole of the electrical consumer has to be connected with the red branched wire using the single pole connector. The negative pole of the consumer needs to be connected in the same manner with the black branched wire.

The power control unit is triggered by +12V. Therefore connect the thin red wire with the control line using the included Posi-Tap connector. The chosen control line should carry +12V only while the ignition is on. Suitable lines could be the supply lines of an on-board socket, position light or the horn. Thereby unintentional discharging of the battery is prevented.

Then connect the device to the already mounted bargraph display using the 8-pole receptable and connect the 3-pole receptable to the push button / touch sensor.

Finally connect the PCU-5TC directly to the vehicle battery. Connect the black wire with ring cable lug to the negative pole and the red wire with ring cable lug with the positive pole.

Wire allocation:

Red wire (M6 ring cable lug):	>	Positive pole of the battery
Black wire (M6 ring cable lug):	>	Negative pole of the battery
Red wire, thin (blank end):	>	Control line +12V
Red branched wire (single pole connectors):	>	Positive pole of electrical consumer
Black branched wire (single pole connectors):	>	Negative pole of electrical consumer
8-pole receptable:	>	Bargraph display
3-pole receptable:	>	Push button resp. touch sensor (optional)

For further information about correct processing of the included installation materials such as the Posi-Tab connectors or the bullet shaped single pole connectors please refer to our website www.coolride.de/downloads.



Installation

Use 2 of the self-adhesive pads to attach the **electronics box** to a clean surface. Clean surfaces with solvent before attaching adhesive pads. You may also use cable ties as an alternative.

Choose the installation position considering that the maximum operating temperature must not be exceeded even when the engine is running. Keep in mind that no pulling, folding or crushing forces must act on the wires when installing and operating the system.

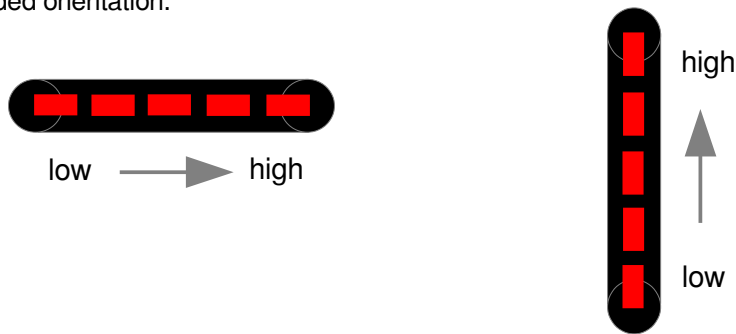
The **push button** is intended to be built-in into the motorcycle's fairing, cockpit or a mounting bracket from sheet metal.

Hole size = 12mm

Place the sealer ring above the mounting surface, washer + hex nut below.

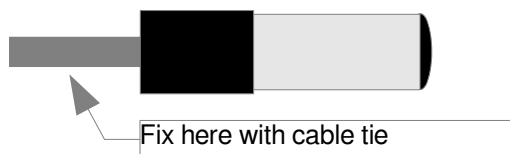
Attach the **bargraph display** to the cockpit, upper fork bridge or another appropriate location within the riders sight. Fixation is done by an adhesive pad. Check for proper orientation and clean surfaces before putting things together!

Recommended orientation:



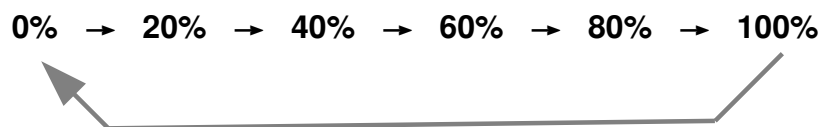
The **temperature sensor** is positioned in a way that it is exposed to the air stream. Avoid locations where the sensor is disturbed by waste heat from engine, headlight or exhaust. This would lead to an undesired decrease of heating power during your ride. It is proven to mount the temperature sensor at the lower fork bridge. Avoid direct contact of the sensor to metal parts as this would lead to a very slow response.

The image shows the recommended fixation:



Control

If ignition is on, push the button once to set the power control unit PCU-5TC in operation. The device is now in pre-heating mode. This is indicated by fast flashing of all LEDs. The power level during pre-heating mode is 100%. A further push on the button stops the pre-heating mode at any time, the device now recalls the setting from your last ride. Every further push increases power level by 20%. Keep the button pressed for a little while (appr. 0,1s) to ensure the push is recognized as intentional. To switch your connected warmth device off, press the button repetitively until 0%-stage is reached or simply by shutting off the ignition.



The 10-step temperature compensation feature responds to changing air temperatures. This ensures constant warmth comfort during e.g. pass rides. When air temperature drops, the power level increases automatically. If the temperature rises again, power level decreases accordingly. You can monitor this automatic behaviour via the bargraph display. However, you still need to select the basic power level that matches your need. The electronic cannot tell how quickly you start to feel cold or whether you wear thin or well insulated gloves. It compensates temperature changes during your ride and therefore reduces the need for manually adjusting the power level considerably.

Error codes

The device is protected from short circuits, overload, over-temperature, reverse polarity and transients through various mechanisms. It is almost impossible that the device gets damaged by any of the error conditions mentioned. If an error occurs the built-in self-diagnosis function allows a quick troubleshooting. An error condition is indicated by flash codes in the bargraph display.

Error code	Type of error	Required action
LED 1 and 5 flashing	Overload, short circuit or open load	Remove cause
LED 3 flashing	Push button has continuous contact	Remove mechanical blockage or replace push button
LED 2 and 4 flashing	Push button has moisture-caused continuous contact	Replace push button soon, device is still functioning

Warranty

We grant a full **5 year** warranty on this product and all its components. Damages which result from overload or disregard of the herein given advise are excluded.

Disposal



If you need to dispose of this equipment one day, please note that no electronic device may be put into household waste. Put the device if possible to a recycling station. Your local authorities may inform you accordingly.

EC-Conformity

This product complies with the regulations of valid European and national directives. Conformity has been proven, the respective declarations and documents are deposited at the manufacturer of this product.

