

User Manual

Tyre Killer

Applicable model: ZK-TK500

Version: 1.0

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Chapter 1 Statement

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(1) We are not responsible for breakdown caused by improper operation.

(2) Due to product updates frequently, this manual may have differences from the actual product, please prevail in kind.

(3) We will not announce any further notice when we update the user manual.

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Chapter 2 General Information

2.1 Main Features

Electromechanical tyre killer is one of the highest security vehicle access control products to prevent entering of a vehicle without permission.

Drive unit is placed to one end of the tyre killer, it stands above the ground level and is a complete assembly with the body. In this way, both smooth transmission of motion and minimum effect of external factors are achieved.

To operate this device, you just need to press the remote controller button to raise spike and the spike will be raised within 1~2 second to block the vehicle, and it is one directional driveway control.

- Electromechanical operated
- Blocking width 1m to 6m
- Blocking height of spike above surface level: 520mm
- Loop detector provided for safety
- For manual operation in case of power failure
- The solid blocking spikes 10mm thick welded to the solid rotation axis at a distance of approx. 150mm to each other

2.2 Technical Features

Model	ZK-TK500
Material thickness	A3 steel
Surface treatment	Paint with reflective strip
IP rate	IP67
Specified color	Black and yellow
Length	1500/2000/2500/3000/3500/4000/4500/5000/5500/6000mm
Width	550mm
Height	85mm
Raise height	150mm
Max loading weight	80T
Weight	≥0.3T
Spike thickness	12mm
Drive mode	Electromechanical
Working environment	-40°C/+70°C
Raising/Lowering time	1-2s
Power supply	220V(110V: customization)
System power	180W

Chapter 3 System Components

3.1 Tyre-Killer Main Parts

1. Top Plate
2. Teeth
3. Frame
4. Drive Mechanism
5. Control Electronics

3.2 Control Cabinet

Control cabinet is manufactured from A3 Quality Steel with thickness of 2mm. All cabinet parts are electrogalvanized, RAL 2004 orange electrostatically power coated and furnace. Control cabinet is fixed on the main frame by 4 anchors. Top lid transmission rod casing is assembled on control cabinet by help of in oxidizing bolts and washers. There are air circulation openings and lock on front cover.

3.3 Mechanism and Drive Unit

A high torque AC Motor is utilized for driving Electromechanical Tyre-Killer. Coupled to the motor, there is a reducer with 1/53 reduction ratio. Casing of the reducer is cast aluminum, preventing formation of dust. All the gears in reducer are heat treated so that wear is reducer to minimum.

The mechanism is produced utilizing most advanced processes of mechanical engineering. All the ensures are manufactured on CNC machines.

3.4 Control Electronics

Control electronics utilized in Electromechanical Tyre-Killer is programmable logic control. Raise/Lower function can be achieved by limit switches. Besides, safety accessories like inductive loop detectors, flashing lights or red/green lights can be integrated to control electronics very easily. As control of the Tyre-Killer is always through an electronic control cabinet, it is possible to interface any control method as part of a complete site security system.

Lowering Tyre-Killer teeth can be utilized by automatic time delay facility, as well as inputs from other sources. Time delay arming of the electromechanical Tyre-Killer can be adjusted between 0-50 seconds. Power requirement of Electromechanical Tyre-Killer is 220V, 50-60Hz. For safety reasons, only 24V and 5V are running through the control electronics.

Chapter 4 Installation

1. Place the tire-killer to the installation site.

Installation and wiring

- (1) In order to ensure the safety of construction, according to the location of tire killer and control box, combined with the topography, arranging the direction of the line and marking. Prevent other

construction damage.

(2) Generally, the embedded depth of the line is 5-15 cm, and the width is about 5 cm (can walk on the wall); the PVC pipe should be protected when the control line is installed.

Construction steps

(1) In the position of vehicle entrance and exit, confirm the position according to the size of tire killer, and confirm the excavation of grooves along the underground direction of pipeline.

(2) After the position is fixed, the tire killer can be placed directly on the ground which needs to be installed. The ground needs to be smooth, so that the whole body can balance the force, and then fixed with M10 expansion screw.

(3) When the tire killer is fixed, the power line and signal line are extended.

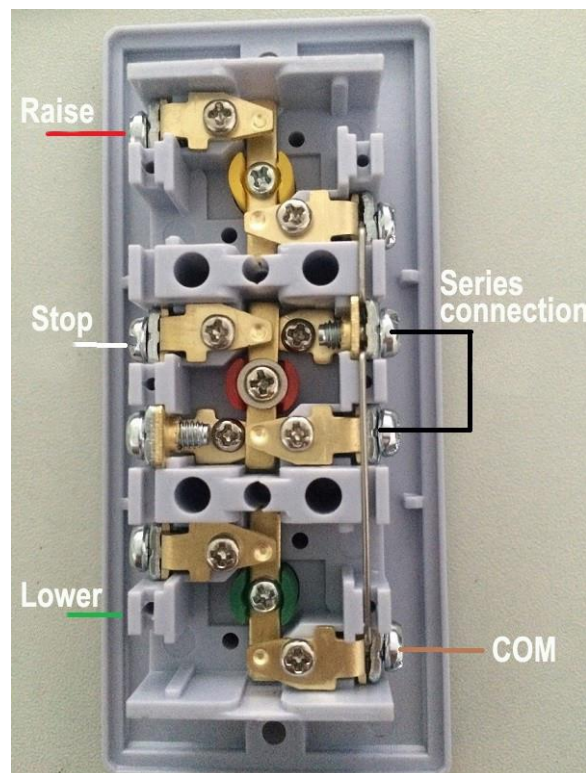
2. Mark the floor through the holes on the base of the tire-killer.

3. Take the tire-killer aside and fix the steel anchors.

4. Put the tire-killer back to its original position.

5. After putting washers on the base plate of the tire killer, through the studs, tighten the nuts.

6. Test device.



(Push button station)



(Control box)

Chapter 5 Practical trouble shooting procedures

If the Tyre-Killer seems not to be working (properly):

- (1) Make sure there is power. Check 220V current inputs.
- (2) Check fuse on PLC.
- (3) Make sure relay is working properly (Normally it is possible to hear a click when an input command is executed).
- (4) Check motor input cable connections.
- (5) Check loop detector connections.
- (6) Check terminal group connections.

***If the system is not running after all these controls please contact with the manufacturer.**

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