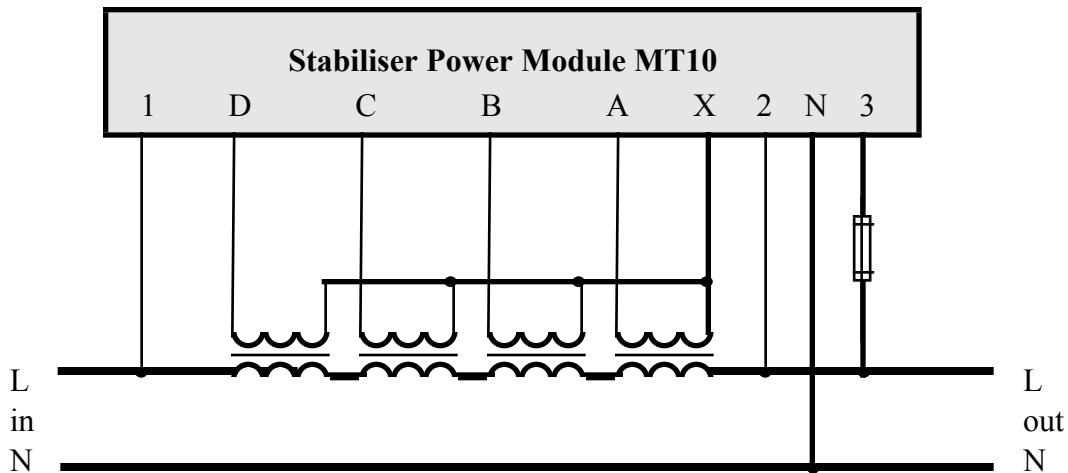




Protection and Bypass



There is no wear and tear inside a module, the life expectancy is unlimited.

As long as the ultra fast semiconductor fuse conducts, the output voltages will be stabilised.

When a fuse can blow:

Inside a digital power module are several pairs of triacs, connected in series across N and L. Only one of them should conduct.

Fast and violent transients such as from a lightning strike may cause both triacs to conduct. For this an ultra fast fuse is needed to protect the power semiconductors.

Use a fuse with a value of 50-100% of the stabilizer's nominal output current. The exact fuse size depends on the inrush currents of the chosen transformers.



When a fuse blows:

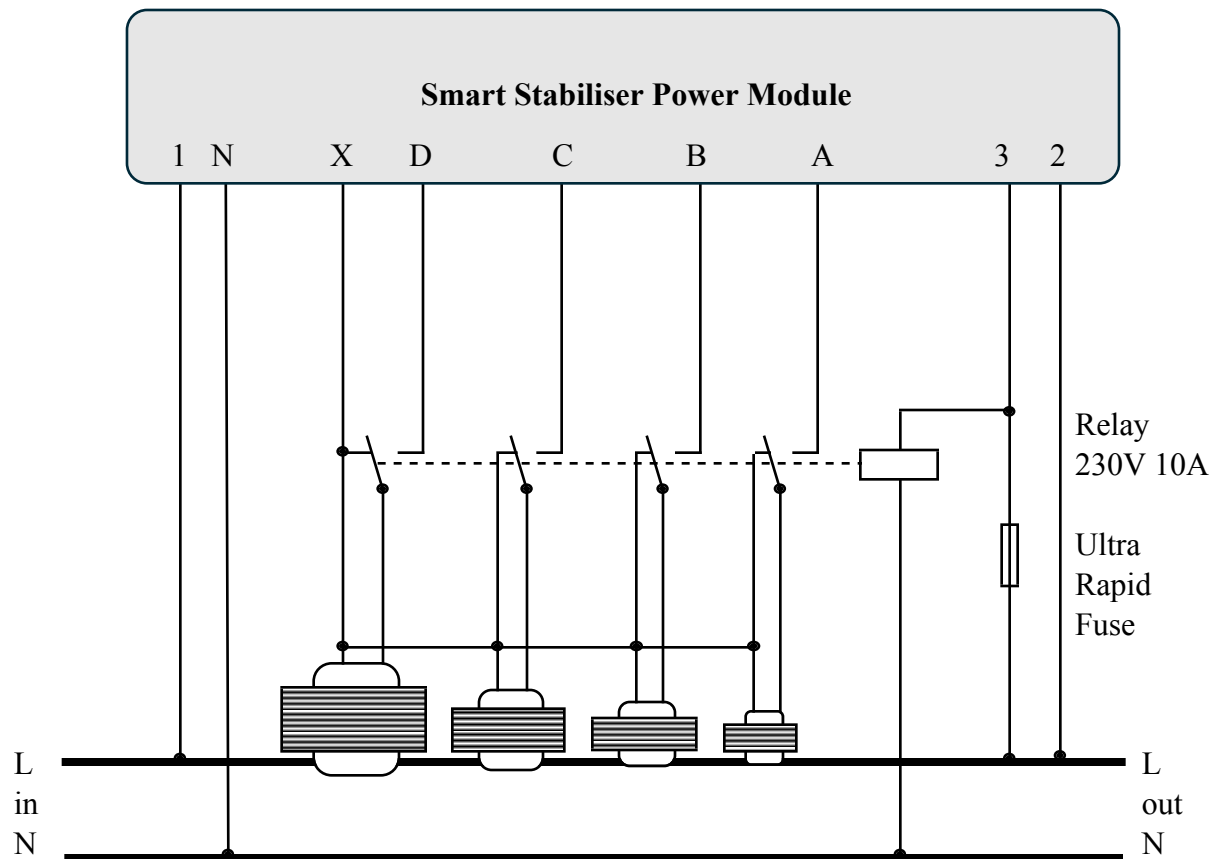
The primary transformer coils are uncontrolled now.

The load current flowing through the secondary coils will induce voltages in the primary coils.

If an induced primary voltage reaches twice the nominal voltage, the thyristor will shorten this coil.

Thyristors and transformers are protected against overvoltage.

A low-cost bypass will pass the unstabilized input to the output:



When the fuse is conducting, a relay will connect the primary coils to the module.

When the fuse is blown, the relay will shorten the primary coils.

Note:

The ultra fast fuse only protects the module.

To protect a complete stabilizer, use a MCB.

