TOYE CORPORATION
ACCESS CONTROL SYSTEMS

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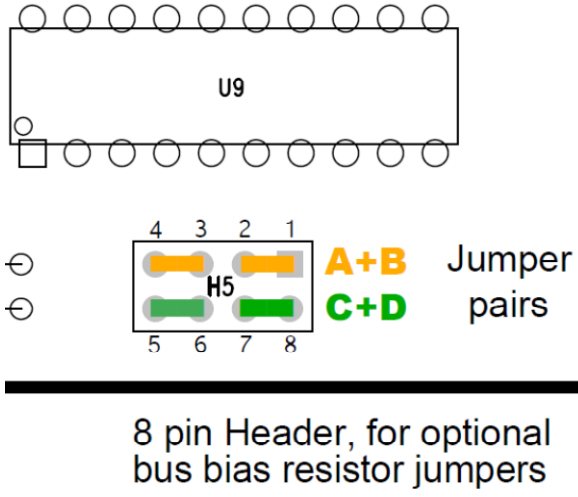
4120R, 4120LR, 4122R, 4122LR, 4130R, 4132R and 8120R Modules Supplemental Instructions

Three improvements have been added to Toye Command modules:
1. Jumpers that provide built in pull up resistors
2. Added surge protection for the output relays
3. A new blue LED on every board indicating that the board has power.

A. New Jumpers

H5 is a new header with jumpers that allow you to add a bias to the data bus when needed. The normal (default) is NO JUMPERS, so none are provided with command modules. When accessories are provided that require the use of jumpers, they will be provided with the accessory, together with appropriate instructions.



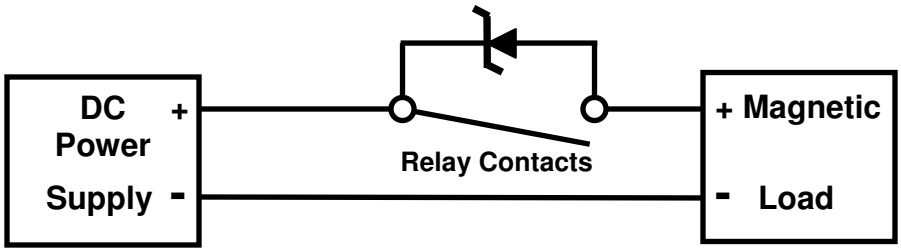
B. Added Surge Protection for Output Relays

Toye command modules most often actuate either an electric strike or a mag lock. These can be AC or DC. In the past we have provided an MOV (Metal Oxide Varistor) to protect our relay contacts from becoming burned out prematurely due to arcing. The MOV is effective for AC but not as good for DC. A diode is better for DC, so we now provide BOTH an MOV and a diode. The preferred installation of the MOV or diode is directly across (parallel to) the load coil of the door lock. An alternate method (series circuit) is directly across (parallel to) the Relay Contacts. This arrangement is not quite as effective as the preferred method, but will still provide reasonably adequate protection. The Cathode (banded end) of the Diode must be connected to the Positive terminal of the Load coil. The Anode of the Diode must be connected to the Negative terminal of the Load coil. The MOV does not have a polarity, and can be installed either way.

Series Circuit Installation across the Relay Contacts:

At the connections to the Relay Contacts (the header plug H4
of the terminal strip on the Reader module),

For a “Positive Feed” series circuit (where the diode is on the positive leg of the power circuit), the Cathode of the Diode must be connected to the wire that connects to the Positive DC Supply line. The Anode of the Diode would then be connected to the wire that connects to the Positive terminal of the Load coil.



For a “Negative Feed” series circuit (where the diode is on the negative leg of the power circuit), the Anode of the Diode must be connected to the wire that connects to the Negative DC Supply line. The Cathode of the Diode would then be connected to the wire that connects to the Negative terminal of the Load coil.

Note: In the sample schematic, swap the "+" and "-" symbols on both the Power Supply and the Magnetic Load. Also reverse the Polarity of the Zener Diode.