

Technical specifications

Main data	Type 1	Type 2	Type 3
Nominal system voltage up to UN	22000 V	HV	HV
Nominal system frequency fN	50 / 60 Hz		
Installed Energy E (BoL)	1540 kWh	2200 kWh	4180 kWh
Installed Power (BoL)	3080 kW	4400 kW	8360 kW
Mechanical Installation (Pre fabricated containerized solution)			
Container dimensions (Width x Depth x Height mm)	12200 x 2450 x 4100	12200 x 2450 x 4100	12200 x 2450 x 4100 (Storage) 6100 x 2450 x 4100 (Inverters)
Total weight in kg	28000	30000	41000 (Storage) 13000 (Inverter)
Cabinet Protection Decree	IP 54 to EN 60529		
Site condition -Typical			
Ambient temperature	-40/+45 C°		
Altitude	≤ 1000 m.a.s.l		
Pollution	Pollution Degree 2: Normally only nonconductive pollution occurs. Temporary conductivity caused by condensation is to be expected.		
Max wind	34 ms / s		
MCC - Control System - hardware and software			
Controller	Real time digital controller		
Processor module for master control	High performance DSP / FPGA board		
Processor for floating point calculations	Texas Instruments C6713 floating point DSP 8 x 300MHz		
Communication	Standard fibre optics communication cards with Avago Versatile link		
Control system for external I/O operations	Siemens S7-1500-series PLC CPU (integrated)		
MCC - Control System - Protection system			
IGBT Power Stack protection	MCC		
Battery protection	BMS		
MCC - Control System - Human-machine Interface (HMI - SCADA)			
HMI type	High quality industrial type touch screen PC with Hot Swap RAID SSD		
HMI languages	Finnish - English - German - Spanish - Chinese - Russian. Others on request.		
Monitoring and Reporting	Monitoring and reporting data upto 1 month		
Communication	Ethernet, ModBus and ProfiNet (TCP/IP), IEC 61850		
Remote operations	Remote operations for monitoring and control		
Merus A2 -PCS modules			
Nominal voltage	400 - 690V		
Operating modes	All power quality operation modes		
Response time	< 100 microseconds / 1 cycle (selective mode)		
Switching frequency	20kHz		
Controller	Real time digital control with FFT		
Load balancing capacity	100% * IN		
Energy storage - battery			
Module type	LI - Ion		
Life expectation	10 years		
DC Voltage Range of rack (Vdc)	588 - 1500 Vdc		
Nominal DC capacity of rack (kWh)	110 kWh		
Max DC power of rack (kW)	220 kW (=2CP)		
Total number of racks	14	20	38