

# Static Transfer Systems (STS) for high availability architecture



## Static Transfer Systems (STS)

Static Transfer Systems (STS) are intelligent units that transfer the load to an alternative source when the primary source is out of tolerance. This ensures "high availability" of the power supply for sensitive or critical installations.

The purpose of STS devices is to:

- ensure the redundancy of the power supply to critical installations by means of two independent power sources,
- increase power supply reliability for sensitive installations,
- facilitate the design and expansion of installations that guarantee a high-availability power supply,
- increase the overall site flexibility, allowing easy and safe maintenance or source replacement.

STS systems incorporate reliable and proven solid-state switching technologies (SCR), enabling them to perform fast, totally safe automatic or manual switching without interrupting power to the supplied systems.

The use of high-quality components, fault-tolerant architecture, the ability to determine the location of the fault, management of faults and loads with high inrush currents: these are just some of the characteristics that make STS systems the ideal solution for achieving maximum power availability.

STS can also protect against:

- main power source failure,
- spurious tripping of upstream protective devices,
- mutual disturbances caused by faulty equipment (short-circuit) supplied by the same power source,
- operating errors (circuit opening) occurring in the supply chain.

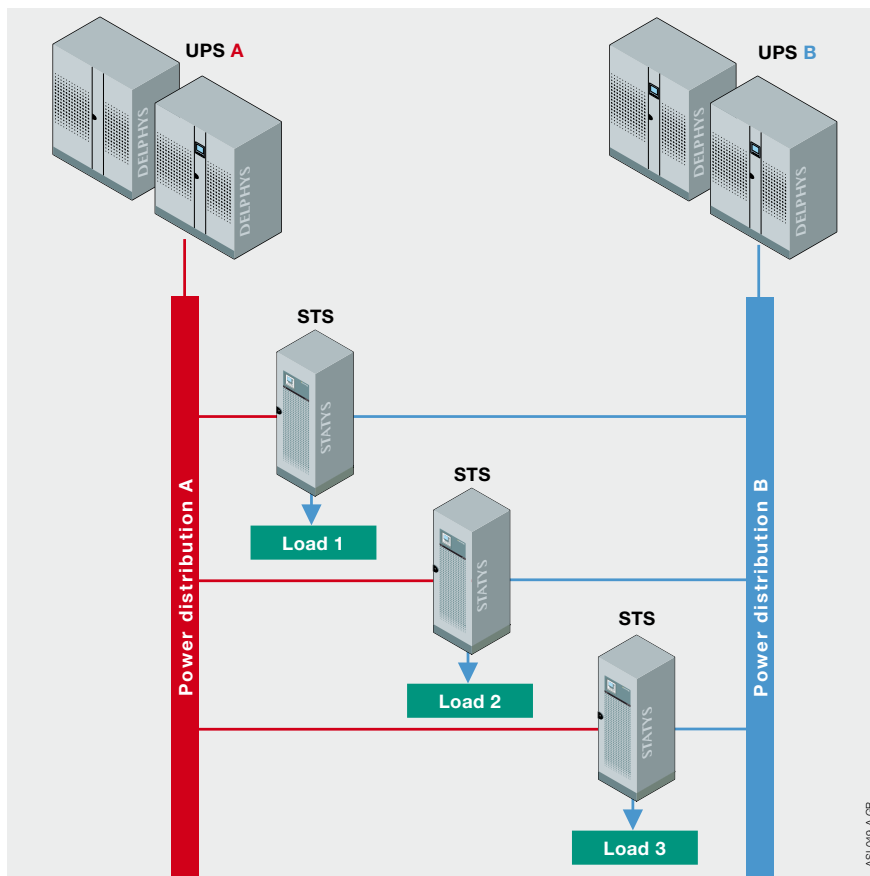
## Static Transfer Systems: some examples of usage

Normally, STS provide redundancy between 2 independent UPS systems.

Each STS is sized according to the load (or set of loads) it protects.

It is advisable to install the STS device as close as possible to the load, so as to ensure

redundancy of the upstream distribution and to keep the single fault point (the conductor between STS and load) as short as possible. The use of several STS also provide electrical load segregation.



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## Static Transfer Systems: some examples of usage

Static Transfer Systems ensure high business availability and provides site maintenance agility.

The '2N + STS' architecture ensures the load is always supplied by high power quality on each input, even if one power distribution is down due to critical fault or for long term maintenance (e.g. source replacement or failure of the electrical infrastructure).

The combination of a multi-source architecture and STS connecting the load to two independent sources ensures they are always supplied even if one of them is down. The critical facility therefore benefits from very high fault tolerance.

In both example, the STS can be centralised (one high STS rating for each power distribution switchboard) or distributed (close to each server room, row, rack, etc.). The choice of either solution depends on the installation to be protected and on the expected availability or the requested level of maintainability.

