SAFEGROUND
An oscilloscope with differential inputs like the ATS6000 series, is that there are no connections between the channels and with the ground of the computer. It is therefore not possible to create a short circuit.
For example with SafeGround enabled you can connect a standard 1:10 probe to one of your channels, this is not possible with a standard differential channel of other oscilloscope manufacturers. Sometimes it is also required to perform a single ended measurement, but then there is a risk of a short circuit through the scope.
When you do want to measure offset (single ended input), your input is connected to the ground of your oscilloscope and your computer (the alligator clip of your probe is directly connected to ground). The input channels are also connected to each other. When you connect the alligator clip of your probe accidentally to a point in your test subject that is not ground but to a pin with an elevated voltage or signal, a short circuit current will flow through your probe, oscilloscope and computer. This can cause serious damage to the vehicle, the scope and the computer. SafeGround avoids this and safes you.
The SafeGround function can be enabled and adjusted individually for each channel.

The ground current at which the SafeGround protection activates and shuts off the ground connection is adjustable in steps of 10 mA. This allows to use single ended inputs in a situation where the instrument and the device under test do not have the exact same ground level, e.g. due to voltage drop over a ground connection. The small current that then will flow could activate SafeGround. Setting the current limit to a higher value may keep SafeGround from being activated.
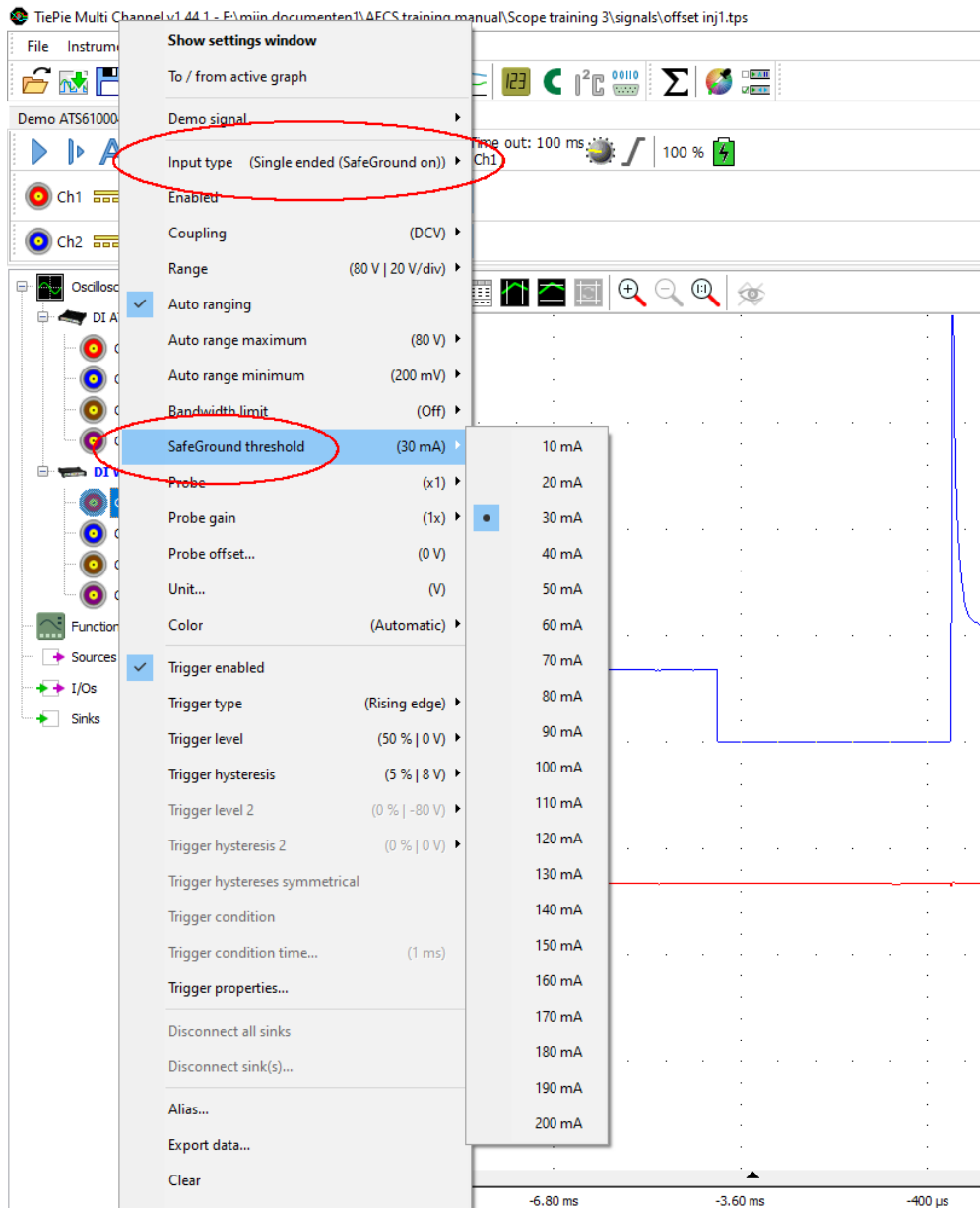When your device under test is very sensitive to damage, the SafeGround current limit can be set to a lower value, to give the highest level of protection.

SafeGround quick properties:
  - Low switch off current
  - High speed switching
  - High voltage protection
  - SafeGround on each channel
  - Maximum short circuit current is adjustable from 10 to 500 mA.
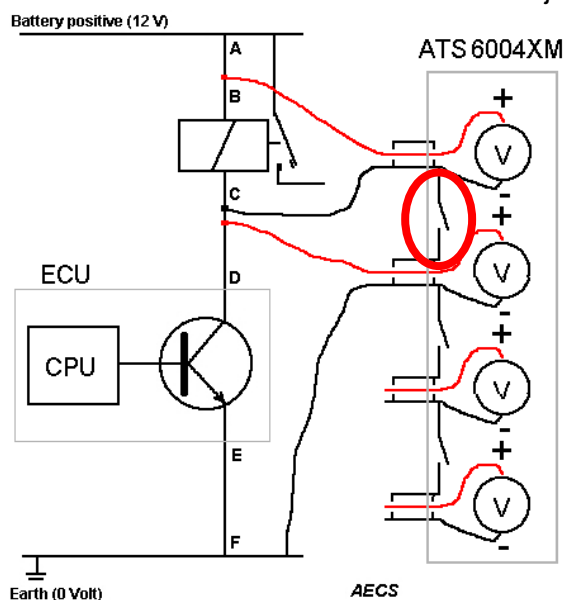
ATS 6004XM scope with safe ground schematic.

Safe ground adjustment window