



High Country Tek, Inc.

Hybrid Fan System Controller EMC-6/EMC-6L

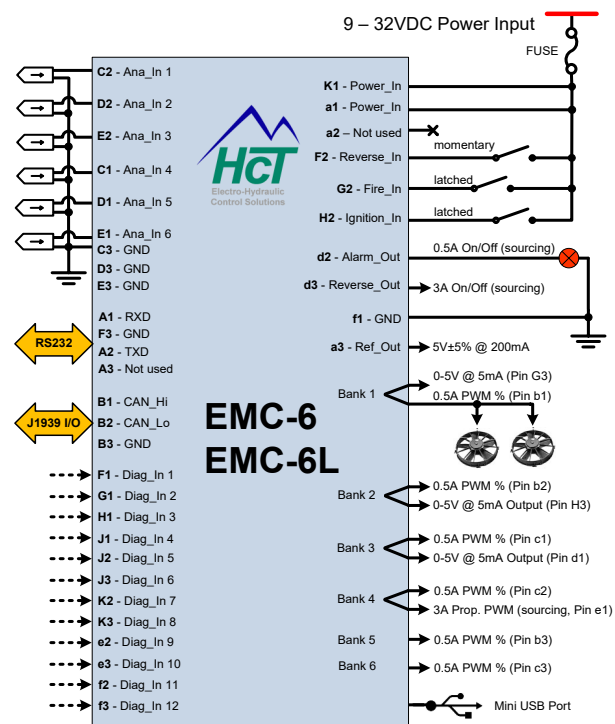
Electronic Controller Solutions for Mobile, Industrial & Marine Applications

Product Feature Overview

- Controls 1 Hydraulic or e-fan bank & up to 5 additional e-fan banks
- Up to 3x 0-5VDC outputs (water pump, servo control, etc.)
- 10 programmable SAE J1939 CAN messages
- 6 analog inputs for thermistors or potentiometers
- 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
- Internal and external data logging
- USB or RS-232 communications with PC for set-up/diagnostics
- Designed to operate 12VDC or 24VDC SPAL fan units



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	Programmable SAE J1939 CAN messages 3x option selection switches (<i>ON/Off</i>) 16x inputs for fan diagnostics (<i>ON/Off</i>) 6x inputs for sensors or potentiometers
Outputs	Up to 3x 0-5VDC 10mA analog outputs Up to 6x 0-100% PWM outputs (<i>sourcing for EMC-6, sinking for EMC-6L, Max 500mA, short circuit protection</i>) 1x 3A Prop. PWM current output 1x 3A on/off output for reverse coil 1x 0.5A on/off output for alarm indicator 1x 5V±5% regulated voltage output (250ma max.)
PWM Frequency	Software adjustable - 33 to 1000Hz
Module Connector	48-way Cinch 1.5mm SHS Header Cinch PN: 581 01 48 011
Communication	Mini USB or 4-way Weatherpak for RS232
Housing Material	Black, polycarbonate
Mounting	2x 1/4" x 20 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/IP68
CAN Data Rate	250Kbps, 500Kbps and 1000Kbps



Hybrid Fan System Controller EMC-6/EMC-6L

Accessories



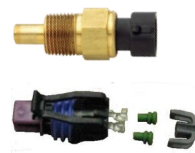
Software

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



Connectors / Cables

- 999-10104 30-pin harness (3M)
- 999-10107 18-pin harness (3M)
- 999-10077 48-pin mating connector kit



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)

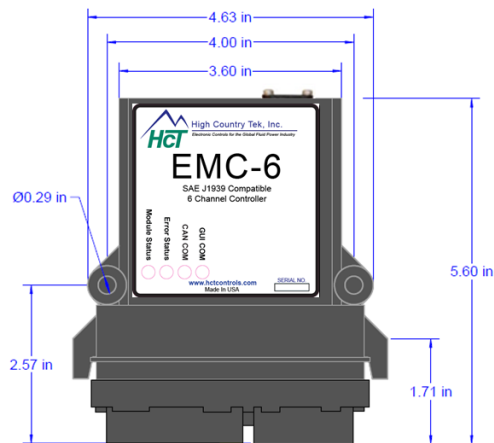
- 206-00084 (3/8"-18NPT)
- 999-10213 (mating connector)

Note: Free download from support.enovationcontrols.com

Connector Details

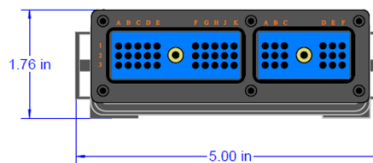
Dimensions

EMC-6/EMC-6L Connector Designation Table					
30 Pin Metri-Pak Connector (Male, Plug)					
PIN	Name	PIN	Name	PIN	Name
A1	RXD (RS232)	F1	Diag_In 1	J1	Diag_In 4
A2	TXD (RS232)	G1	Diag_In 2	J2	Diag_In 5
A3	Not used	H1	Diag_In 3	J3	Diag_In 6
C1	Therm_In 4	F2	Reverse_In	K1	Power_In
C2	Therm_In 1	G2	Fire_In	K2	Diag_In 7
C3	GND	H2	Ignition_In	K3	Diag_In 8
D1	Therm_In 5	F3	GND	B1	CAN_Hi
D2	Therm_In 2	G3	Bank 1 An_Out	B2	CAN_Lo
D3	GND	H3	Bank 2 An_Out	B3	GND
E1	Therm_In 6	E2	Therm_In 3	E3	GND



- Weight is approx. 1.26lbs.
- Mount to flat, cool surface.
- Use BOTH mounting lugs.
- Tightening torques for 1/4"-20, SAE Grade 2 bolts:
 - * DRY Torque: 4 ft.-lbs.
 - * Lubricated Torque: 3 ft.-lbs.

EMC-6/EMC-6L Connector Designation Table					
18 Pin Metri-Pak Connector (Male, Plug)					
PIN	Name	PIN	Name	PIN	Name
a1	Power_In	c1	Bank 3 PWM	e1	Bank 4 3A
a2	Not used	c2	Bank 4 PWM	e2	Diag_In 9
a3	Ref_Out	c3	Bank 6 PWM	e3	Diag_In 10
b1	Bank 1 PWM	d1	Bank 3 An_Out	f1	GND
b2	Bank 2 PWM	d2	Alarm_Out	f2	Diag_In 11
b3	Bank 5 PWM	d3	Reverse_Out	f3	Diag_In 12



**High Country Tek
by Enovation Controls**
5311 S 122nd East Ave.
Tulsa, OK 74146
Tel: +1 (918) 317-4100
sales@enovationcontrols.com

www.enovationcontrols.com