

**Overview**

The ACM1015 provides complete analog, digital, or Modbus networked digital control capability for an EBM BLDC motor.

**ACM1015 control options include:**

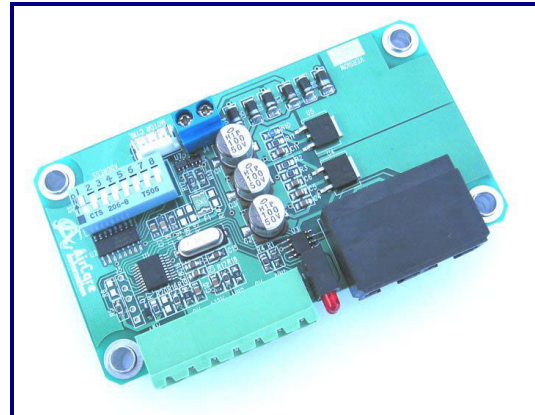
- o Analog 0-5V signal from a sensor, potentiometer, or controlled voltage source
- o AirCare Control Console for a simple, complete plug-and-go monitoring and control solution (stand-alone or networked)
- o Controlled by PLC or Building Management System via AirCare/Intellicom gateway products

**Specifications**

- Control Interface for EBM BLDC motor
- Network or Analog Control
- Simple connections
  - o 4 Pin MTA for motor control signals
  - o RJ45 for networking
  - o 7 Pin terminal for analog inputs
- LED diagnostics
  - o Board Status
  - o Network Traffic
- Industry standard MODBUS Networking
  - o RTU Protocol
  - o RS485 9600,8,n,1
- Flexible analog control options
  - o 0-5V source
  - o Potentiometer
  - o Sensor with 0-5V output
  - o Internal closed-loop control
- PWM Speed Command Signal
  - o 10V, Hz
- Field-adjustable Number of Pulses Per Revolution
  - o Programmed by Modbus register write.
  - o Programmed value stored in non-volatile memory.
  - o Values of 1, 2 and 3 accepted.
- TACH Motor Speed Input
  - o 10V @ 1mA needed switched to ground.
  - o Maximum 5000 RPM measured
  - o Minimum 60 RPM measured
- Powered from Network or Local Supply
  - o 12-24V AC or DC
- OEM module
  - o Open-frame PCB with standoffs
  - o 0-50°C operating temperature

**Benefits**

ACM1015 extends the available interface options for EBM BLDC motors. Typically ACM1015 is mounted in a Fan-Filter Unit, close to the EBM motor. The on-site installer need only connect the RJ45 patch cable to complete the control network.



**Installation**

ACM1015 gets its low voltage power from a 12-24V DC supply or AC transformer.

Two RJ45 jacks provide In/Out connections for network cables. Like the AirCare VariPhase™, the ACM1015 is daisy-chained using CAT5 patch cables.

**Control Port J1**

**ACM to ECM Cable Control Wiring**

Pin Number	Signal Name	Function	EBM Wire Color
1	n/c	n/c	Red*
2	Tach	Tachometer signal from motor	White
3	OV/GND	Common Ground	Blue
4	SPEED	PWM speed signal to motor	Yellow

\*The red wire from the motor can be terminated to Pin 1, but serves no function and makes no internal connection.

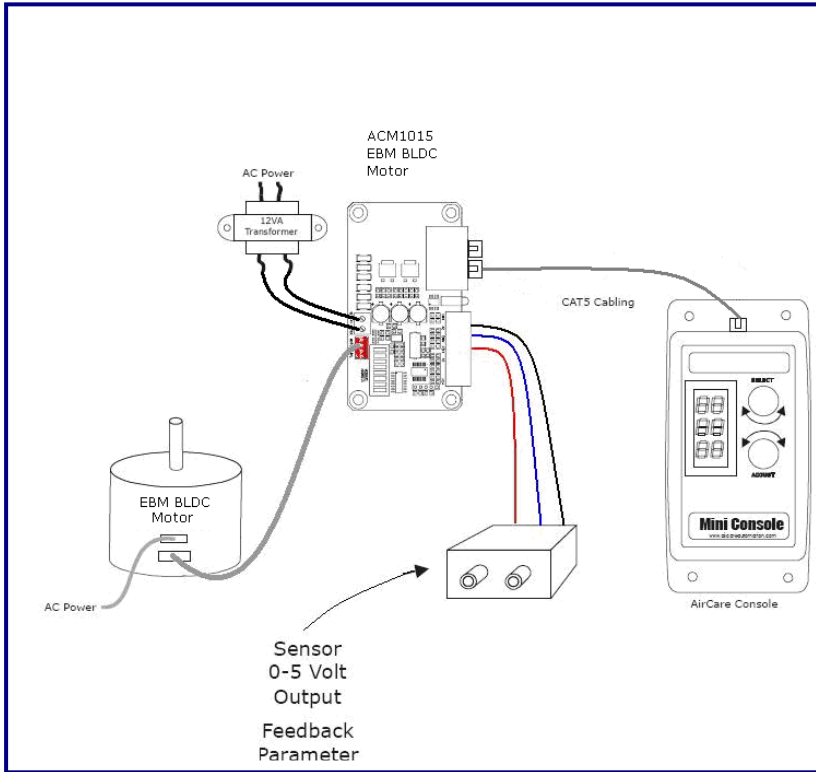
Mating connector for ACM1015 Control Port J1: AMP MTA 640442-4

Mating connector for ACM1015 EBM Motor: Motor comes with flying leads – no additional connector is necessary.

AirCare Console™ and AirCare VariPhase™ are trademarks of AirCare Automation Inc.

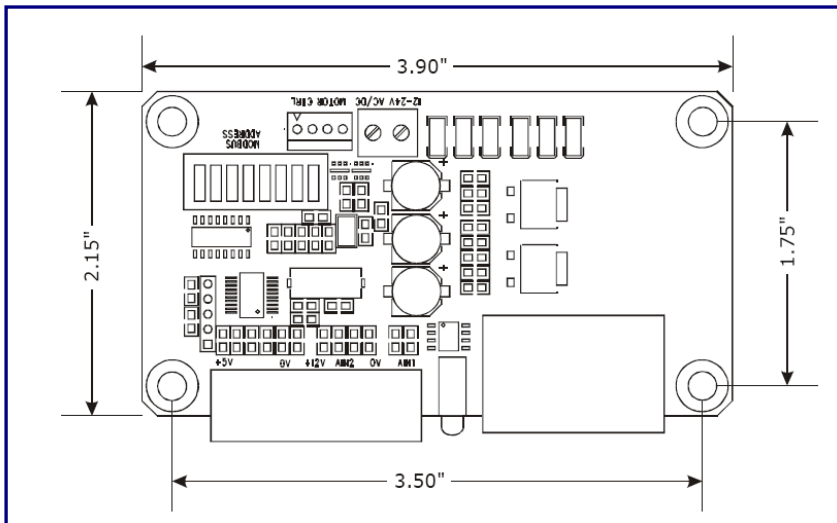
MODBUS™ is a registered trademark of Schneider Automation

ACM1015 System Diagram



Note as of April, 2008: Please note that the AirCare closed loop control function has not yet been ported to the EBM platform. If you wish to operate the ACM1015 in closed-loop mode, please check with AirCare Automation to ensure that closed-loop-compatible firmware has been implemented.

Mechanical Dimensions



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