

SMART DC GRID COMPONENTS

PM10/PT20

SMART DC GRID. SMART FEATURES.



NEXT GENERATION DC GRID TECHNOLOGY

DC GRIDS ARE THE MOST EFFICIENT AND THUS COST EFFECTIVE OPTION FOR RURAL ENERGY ACCESS AT LOCATIONS WITH HIGH BUILDING DENSITY AND FOR PUBLIC BUILDINGS LIKE SCHOOLS AND HEALTH POSTS. THE FOLLOWING TWO COMPONENTS OFFER THE POSSIBILITY TO SET UP A SMART DC GRID.

PM10: Unidirectional DC Power Meter for each user.

DC loads can be powered, used electricity is metered and paid based on real consumption. Different payment models can be programmed. The PM power meter receives signals from the PT power transmitter and thus offers smart tariffs and load switching. It comes with an integrated USB charging port. The 24V-Version has a built-in DC/DC converter and powers usual 12V loads. For the PM power meter the PayG pay model is optionally available.

PT20: Feed-in power transmitter at each power station.

The PT power transmitter comes in the same housing like the PM power meters and generates signals used for smart communication with the meters. Several power transmitters can work together to extend the range of the grid. In 12V grids the power transmitter also offers the possibility to power loads once the battery at its energy station is flat.

SMART DC GRID COMPONENTS

PM10/PT20

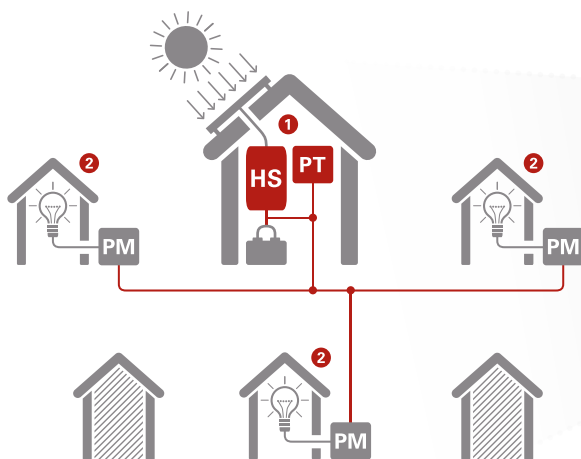
SMART DC GRID. SMART FEATURES.

	PM10 24V	PM10	PT20
Role in DC grid	DC power meter at each user		Feed-in power transmitter at each energy station
Nominal system voltage	24V in 12V out	12V	12 VDC / 24VDC
Voltage range	10 - 15VDC @12V 18 - 30VDC @24V	10 - 16 VDC	10 - 15 VDC @12V 18 - 30 VDC @24V
Cont. current	5A (10A peak / 5 sec)		20A
Data logging / PayG	Optional		
Protection features	Wrong polarity, overcurrent and short circuit protection		
Smart grid modes	Transmitter sends out signals for day time, night time, excess energy and low energy which the meters receive		
Integrated USB charging port	1 port 5V / 1A		
Dimensions / Weight	IP65: 330x260x138mm / 500g		
Max. wire size	16mm ²		
Ambient temperature	0 - 40°C (operation out of range leads to worse accuracy)		
Mounting material	included for wall mounting		
Enclosure style	IP65 dust and water protected (design enclosure optional)		

DATASHEET IS SUBJECT TO CHANGE. REVISION MAY 2017.

Recommended wiring for 12V small grid (also in-house)

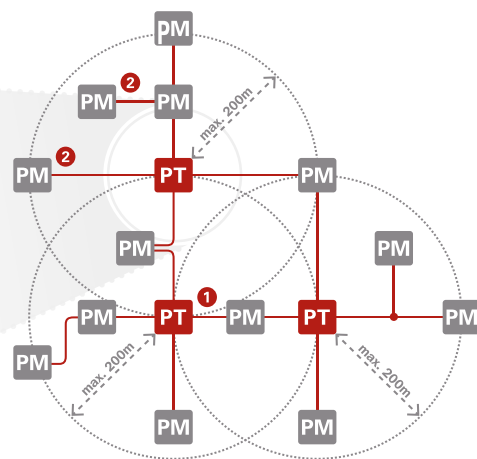
4 mm² 3 phase cables, max. 20 m radius around PT



1 Central energy station 2 DC grid connected user

Recommended wiring for 24V extended village grid

10 mm² 3 phase cables, max. 200 m radius around PT



PM: Power meter at each user **PT:** Power transmitter at each energy station

Places with high energy consumption (shops, restaurants) should be energy stations to avoid power losses.