



FNS

Electric Vehicle Inverters



FNS60: 43 kW, 75 kW, 100 kW

FNS70: 150 kW, 200 kW

FNS electric vehicle inverter (EV Inverter) is a motor controller for electric vehicles. This electrical device converts electricity between a DC (Direct Current) circuit on battery side and AC (Alternating Current) on electric motor side. EV inverter controls the operation of the electric motor (start/stop, forward/reverse rotation, selecting and controlling the speed, modifying or limiting the torque) and protecting against faults and overloads.

FNS is designed to work with Surface Permanent Magnet Synchronous Motors (SPMSM), Interior Permanent Magnet Synchronous Motors (IPMSM) and Brushless DC motors.

MAIN FEATURES

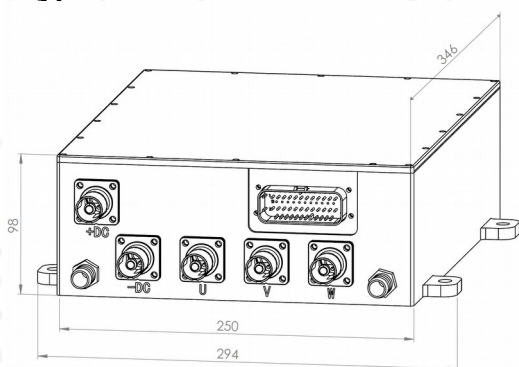
- Wide range of nominal output power:
 - **FNS60**: 43 kW, 75 kW, 100 kW
 - **FNS70**: 150 kW, 200 kW
- Three and six-phase implementations
- Control method of the motor operation: FOC with MTPA (Maximum Torque Per Ampere) and with motor operating points saved in table (Look-up table)
- Digital inputs: 1 fast digital 5kHz input and 4 general purpose digital inputs
- Digital outputs: 1 special purpose 5kHz digital output and 2 general purpose digital outputs
- Analog inputs: 1
- Communication interfaces/protocols:
 - CAN Open: CAN 2.0b 125 kbit/s
 - Modbus RS-485 (service use)
- Switching frequency: 6 kHz and 12 kHz
- Compatible position sensors: resolver, SSI 5V RS422 absolute encoder, RS422 incremental encoder, optional Hall sensors
- Easy to use HVBI connector system (Amphenol Pcd)
- Compact IP67 housing that meets Automotive standards
- Cooling system: mixture of 50% water and 50% glycol

TECHNICAL DATA

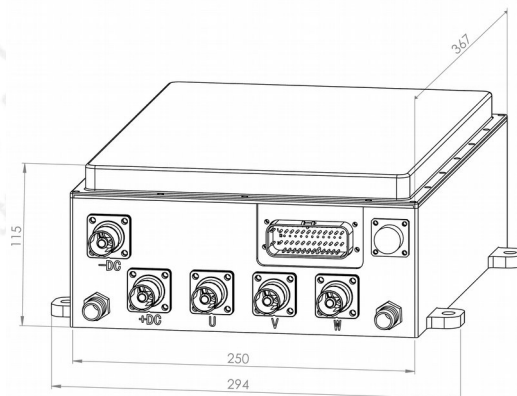
Type	P _N	U _{IN}	U _{OUT}	In-out	Ip-out	W	C
FNS60_P043U350W	43 kW	300÷400 V DC	0 ÷ 0,68 UDC	100 ARMS	150 ARMS	12 kg	A
FNS60_P075U600W	75 kW	500÷650 V DC		100 ARMS	200 ARMS	13 kg	B
FNS60_P100U600W	100 kW	500÷650 V DC		150 ARMS	250 ARMS	13 kg	B
FNS70_P150U600W	150 kW	500÷750 V DC	0 ÷ 500 Hz	300 ARMS	500 ARMS	25 kg	C
FNS70_P200U600W	200 kW	500÷750 V DC		400 ARMS	600 ARMS	25 kg	C

P_N – nominal power; U_{IN} – input voltage; U_{OUT} – output voltage; In-out – nominal output power; Ip-out – overload current for 60 sec.; W- weight; C – case type

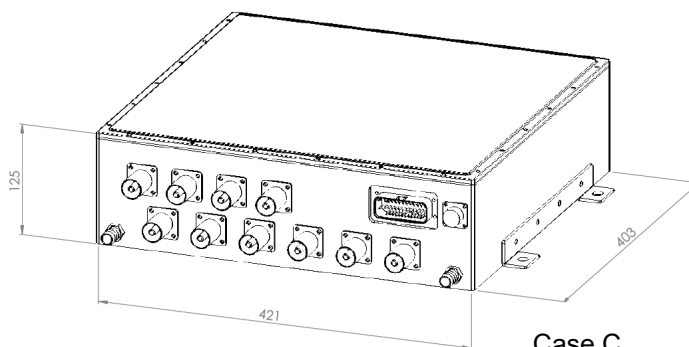
Cases type:



Case A



Case B



Case C

Connectors:

Name	Type
+DC, -DC-, U, V, W – case A and B	HVBI003R8BMH6ARD HVBI Amphenol
+DC, -DC-, U1, U2, V1, V2, W1, W2 – case C	HVBI005R10AMHARD HVBI Amphenol
Connector socket	1-776163-1 Ampseal
Resolver socket	RT00128PN03 Amphenol

For further information please contact us!

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