SMA Export Limitation System
Compliance with Distribution Network Operator requirements

DNOs require a fail-safe system, hard wire communications between the components of the export limitation system, specific power quality and operational time. The SMA export control system meets all DNO requirements.

Requirement: The scheme has hard wired communication links between the various component parts of the export limiter scheme.
Compliance: The communication between the different components (Inverters, Energy Meter and Cluster Controller) is via Speedwire (Ethernet cable, RJ45 Plug). Not wireless connections.

Requirement: The export limitation scheme operates signals to the generation to reduce output within 1 second.
Compliance: The SMA Energy Meter transmits measurement values, one averaged value per second to the Cluster Controller. The Cluster Controller calculates the new control point and sends new AC power output level command to connected inverters.

Requirement: The scheme is fail-safe and limits export if the export limiter fails or it loses its power supply.
Compliance: Fall-back is an operating mode in the Cluster Controller used for grid management services. It controls the feed-in behaviour of the inverters in the event of a communication failure. There are two types of Fall-back: Fall-back in the event of missing or invalid external set point and Fall-back in the event of failure of Speedwire communication between Cluster Controller and SMA inverters.
During a breakdown of communication between inverters and Cluster Controller/Energy Meter, inverters detect the breakdown via Speedwire heartbeat and revert to configured "Fall-back" setting for 0% AC power output until communication is resumed. In addition, if any component (SMA Energy Meter or Cluster Controller) fails, the inverters reduce their power to the established limit export.

Requirement: A reverse power relay is fitted which will disconnect the generation if the export goes above the Maximum Export Capacity
Not required for fail-safe LV metered connections

Requirement: The scheme complies to EN Engineering Recommendation G5/4 for harmonics, P28 for flicker and P29 for voltage unbalance.

Compliance: same as a system which is not limited. Please, check specific G83/2 and G59/3 certificates of our SMA inverters in our website www.sma-uk.com in the Downloads area.

Requirement: When the export limitation scheme operates it will reduce the exported Apparent Power to a value equal to, or less than, the Agreed Export capacity.

Compliance: In test cases the inverter adjusts the output power in less than 5 seconds to maintain the DNO restriction.

With a 0-watt closed-loop control in the PV system, a base load (self-consumption) of approx. 25 W x number of inverters in the PV system is always required.