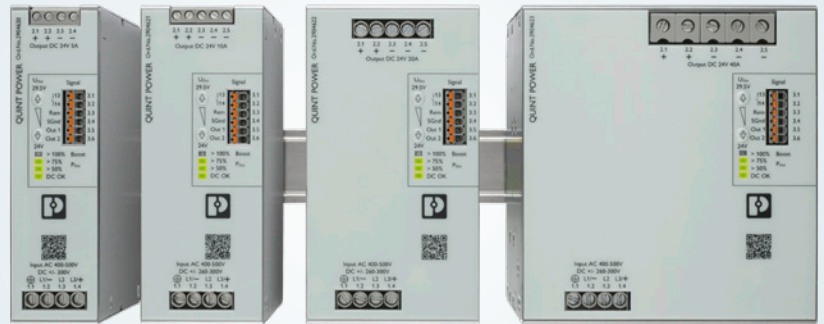


QUINT Selective Fuse Breaking technology

Application note



SFB technology

The fourth generation of QUINT power supplies are designed to enable coordinated circuit protection on the DC power bus. Selective Fuse Breaking (SFB) technology allows individual circuit protection to react to a short or over-current situation, preventing damage to other circuits on the DC bus and increasing overall system availability.

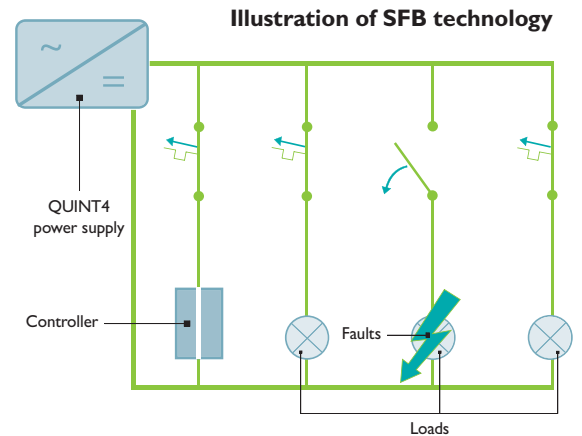
Without coordinated protection, a short circuit or excess current draw may result in power loss on the DC supply line. In this scenario, the power supply may self-protect with electronic short circuit protection or reduce the output voltage to zero if there is an excess current draw. This results in power loss to all loads on the DC power bus. The result is often expensive downtime for the machine or entire system.

The QUINT SFB prevents this from happening by providing a peak energy output to cause a circuit breaker to trip or a fuse to blow as intended. This allows the remaining circuits to continue operation and makes finding the faulty device fast and easy.

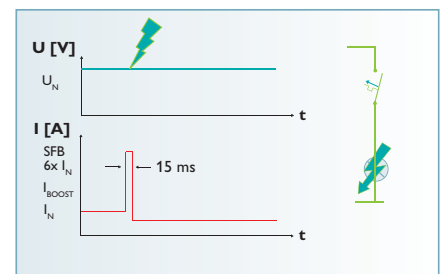
SFB pulse

QUINT SFB circuitry is designed to allow operation of supplementary protection devices connected downstream of the power supply. To do this, the SFB circuit provides a current impulse six times the nominal current rating for 15 ms. This impulse is enough to trip a fuse or a type A, B, or C characteristic curve thermal-magnetic circuit breaker. Furthermore, SFB is also compatible with electronic circuit breakers, thus the QUINT4 with SFB can be used with any secondary circuit protection.

If the breaker or fuse fails to trip on the first impulse, the SFB circuit will attempt two more pulses. If the three pulses do not successfully trip the circuit breaker or blow the fuse, the QUINT SFB reverts to the U/I characteristic curve and protects the power supply from the fault. Because the six times nominal current delivery is controlled by short duration pulses, there is never a danger of overheating circuit conductors.



SFB circuit impulse



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