Please complete as many fields as possible to the best of your knowledge and return to AdvRequirementForms@emp-corp.com.

See the attached README.pdf for explanation of component control options.

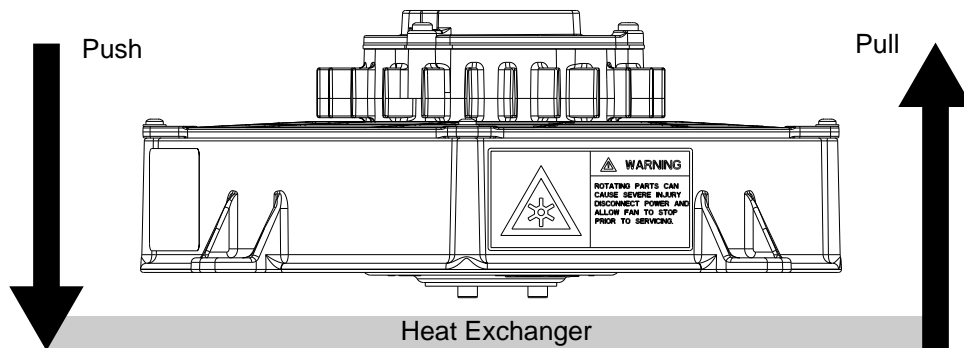|	
Information Completed By	Today's Date
Primary EMP or Distributor Contact	
Property, Company, or Fleet name	
Location (City, Province/State and Country)	

Technical Contact	Administrative Contact
Phone	Phone
E-mail	E-mail

1. What is the intended application? Please describe in detail. Please include project name to be used as a reference for communication with EMP. Fill out a new form for each application.	
2. What is the system operating voltage range?	14V nominal (12V DC system) 28V nominal (24V DC system) Other (specify):_____
3. Fan type (Push or Pull – see figure below)?	Push Pull
4. What are the fluid temperature control limits?	Max Temp IN: °C Max Temp OUT: °F
5. What is maximum ambient air temperature the system must operate in?	°C °F
6. What is the heat rejection requirement? Heat rejection @ flowrate and ITD (Fluid Temp In – minus – Air Temp In)	kW BTU/min HP

Push   Pull

Heat Exchanger

7. What fluid is being pumped through the heat exchanger?	
8. What is the expected flow rate of fluid?	US GPM (Gallons per Minute) LPM (Liters Per Minute) Other (specify above)
9. Is a pump needed?	No Yes – Fill out Pump Requirements form

10. Type of control for the fans?
 	
For system controller CAN message control, contact EMP applications engineering to discuss control strategy.
 	
For individual control with CAN communication, also select a control option and whether to configure the components to read an external temperature sensor.
 	
Refer to README.pdf when completing the CAN Operation section.
	System controller *select control input:*
	    CAN message
	    Temperature sensor
	    Fan reversal
	    Pressure sensor
	    Other – Please specify:_____
	System controller source address: 0x_____
	Individual component control *select control configuration:*
	    On/off control
	    Control to PWM input
	    CAN communication *complete CAN Operation section*
	        On/off control with CAN status
	        Control to CAN command messages
	        Control to temperature sensor input
	        Configure components to read external temperature sensor

11. Are there any certification requirements? E-Mark, CSA, UL; additional costs may apply for specific certifications.	
12. What is the expected annual purchase volume for this product?	
13. Please list all important project milestone dates, including date samples are required.	1st Sample: PPAP: SOP: Other:
14. Where will the system be mounted? Rooftop, engine compartment, etc? Please give details.	
15. What type of environment will the system be exposed to? Will it be open to dirt, dust, water, road debris, etc.? Please give details.	
16. Any additional application information would also be helpful.	

CAN Operation *Questions Apply to CAN Components Only*

The responses to the questions on this page are required to establish the correct software and system part number if you want to use CAN control. If you are early in the development process and not sure of the final setting requirements, please indicate that your answers are tentative or preliminary, but do not leave them blank.

Message Format Options: components may use EMP Defined Messages, SAE J1939 Standard Messages, or both together. Enabling both formats increases CAN traffic. If enabling SAE J1939 Standard Messages, specify the SAE J1939 PGN pairs to use in the component calibrations.

    Enable EMP Messages *(See EMP document 9980001068, section 3 for more information).*

    Enable SAE J1939 Standard Messages *requires access to SAE J1939 Digital Annex.*

    Pump PGN Pair:

    Fan 1 PGN Pair:

    Fan 2 PGN Pair:

    Fan 3 PGN Pair:

    Fan 4 PGN Pair:

Pump Source Address: **0x_____**

Fan 1 Source Address: **0x_____**

Fan 2 Source Address: **0x_____**

Fan 3 Source Address: **0x_____**

Fan 4 Source Address: **0x_____**

Electrified Accessory Command Status PGN Pairs

Command	Status	Description
29440	64503	Propulsion Motor Coolant Fan 3
29696	64504	Propulsion Motor Coolant Fan 2
29952	64505	Propulsion Motor Coolant Fan 1
30208	64506	Power Electronics Coolant Fan 3
30464	64507	Power Electronics Coolant Fan 2
30720	64508	Power Electronics Coolant Fan 1
30976	64509	Propulsion Motor Oil Pump
31232	64510	Propulsion Motor Coolant Pump
31488	64511	Power Electronics Coolant Pump
32000	64513	Motor

Additional Comments:

Please return this completed form to AdvRequirementForms@emp-corp.com.

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Hardware: _____   Software: _____

Programmed Assembly Part Number: _____