

600 V

RUG

powered by **LTW**

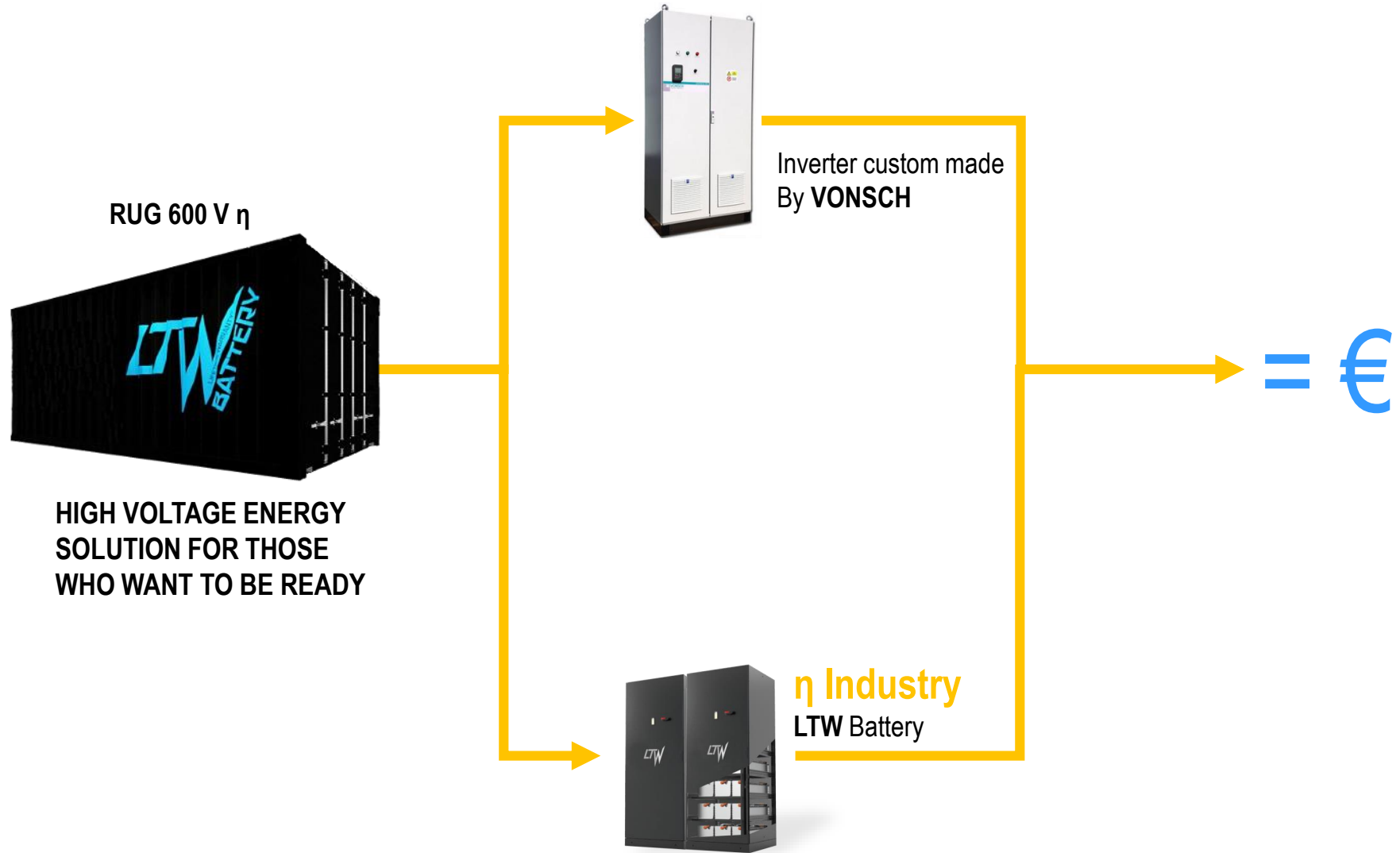
HIGH VOLTAGE SOLUTION

η

IF YOU EVER THOUGHT ABOUT RTBR, YOU CAN CONTINUE

- Any type of power plant
 - Storage for renewable energy sources
 - EV charging station
 - 2h backup systems
 - Microgrids / island grids
 - Price arbitration
 - Leveling tips
 - Voltage and frequency control
 - Demand Side Response (DSR)
 - Microgrid mode option
 - Eliminate power outages
 - Reduction of peak load costs (distribution energy costs)
 - Reactive power compensation (for asynchronous motors and transformers that require reactive inductance)
- \ t





HIGH VOLTAGE ENERGY
SOLUTION FOR THOSE
WHO WANT TO BE READY

Inverter custom made
By VONSCH

η Industry
LTW Battery

... THIS IS HOW IT LOOKS LIKE

RUG



Master 1/1



62,3 kWh η

Master 1/1

Slave 1/79



124,6 kWh η

Master 1/1

Slave 3/79



249,2 kWh η

Master 1/1

Slave 5/79



373,8 kWh η



498,4 kWh η



996,8 kWh η

600 V

		High-Energy container (8 ft.)	High-Energy container (10 ft.)	High-Energy container (12 ft.)	High-Energy container (16 ft.)	High-Energy container (20 ft.)	High-Energy container (40 ft.)						
Dimensions		1600x2408x800	3030x2438x2891	3636x2438x2891	6058x2438x2891	6058x2438x2891	12116x4876x5782						
Weight		980	1750	2980	4850	7950	15900						
Rated capacity	1C	65 kVA	62,3 kWh	130 kVA	124,6 kWh	250 kVA	249,2 kWh	400 kVA	373,8 kWh	500 kVA	498,4 kWh	1 MVA	996,8 kWh
	2,43C***	155 kVA	151,4 kW	315 kVA	302,8 kW	600 kVA	605,5 kW	900 kVA	908,3 kW	1225 kVA	1211 kW	2450 KVA	2422 kW
24' / 25°C													
(100% DOD - 4.2V... 2.7V / connection)		660 VDC											
Nominal voltage		486 – 756 VDC											
Starting voltage		12 / 3A / master & slave = 10x IESS = 12V/30Ah = 80x IESS = 240 Ah											
Maximum constant discharge current		230 A	460 A	920 A	1,38 kA	1,84 kA	3,68 kA						
Maximum constant charging current		Depending on the inverter configuration and the connection, max. 100A											
Self discharge		-1% / p. a.											
Charging standard		IEC61851-23											
Working temperature		-10 – 60st C											
Communication interface		Modbus TCP / CAN-BUS											
Master / slave		1x Master / 79x Slave, Don't forget the starter source											
Cooling system		Air type aircon, mandatory for 2,43C											
Fire protection system		SACS – 1st. NMC Fire extinguishing technology											
Inverter	VONSCH GSE	CENTRAL 400 / 65 x 1	CENTRAL 400 / 125 x 1	CENTRAL 400 / 125 x 2	CENTRAL 400 / 125 x 3	CENTRAL 400 / 125 x 4	CENTRAL 400 / 125 x 8						
Inverter type		125kVA panel											
Approximate project price:	\$	1C	74 500,-	128 040,-	256 080,-	404 110,-	510 000,-	1 020 000,-					
1kWh / \$			1 195,- / 1kW	1 024,- / 1kW	1 028,- / 1kW	1 082,- / 1kW	1 023,- / 1kW	1 023,- / 1kW					
Approximate project price:		2,43C	116 856,-	225 868,-	449 181,-	684 390,-	886 565,-	1 773 130,-					
1kWh / \$			754,- / 1kW	740,- / 1kW	760,- / 1kW	732,- / 1kW	726,- / 1kW	726,- / 1kW					

The above-mentioned RUG Industry types are designed for long-term charging and discharging in the 2.43 C mode to meet 10,000 charging cycles. Additional RUG configurations are required to use stronger discharge currents.

* The data shown here is used to show the differences between the configurations. The exact specification and size result from the project documentation

** The project documentation must be completed within 30 days.

*** Compatible inverter settings are required for this

For 2,34C operation air condition NECESSARY



VONSCH® GSE CONTROL CENTRAL 400 / 125

- Increased stability
- High efficiency
- Quick start and load change reaction
- Environmentally friendly equipment – minimal standby consumption

		GSE CONTROL 400 / 125
AC output	Power Pnom	125 kVA
	Output current Inom	180 A
	Max. Output current Imax	270 A
DC input	Input voltage UBATnom	650 VDC
	Min. Input voltage UBATmin	620 VDC
	Max. Input voltage UBATmax	820 VDC
	Input current IINom (on UBATnom)	205 A
Dimensions		1000x2100x500 mm
Weight		380 kg
Output voltage		3 x 400 V ±10%
Economically		≥ 96,8 %
Frequency		50 Hz
Communication interface		RS 485, USB, CAN
Communication modules		Modbus RTU, optional Profibus DP, Ethernet, GSM
Number of DC inputs		1
Time of disconnection from the mains in the event of a power failure		≤ 10 ms
Analog inputs		4x / 0 (4) – 20 mA / 0 (2) – 10 V
Analog outputs		3x / 0 (4) – 20 mA / 0 (2) – 10 V
Protection against)		Current overload, line overvoltage, line undervoltage, short-circuit protection (AC side), earthing protection, inverter overheating
Cooling		Forced air (fan)
Cover		IP 54
Standards		Safety EN 50 178
		EMC immunity, emissions STN EN 61000-6-1,3
		Harmonic distortion STN EN 61000 – 3 – 11 STN EN 61000 – 3 – 12
EEC instruction		2004/108/EEC, 2006/ 95/EEC



Made by BMZ
**INDUSTRIAL
IESS**

- This cell has a C rate of 4C max.
- The cell manufacturer is Samsung
- Guarantee when discharging 2.5 C / 6000x
- Not liquid cooled



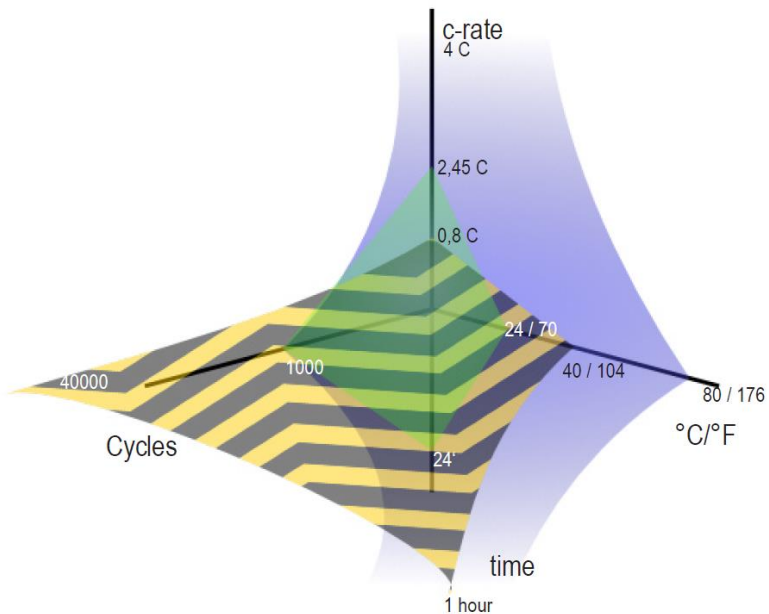
	LTW-INDUSTRIAL-IESS 62,3 kWh
Configuration and type of the battery cell	Li-ion 180S01P (15 moduls of 12S01P)
Dimensions	800 mm x 850 mm x 2100 mm
Weight	670 kg
Nominal capacity at 25 ° C, min (min) (100% DOD - 4.2 V... 2.7 V / connection)	94 Ah
Rated output power	62,3 kW
Nominal voltage	662.4 VDC
Output voltage range	540 VDC ... 747 VDC
External voltage	12V / 3Ah / unit
Max. disch. curr. a battery at 25 ° C.	230 A
Max. charg. curr. a battery at 25 ° C.	100 A
Continuous current for a battery block. at 12 VDC	~1 A
Pulse current (75 ms) for 1 battery block at 12 VDC	~8 A
VDC	UN38.3, CE
Certificate	0°C ... +55°C
Operating temperature range	23°C
Recommended temperature	via CAN bus
Slave ESS block control via data bus	MODBUS TCP
Communication interface	7" display in Master ESS
LCD display with current battery system status.	LED indicator
Battery charge indicator of a rechargeable battery	(option) –online
Remote monitoring with event log	Soft. updates and monitoring by remote administration
Remote service	External system needed
Preload	IP55
IP class	Busbar output
High current connection between battery blocks	600V
Estimated number of cycles (up to 70% SOH at 25 ° C)	9900 Li-ion NMC/LMO

* Depending on storage configuration

**WARRANTY
UP TO 40 000
CYCLES ***

WHY ENERGY SOLUTION powered by **LTW**?

- Together with BMZ, LTW is the largest energy producer - **the best technology with Li-ion cells**
- Smart Power Station system for energy storage from Germany, Poland and the Czech Republic
- Individual configuration for the customer in order to achieve the most effective return of investment
- Efficiency = **3/4 of economic success**
- LTW is a former market leader for "**RTBR**" with energy storage solutions



RUG
powered by **LTW**

600 V CONTACT



R&D
GEORGE JANDA
george@ltw-battery.at
+420 757 911 512

Economic success belong to the preppers