



High Country Tek, Inc.

E-Fan System Controller EMC-1P/EMC-1PL

Electronic Controller Solutions for Mobile, Industrial & Marine Applications

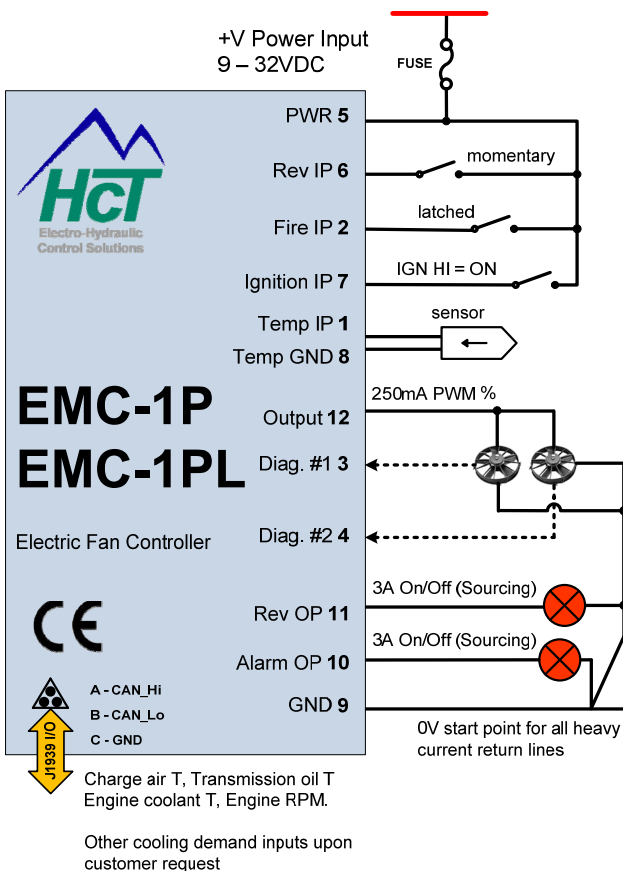
Product Feature Overview

- Controls 1x bank of E-fans
- SAE J1939 CAN messages and 1x temperature input
- Bi-directional fan control for radiator 'Purge' or 'De-Ice'
- PC based Graphical User Interface (GUI) for system configuration/diagnostics
- SAE J1455 (load dump) compliant power protection
- Diagnostic LED's with system "status" blink code indication
- USB or RS-232 communications with PC for set-up/diagnostics
- Designed to operate 12VDC or 24VDC SPAL fan units
- External data logging



RS232 connector removed for clarity

Basic Connection Diagram



Controller Specification Overview

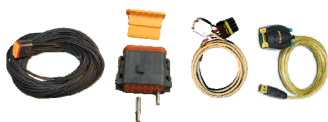
Housing Type	HCT encapsulated block, flameproof
Power Supply Voltage	9 to 32VDC (<i>Absolute Maximum</i>)
Current Consumption	Load current + 200mA Quiescent (<i>Max</i>)
Command Inputs	SAE J1939 CAN messages for charge air, transmission oil & water temperature 3x option selection switches (<i>ON/OFF</i>) 2x inputs for fan diagnostics (<i>ON/OFF</i>) 1x input for sensor
Outputs	1x 0-100% PWM output (<i>sourcing for EMC-1P, sinking for EMC-1PL, Max 250mA, short circuit protection</i>) 2x 3A on/off output for reverse and alarm indicators
PWM Dither Freq.	Software adjustable - 33 to 500Hz
SAE J1939 Connector	3 way SAE J1939
Module Connector	DTF15-12PB, 12-way Male
Communication	4-way Weatherpak for RS232
Housing Material	Black, polycarbonate
Mounting	3x No.8 (<i>5mm</i>) SAE Grade 2 screws
Temperature Range	-40 to +85°C (<i>Operational</i>) -60 to +90°C (<i>Storage</i>)
NEMA/IP Rating	NEMA 6P/IP67
CAN Data Rate	250Kbps and 500Kbps

Accessories



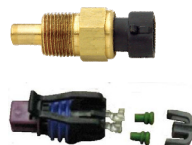
CD-EMC-1P

- PC set-up software
- System diagnostics
- Data logging feature



Connectors / Cables

- 999-10156 12-pin harness (3M)
- 999-10155 12-pin connector kit
- 999-10075 Comm. cable (4way/RS232)
- 108-00119 Comm. cable (USB/RS232)



Liquid Thermistor (-40 to +150°C)

- 206-00083 (3/8"-18NPT)
- 206-00083M (M12x1.5)
- 999-10213 (mating connector)



Dry Thermistor (-40 to +150°C)

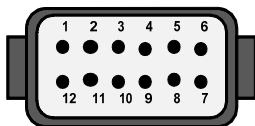
- 206-00084 (3/8"-18NPT)
- 999-10213 (mating connector)

Connector Details

EMC-1P/L Connector Designation

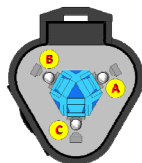
12-way Deutsch Connector DTF15-12PB (Male, Plug)

PIN	Name
Pin 1	Thermistor/Switch input +
Pin 2	Fire input
Pin 3	Fan #1 diagnostic input
Pin 4	Fan #2 diagnostic input
Pin 5	9-32VDC power supply input +
Pin 6	Reverse fan input (Momentary)
Pin 7	Ignition input
Pin 8	0V - Signal GND
Pin 9	0V - Power supply GND
Pin 10	3A max On/Off for alarm indicator (sourcing)
Pin 11	3A max On/Off for Reverse indicator (sourcing)
Pin 12	0-100% Proportional PWM output (250mA, sourcing for EMC-1P, sinking for EMC-1PL)



3-way Male SAE J1939 Connector

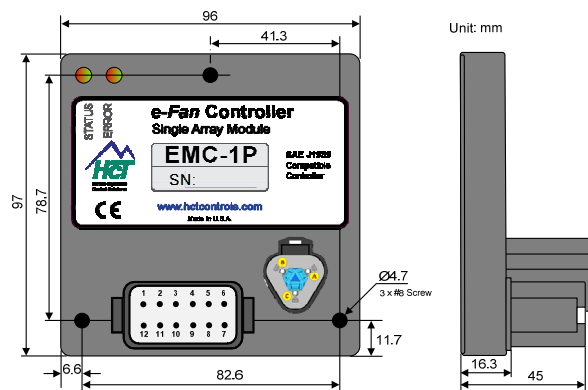
- Pin A CAN_HI (SAE J1939) input
- Pin B CAN_LO (SAE J1939) input
- Pin C Not used



EMC-1P Qwik-Pick Solution Kit (**E-Fan** with PWM% sourcing input) **999-10264**

EMC-1PL Qwik-Pick Solution Kit (**E-Fan** with PWM% sinking input) **999-10265**

Dimensions



- Weight is approx. 250g.
- Mount to a flat cool surface.
- Use Three #8 SAE Grade 2 screws.

www.hctcontrols.com



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