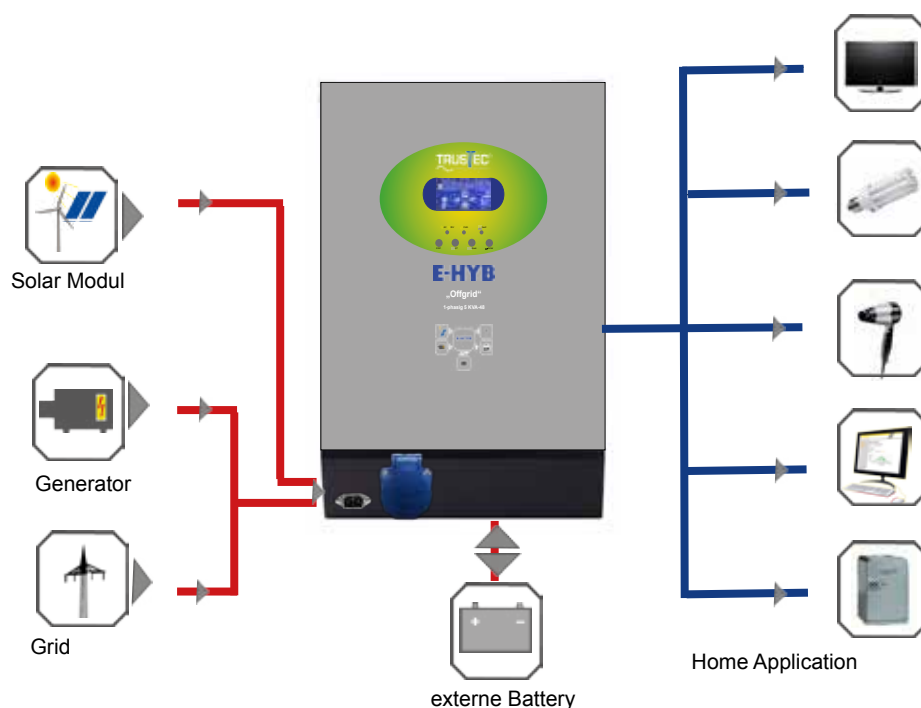




TRUSTTEC **E-HYB** the "NEW" Generation

E-HYB *"Off-Grid" with Grid purchase*

E-HYB *"Off-Grid"- Hybrid - opt. Grid feed in*

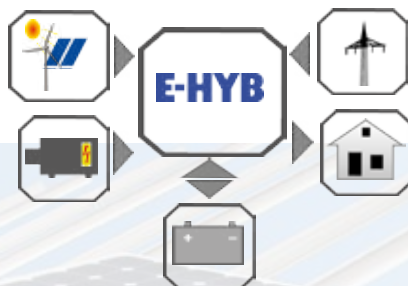
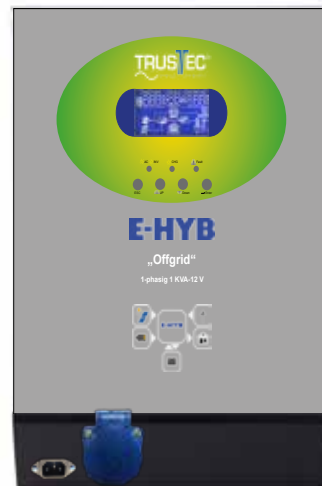


TRUSTEC E-HYB "Off-Grid" 1,5 KVA singlephase (15-30KVA3phase)

Entire technology function in a single device

Offgrid pure sine wave inverter / MPP solar charge controller / network-charging stage / control / LCD display / power switchover

- Pure Sine Wave inverter (single-phase)
- Wide AC input voltage range (for switching on mainpower or generator)
- selectable charge current ranges
- configurable solar input currents by LCD
- Mains and generator power compatible (only if solar / battery power too weak / load too high)
- Auto restart while AC power (automatically switches back to solar energy)
- Surge short circuit protection
- Intelligent charger design for optimized battery performance
- Cold start function of the inverter
- 5 KVA device scalable-aswell to 400 V with phase shift=3phase up to 30 KW
- LCD display of the circuit functions and performance with battery capacity
- 3 years function warranty
- Perfection technology is based on proven UPS technology industry
- Always full separation of own electricity to supply voltage and frequency
- **Thus law to a current reference / consumption system**

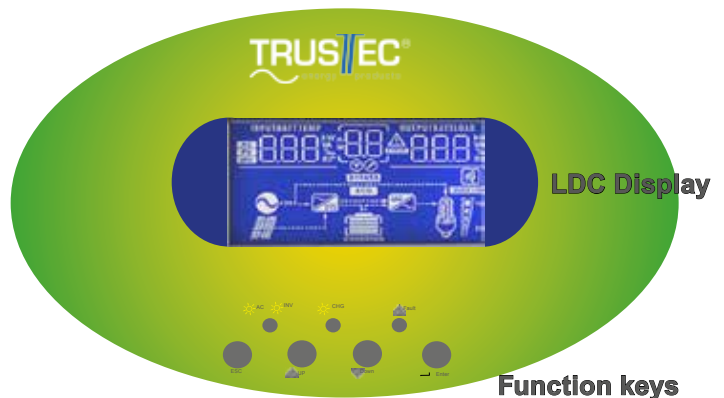


Display Function Description for E-HYB - Offgrid 1-3 Single Phase

TRUSTEC-E-HYB "Offgrid" 1-3 phases 1 KVA - 5 KVA (30 KVA) with power - to / downshift

LCD display: LCD display subject of the terminal and the currently running function of:

- Solarmodul (Watt, Volt, Amp.)
- MPP-charge control (integrated)
- Battery (V, charger level in 4 bar)
- Inverter (integrated)
- Grid (V, Hz)
- Load (W, VA, % utilization)
- Current flow with direction
- Fault error message - with code and warning



Control: Designed in accordance with industry-UPS technology with high standards and the utmost reliability. LCD info display on "UP" and "DOWN" button.

Solar energy charges the battery always, even if the inverter module is switched off.

So higher consumption currents as inverter power, or when the battery is empty immediately supplied directly from the public network total load on bypass. Electronics queries all about 10 minutes if load again low, or battery charged and if so can be done downshift to OFF-grid supply.

The battery-voltage switchgear and values can be adjusted by the user. Individual battery-values can be set.

This controller is fully automatic and follows the shift to personalized and easy user set values.

The function is to cover all the necessary conditions and most likely probably leave you wanting for the flow of energy open.

Connection: An existing AC-house installation TRUSTEC-E-HYB "OFFGRID" may be connected - for the supply of a phase 230 V in the house power per E-HYB-device power consumption = automatic switching only as solar, battery and inverter capacity are smaller than required load.

Generator can be started 230 via the potential-free contact.

The E-HYB 5 KVA can be operated in parallel with other identical devices for energy supply, also with phase shift = 400 V three-phase

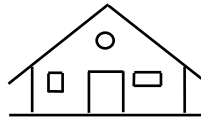
Info Technical Details: For more information, visit our website www.trustec-energy.eu /E-HYB.

When making an investment planning we or our regionaler TRUSTEC partner can advise you on the spot. We are looking forward to your message.

The desire to own, self-sufficient solar power is positive reality

Small huts supply: 1 KVA

With solar power is the leisure more beautiful and carefree



home supply: 3 KVA

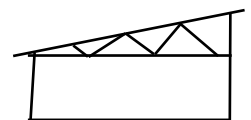
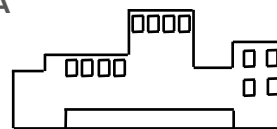
Sunstream saves money - brings security and our satisfaction



1 KVA technical applicationen - Power Supply

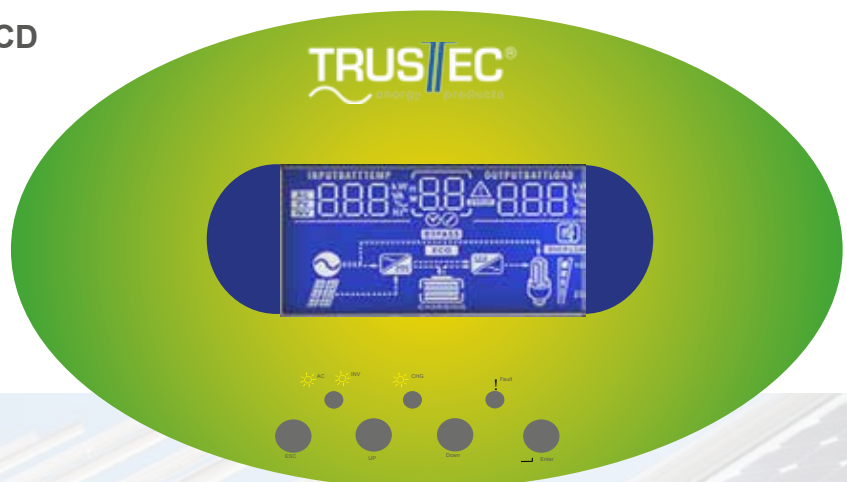
House - Commercial - Agricultural Supply : 5 KVA to 30 KVA

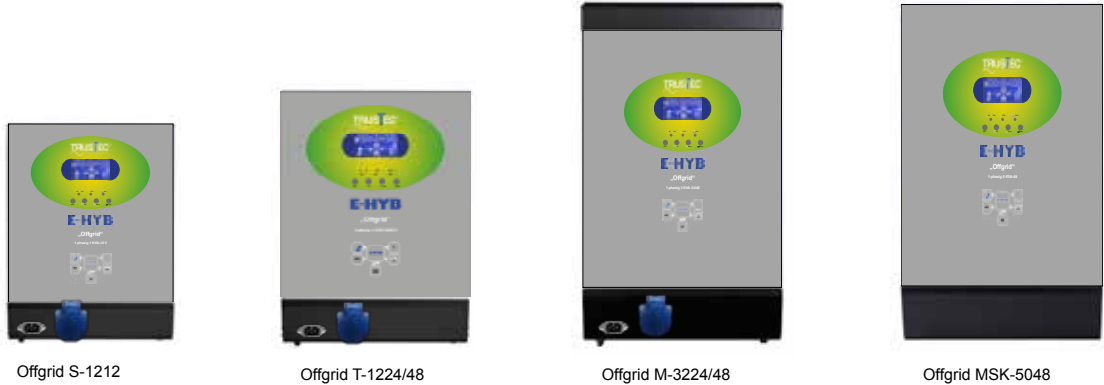
Never the energy may be missing
Sun and technology ensure this with the TRSUTEC - E-HYB - Technology



Accessories: remote control LCD

Energy Communication makes the joy





Offgrid S-1212

Offgrid T-1224/48

Offgrid M-3224/48

Offgrid MSK-5048

Model	S-Serie			T-Serie		M-Serie			MSK-Serie	
	1000 VA	1000 VA	1000 VA	2000VA	2000VA	3000 VA	3000 VA	3000 VA	5000 VA	
Model	TEH OG S1212	TEH OG T1224	TEH OG-T1248	TEH OG T2224	TEH OG T3224	TEK OG T3248	TEH OG M3224	TEH OG M3248	TEH OG-MSK5048	
Rated capacity (5 s > 150% - 10 s@110 %)	1000 VA / 800 W	1000 VA / 800 W	1000 VA / 800W	2000VA/ 1,6 kW	3000VA/ 2,4 kW	3000 VA / 2,4 kW	3kVA / 2,4 kW	3kVA / 2,4 kW	5kVA / 4 kW	
Input										
Voltage	230 VAC									
Mains voltage stabilization	170-280 VAC (for Computer) ; 90-280 VAC (for Home)									
Frequency range	50 / 60 HZ Auto sensing									
Output AC										
AC voltage regulation (Battery Mode)	230 VAC +/- 5 %									
AC voltage regulation	20 k VA			4 kVA	6 kVA			10 kVA		
Efficiency (peak)	90 %	90 - 93 %								
Transfer time adjustable	10 ms (for Computer) ; 20 ms (for Home)									
Wave form	Rein Sinus									
Battery										
Battery voltage	12 V	24 V	48 V	24 V	24 V	48 V	24 V	48 V	48 V	
Battery voltage (Floating)	13,5 V	27 V	54 V	27 V	27 V	48 V	27 V	54 V	54 V	
Overcharge protection	15,5 V	31 V	62 V	31 V	62 V	62 V	31 V	62 V	62 V	
Solarcharger & AC charger										
max. PV power	600 W	600 W	900 W	600 W	600 W	900 W	1500 W	3000 W	3000 W	
MPP Tracker number	1	1	1	1	1	1	1	1	2	
MPP range @ operating voltage	30 - 50 V	30 - 66 V	60 - 88 V	30 - 66 V	30 - 66 V	60 - 88 V	30 - 115 V	60 - 115 V	60 - 115 V	
max PV open circuit voltage	50 V	75 V	102 V	75 V	75 V	102 V	145 V	145 V	145 V	
max. Solar charging current	50 A	25 A	18 A	18 A	18 A	18 A	60 A	60 A	60 A	
max. AC chaging current	10 A	20 A	15 A	15 A	15 A	15 A	30 A	15 A	60 A	
max. charging current	50 A	25 A	18 A	30 A	30 A	18 A	30 A	18 A	120 A	
	AC charger and solar charger can noz work simultaneously									
max Effizienz	98 %									
Stand By consumption	2 W									
Others										
Dimensions mm (DxWxH) wall	95x240x316	100x272x355					140x295x479		120x295x468	
Weight Net	5 kg	6,8 kg	6,8 kg	7 kg	7,4 kg	7,4 kg	11,5 kg	11,5 kg	11 kg	
Humidity	5 - 95 % RH no condensing									
Operating temperature	0 - 55 °C									
Storage temperature	- 15 - + 60 °C									

TRUSTEC E-HYB "Hybrid" 5 / 10 / 30 KW (1 / 3-phase)

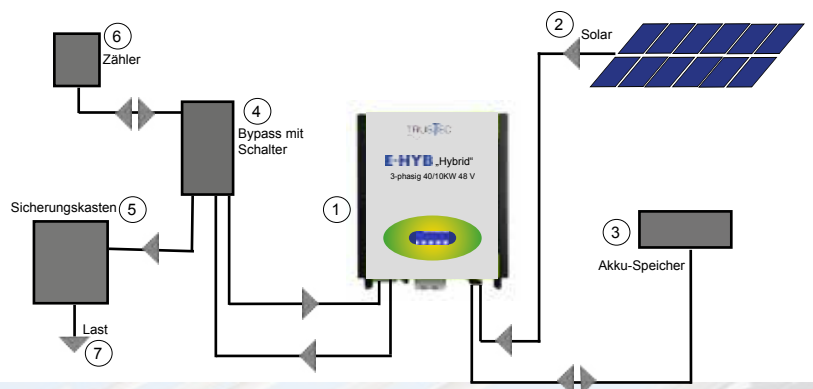
Entire technology function in a single device

Hybrid pure sine wave inverter / MPP solar charge controller / network-charging stage / control / LCD display / power switching opt. grid feed

- Pure Sine Wave inverter (1-phase and 3-phase)
- Wide AC input voltage range (for **network intrusion, parallel operation and network feed**)
- selectable power-flow configuration to configure individually versatile to need
- configurable AC and solar input and supply priority over LCD
- Mains and generator power compatibility
- Auto restart while AC power
- Surge short circuit protection
- Intelligent charger design for optimized battery performance
- Cold start function of the inverter
- 10 KVA unit scalable to 30 KW
- LCD display - comfortable - from: subjects, circuit functions and performance with battery capacity
- 3 years function warranty
- Perfection technology is based on thousands of best UPS industry technology



- ① E-HYB Hybrid: on wall mount (cable to: solar module, Battery input to bypass, exit to bypass)
- ② Solar module: mount (cable to E-HYB Hybrid)
- ③ Battery: up (cable to E-HYB Hybrid)
- ④ Bypass: to wallmount (cable to E-HYB hybrid 2x, Fuse box, counter)
- ⑤ Fuse box available: cable to bypass
- ⑥ Counters available: cable to bypass



Display Function Description for E-HYB- Hybrid

TRUSTEC-E-HYB "Hybrid 3 Phase" 40/10 KW and "Hybrid 1 Phase" 30/5 KW

LCD display: Comfortable LCD display subject of the terminal and the currently running function of:

- Solar Panels (PV input, V, KW for 2 strings, income kWh)
- MPP-Tracker
- Battery (state of charge, voltage, charge / discharge)
- Charge control
- Inverter
- Grid
- Load
- Current flow and direction
- Solar yield display and storage
- Date
- Fault error message - with code warning



All AC and DC currents: input and output per phase, load in %, Apparent power KVA, KW active power with voltage (V) and frequency (Hz)

Control: Designed in accordance with industry-UPS technology with high-standard and high reliability. Solar energy can optionally have priority, higher consumption currents can be supplemented from the electrical outlet with many individual variations. Control is fully automatic and follows the shift to individually set by the user rules, which cover all the necessary options in detail and most likely probably leave you wanting for the flow of energy open.

Function Variants: TRUSTEC-E-HYB "Hybrid" system can be operated in 3 variants with different priority circuits:

1. Offgrid in 3 variants with or without network connection
2. Network connectivity with backup / battery charge and use
3. Network Function = pure feed

Connection: Can be connected and controlled with existing AC-house installation in 2 variants -

1. Hybrid - with grid or even mains supply via switch box
2. ditto. via modbus control

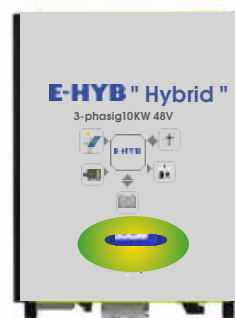
Info Technical Details: For more information, visit our website www.trustec-energy.eu / E -HYB. with examples of: Switching current flow diagrams, wiring diagrams and detailed descriptions. When making an investment planning we or our regional TRUSTEC partner can advise you on the spot.

	TEH " Hybrid " 1- phase	TEH " Hybrid " 3- phase
Model	TEH 9200 + E-HYB Hybrid	TEH 27600-E-HYB Hybrid
Phase	1	3
Max.Solarmodul capacity	10000 Wp	14850 Wp
Max. AC Output power	9200 W = inverter + AC from grid	27600 W = inverter + AC from grid
Inverter max. Output	5 kW = 1x5kW	10 kW = 3x3,33 kW

Off-Grid Mode		
1. Solar power can provide max 10 kW The maximum load can be designed to 10kW		
2. The performance of solar modules can directly operate the load and the excess energy in the battery bank is stored		
3. Battery Bank alone will provide power when the solar panel does not generate electricity		
4.You can start the generator when the battery bank has no more power		

Off Grid Mode = Energy from Solar + Battery

AC Input		
AC Startup range	120 -- 140 VAC / 180 VVAV	120 - 140 VAc pro Phase
Auto Restart voltage	180 VAC	180 VAC pro Phase
allowable input voltage range	170 - 280 VAC	170 - 280 VAC pro Phase
max. input current	225 VDC - 850 VDC	40 A
Number MPPTTracker	30 A	2
PV Input (DC)		
Nominale DC power	10000 W	14850 W
Nomilale Voltage	720 VDC	720 VDC
max. DC input voltage	900 VDC	900 VDC
Start-up voltage / initiale supply voltage	225 VDC / 250 VDC	320 VDC / 350 VDC
MPPT voltage range	225 VDC - 850 VDC	400 VDC - 800 VDC
Number MPP Tracker	2	2
max. Input current	2 x 10 A	2 x 18,6 A
Battery Mode Output AC		
Nominale output voltage	202/208/220/230/204 VAC	230 VAC (P-N) / 400 VAC(P-P)
Output frequency	50 Hz / 60 Hz (auto-sensing)	
Output wave form	pure sine wave	
efficiency DC to AC	93 %	91 %
Battery and Charger		
Nominal Battery voltage	48 VDC	
Charging current	Standard 60 A, 5-100 A adjustable	Standard 60 A, 10-200 A adjustable



Hybrid Mode = Energy f. Solar + Battery+ Grid	TEH 9200 + E-HYB Hybrid	TEH 27600- E-HYB Hybrid
Solarmodul Input DC		
Nominal Voltage	720 VDC	720 VDC
Max. DC Input Voltage	900 VDC	900 VDC
Startup Voltage / Initiale supply voltage	225 VDC / 250 VDC	320 VDC / 350 VDC
MPPT voltage range	225 VDC - 850 VDC	400 VDC - 800 VDC
Number MPPTTracker	2	2
max. input current	2 x 10 A	2 x 18,6 A
Inverter Output AC to Grid		
Nominal Output voltage	208/220/230/240 VAC	230 VAC (P-N) / 400 VAC (P-P)
Output Voltage Range	184-265 VAC	184-265 VAC je Phase
Output Frequency Range	47,5 - 51,5 Hz oder 59,3 - 60,5 HZ	
Nominale Output current	21 A	13,0 A pro Phase
Power Factor	> 0,99	
efficiency	96 %	
AC Input		
AC Starup range	120-140 VAC / 180VVAH	120 - 140 VAC pro Phase
Auto-Restart-voltage	180 VAC	180 VAC pro Phase
allowable input voltage range	180-280 VAC	170-280 VAC pro Phase
max. Input current	30 A	40 A
Battery Mode Ouput AC		
Nominal output voltage	202/208/220/230/204 VAC	230 VAC (P-N) / 400 VAC(P-P)
output frequency	50 Hz / 60 Hz (auto-sensing)	
output wave form	pure sine wave	
efficiency DC to AC	93 %	91 %
Battery and Charger		
Nominal battery voltage	48 VDC	
charging current	Standard 60 A, 5-100 A adjustable	Standard 60 A, 10-200 A adjustable
Others		
Dimension (T x B x H)	120 x 438 x 550 mm	167,5 x 500 x 622 mm
Weight Net	18 kg	45 kg
Interface		
communication connection	RS-232/USB und CAN Schnittstelle	
intelligente slot	optional SNMP, Modbus und AS-400 Karte verfügbar	
Environmental		
Humidity	9 - 90 % RH kein kondensieren	
Operating temperatur	-10 - 55 ° C	
Altitude	0 - 1000 m **	
* These figures are based on VDE 4105 standard. All information can vary depending on other mains voltage and countries		
** Derating of 1% per 100 m at an altitude above 1000 m		
*** TEH 27600+ scales to 3 units = 30 KW		
Products specification are subject to change without notice		

All technical details are subject to change without notice. For any printing, translation and transmission errors are not liable

**Portable Solar Energy Security with the best features
ALL in one device!**

- **Connection to solar module** MC 4 to max. 50V / 600W
- **MPP charge controllers**
- **Battery:** 36 / 72 Ah lead AGM
- **Pure Sine Wave inverter** 1000 VA 230 V
- **Outer connector:** Schuko and power outlet, MC 4, 12 V, securing
- **Mains charging step** above 230 V / max. 600 / 900 W
- **Control:** all functions, battery monitoring with automatic. Power-up and downshift if battery or inverter overload
- **Comfort Display** with subject indicator, power A / watt, battery capacity, utilization, warning function

Model	1000 VAC	
	TEH-M-1012-32 AGM	TEH-M-1012-64 AGM
	Offgridfunktion with power-up and downshift	
rated power (5 s >150 % - 10 s @110 %)	1000 VAC / 800 W	1000 VAC / 800 W
Input	opt. 2000 VA	
Voltage	230 VAC	
Mains voltage stabilization	170-280 VAC (für Computer) ; 90-280 VAC (für Hausanwendungen)	
Frequency range	50 / 60 HZ Auto sensing	
Output AC		
AC voltage regulation (battery mode)	230 VAC +/- 5 %	
AC voltage regulation	2000 VA	
Efficiency (peak)	90 %	
Transfer time adjustable	10 ms (für Computer) ; 20 ms (für Hausanwendungen)	
Wave form	Pure Sine Wave	
Battery Wh / Wh benefits ca.	384 / 192	778 / 384
	AGM lead-gel	
Battery voltage	12 VAC	
Battery voltage (floating)	13,5 VAC	
Overcharge protection	15,5 VAC	
Solar charger and AC charger		
max. PV power	600 W	
MPP range @ operating voltage	30 - 50 V	
max PV open circuit voltage	50 V	
max. Solar charging current	50 A	
plug	MC 4	
max. AC charging current	10 A	
max. charging current	50 A	
	AC charger and solar charger can not work simultaneously	
max Efficiency	98 %	
Stand By consumption	1 W	
Others		
Dimension(BxHxT)	465x480x250	
Weight net ca.	20 kg	30 kg
Humidity	5- 95 % RH no condensing	
Operating temperature	0 - 40 °C	
Staorge temperature	- 15 - + 40 °C	



Can the daily use with solar module fully self-sufficient energy supply to take with grid connection when solar energy is insufficient

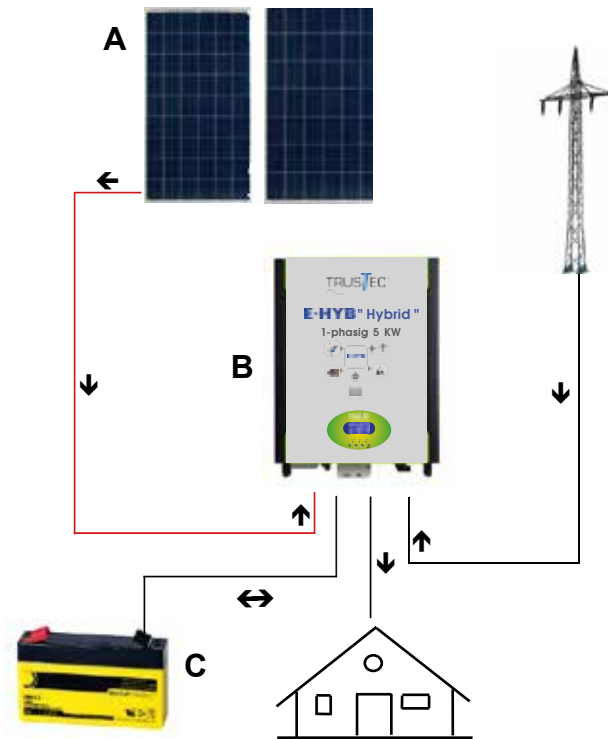
Can take over the power supply of the main house techniques in environmental blackouts etc.

optional with GEL-Battery

A= Solar Power
1,890 Wp

Display 

C = Akku
7200 Wh
Nutz 3600Wh/
50 % DOD



B = Inverter
5.000 KW

Automatic

To network - and downshift

- If battery empty

- Loads higher inverter power

Power = Power = power purchase
pure Offgrid conditioning

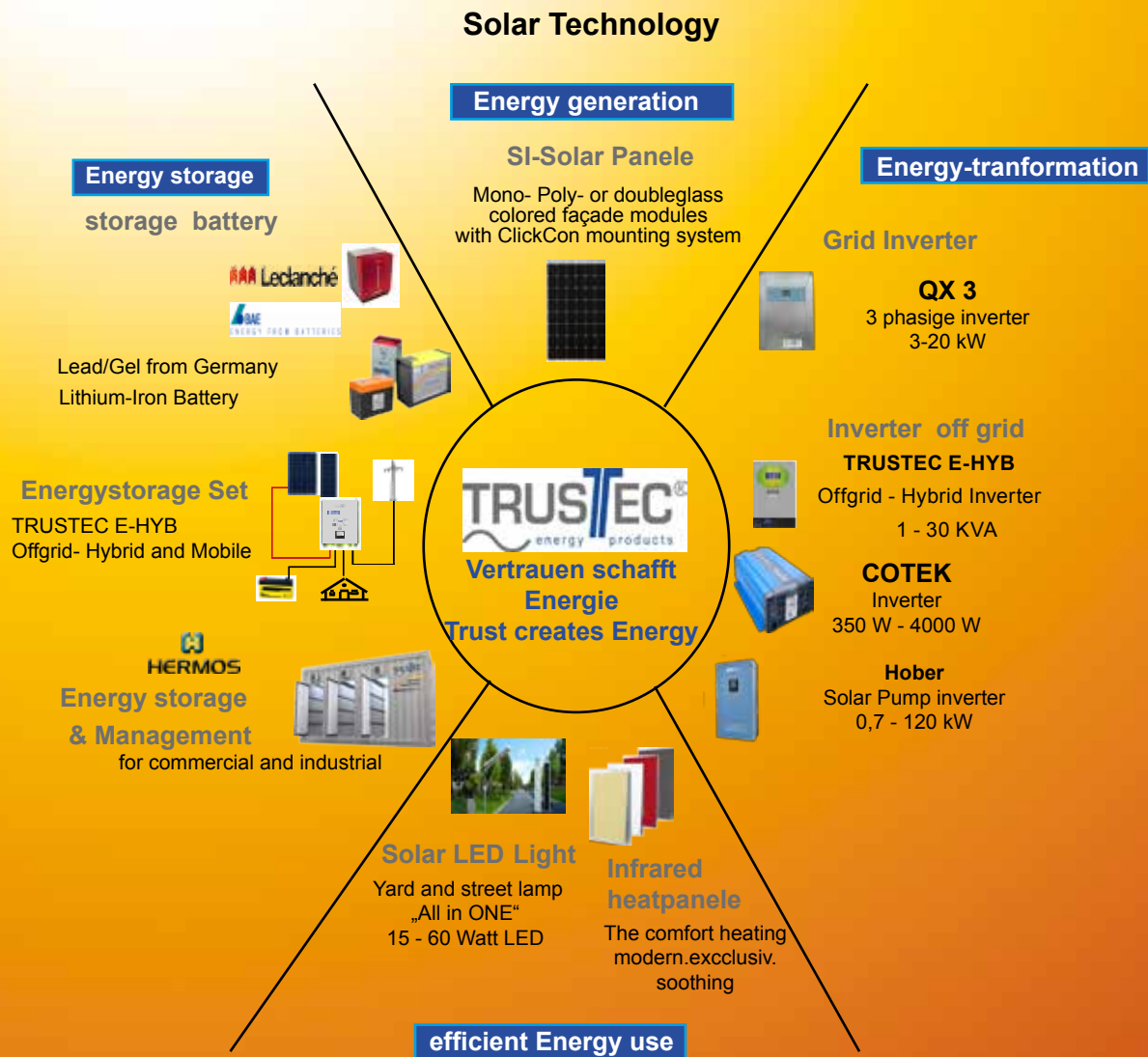
SET	SET 1012	SET 1024	SET 3024	SET 3048	SET 5048
Solar Modul	100 Wp	270 Wp	540 Wp	1080 Wp	1620 Wp
Numbers	1	1	2	4	6
Solar annual yield ca.	125 kWh	250 kWh	500 kWh	1000 kWh	2000 kWh
Total Power max A/W	50	25	60	60	60
Solar charge control max.Watt/Modul	600 W / 2 x 280 W	600 W / 2 x 280 W	1200 W / 5 x 280 W	3000 W / 10 x 280 W	3000 W / 210x 280 W
AC charging stage	2/10/20	2/10/20	2/10/20/30	2/10/15	2/10/120
TT EHYB Offgrid TYP	TT 1K12	TT 1K24	TT3K24	TT3K48	TT5K48
VA/max. 5s > 150%, 10 s 110-150 %	1000/1500/1250	1000/1500/1250	3000/4500/3750	1000/4500/3750	5000/7500/6250
Power Battery capacity displayV / A / kWh / Warning	ja mit Shunt	ja mit Shunt	ja mit Shunt	ja mit Shunt	ja mit Shunt
Sun Battery AGM	780 Wh / 12 / 1 x 65 Ah	1560 Wh / 24 / 2 x 65Ah	2400 Wh / 24 / 2 x 100 Ah	4800 Wh/ 48 / 4 x 100 AH	7200 Wh/ 48 / 4 x 150 Ah
opt.additional equipment	1. Cable Set modules 100m battery to WR 2 m				
	2. Increasing number of solar modules				
	3. Battery capacity increase				
	4. Battery gel instead AMG charge - Lithium instead AMG charge				

Technical rigor is individually tested before delivery of your order!
Hardware optimization to change without notice
So solar modules are desired in particular embodiments, ask - prices on request



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energy products

Reliability and Autonomy with TRUSTEC Energy



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