

**USER INSTRUCTIONS**

MOTO | TYRE WARMERS

**KLS sport / comp / pro-X**

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**1. The most important in short:****WARNING!**

Whilst adding or draining gas to or from the fuel tank, the power supply of the tyrewarmers must be disconnected.

**WARNING!**

Never heat tyres without direct supervision! In case of any problem the power supply of the tyrewarmers must be disconnected immediately.

**WARNING!**

Do not miss to unplug the tyrewarmer before removing it from the tyre! Otherwise the tyrewarmer can be damaged finally by overheating!

**CAUTION!**

Strictly observe the general electric safety rules!

**CAUTION!**

Only if operated on 230 volts:

For personal electric safety it is recommended to use the KLS safety plug or similar equipment for electric safety whilst operating the tyrewarmers.

**NOTE!**

KLS-tyrewarmers are only designed for warming up tyres for racing. Use is at one's own risk!

If there is a smaller distance of 50 mm to a hot exhaust pipe, do not mount rear tyrewarmers if muffler is hot. This can burn the cover of the tyrewarmers. The Nomex-Edition helps to avoid this problem, direct contact to the hot exhaust pipe nevertheless needs to be avoided

Distance between tyres and mudguards should be about 20 mm minimum! This enables to easily mount the tyrewarmers without risk of damaging and will prevent overheating in this area. Mounted tyrewarmers should not touch any mudguards or other parts of the bike

Do not use too long tyrewarmers for smaller sizes of tyres: Tyrewarmers must not overlap more than about 40mm. Otherwise too high temperatures can damage the tyre or tyrewarmer in the overlapping area

Do not expose tyrewarmers to rain or any type of moisture To prevent electric shock operate warmers only in dry conditions

Do not pull on AC cord or tyrewarmers whilst removing the tyrewarmers

After heating roll it up immediately in hot condition, but not too tight (hands inside, about 10 cm)! Do not bend tyrewarmers severely, that can damage the carbon heating filaments

Do not change the position of the thermostat(s) fixed to the cover inside. This can bypass the thermostat and can result in overheating! Check sometimes if the fixing of the thermostat to the tyrewarmer is O.K.

Temperatures:

"sport" 75-80°C

"comp" 80-85°C

"pro-X" stage "lo" 55-60°C, stage "hi" 85-90°C

Heating time to 85°C: 30 (min) - 45 (max) minutes to achieve a warm rim.

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## 2. Mounting and Operation

### 2.1 Mounting

Before mounting the tyrewarmers, clean tyre from dirt and small stones etc.

Fix the tyrewarmer with the fixing spring at the wheel and mount it by turning the wheel

tension the tyrewarmer properly, to create a good contact to the tyre surface

close the center velcro and hang the white hooks into the loops of the rubber springs

align the tyrewarmer to the tyre center

### 2.2 Operation

Operate the tyrewarmers in mounted condition only. Operating a non mounted tyrewarmer will cause overheating and damage

Be sure, that nothing is touching the tyrewarmer whilst heating! The tyrewarmer has to be free all around. When heating an unmounted wheel, it is necessary to put the wheel flat on the ground or in a tyre rack

A hot tyre surface is no indicator of a sufficiently warmed up tyre! Only a handwarm rim (about 40°C) indicates the best temperature conditions inside the tyre. This condition can be achieved after about 35 - 45 minutes. From the end of that heating time the temperature inside the tyre decreases up to 2°C/min!

Note:

For the best conditions inside the tyre and in order to bridge over a waiting period before the start of the race, lowest rim temperature has to be at least 40°C.

## 3. Function of the red LED ("sport", "comp" and "pro-X")

A lightning **red ED** indicates a heating tyrewarmer.

## 4. Removal and storage

Do not pull on the warmer or its power cord for dismantling. Roll up the tyrewarmer immediately in warm condition, but not too tight (do not fold or bend tyrewarmers severely)

Tip: spin the power cord around the rolled up tyrewarmer to prevent forgetting to interrupting power supply

Store and transportation only in this rolled up condition in the KLS transport bag.

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#### 1. User instruction for the Temperature selector

The temperature selector switch provides a lower heating temperature for rain tyres and all other soft qualifier tyres. It can also be used since hot air or high track temperatures for heating the tyres on lower, that means a more grip and tyre saving temperature level.

If it is necessary to heat more tyres at the same time for backup and for a later use the temperature selector on low level can help to reduce the risk of a loss of grip.

**NOTE:** High heating temperatures to the tyres for a long period of heating time can harden the rubber and decrease the grip of the tyres.

#### 2. Use of the Temperature selector

##### Switch in position "lo":

Lower temperature level: about 55-60°C If you start heating on that level, the heating time for this temperature level is about 60 min! The temperature of rim needs more time to get as warm as in position "2"!

##### Recommendation:

For a quicker heating up, the switch position "hi" can be used first until the rim is getting warm. Then switch to position "lo"

##### Switch in position "hi":

Standard temperature level: about 85-90°C Best heating time for this tyre temperature level: about 30 - 40 min. The rim itself will be warmed up after that time to a "handwarm" temperature of about 35- 40°C. That indicates the best temperature conditions for the whole wheel!

**NOTE: Do not operate the temperature selector switch whilst tyrewarmer is heating (red LED is ON").** Before operating the switch, unplug the tyrewarmer or wait until the red LED is switched to "OFF" by the thermostat. That indicates the tyrewarmer is not connected to the electric power at the moment.

#### Recommendation for operating the temperature selector switch:

1. If there are hot air and track conditions the use of the lower level heating temperature can be the better way to safe grip. For a quicker temperature rise it is better to start first with the tyre heating at the high temp selector position until rim is getting warm.

2. If a long continuous heating is necessary and if the rim itself is warm enough (40°C after about 30 - 35 minutes on high temp level) the temperature selector can switched back to the lower temp level to conserve the heat without hardening the tyre rubber.

Often it is necessary to heat more tyres at the same time for backup and for a later use. Here the temperature selector can help to reduce the risk of a loss of grip by that procedure:

To achieve a maximum tyre grip start the heating on higher level until the rims have got a handwarm temperature (35 - 40°C).

If you are not ready for racing at that moment of the best tyre/wheel condition, switch back to the lower temperature temp level.

From this grip saving level you will need only about 10 - 15 minutes to return to a tyre temp of 85°C and the maximum tyre grip level can be achieved with this heating procedure.

#### Function of the red/green LED's

A lightning **Green LED** indicates an operating power supply. Check power supply if the green light is "OFF".

A lightning **Red LED** indicates an actually heating tyrewarmer (thermostat in "ON" position).