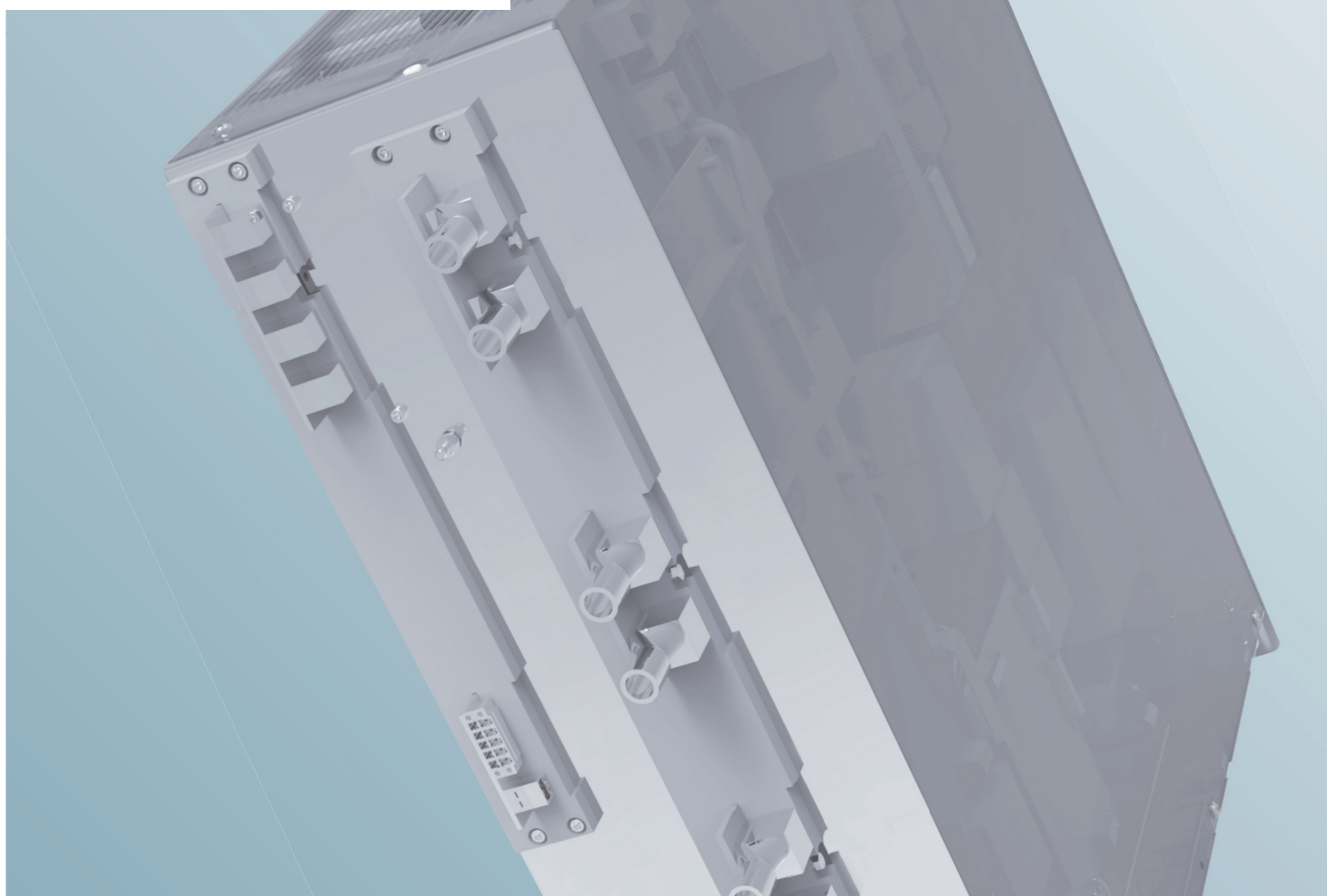


TruConvert AC 3020

# Power conversion system



Optimized to interface modern energy sources to the grid



**TRUMPF Hüttinger**  
generating confidence

## Technical Data

AC connection	
Mains voltage range (3 phase)	400 V -10 % to 480 V +10 %
Mains frequency range	45 Hz – 65 Hz
Nominal input power charge / discharge	21 kVA
Max. input power charge / discharge for 10 min.	26 kVA
Max. input power charge / discharge for 1 min.	32 kVA
Unbalanced load	up to 7 kVA / phase
Input power factor (cos $\varphi$ ), charge / discharge	1 / -1
Nominal current @ 400 V, 480 V, cos $\varphi$ = 1 / -1	29 A, 24 A
Input current harmonic distortion @ nominal input power	< 5 %
Max. current	46 A
Max. inrush-current	< nominal current
Mains topology	TN-S

DC-Connection (battery)	One terminal	All 3 terminals
Nominal voltage	48 V	
Nominal charge / discharge current @ 48 V	140 A / 150 A	420 A / 450 A
Nominal power charge / discharge	6.7 / 7.2 kW	20 / 21.6 kW
Max. power charge / discharge for 10 min.	8.3 / 9 kW	25 / 27 kW
Max. power charge / discharge for 1 min.	10 / 10.8 kW	30 / 32.5 kW
Voltage range charge / discharge	0 V – 70 V	
Permissible inductivity of battery cable	< 7.5 $\mu$ H	

Environment	
Operation temperature*	-5 °C – 65 °C
Storage temperature	-20 °C – 80 °C
Transportation temperature	-20 °C – 80 °C
Humidity (no condensation)	5 % – 90 %
Cooling	Forced air
Maximum installation altitude (above sea level)	2000 m
Dimensions w x h x d	160 mm x 680 mm x 600 mm
Weight	70 kg
Noise level (typical)	< 70 db
Protection degree	IP20

\* Derating above 40 °C

## General

Max. efficiency	96 %
Internal consumption	< 150 W
Response time at step load (100 % charge to 100 % discharge)	< 10 ms

## User interface

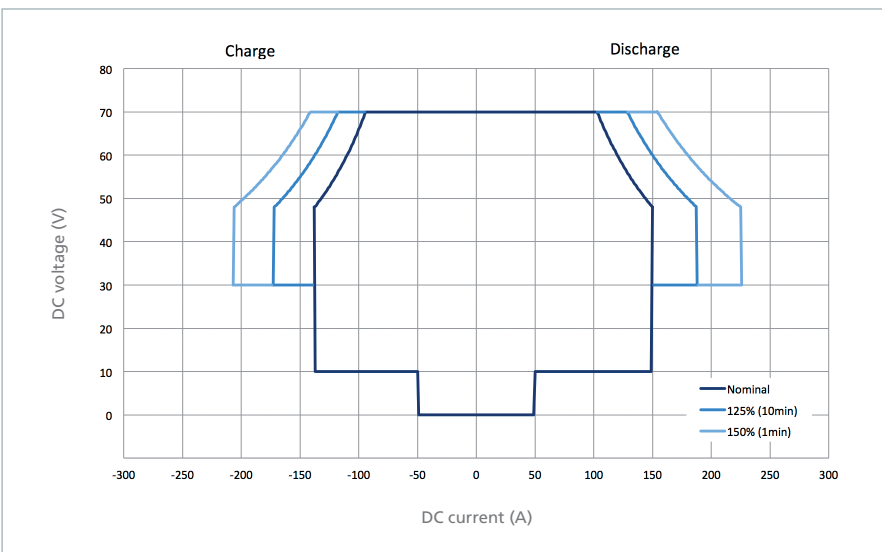
Control interface protocol	Modbus TCP / UDP
Power connections mains	M5 bolts, PE: M6 threaded bolt
Power connections DC	3 x M8 / M10 bolts
Sense connection mains	Phoenix PCB plug connector – MC 1,5 / 5-STF-5,08

## Standards

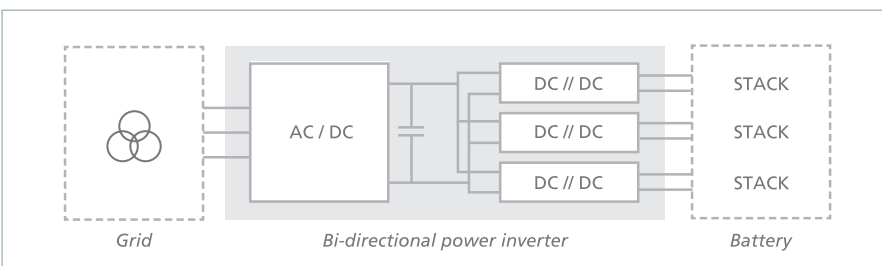
Safety* (CE, UL)	IEC 62109-1:2010, EN 62109-1:2010, DIN EN 62109-1:2011, UL 1741 (CSA 5311-84)**
EMC	EN 62040-2:2006 / AC class C3
RoHs / REACH	✓ / ✓

\* In line with 2014/30/EU (EMC directive) (1) 2014/35/EU (low-voltage directive)

\*\* In preparation



DC characteristic



System concept

Power conversion system, optimized to interface modern energy sources to the grid

Highest efficiency up to 96 %

Free scalable up to MW level

Embedded potential isolation

Modern control architecture

Multi grid application (400 – 480 V, 50/60 Hz)

High current load capability

Robust industrial design

Battery charge and discharge technology at its perfection

Power conversion systems from TRUMPF Hüttinger charge and discharge your battery system efficiently, applicable in storage solutions from kilowatts to megawatts. The innovative technology allows your battery system to be operated at the optimal point and at highest level of efficiency, from energy suppliers and industrial applications to residential storage systems.