DATASHEET

Gen4 High Voltage Low Power Inverters HVLP10 *(Air)* & HVLP20 *(Liquid)*

Gen4 HVLP10

Gen4 HVLP20

A range of high voltage, low power AC motor inverters designed primarily for the control of pumps and fans on hybrid and electric buses, agricultural implements, tractors and other high voltage vehicles. There are two models in the range, which cover both liquid cooled and air cooled designs. A compact, rugged and cost effective design, Turntide's HVLP Inverter range is well suited for OEMs, hybrid/ electric bus & truck conversions, Agricultural OEMs and EV system integrators. The high voltage range is fully operational from 150V up to 800VDC.

The high voltage, but low power design is perfect for operating hotel / auxiliary loads, such as pumps and fans, on a wide range on and Off-highway vehicles. Our products are used by some of the worlds leading automotive and industrial companies in several innovative and demanding applications, the same quality and reliability is designed into each and every Turntide product.

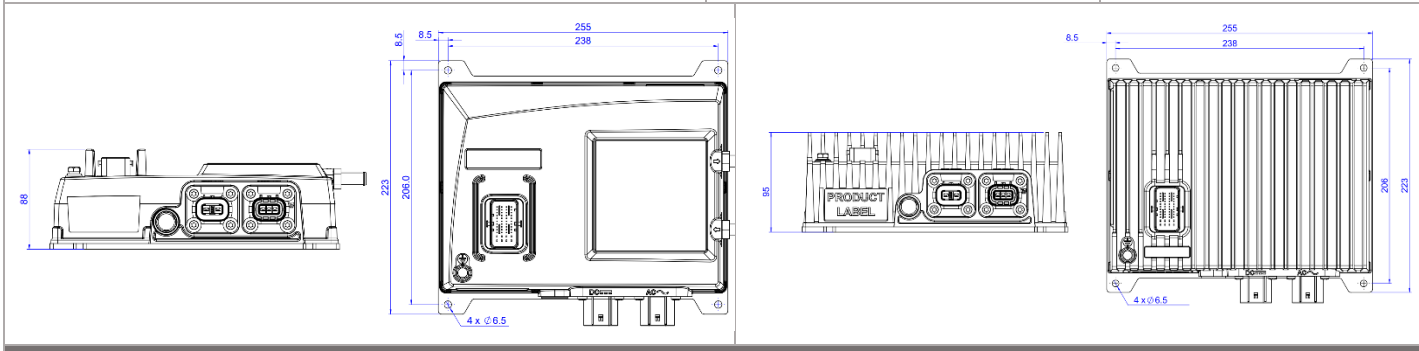
Features

- Supports AC Permanent Magnet synchronous motor and AC Induction motors
- Highly efficient advanced flux vector motor control
- Up to 800VDC peak supply voltage
- Up to 53A_{rms} peak power output
- Up to 33A_{rms} continuous power output
- Includes a dedicated HVIL circuit for the DC connector
- 12V or 24V supply
- Range of encoders supported including resolver

Specifications

Voltage, Current & Power Range		
	HVLP20 (Liquid)	**HVLP10 (Air)**
100% Derating (VDC)	800	800
Nominal (VDC)	700	700
Minium Battery Voltage (VDC)	128	128
Peak Current (1 minute) (A_{rms})	53A_{rms}	24A_{rms}*
Continuous Current (60 minutes) (A_{rms})	33A_{rms}	19A_{rms}*
* Rating based on static air. Higher ratings can be achieved with forced air cooling or low coolant temperatures		

Weight and Dimensions		
	HVLP20 (Liquid)	**HVLP10 (Air)**
Dry Weight (g)	2300	3700
Length (mm)	255	255
Width (mm)	223	223
Height (mm)	88	95



Environmental		
	HVLP20 (Liquid)	**HVLP10 (Air)**
IP Rating	IP67 and IP6K9K	
Ambient Temperature	-40°C to +45°C	
Automatic Cutback	>45°C	
Flow Rate	6l/min	n/a
Coolant Temperature	-40°C to +85°C *(60:40 Glycol Water mix)* Automatic derating above 70°C	n/a

Controls			
Control Interfaces	• Master and Slave functionality options	**Communications Protocols**	• CANOpen • H-Protocol (J1939)
Communications	CAN 2.0B – isolated		

Details are correct at time of publishing

IO			
IO	• All I/O protected to 40V operation with 12V or 24V • 4 analogue inputs 0-10V • 4 digital inputs • 2 power supplies 5V-10V (100mA and 200mA) • 2 digital outputs	**Encoders**	• Absolute UVW encoder • Absolute Sin/Cos encoder • Incremental AB encoder • Resolver automatic gain
Safety			
Electrical Safety	• IEC60664 • UL840 • ISO6469	**Functional Safety**	• N/A
Configuration & Ease of Use			
Configuration	Turntide offer a Windows-based PC tool for configuration of the inverter. The tool provides a simple yet powerful means of accessing the CANOpen bus for diagnostics or parameter adjustment. Communication is through CAN, an IXXAT CAN-to-USB dongle is required.		

For further information please contact our team of experts at electrificationsales@turntide.com

TURNTIDE TECHNOLOGIES

Our breakthrough technologies accelerate electrification and sustainable operations for energy-intensive industries

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