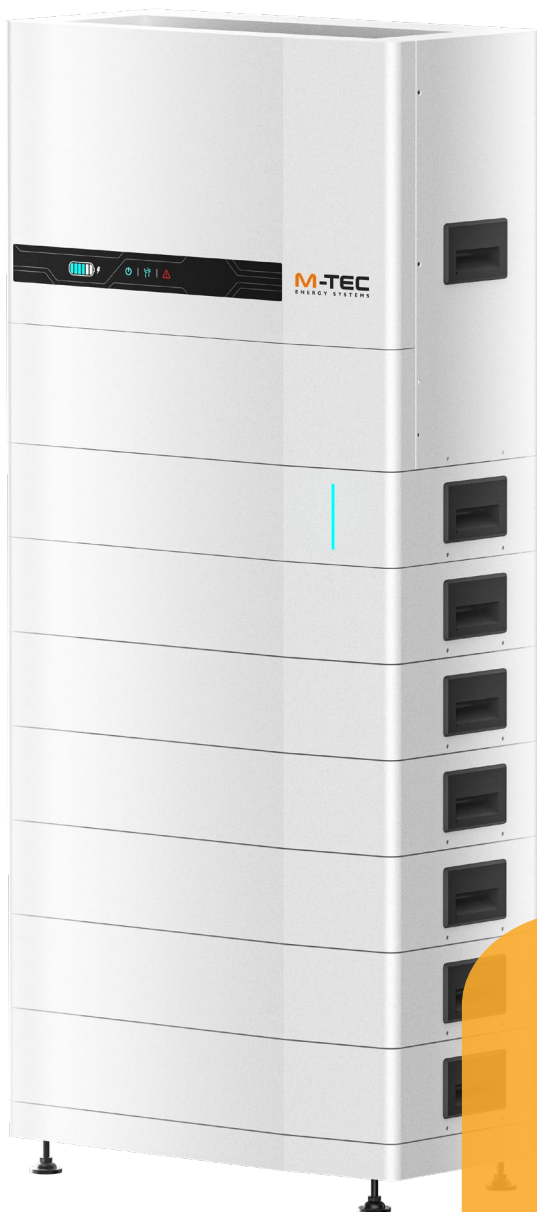


Energy Butler 6-20kW-3P-3G



ADVANTAGES:

- Island and black start capable
- Very high loading and unloading performance
- Full-fledged emergency power operation including PV recharging
- Easy and quick installation
- Safe and high-performance LFP cell technology

HYBRID INVERTER GEN3	6kW-3P-3G25	8kW-3P-3G25	10kW-3P-3G40	12kW-3P-3G40	15kW-3P-3G40	20kW-3P-3G40	
Article	672225	672226	672229	672230	672231	672232	
General data							
Maximum efficiency	98,1	98,2	98,4				[%]
European efficiency	97,3	97,4	97,5				[%]
Noise	<25		<40				[dB]
Cooling	Passive cooling		Controlled fan				[-]
Weight	55		59	62			[kg]
Dimensions (H x W x D)	615 x 698 x 356						[mm]
Emergency power capable	yes						[-]
Black start capable	yes						[-]
Solar recharge	yes						[-]
Switching time	< 10						[msec]
Permissible ambient temperature	0/40 (non-condensing)						[°C]
Standby consumption	<15						[W]
Certifications	CE, VDE, AT, ES, PL, BE, NL, DK, IT						[-]
Topology	Without transformer						[-]
Housing protection class	IP65						[-]
PV connection*							
Recommended max. input power	9	12	15	18	22,5	30	[kW]
MPPT Workspace**	120-950	200-950					[V]
Max. input current per MPPT	15/15		30/30				[A]
Max. short-circuit current per MPPT	20/20		40/40				[A]
String connection per MPPT	1 (15A)		2 (15A each)				[-]
Optimal MPPT operating voltage	620						[V]
Number of PV MPPT	2						[-]
Starting voltage	135						[V]
Max. DC input voltage**	950						[V]
Battery connection*							
Max. charge/discharge current	25/25		40/40				[A]
Voltage range	135-750						[V]
Number of ports	1 plus, 1 minus						[-]
Type	M-TEC LFP Battery Storage (2-8 Modules)						[-]
AC power supply*							
Nom. Output Power	6	8	10	12	15	20	[kW]
Max. Peak Power	6,6	8,8	11	13,2	16,5	22	[kW]
Max. Output Current	10	13,3	16,5	20	25	33,5	[A]
Nom. Output Voltage	400						[V]
Nom. Output Frequency	50/60						[Hz]
Mains connection	3P/N/PE (up to max. 10mm ² , F)						[-]
Mesh type	TN network						[-]
Operating voltage	3P, 400V AC, 50Hz						[-]
AC emergency power connection*							
Nom. Output Power	6	8	10	12	15	20	[kW]
Max. Peak Power	6,6	8,8	11	13,2	16,5	22	[kW]
Max. Output Current	10	13,3	16,5	20	25	33,5	[A]
Nom. Output Voltage	400						[V]
Nom. Output Frequency	50/60						[Hz]
Emergency power connection	3P/N (up to max. 10mm ² , F)						[-]
Mesh type	TN network						[-]
Operating voltage	3P, 400V AC, 50Hz						[-]

* Performance reductions of up to 10% are possible. All information without guarantee: Spelling and printing errors excepted.

** valid for inverters from 07/2023 onwards

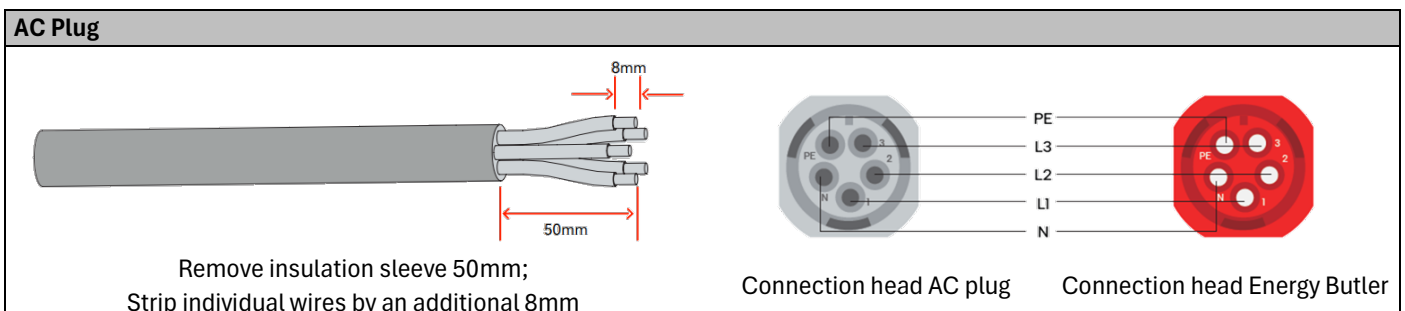
BATTERY STORAGE									
Model		7.7kWh	11.5kWh	15.3kWh	19.2kWh	23kWh	26.8kWh	30.7kWh	
General data									
Number of battery modules		2	3	4	5	6	7	8	[-]
Weight (incl. inverter)		159	201	243	285	327	369	411	[kg]
Dimensions	H	1117	1255	1393	1531	1669	1807	1945	[mm]
	B	698							[mm]
	T	356							[mm]
Temperature range charging/discharging		0-40							[°C]
Housing protection class		IP21							[-]
Battery		LFP (Lithium Iron Phosphate)							[-]
Number of cells		24							[-]
Certifications		UN 38.3, IEC 62619:2022							[-]
Performance data									
Max. storage capacity		7,7	11,5	15,3	19,2	23	26,8	30,7	[kWh]
Nominal voltage		153	230	307	384	460	537	614	[V]
Max. charge/discharge current		50							[A]
Max. Depth of Discharge (DoD)		90							[%]
Max. usable storage capacity		6,9	10,4	13,8	17,3	20,7	24,1	27,6	[kWh]
Max. Charging Efficiency		98,4							[%]
Max. Efficiency Discharge		97,5							[%]

Max. charge/discharge power M-TEC Energy Butler***									
Inverter model		6kW-3P-3G25	8kW-3P-3G25	10kW-3P-3G40	12kW-3P-3G40	15kW-3P-3G40	20kW-3P-3G40	Battery modules	
Max. charge/discharge capacity		3,8	3,8	6,1	6,1	6,1	6,1	[kW]	2
		5,8	5,8	9,2	9,2	9,2	9,2		3
		6,0	7,7	10,0	12,0	12,3	12,3		4
		6,0	8,0	10,0	12,0	15,0	15,4		5
		6,0	8,0	10,0	12,0	15,0	18,4		6
		6,0	8,0	10,0	12,0	15,0	20,0		7
		6,0	8,0	10,0	12,0	15,0	20,0		8

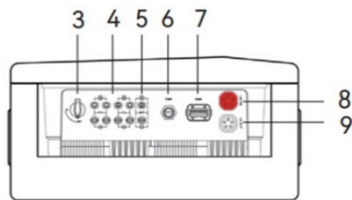
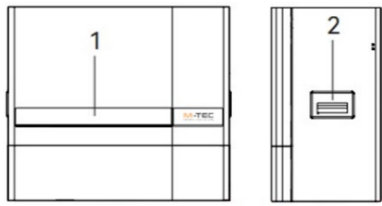
***Table by nominal values, deviation due to actual SoC and/or temperatures not taken into account!

Integrated Protective Measures Hybrid Inverter

DC reverse polarity protection, battery input reverse polarity protection, insulation resistance protection, Surge protection, protection against overheating, residual current protection, island formation protection, AC Surge Protection, Overload Protection, AC Short Circuit Protection

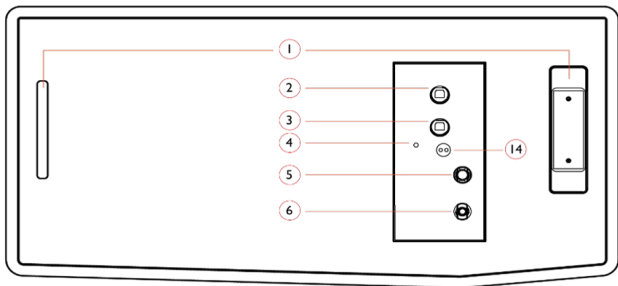


Inverter connections



- 1 Display and LED
- 2 Handle
- 3 DC Switches
- 4 PV DC Input Socket
- 5 Battery input socket
- 6 COM1 connector
- 7 COM2 connector
- 8 Mains output jack
- 9 Emergency Power Output Socket

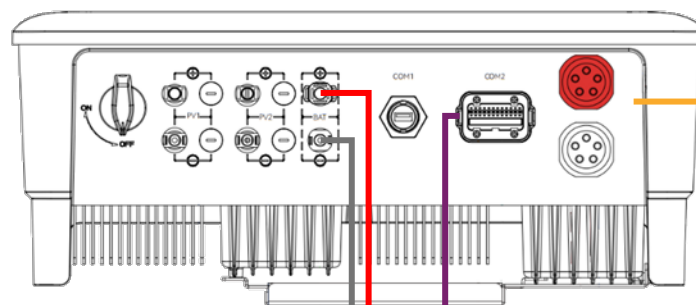
Battery Connections (BMS)



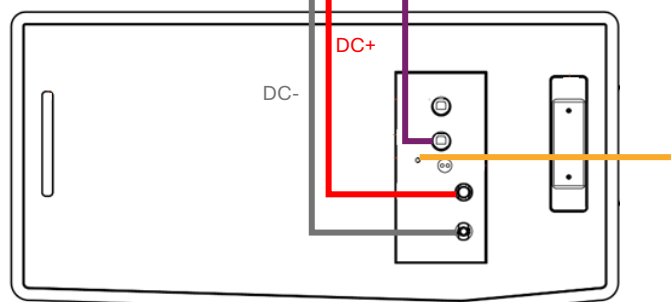
- 1 Inverter Positioner
- 2 Remote LAN / Service Port
- 3 Inverter COM
- 4 Grounding Point
- 5 Battery DC Output +
- 6 Battery DC Output -

Connection inverter – BMS

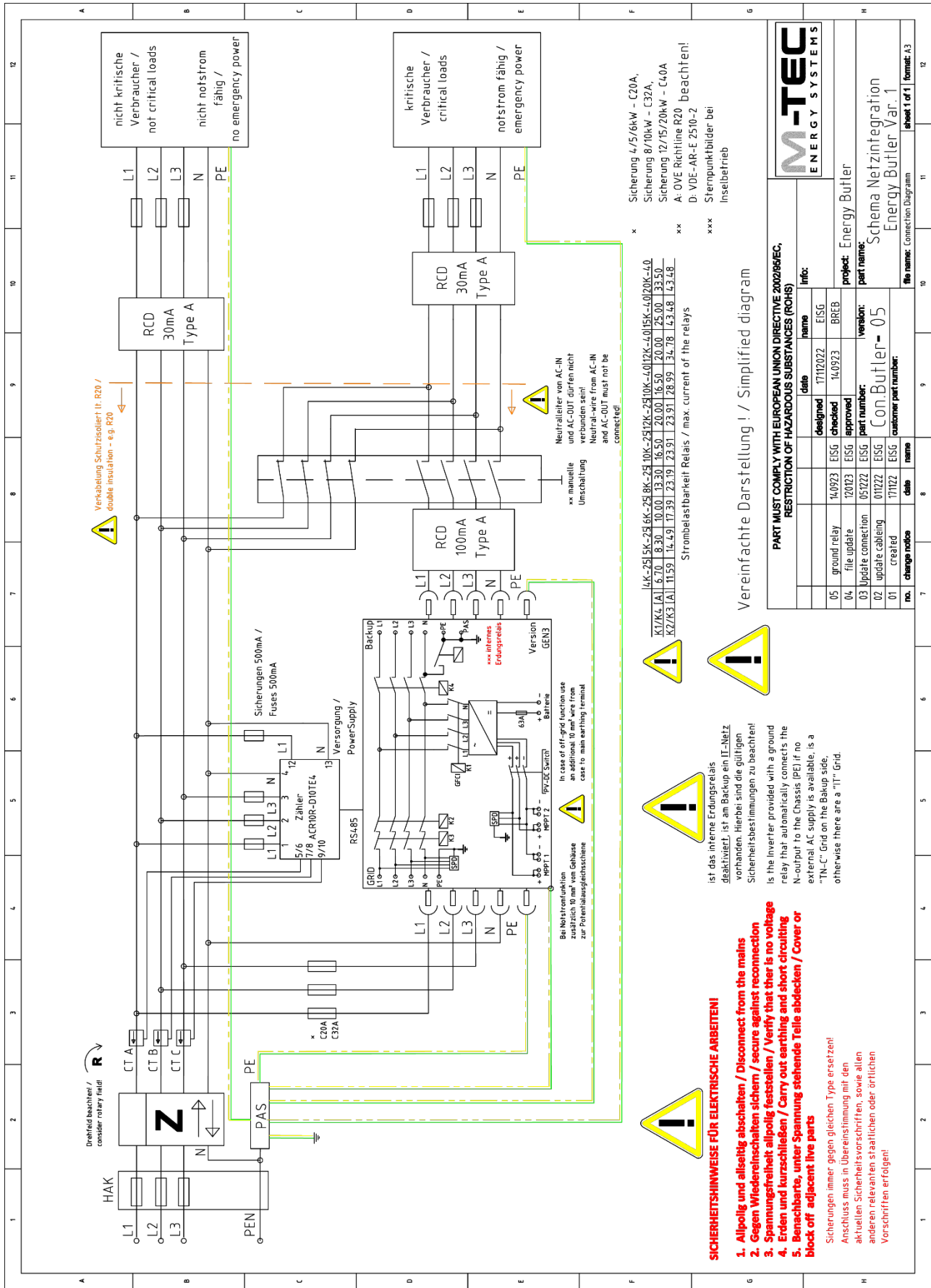
Inverter
View from below



BMS
View from above



Electrical connection



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SICHERHEITSHINWEISE FÜR ELEKTRISCHE ARBEITEN!

1. **Allpolig und aliseitig abschalten / Disconnect from the mains**
 2. **Gegen Wiedereinschalten sichern / secure against reconnection**
 3. **Spannungsfreiheit allpolig feststellen / Verify that there is no voltage**
 4. **Erdnen und kurzschließen / Carry out earthing and short circuiting**
 5. **Benachbarte, unter Spannung stehende Teile abdecken / Cover or block off adjacent live parts**
- Sicherungen immer gegen gleichen Type ersetzen!
Anschluss muss in Übereinstimmung mit den aktuellen Sicherheitsvorschriften, sowie allen anderen relevanten staatlichen oder örtlichen Vorschriften erfolgen!

ist das interne Erdungsrelais deaktiviert, ist am Backup ein IT-Netz vorhanden. Hierbei sind die gültigen Sicherheitsbestimmungen zu beachten!
Is the inverter provided with a ground relay that automatically connects the N-output to the Chassis (PE) if no external AC supply is available, is a "TN-C" Grid on the Backup side, otherwise there are a "IT" Grid.

Bei Notstromfunktion zusätzlich für die Gehäuse zur Potentialausgleichsschiene

In case of off-grid function use an additional to ear wire from care to main earthing terminal

Neutralleiter von AC-IN und AC-OUT dürfen nicht verbunden sein!
Neutral-wire from AC-IN and AC-OUT must not be connected!

Strombelastbarkeit Relais / max. current of the relays

K1/K4 [A]	6.70	8.30	10.00	13.30	16.50	20.00	25.00	33.50
K2/K3 [A]	11.59	14.49	17.39	23.19	23.91	23.91	34.78	43.48

Vereinfachte Darstellung! / Simplified diagram

PART MUST COMPLY WITH EUROPEAN UNION DIRECTIVE 2002/95/EC, RESTRICTION OF HAZARDOUS SUBSTANCES (ROHS)			
no.	change notice	date	name
05	ground relay	14.09.23	ESG
04	file update	12.02.23	ESG
03	update connection	05.12.22	ESG
02	update cabling	01.12.22	ESG
01	created	17.11.22	ESG

name	17112022	date	17.11.2022	Info:
checked	14.09.23	approved	14.09.23	project:
approved	05.12.22	version:	05	Energy Butler
customer part number:	Con.Butler = 05			part name:
Schema Netzintegration Energy Butler Var.1				file name:
Connection Diagram				sheet 1 of 1
				format: A3