

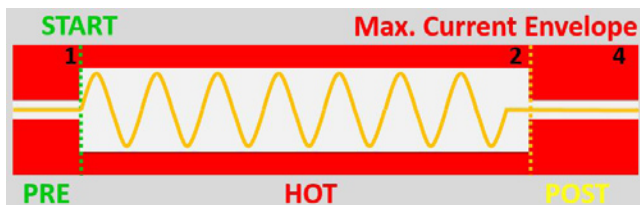


# EMERGENCY SHUTDOWN CONTROLLER

for HIGH ENERGY TEST LABS

Programmable precision current monitoring and protection system for test labs at any voltage level (Low, Medium & High Voltage & High Power).  
It guarantees fast emergency shutdown of test cells in case of DUT failures.

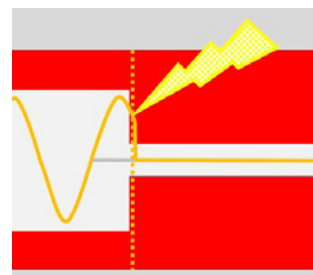
During the different stages of a high energy test sequence multiple different current limits are continuously checked for acceptable values.



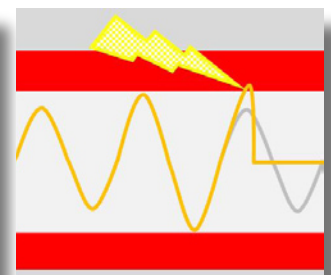
Typical CLOSE-OPEN circuit breaker operation

Any violation of the maximum current envelope causes automatic emergency procedures or any action required, in real-time. The fast reaction on faulty conditions ensures that the highest safety level and best possible protection for costly devices like power generators, capacitor banks and high energy installations is provided.

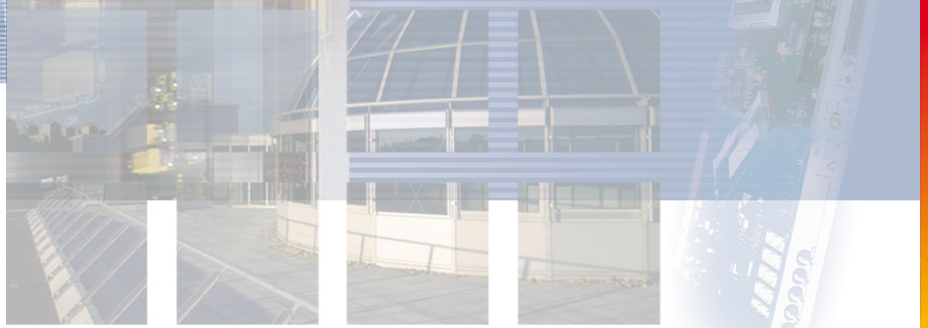
Start of current flow [1] is detected in the real test circuit. During the “hot” test stage [2], designated for the real test, the current level is checked for acceptable test current limits. Selectable filters suppress noise peaks to prevent accidental emergency shutdown. The maximum duration for the “hot” test stage is easily defined by the test engineer in the configuration software. The duration is accepted in either time values or number of sine half waves for



Disconnect Fault



Overcurrent Fault



# SAFETY & PROTECTION

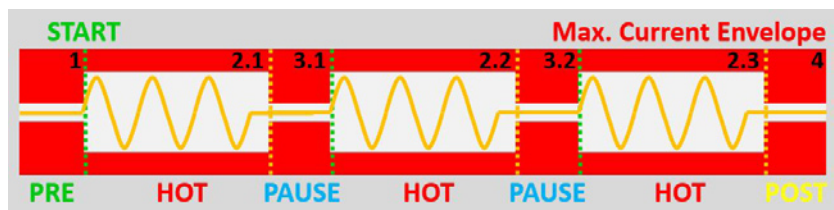
## for HIGH ENERGY TEST LABS

frequency synchronized tests with the SATURN Sequence Timer Controller.

After the test is expected to be finished within the user defined duration, the lower acceptable current limits during the post-test stage [4] are observed. Complex sequences are available for typical breaker tests (OCO, OCOCO ..)

In case the current, measured by the SATURN transient recorder, exceeds the specified maximum acceptable current envelope the SATURN emergency system initiates the predefined reaction. This reaction can be a single control output via fiber optical connection to open the test cell master breaker. It can also be a complex emergency shutdown procedure with breakers, earth connectors, alarm horn etc. in a pre-defined sequence of precisely timed individual steps.

- Shared current signals with SATURN Transient Recorder
- Perfect integration with SATURN Sequence Timer Controller
- Integrated into SATURN system or as a **Stand-Alone** Controller
- Fiber optical output for **galvanic isolation** to Master Breaker
- Easy configuration and control
- Accepts time duration and sine half wave timing parameters  
16 2/3Hz .. 50Hz .. 60Hz .. 400Hz ..



*Example: In case a DUT fails to interrupt the test current within the acceptable time frame [2.1], a current limit violation occurs in the pause-test stage [3.1]. The test cell master breaker immediately disconnects the test cell power supply by predefined automatic emergency shutdown procedures. If the DUT works properly, the test continues and higher current flow is again accepted in the 2<sup>nd</sup> "hot" test stage [2.2] etc.*

Contact us: Roermonder  
Strasse 594 52072 Aachen  
Germany

Web: [www.amotronics.de](http://www.amotronics.de)  
E-Mail: [info@amotronics.de](mailto:info@amotronics.de)  
Phone: + 49 241 169780 28  
Fax: + 49 241 169780 55

Edition 0.30e

[www.axilane.com](http://www.axilane.com)

