



# High Country Tek by Enovation Controls

## Single e-Fan Bank Controller

# EMC

Electric Brushless Fan Control

Electronic Controller Solutions for Mobile, Industrial & Marine Applications

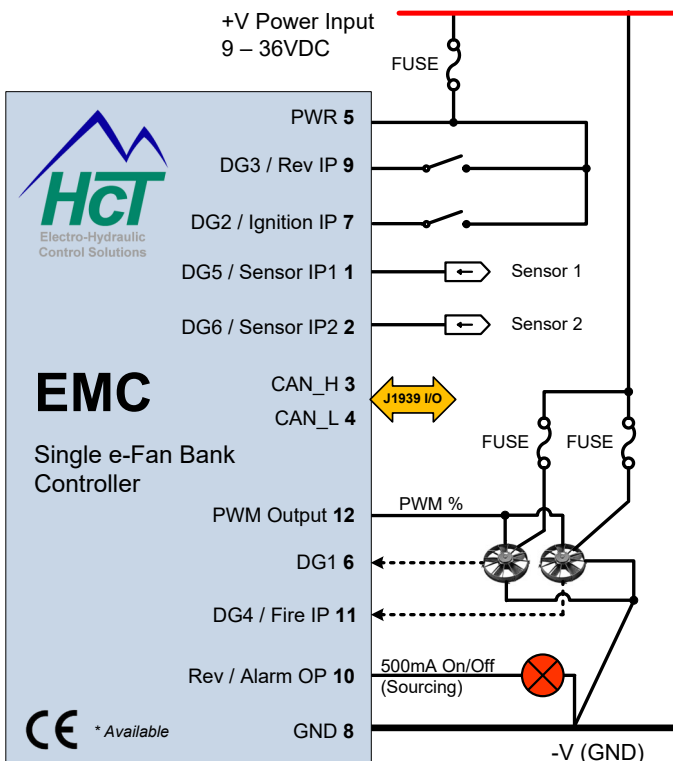
### Product Overview

The **EMC** is a compact but powerful single fan bank controller for use with +12Vdc or +24Vdc variable speed brushless fans. The controller provides a low current varying PWM signal to the fan/s based on command inputs. Setup and system monitoring are easily accomplished through the graphical user interface (GUI). This controller is complete with many selectable input and output configurations along with **On-Demand** and **Set-Point** command modes. The health of the fan system can easily be determined by the diagnostic LED's, the diagnostic J1939 CAN Bus messages from the controller, and by monitoring the system using the software interface.

- ◆ Single fan bank output (multiple fans if connected in parallel)
- ◆ Inputs include up to 6x **SAE J1939** CAN values, 2x sensor inputs, 6x fan diag. inputs, 1x Fire Input, 1x Rev. input, and 1x Ignition input
- ◆ Selectable and user configurable J1939 CAN message outputs
- ◆ **On-Demand** (open-loop) or **Set-Point** (closed-loop) control
- ◆ Bi-directional fan control for radiator 'Purge' or 'De-Ice'
- ◆ Graphical User Interface for system configuration, monitoring and data-logging.
- ◆ Designed for harsh environments with SAE J1455 Compliant load dump protection



### Basic Connection Diagram



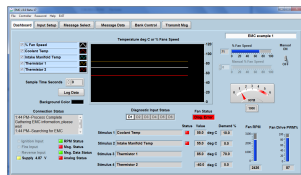
Sample Configuration Shown

Note: Some pins have multiple functions configurable with the setup software.

### Controller Specification Overview

<b>Housing Type</b>	HCT encapsulated block, flameproof
<b>Power Supply Voltage</b>	9- 32VDC
<b>Current Consumption</b>	Load current + 200mA Quiescent (Max)
<b>Command Inputs</b>	Up to 6 programmable SAE J1939 CAN values Up to 3x option selection switches (ON/OFF) Up to 6x inputs for fan diagnostics (ON/OFF) Up to 2x sensor inputs (Thermistor or 0-5V)
<b>Outputs</b>	1x 0-100% PWM output (sourcing or sinking, Max 500mA, short circuit protection) 1x 500mA on/off output for reverse or alarm indicators (short circuit protection)
<b>PWM Frequency</b>	Software adjustable - 33 to 1000Hz
<b>Connector</b>	Deutsch DTF15-12PB, 12-way Male
<b>Communication</b>	Mini USB A/B
<b>Mounting</b>	3x No.8 (5mm) SAE Grade 2 screws
<b>Temperature Range</b>	-40 to +85°C (Operational) -60 to +150°C (Storage)
<b>NEMA/IP Rating</b>	NEMA 6P/IP67
<b>CAN Data Rate</b>	250Kbps, 500Kbps and 1Mbps
<b>Certifications:</b>	CE, E-mark *Check availability

## Accessories



### Software

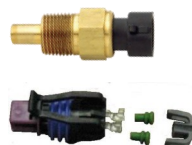
- **PC-EMC** Set-up software

Note: Free download from [support.enovationcontrols.com](http://support.enovationcontrols.com)



### Connectors / Cables

- **999-10156** 12-pin harness (3M)
- **999-10155** 12-pin connector kit



### Liquid Thermistor (-40 to +150°C)

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



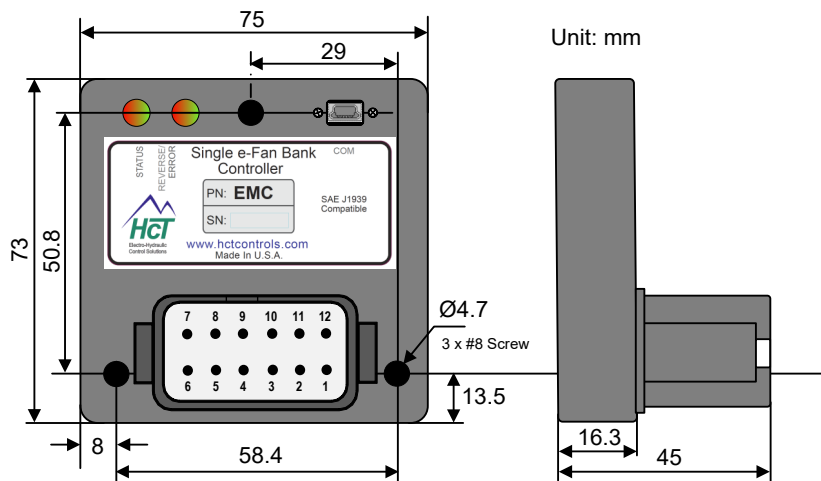
### Dry Thermistor (-40 to +150°C)

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

## Connector Details

## Dimensions

EMC Connector Designation	
12-way Deutsch Connector DTF15-12PB (Male, Plug)	
PIN	Name
1	Sensor Input 1 / Diagnostic Input 5
2	Sensor Input 2 / Diagnostic Input 6
3	CAN_Hi
4	CAN_Lo
5	9-36VDC Power Supply Input +
6	Diagnostic Input 1
7	Ignition Input / Diagnostic Input 2
8	-V (GND)
9	Reverse Input / Diagnostic Input 3
10	Alarm Output / Reverse Output
11	Fire Switch Input / Diagnostic Input 4
12	0-100% Proportional PWM output (500mA, sourcing or sinking)



- Weight is approx. 150g.
- Mount to a flat cool surface.
- Use Three #8 SAE Grade 2 screws.

## Ordering Guide

Part Number	Description
<b>EMC</b>	EMC Controller



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