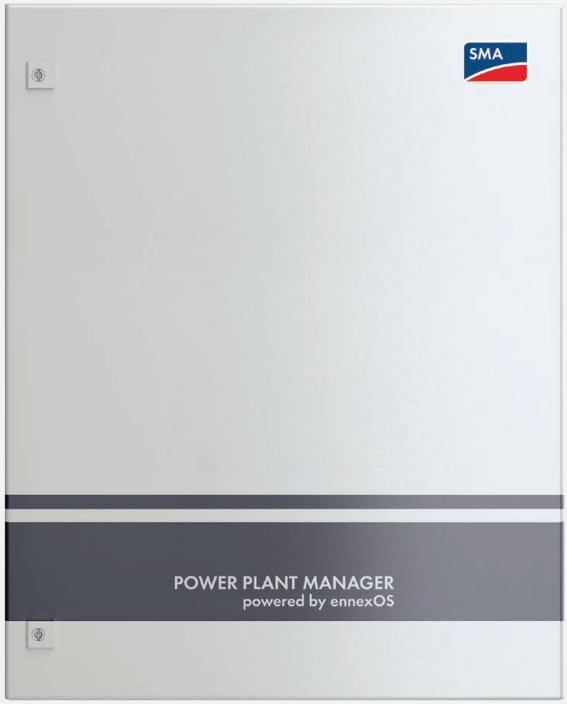
/ PPM-10



SMA Power Plant Manager

Reliable power plant operation in intelligent utility grids

/ **Certified control gear for PV farm as per VDE-AR-N 4110/4120/4130**

Reliable
- High-performance and robust industrial quality
- No maintenance work thanks to fanless system design
- Maximum availability with optional hot-standby redundancy

Future proof
- Flexible integration of battery systems, additional power generation or compensation systems
- Easy integration into future energy markets

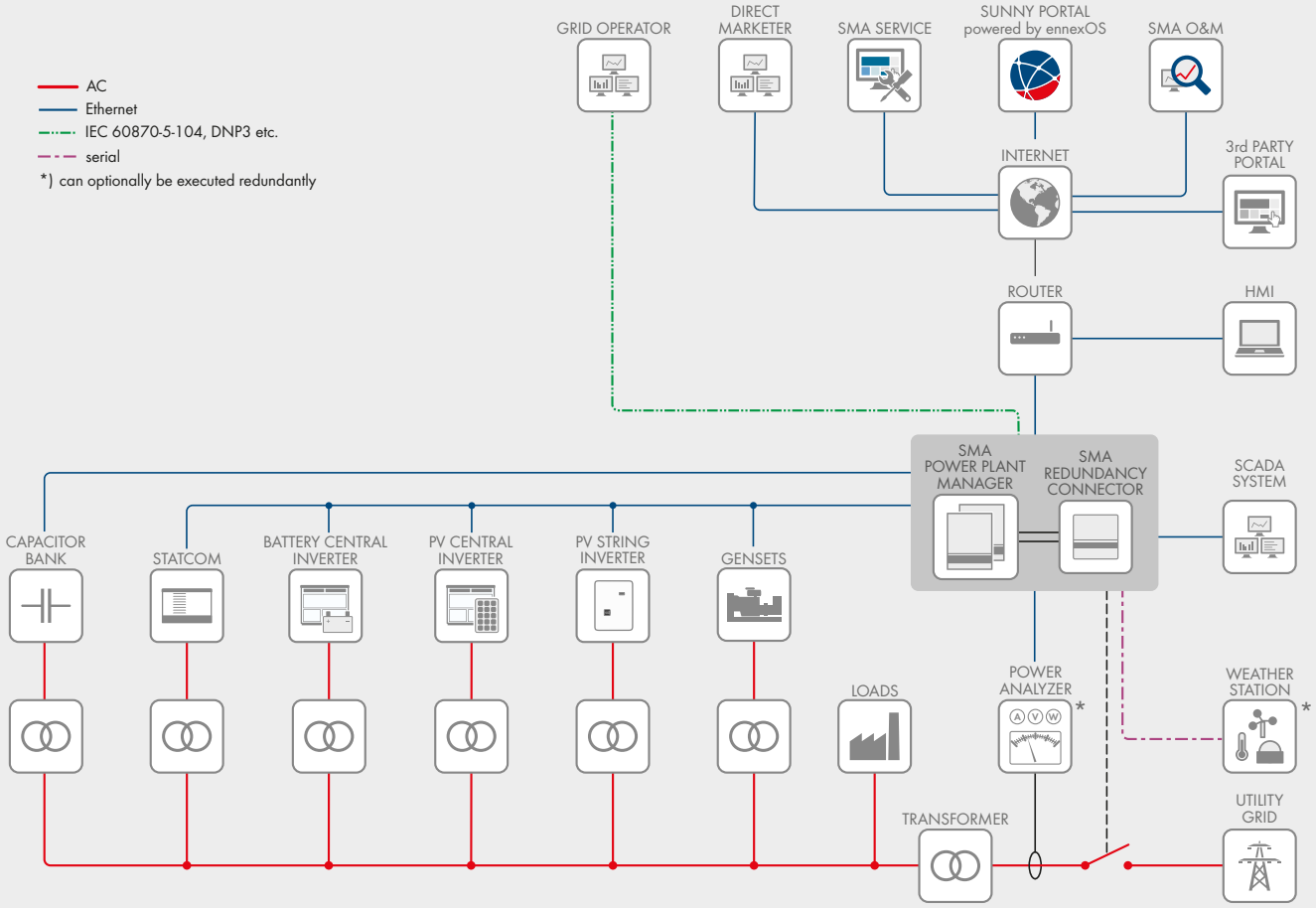
Functional
- Highly dynamic farm control to ensure compliance with international grid integration requirements
- Central information interface at plant level

Securely networked
- Remote control, monitoring, diagnosis and parameterization via secure connections
- Telecontrol protocols IEC 61850, IEC 60870-5-101 / -104, DNP3

The SMA Power Plant Manager is the integrated solution for reliable monitoringand grid-compliant power control for all PV power plants in the megawatt range with central or string inverters.

It combines professional PLC-based control technology with modern monitoring and management components. For system operators, grid operators, marketers and service technicians, the Power Plant Manager is a key component for exchanging information with the system. Highly dynamic, demand-oriented plant control not only ensures that the power plant runs efficiently but also helps stabilize the utility grid. SMA Power Plant Manager allows flexible operation in PV systems with or without battery storage systems installed in on- and off-grid systems. Maximum system availability with cross-monitoring, redundant SMA Power Plant Managers with decoupled connection of electrical I/O signals via the SMA Redundancy Connector.

System diagram with SMA Power Plant Manager in redundant design (optional)

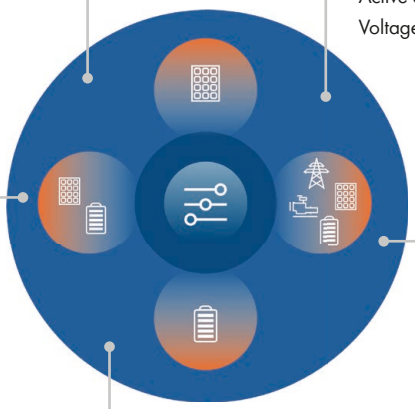


GRID MANAGEMENT SERVICE

- Voltage and frequency control
- Ramp rate control
- Primary control reserve
- Black start and synchronization

PV SYSTEM MANAGEMENT

- Load-dependent PV power control
- Increase own consumtion
- Active and reactive power control
- Voltage and frequency control



MANAGEMENT OF MICRO GRIDS

- Dynamic Genset Shutdown
- Provision of operating reserve
- Grid-forming operation, incl. black start
- Backup energy supply

OPERATION & MONITORING OF ENERGY SYSTEMS

- Clear system visualization
- System-wide data logging and parameterization
- Secure remote access and device updates
- Cross-system monitoring with Sunny Portal

MANAGEMENT OF BATTERY SYSTEMS

- Peak load shaving
- Energy shifting
- Frequency control like EFR/FFR/PCR
- State of charge control and balancing

The SMA Power Plant Manager comes equipped with the SMA Data Manager L (EDML) by default. For advanced control functions, the SMA Hybrid Controller (HyCon) can be optionally integrated into the SMA Power Plant Manager. It takes over the intelligent control of energy flows for PV, battery storage and hybrid power plants. For example, it can initiate a necessary black start to restore the electricity supply, synchronize, and connect sub-grids. With the new dynamic genset shutdown function, it can operate microgrids based entirely on renewable energies and stabilize the utility grid, even when there are strong fluctuations.

Technical data (preliminary)	**SMA POWER PLANT MANAGER**			
System Limits				
Device for system monitoring and system administration	EDML	EDML	EDML	EDML
Device for system control	EDML	HyCon M	HyCon L	HyCon XL
Maximum system size	Unlimited	2 MW	Unlimited	Unlimited
Max. number of devices, function-dependent	200	120	120	200
Max. number of PV inverters, function-dependent	200	120	120	200
Max. number of gensets	Not available	16	16	16
Maximum number of battery inverters	Not available	32	32	200
Max. number of external metering points(via Modbus TCP)	2[1)]	7	7	17
Max. number of irradiation sensors	1	2	2	2
Connections				
Voltage Supply	3-pole connection, terminal block			
Network (LAN)	Ethernet, 10/100/1000 Mbit/s, optical fiber (optional)			
EDML USB	1 x USB 3.0, 2 x USB 2.0 (type A)			
Digital inputs/outputs EDML	2 x DI, 4 x DO			
Digital inputs/outputs HyCon		16 DIO [2) 3)]		
Serial interface	RS485			
Equipment options				
Advanced open- and closed-loop control functions	–	●	●	●
Protocol converter	WAGO controller PFC200			
Telecontrol protocols (optional, to be commissioned separately)	IEC 61850-7-4, IEC 60870-5-101 / -104, DNP3, OPC UA			
Communication protocol to genset controllers	–	Modbus / TCP main device via Ethernet 100BASE-FX and TX		
	–	CAN / CANOpen[3)]		–
Communication devices	Optional router supports remote access and VPN			
I/O systems	Moxa ioLogik E1241 (4 AO)			
	Moxa ioLogik E1242 (4 AI, 4 DI, 4 DIO)			
	Moxa ioLogik E1260 (6 RTD)			
	WAGO I/O SYSTEM 750 (8 DI, 8 DO, 4 AI, 4 AO, 2 RTD)			
Additional compatible I/O systems	Moxa ioLogik E1214 (6 x DI, 6 x relay)			
	Moxa ioLogik E1241 (0-10V)			
Voltage supply				
Supply voltage	100 VAC to 240 VAC / 18 VDC to 32 VDC / 30 VDC to 60 VDC / 90 VDC to 110 VDC			
Internal electricity supply	with monitoring, maintenance-free buffer module			
Ambient conditions during operation				
Ambient temperature	–25°C to +45°C			
Permissible range for relative humidity (non-condensing)	5% to 95%			
Maximum operating altitude above MSL	0 m to 2,000 m			
Degree of protection according to IEC 60529	IP 54 / NEMA 3			
General Data				
Dimensions without base (W/H/D)	800 mm / 1000 mm / 300 mm			
Weight (depending on the order)	Approx. 75 kg			
Mounting type	Wall Mounting			
Material type	Sheet steel, powder coated exterior			
Warranty	See the SMA Limited Factory Warranty			
Certificates and approvals (more available on request)	www.SMA-Solar.com			
Model type number	PPM-10			

● Available – Not available Data at nominal conditions EDML = SMA Data Manager L HyCon = SMA Hybrid Controller

1) 1 measuring device for grid feed-in, 1 measuring device for consumption 2) Partly pre-assigned internally 3) Protocol implementation upon request 4) Activation required in some cases (surcharge)

Key features and functions1)	EDML	HyCon M	HyCon L	HyCon XL
System control and regulation				
Black start	–	–	–	●
Grid synchronization	–	–	–	●
Active and reactive power regulation	●	●	●	●
External setpoints	●	●	●	●
Frequency control	–	–	–	●
Microgrid management	–	●	●	●
Ripple control receiver	●	●	●	●
Manual line-up control	–	●	●	●
Genset power management	–	●	●	●
Power-to-gas function	–	●	●	●
General information				
Redundancy	●	–	–	●
Graphical user interface	●	●	●	●
User management	●	●	●	●
System monitoring				
Communication with SCADA system	●	●	●	●
Logging of external setpoints over 18 months	●	●	●	●
ennexOS Portal	●	●	●	●
Remote update management	●			
Certificates				
VDE-AR-N 4110 / 4120 / 4130	●	●	●	●
TED 749 - NTS	●	●	●	●

● Available – Not available Data at nominal conditions EDML = SMA Data Manager L HyCon = SMA Hybrid Controller
1) Activation is required in some cases (surcharge)

Device compatibility	EDML	HyCon M	HyCon L	HyCon XL
Compatible measuring devices / power analyzers				
SMA Power Analyzer (PPM equipment option)	x	e	e	e
SMA Energy Meter	x			
Elkor WattsOn Mark II	x			
Measurlogic DTS	x			
CCS WattNode WNC3	x			
Janitza UMG 604/ 605	x	x	x	x
Schneider ION 7400/ 9000	x	x	x	x
Schneider ION 7650/ 7750/ 8600/ 8800	x	x	x	x
Compatible inverters				
Sunny Tripower X (STP 12-50 / STP 15-50 / STP 20-50 / STP 25-50) from FW version 03.05.02.R	x	x	x	x
Sunny Tripower Storage X (STPS30-20 / STPS50-20)	x			
Sunny Island X (SI30-20 / SI50-20) 5)	m	x	x	x
Sunny Highpower PEAK3 (SHP xxx-21)	x	x	x	x
Sunny Central CP-XT	x	x	x	x
Sunny Central (SC xxx0-EV)	x	x	x	x
Sunny Central Storage (SCS-3-xxx0-15xx-xx)	m	x	x	x
Sunny Central UP	x	x	x	x
Sunny Central Storage UP	m	x	x	x
Compatible gensets				
ComAp InteliGen/Sys NTC		x	x	x
CRE GENSYS 2.0 (from firmware version 5.05)		x	x	x
DEIF AGC		x	x	x
DSE8610 (MKII or from firmware version 6), DSE8810 (from firmware version 6)		x	x	x
Woodward easYgen 3000 series via CAN and ESENET gateway		x	x	x

Other and only partially compatible devices upon request
e: only with external connection m: only monitoring Valid for current firmware versions EDML = SMA Data Manager L HyCon = SMA Hybrid Controller As of: 2025-07
1) In preparation