BRUSA TECHNOLOGY

DTI844-6
DriveTrain Inverter

The solid, powerful inverter for electric motors

Safety first

- Active interlock
- Active short circuit function
- Galvanic separation between HV and LV (excl. voltage measurement)
- Excellent EMC behavior

Cutting-Edge Technology

- Resonant SoftSwing® topology for minimal switching losses
- Compact and lightweight design
- Patented Liquid Pin© cooling system for optimal temperature behavior and best performance
- Various predefined motor tables to control different electric motors
- CAN interface
- Very high continuous and maximal output power
- Dynamic torque control through high PWM frequency
- 6-phase, 2x 3-phase or dual motor control

V1-20230817

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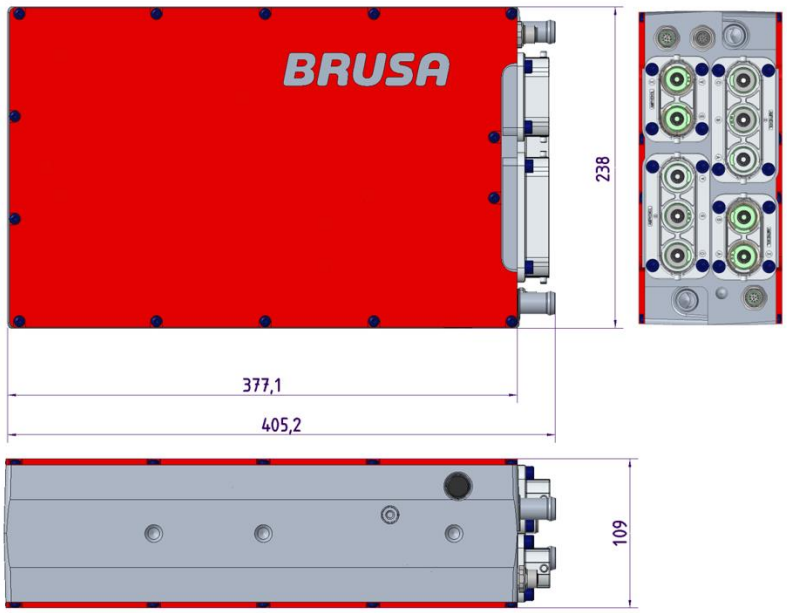
Specifications DTI844-6

Power supply HV and LV	DTI844-6	
Low voltage (LV) input voltage for operating (acc. ISO 16750)	12	V
HV input voltage range for full output current	250 - 450	V
Maximum HV input voltage without damage	500	V
HV input voltage range with reduced performance	450 - 470	V
Continuous input current HVDC interface	640	A
Maximum input current HVDC interface	800	A
Three phase output		
Continuous output current	6x 360	A_{RMS}
Maximum output current	6x 400	A_{RMS}
Switching frequency	8 - 32	kHz
Maximum motor frequency	3000	Hz
Typical efficiency	98.5	%
Mechanical data / Cooling system / Environment		
Length	405.2	mm
Width	238	mm
Height	109	mm
Weight (dry)	14.5	kg
Ingress protection	IP67	
Ambient temperature range (operation)	-30 to +85	°C
Ambient temperature range (storage)	-30 to +85	°C
Amount of coolant in device	0.42	L
Outside diameter of cooling water connection pieces	16	mm
Coolant water mixture water/glycol	50/50	%
Coolant input temperature range	-30 to +65	°C
Coolant flow rate	6 to 10	L/min
Coolant pressure drop (8 L/min, $T_{coolant}$ = 25 °C)	255	mbar
Maximum coolant pressure	2	bar
Maximum altitude	4000	m
Connections		
DC & AC: recommended cross section (Cu)	70	mm^2
Ground GND: M8 cable lug, recommended cross section (Cu)	70	mm^2
Key reference standards		
Environmental	ISO 16750 ISO 20653 LV124	
Electrical Safety	IEC 60664-1 LV123	

Specifications DTI844-6

Dimensions [mm]



Efficiency [%]

DTI844 efficiency @ 400 V_{DC} (measured with HSM1-10.18.22-6ph)

Torque [Nm] \ Speed [rpm]	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
380	91.8	95.2	96.5	97.4	97.9					
360	91.9	95.3	96.5	97.4	97.9	98.2				
340	91.9	95.3	96.5	97.4	97.9	98.3				
320	91.9	95.3	96.5	97.4	97.9	98.3				
300	92.0	95.3	96.5	97.4	97.9	98.3	98.3			
280	91.9	95.3	96.5	97.4	97.9	98.3	98.3			
260	91.9	95.2	96.5	97.2	97.9	98.3	98.4	98.4		
240	91.9	95.2	96.4	97.2	97.8	98.2	98.4	98.4	98.3	
220	91.8	95.1	96.4	97.1	97.7	98.2	98.3	98.4	98.4	98.3
200	91.7	95.0	96.3	97.1	97.6	98.1	98.3	98.4	98.4	98.4
180	91.5	94.9	96.2	97.0	97.5	98.1	98.3	98.4	98.4	98.4
160	91.3	94.8	96.1	96.9	97.4	97.8	98.2	98.4	98.4	98.4
140	91.0	94.6	95.9	96.7	97.3	97.7	98.0	98.2	98.4	98.4
120	90.7	94.4	95.8	96.6	97.2	97.7	98.0	98.1	98.1	98.3
100	90.1	94.0	95.5	96.4	97.0	97.5	97.8	98.0	98.1	98.1
80	89.1	93.4	95.0	95.9	96.5	97.1	97.5	97.8	98.0	98.1
60	87.4	92.3	94.1	95.2	95.9	96.5	97.1	97.4	97.7	97.8
40	84.6	90.5	92.7	93.9	94.8	95.5	96.2	96.6	97.0	97.2
20	76.9	85.3	88.5	90.4	91.7	92.7	93.6	94.5	95.2	95.4

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