

## 42D00042 MMA80-8-AA1-U Data Sheet V1.1

Parameter	Unit	Value
<b><u>Mechanical specification</u></b>		
Power	[kW]	5.2
Torque (rated @ 100°C*)	[Nm]	11.5
Torque (rated @ 120°C*)	[Nm]	16.5
Torque (max @ 100°C*) (60 sec.) **	[Nm]	21.5
Torque (max @ 120°C*) (30 sec.) **	[Nm]	21.5
Speed (rated)	[rpm]	3000
Speed (max)	[rpm]	3800
Motor Technology		PMSM (sensorless control)
Weight	[kg]	11.6
Protection class		IP67
Thermal class		H
Thermal protection		Yes (Motor & Inverter)
Operating ambient temperature range	[°C]	-30 / 80
Cooling type		Water cooled
Min./rated flowrate (coolant)	[l/min]	6
Pressure drop @ rated flow rate	[bar]	≈0.015
Coolant		Water/Ethylenglycol 50/50 or hydraulic oil
Max. cooling pressure (coolant)	[bar]	3
Coolant max temperature	[°C]	60
Rotational direction***		Both possible (Four quadrant control, forward / backward with regeneration)
<b><u>Electrical specification</u></b>		
DC-link voltage range (For no Derating)	[V]	560 - 800
DC-link maximum operating voltage	[V]	850
DC link capacitance	[uF]	140
Power stage Y capacitors	[nF]	2x55
DC Hardware Overcurrent Protection	[A peak]	71
LV nominal supply range	[V]	12 – 24
LV maximum supply range	[V]	9 – 36
LV critical voltage	[V]	58
PWM frequency	[kHz]	6-16
Max. AC Frequency	[Hz]	599
<b><u>Connections</u></b>		
Low Voltage mating connector		Molex MX 150 8 pin (Key A) Including LV DC, KL15, CAN & HVIL

<b>Application specific mating connector</b>		Molex MX 150 12 pin (Key A) 7 different sensor in- and outputs (optional to be used)
<b>HV Mating Plug</b>		Amphenol ELP2A04 (2x10mm <sup>2</sup> ) Including HVIL and EMC shielding
<b><u>CAN bus</u></b>		
<b>CAN bus type</b>		CAN 2.0B/J1939, CAN FD (optional)
<b>CAN bus baudrate</b>	[kbit/s]	250, 500
<b>Internal CAN termination</b>		No (120Ω optional available)
<b>Motor CAN-interface / control</b>		motor torque, motor speed or combination of both
<b>Error handling</b>		Yes
<b><u>Protections</u></b>		
<b>Current</b>		Maximum motor/inverter current protection including derating
<b>Voltage</b>		Min. high voltage battery protection including derating Max. high voltage battery protection – Prevents over voltage situations
<b>Overload</b>		Motor stall protection – limits motor current if motor is blocked for certain time
<b>CAN-fail protection</b>		Yes
<b>Hardware</b>		Faults for sensors, controller and custom application



\* Winding temperature

Performance data were determined with a thermally decoupled motor+inverter and a coolant temperature of 60°C at 6 l/min (water/ethylenglycol 50/50)



\*\* Up to base speed @ max torque speed curve



\*\*\* The clockwise rotational direction is defined according to DIN-EN60034-8 (looking on the motor shaft).



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