interrupt the signal flow. In the event of overload or aging, suppressor diodes typically show low-impedance behavior (up to a short circuit). Gas discharge arresters (especially for data technology applications) behave like suppressor diodes and go into short-circuit (or become low-impedance) in the event of overload.

To date, possible aging or overloading of the above-mentioned surge protection components has occasionally been observed and signaled via a display, or defective components have been disconnected. In the event of a defect in the surge protection, the useful signal circuit has until now either been short-circuited (by a suppressor diode or gas discharge arrester) or interrupted (high-impedance resistor), resulting in a signal interruption and thus failure of the entire signal transmission path (signal/data loss).

Disclosure of the invention

Embodiments of the present invention provide a surge protection apparatus, in particular for information technology and/or communications technology systems.

According to an aspect of the present invention, there is provided a surge protection apparatus, in particular for information technology and/or communication technology systems, having: a housing; a first input terminal for applying a first external voltage signal, a second input terminal for applying a second external voltage signal, a first output terminal for outputting the first external voltage signal, a second output terminal for outputting the second external voltage signal; a surge protection circuit device which is at least partially provided on a printed circuit board in the housing; a first current path for conducting the first external voltage signal from the first input terminal to the first output terminal while bypassing the surge protection circuit device; a second current path for conducting the second external voltage signal from the second input terminal to the second output terminal while bypassing the surge protection circuit device; a third current path for conducting the first external voltage signal from the first input terminal to the first output terminal via the surge protection circuit device; a first switching contact device for opening and closing the first current path; a first electrical surge protection component which is connected between the first and the third current path; and a mechanical tripping device for opening the first switching contact

device in a non-tripped state and for closing the first switching contact device to interrupt the third current path in a tripped state given a tripping current in the surge protection circuit device caused by exceedance of a nominal parameter and/or by degradation of the components.

Embodiments of the present invention prevent failure of the signal transmission path when the surge protection apparatus is tripped. In order to achieve this, a mechanical tripping device is implemented, which separates the current path or paths leading through the surge protection circuit device and provides one or more current paths which carry the external voltage signal or signals from the respective input to the respective output, while bypassing the surge protection circuit device. The mechanical tripping device can be designed in such a way that it responds to both overload and aging phenomena.

According to a preferred development, the mechanical tripping device has a conductor track connection device which is attached to the printed circuit board using a soldered connection or conductive adhesive connection and which in a tripped state can be melted through the soldered connection or conductive adhesive connection if the predetermined tripping current is exceeded, wherein the conductor track connection device bypasses a first interruption point in the third current path in the non-tripped state, and a displaceable mechanical actuating