User-friendly

- Simple connection to the generator system
- Exchange realtime data via Modbus®

Stable

- Optimal control of solar energy feed-in
- Reverse power protection functionality
- Several optimization and communication functions available

Flexible

- Plant and system parameters are fully configurable
- Modular design allows for most system setups
- PLC-based modular system with high-quality industrial grade components

Scalable

- Supports future system expansion
- Prepared for future integration of energy storage systems

SMA FUEL SAVE CONTROLLER

Integrating photovoltaics into fossil-fueled power generation systems

The SMA Fuel Save Controller is a key component in PV diesel hybrid system solutions. As the link between diesel generator, PV system and load, the SMA Fuel Save Controller takes on all demand-based control of PV feed-in depending on the load and generation profiles. Thus not only is maximum reliability guaranteed but also fuel costs and CO_2 emissions are reduced. Together with Sunny Tripower and Sunny Central, the SMA Fuel Save Controller meets comprehensive grid management functions within the system. SMA hybrid systems can be expanded on a modular basis at any time and provide reliable system control through remote monitoring.

Technical data	SMA FUEL SAVE CONTROLLER		
	PV Main Controller Module	Data Acquisition Module	Interface Module
General Data			
Dimensions (W / H / D) in mm (approx.)	600 x 600 x 210	600 x 600 x 210	600 x 600 x 210
Weight (approx)	30 kg	30 kg	30 kg
Protection rating per IEC 60529	IP 65	IP 65	IP 65
Ambient Conditions			
Operating temperature range	-10 °C ... +50 °C		
Maximum operating altitude	2000 m above mean sea level		
Humidity	5 % ... 95 % (non-condensing)		
Power supply			
Voltage Supply (rated)	110 ... 240 VAC (50 ... 60 Hz)		
Power consumption (approx.)	200 W	200 W	200 W
Communication			
Plant communication to supervisory plant control, SCADA and remote monitoring	Modbus/TCP, http, FTP over Ethernet 10 BASE-T and 100 BASE-T(X) Remote monitoring over UMTS/GSM (optional)		
Communication between modules / Maximum cable length	Ethernet over optical fiber through SC connector Ethernet copper based (optional) / 2000 m		
Communication to inverters / Maximum cable length	STP: Speedwire, 10/100 Mbit/s SC: Ethernet 100 BASE-FX and 100 BASE-TX (optional) / STP: 100 m, SC: 2000 m		
Communication protocol to genset controllers	MODBUS/TCP over Ethernet 10 BASE-T and 100 BASE-T(X)		
Other Interfaces			
Multi-functional digital inputs (for potential-free contacts, maximum voltage drop @ 10mA: 5V)	8	2	–
Multi-functional digital outputs (potential-free contacts)	4	–	–
Voltage / Current measurement	–	VT (for grid voltages higher than 415 V) / CT (5 A)	–
Visualization & data logging			
Visualization and configuration interface	Web interface for local and remote monitoring		
Data & Event logging	5 second values for 2 days, 5 minute average values for 30 days		
Compatible Inverters			
Inverters	Sunny Central CP-XT series, Sunny Tripower (STP 10000TL, STP 12000TL, STP 15000TL, STP 15000TLEE, STP 17000TL, STP 20000TLEE)		
General system design characteristics			
System size (PV system size)*	300 kVA ... 6 MVA*		
Maximum PV power ratio	60 % of the max. genset capacity (parallel operated)		
Maximum number of handled gensets	5 (no restriction if power limitation is available through supervisory control)		
Type designation	FSC10CONT	FSC10DAQ	FSC10IFM

* Larger systems available upon request