

CASCADIA MOTION

PM100 Propulsion Inverter



Controller Model	PM100DX	PM100DZ	
DC Voltage – operating	50—400	100—800	V_{DC}
DC Overvoltage Trip	420	840	V_{DC}
Maximum DC Voltage – non-operating	500	900	V_{DC}
Motor Current Continuous	300	150	A
Motor Current Peak*	350	200	A_{rms}
Output Power Peak (elect)*	100	100	kW
DC Bus Capacitance	440	300	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		V_{DC}
Inverter PWM Frequency	12 (6..16 adjustable pending)		kHz
Operating Temperature Range – coolant water	- 40 .. +80, (derate to zero 80..100)		$^{\circ}C$
Coolant Flow Rate	8 .. 10 (2 GPM min)		LPM
Coolant Pressure Drop (60 $^{\circ}C$ 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—IV)	27.8 (3 g_{rms}), pending		m/s^2
Cable Gland Size	M24		
Conductor Size min .. max recommended	#4/35 .. #1/50		AWG/ mm^2
Cable OD min .. max recommended**	9 .. 16.5		mm

* peak is 10seconds

Ratings subject to change without notice—consult factory

** depending on cable type, if diameter is too small it may be necessary to sleeve the cable.

These Propulsion Inverter products are designed and manufactured to comply with the following international standards: ISO6469, ISO6493-3, ISO16750, ISO20653, IEC60950, <IEC61000 pending>

PM100DXR Racing Version available under special order:

- provides 450Arms peak current in the smallest package for 400V-class applications

This version trades useful operating life for increased peak power handling in transients. Suitable for:

- Motorcycle racing
- Light Hybrid supercar



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power electronics, motors and propulsion controls

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FUNCTIONAL SAFETY