KNIGHT2000 Thunder

Voice Console

Technical Support

www.roadthunderstorm.com

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Connecting electric windows

The **KNIGHT2000 Thunder Voice Console software** allows you to assign any of its relay modules (module 1, 2, 3, ..) to the management of the electric windows; this in case you do not already have an external circuitry can handle the reverse polarity.

Via software, you can choose the type of management that is, if:

1. The electric windows control and manage the polarity reversal via internal relay module
2. Simply command, though always through relays, external devices to delegate reverse polarity

This section will explain the management number 1

Generality

The scheme is used to manage the reverse polarity, the same way as the keys electric windows, allowing you to manage your windows at the same time in a manual and software without causing any conflicts. To proceed you will need to cut the 2 wires that go from the switch to the motors of the glasses and connect them to the relay module selected (Figure 1).

Figure 1

In the event that the glasses behave in a manner contrary (instead of opening are closed and vice versa) is sufficient to reverse the 2-wire input from the button and called in the schema as **SWITCH KEY (IN)**, because in reality there is no real polarity coming from the keys electric windows, because to them it is relegated to just the reverse.

Pontiac Trans Am from 82 to 92 have the wires with the colors below

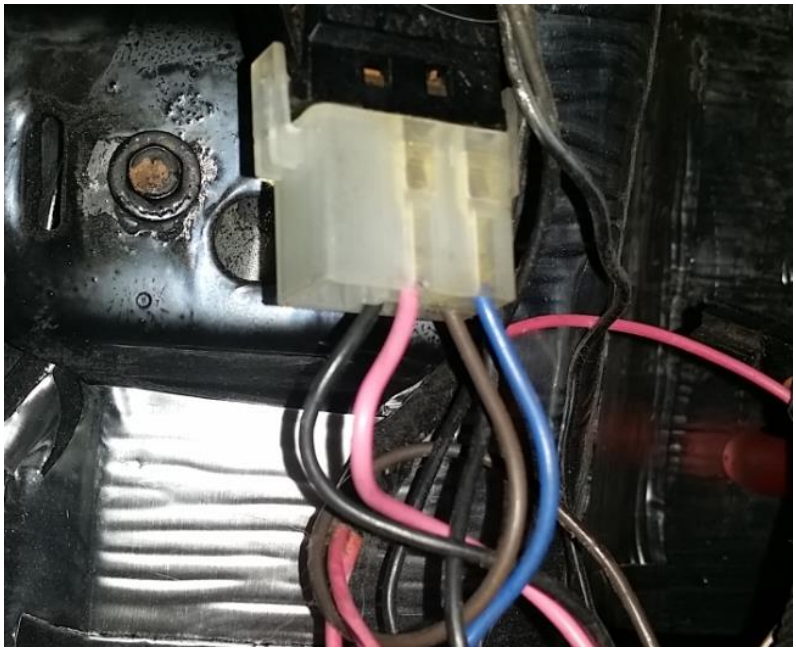
Driver Switch

INPUT

- **BLACK** = -12 Volts
- **RED**= + 12 Volts

OUTPUT (Goto driver Door, electric windows motor)

- **BLUE** and **BROWN**



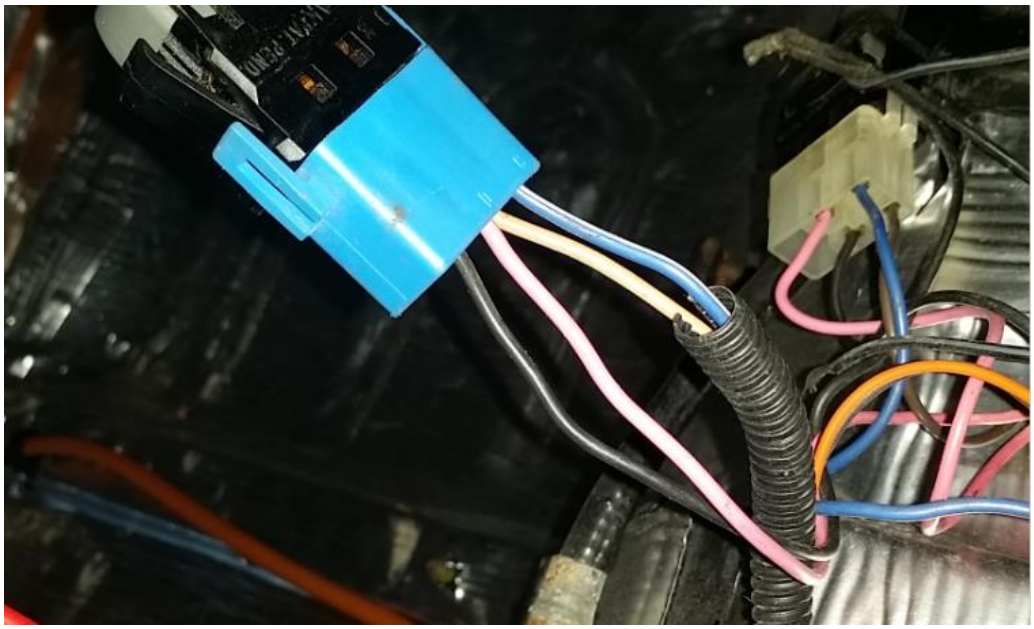
Passenger Switch

INPUT

- **BLACK** = -12 Volts
- **RED** = + 12 Volts

OUTPUT (Goto driver Door, electric windows motor)

- **YELLOW**/**WHITE** and **BLUE**/**WHITE** goto passenger door



Wire Size

- Motor power: 90 watts
- Power consumption: 8 Amperes
- Section wires: 1.0 mm^2

General Schema (Color Wire for Pontiac '82-'92)

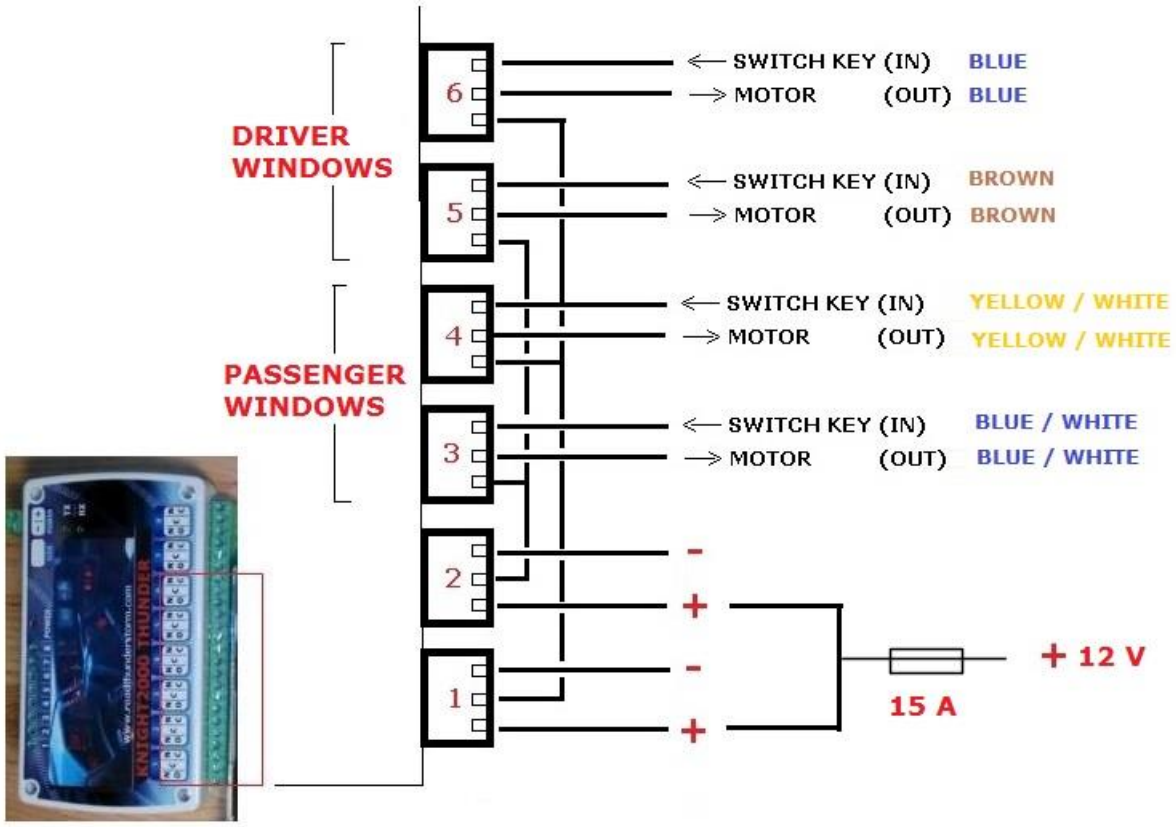


Figura 2

Recommended steps to be followed for wiring

In this chapter you will be shown a procedure to be followed when wiring the module Window lifts

WARNING

Always keep handy switch that feeds the relay board, so as to turn it off in case of short circuit thereby de-energize (turn off) the relay

As a precautionary measure, before making final connections with electrical motors, it is always advisable to try a simple **Tester** or **Digital Multimeter** (Figure 3) the correct polarity of the output terminals of the relay, especially those from the same Scooters **MOTOR (OUT)**

Figura 3

Here are the recommended steps

STEP 1

1. Prior to making connections to one glass at a time (RH or LH)
2. Attach 2 files in INPUT **SWITCH KEY (IN),** glass concerned
3. Attach 2 files in OUTPUT **MOTOR (OUT)**
4. Operate manual or the opening or closing cones keys and see if the windows work. If so proceed to STEP 2

STEP 2

1. Before connecting the 12V + to the relays 1 and 2 as shown in the figure, rest for one second wire + 12V power supply to see if it generates any short circuit; in the negative case proceed to attachment of the 2-wire 12V +
2. Making the same point 1 (above) for the 12V –

3. Operate the opening or closing manually or with the buttons and see if the windows work without causing short circuits or similar; You are therefore advised to start with a short press of a second.

STEP 3

1. Activate the **KNIGHT2000 Thunder** and operate the opening and closing of the windows by the program, remembering to keep on hand the power switch of the relay, in case there are no short circuits.

Connecting electric seat

The **KNIGHT2000 Thunder Voice Console** software allows you to assign any of its relay modules (module 1, 2, 3, ..) for the management of electric seats.

The fundamental assumption is that it is assumed that the electric seat management is done by reversing the polarity of its electric motors, like what happens with the electric windows; a similar argument to that seen for the electric windows should therefore be made for electric seats, to which we refer for the introductory part.

Via software, you can choose between 3 types of management

1. Controlled seats and manage polarity reversal via internal relay module for **2 motors**, or *Forward / Back and Raise / Lower* the ***complete floor*** of the seat
2. Controlled seats and manage polarity reversal via internal relay module for **3 motors**, or *Forward/Back* and *Raise/Lower the* ***zone front / rear*** independently of the floor of the seat
3. Simply command, though always through relays, external devices to delegate reverse polarity

In this section, therefore, we will only return the wiring diagrams in the case of management of electric seats with Relay Module inside, about **Point 1 and 2**

In Figure 1 the situation most complete about step 2, with **3 electric motors**.

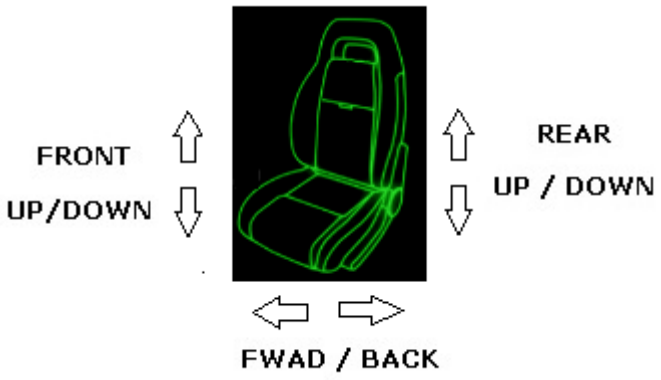
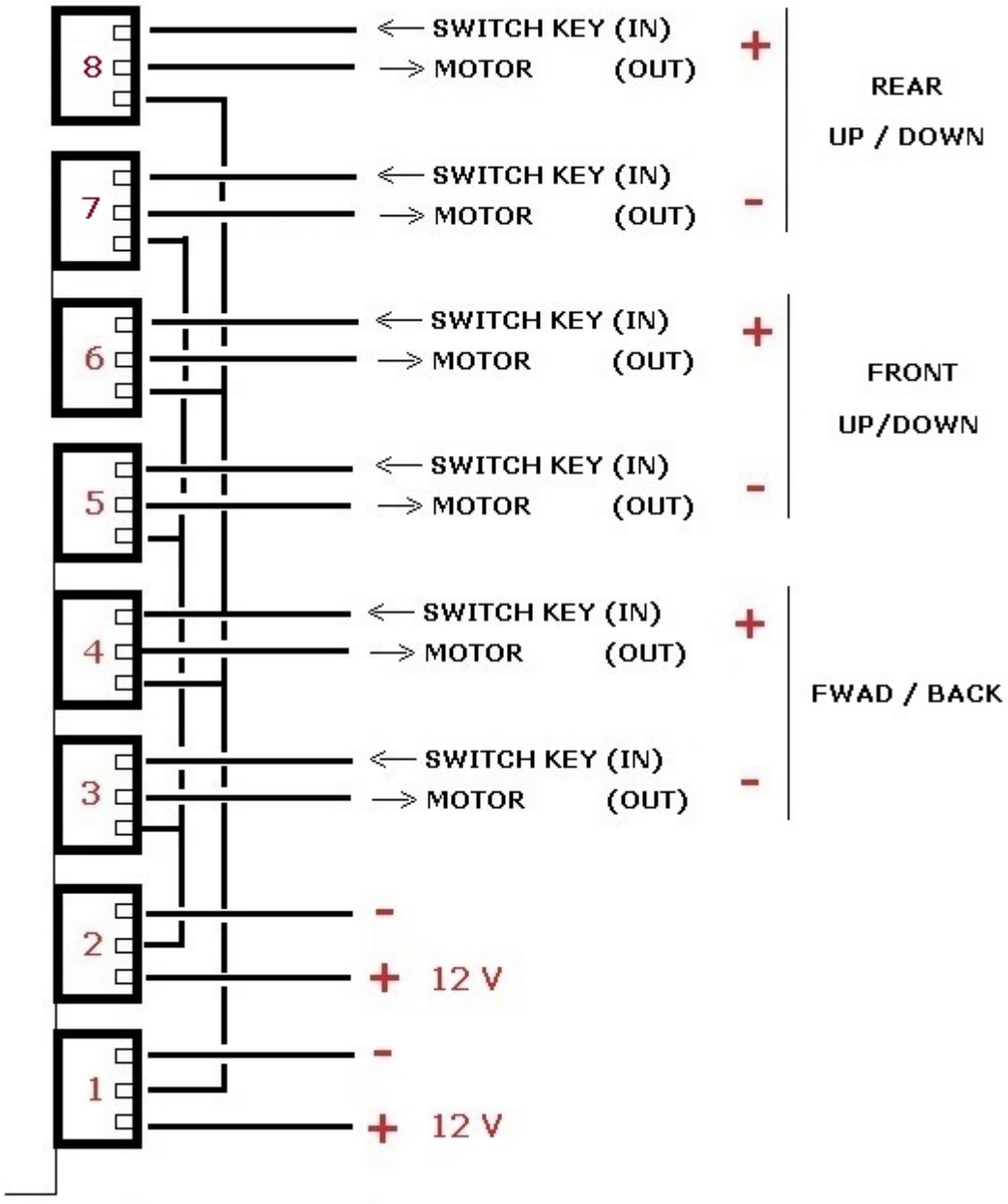


Figure 1

For point 1, about **2 electric motors**, relays will only be used the first 6



Recommended steps to be followed for wiring

Please refer to the section view similar to the Window lifts

WARNING

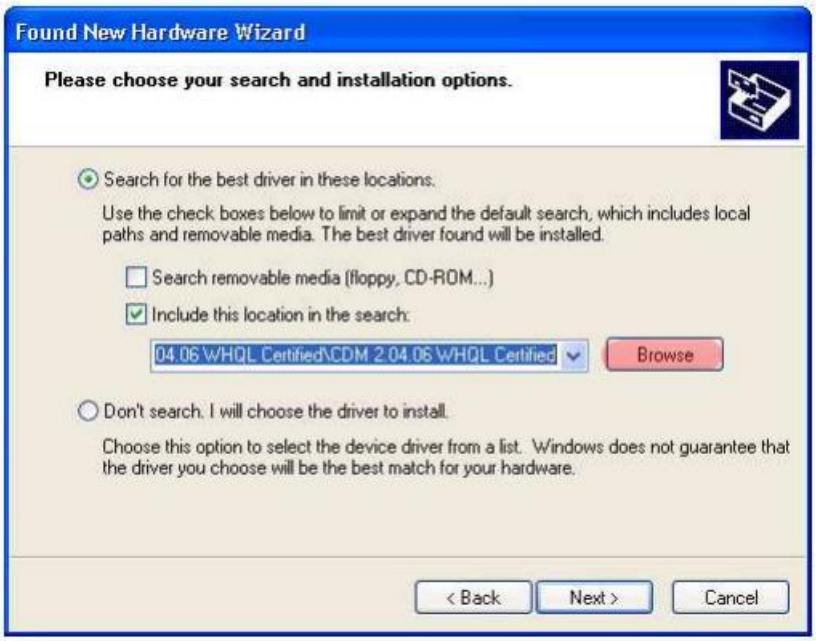
Driver Installation

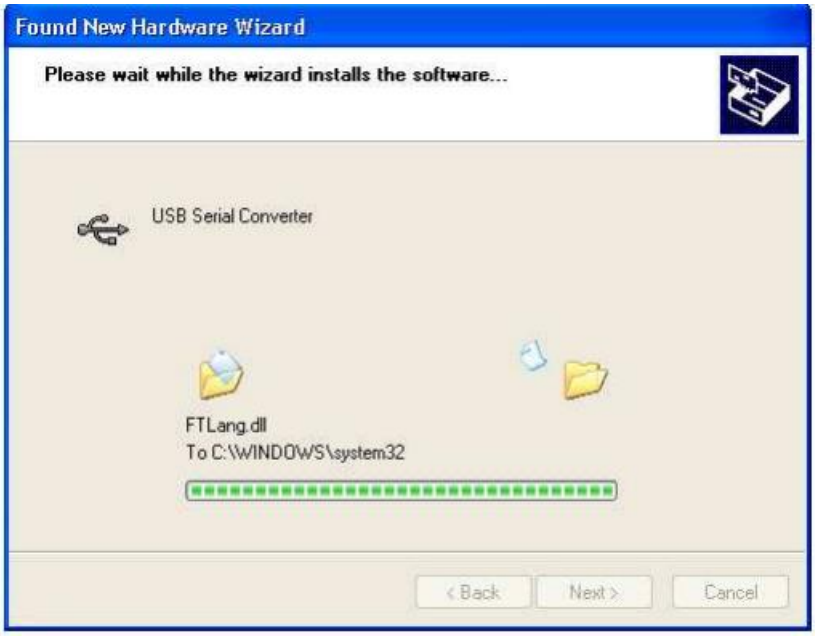
Windows will detect the presence of the device and prompt you to insert the drivers that will be recovered in the directory **C:\Knight2000Thunder\Driver_USB8relays**

Windows will install them and to create a new virtual COM port, visible under (for Windows XP)

Control Pannel/System/Device Manager

Under COM ports you will see a new COM port labeled USB, for example **COM3**. This will be the communication port to be used later in the configuration section of the Main Menu **Relay**


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
04.06 WHQL Certified\CDM 2.04.06 WHQL Certified
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel


Found New Hardware Wizard
Please wait while the wizard installs the software...
USB Serial Converter
FTLang.dll
To C:\WINDOWS\system32
< Back
Next >
Cancel


Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
USB Serial Converter
Click Finish to close the wizard.
< Back
Finish
Cancel

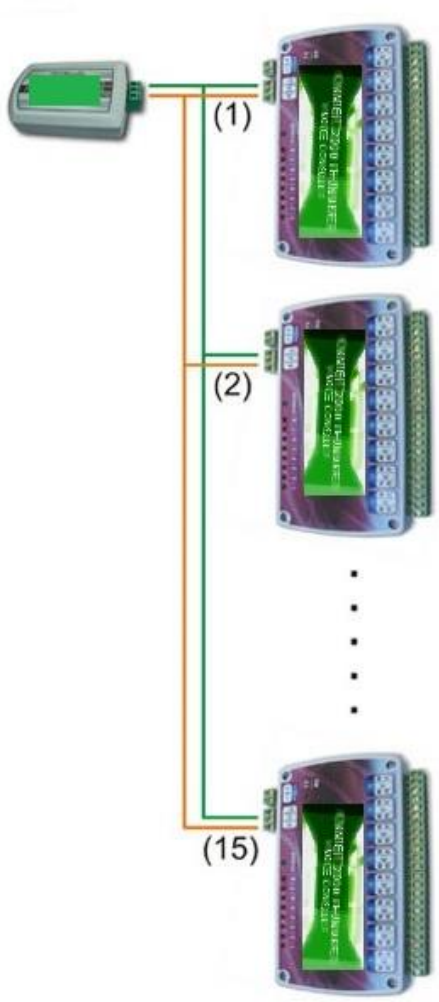
After the drivers' installed, an additional COM port appears in the Device Manager of Windows- usually it is COM3:

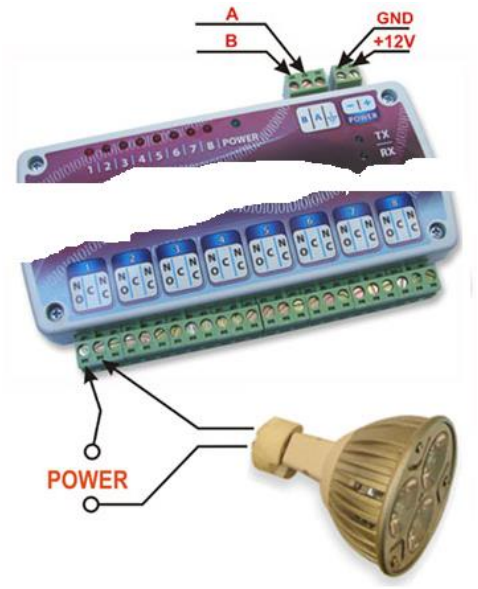
Connecting the relay cards

The type of cards called **TYPE 2**, consist of many modules, each with 8 relays to be connected to each other as indicated by the image below (except the version with 8 relay that has a direct USB connection).

The communication protocol used with these cards, lets put them at considerable distances from the PC (up to 1200 m) without losing the signal; the concept is used in all respects to the network.

The cards are numbered and are already configured; will report the numbers of the relay to which they relate 1-8, 9-16, ...





In detail

The terminals **A** and **B** must be connected together with the consideration of the other modules; the third terminal mass, **C** is optional and should be used in the event that you use shielded twisted pair cables; the shield should be connected to ground, terminal **C**