



High Country Tek, Inc.

Three Channel e-Fan Controller: **emc-3**

Electronic Control Solutions for the Global Fluid Power Industry



Application Information:

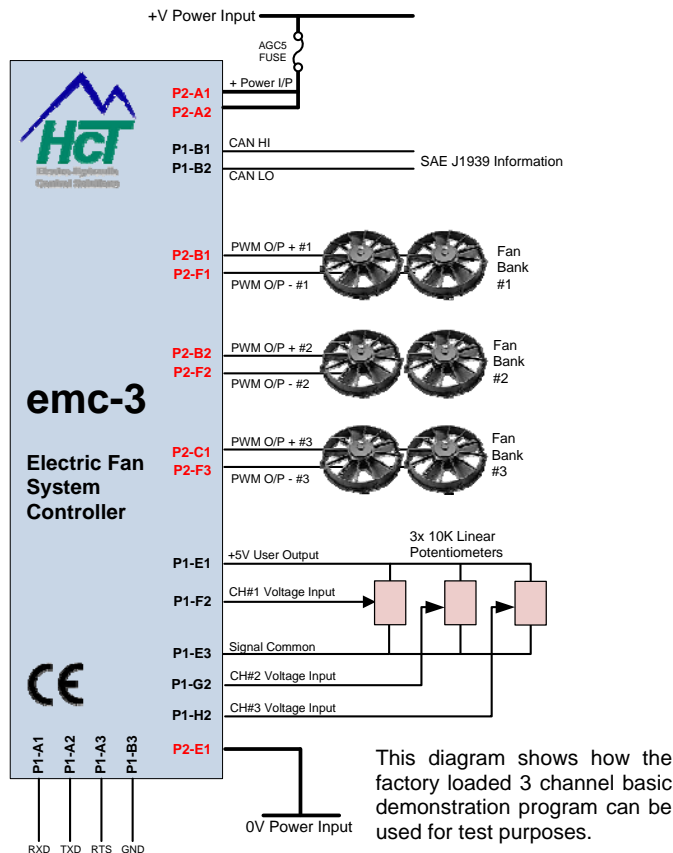
- **Three (3) Independent Channel e-Fan Controller**
- 12VDC or 24VDC mobile or static system usage
- PWM type signal outputs, fully configurable for user needs
- Can drive multiple fans within separate 'banks' for power saving profiles

Product Feature Overview:

- **Compatible with 'Smart' Fan manufacturers products**
- Can be programmed using the HCT Intella® Suite
- SAE J1939 compliance for Temperature data
- Module fully encapsulated and sealed
- Diagnostic LED indicators with alarm outputs
- Digital inputs for fan diagnostic information interface
- Can be factory pre-set for serial production needs



Electrical Connection Diagram:



Controller Specification Overview:

- Supply Voltage: 10VDC to 30VDC Vin
- Supply Protection: Designed to be SAE J1455 compliant
- Module protection - External fuse for HCT warranty compliance
- Communications: SAE J1939 protocols compliant
1x RS232 serial port
- User Voltage: 1x / +5VDC $\pm 5\%$ @ 250mA
- Analog Inputs: 3x / Voltage only / 100K input impedance
- Analog I/P range: 0 to +5VDC max only
- Universal I/P Type: 3x / Voltage, Current, Pulse, Digital or PWM
- Universal I/P range: 0 to +5VDC, 0 to +10VDC, 0 to 20mA, 0 to 24Khz
- Digital Inputs / Type: 8x Lo to Hi or Hi to Lo selectable
- Digital Output (s): 3x @ Upto 3 amps each max
- PWM O/P Type: 3x with I/O optimized resolution
- PWM O/P range: 0 to 100 mAmps max
- Diagnostic Ind.: 4x - MS (Module status), NS (Node status),
Default Error status, O/P PWM %
- NEMA / IP rating: NEMA 6P / IP 68
- Connector type: 1 x Cinch 30 way male & 1 x Cinch 18 way male.
- Operating Temp. Range: -40 to +85 Centigrade (-40F to +185F)
- Storage Temp. Range: -40 to +100 Centigrade (-40F to +212F)



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Controller Connection Details:

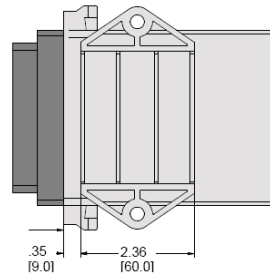
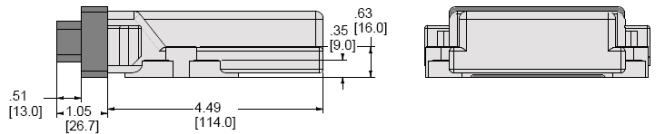
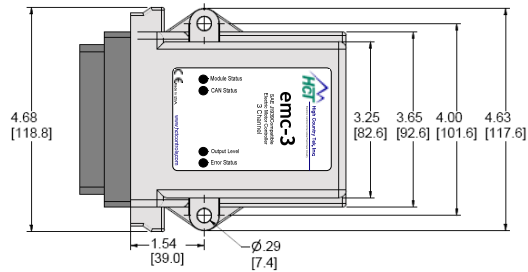
Dimensional Data:

emc-3 Connector Designation Tables

30 Pin Metri-Pak Connector (Male, Plug)								
PIN	Name	Function	PIN	Name	Function	PIN	Name	Function
A1	RXD	Receive RS232 Data - Pin 'A'	D2	Uni-2	Universal Input #2	E3	GND	Ground / OV / Signal Common
A2	TXD	Transmit RS232 Data - Pin 'C'	D3	GND	Ground / OV / Signal Common	H1	Dig3	Digital Input #3
A3	RTS	Request To Send - RS232 Pin 'D'	E1	Vref	+5V regulated user output	H2	Ana3	Analog input #3
B1	CAN-H	CAN #1 High	E2	Uni-3	Universal Input #3	H3	GND	Ground / OV / Signal Common
B2	CAN-L	CAN #1 Low	E3	GND	Ground / OV / Signal Common	J1	Dig4	Digital Input #4
B3	COM	DV/COM RS232 Data - Pin 'B'	F1	DIG-1	Digital Input #1	J2	Dig5	Digital Input #5
C1	CAN-H	CAN #2 High	F2	ANA-1	Analog input #1	J3	Dig6	Digital Input #6
C2	Uni-1	Universal Input #1	F3	GND	Ground / OV / Signal Common	K1	+Pwr	+V Supply Power Input
C3	GND	Ground / OV / Signal Common	G1	DIG-2	Digital Input #2	K2	Dig7	Digital Input #7
D1	CAN-L	CAN #2 Low	G2	ANA-2	Analog input #2	K3	Dig8	Digital Input #8

18 Pin Metri-Pak Connector (Male, Plug)								
PIN	Name	Function	PIN	Name	Function	PIN	Name	Function
A1	+VPwr	+V Supply Power Input	C1	PWM-3	PWM Output to Fan Bank #3	E1	Gnd for dVc	Ground / OV Common
A2	+VPwr	+V Supply Power Input	C2	HS-4	ON/Off output	E2	Not Used	Not Used
A3	Not Used	Not Used	C3	Not Used	Not Used	E3	Not Used	Not Used
B1	PWM-1	PWM Output to Fan Bank #1	D1	HS-5	ON/Off output	F1	Gnd for dVc	Ground / OV Common
B2	PWM-2	PWM Output to Fan Bank #2	D2	HS-6	ON/Off output	F2	Gnd for dVc	Ground / OV Common
B3	Not Used	Not Used	D3	Not Used	Not Used	F3	Gnd for dVc	Ground / OV Common

Notes:
emc-3 is designed to drive up to 3 separate banks of electric fans with low current requirement - PWM command signal type inputs
emc-3 has the capability of monitoring up to 8 individual fans operation using the digital ON/OFF inputs DIG-1 thru DIG-8
User system alarm, operational logic or safety inputs should use the analog inputs 1 thru 3

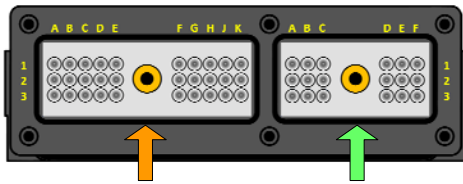


IMPORTANT NOTE:

Recommended tightening torques for the securing bolts are as follows:

For a 1/4-20 bolt, SAE Grade 5

DRY Torque: 8 Ft-Lbs
Lubricated Torque: 6.3 Ft-Lbs

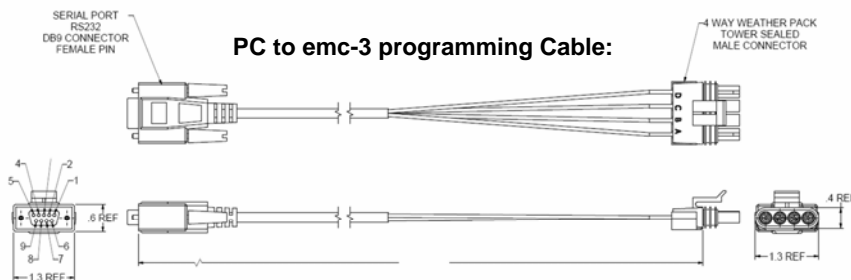


30 way Metri-Pak 18 way Metri-Pak

NOTE:

The emc-3 connectors shown here are viewed in the direction of arrows below.
Contact HCT for harnesses and connectors for this product.

emc-3 accessories - PC set-up cables:



HCT Part Number:
999-10075

Need More Information ?

For the latest PWM and product information, visit us at:

www.hctcontrols.com

For customer service, pricing, order placement and application support, contact us through e-Mail at: info@hctcontrols.com



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