



PM100 INVERTER



The PM100 is the smallest inverter in the PM line and perfect for small cars, hybrids and motorcycles.

PM100DXR RACING VERSION AVAILABLE BY SPECIAL ORDER

- Provides 450Arms peak current in the smallest package for 400V-class applications
- This version trades operating life for increased peak power handling in transients. Suitable for motorcycles, FSAE and other compact vehicles. Requires coolant temperature to be less than 60°C to take advantage of -R current increase.

FEATURES

- 6 (0-5V) Analog Inputs
- 2 RTD Inputs PT100/1000
- 8 Digital Inputs STB/STG
- 4 High Side Driver Outputs
- 2 Low Side Driver Outputs
- I Resolver Interface
- I Sin-Cos Encoder Interface (-SP Option)
- 2 CAN 2.0A/B Ports 0.25-1MB adjustable rate and offset
- RS232 Programming Port
- M25 Cable Gland Connections
- Designed to ISO16750 heavy vehicle climatic, mechanical, and environmental requirements
- ISO20653 high pressure wash rated IP6K9K / IP67
- Easy to use CAN-based control and feedback
- CAN Database (DBC) Available
- J1939 compatible CAN messages available
- Comprehensive fault logging and diagnostics
- PC-based setup and programming tools available for free
- AN6 coolant ports—can be adapted to any hose fitting, any angle
- Robust, fault-tolerant IGBT power stage
- No internal DC-link EMI Filter
- 100% automotive-qualified components
- IPC Class 3 fab and assembly
- Command Safety Watchdog
- ISO6469 High Voltage Safety

PM100	DX	DZ	Units
DC Voltage – operating	50-400	100-820	VDC
DC Overvoltage Trip	420	840	VDC
Maximum DC Voltage – non-operating	500	900	VDC
Motor Current Continuous	300	150	Arms
Motor Current Peak *	350	200	Arms
Output Power Peak (elect) *	120	130	kW
DC Bus Capacitance	440	280	µF
Size and Volume	200 x 87 x 314 / 5.5		mm / L
Weight	7.5		kg
Active Discharge via motor winding to <50V	< 1		sec
Vehicle System Power	9 .. 16		VDC
Inverter PWM Frequency **	12 (6..16 variable with upgrade)		kHz
Operating Temperature Range – coolant water	- 40 .. +80, (derate to zero 80 .. 100)		°C
Coolant Flow Rate	8 .. 10 (2 GPM min)		LPM
Coolant Pressure Drop (60°C coolant / 10 LPM)	0.4 (42kPa / 6psi)		bar
Maximum Coolant Pressure (absolute)	4.5 (450kPa / 65psia)		bar
Operating Shock (ISO 16750-3, Test 4.2.2.2)	500 (50g), pending		m/s ²
Operating Vibration (ISO 16750-3, 4.1.2.4 Test IV)	27.8 (3grms), pending		m/s ²
Cable Gland Size	M25-1.5		
Conductor Size min .. max recommended	#4/35 .. #1/50		AWG/ mm ²
Cable OD min .. max recommended ***	9 .. 16.5		mm

Ratings subject to change without notice—consult factory

* Peak current is defined as a maximum of 30 seconds.

** Gen5 control upgrade is available on some applications which adds a variable PWM rate function. This allows lowering of the PWM rate for up to 33% more peak current and raising of the PWM rate at very high motor speeds for such applications needing it.

*** Depending on the cable type, an additional sleeve may be needed to seal the cable.

CASCADIA MOTION

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