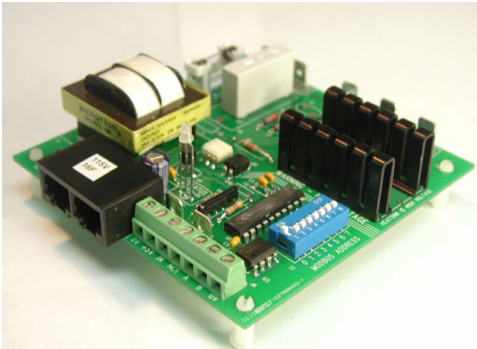


**PRODUCT DATA SHEET**

## ■ ENAC Variphase Motor Speed Control



### ■ Overview

The ENAC is ENVIRCO'S baseline MODBUS equipped motor speed controller. The microprocessor based unit provides wide range variable-voltage speed control for PSC and shaded-pole motors. This system of electronic speed control is an economical alternative to expensive BLDC motors.

ENAC is very simple to install and configure. The only necessary electrical connections are an AC supply, a motor load and RS485 wiring.

The ENAC MODBUS address is set from 1 to 255 using an on-board DIP switch.

The motor load may be connected in standard two-wire mode, or with the auxiliary winding permanently powered (see wiring diagram). A dedicated spade-terminal is provided for this purpose.

ENAC's digital input (IN) can be wired directly to an external contact, such as a low pressure switch. Connecting an external contact can be done through either the 7 way terminal block or ¼" Spade terminals above the 7-way.

This input is monitored using MODBUS register 7, making it compatible with the ANA1 input on standard VariPhase(s).

### ■ Features & Benefits

- Phase Type Variable Voltage Control
- 115V, 230V and 277V models
- 3 Amp load capability (2A for 277V Model)
- 3-wire option reduces motor hum and increases efficiency at lower speeds
- Very low cost/node
- RS485 network connectivity (MODBUS protocol) using either(see wiring diagram):
  - Twisted-pair cable.
  - RJ45 Connector
- Monitoring input for pressure switch or similar sensor
- Soft-start reduces motor start current
- LED indicates board status

### ■ Specifications

- Automatic Selection of 50/60Hz
- Simple connections
  - ¼" Spade terminals for power
  - 7 way terminal block for low voltage signals
- LED diagnostics
  - Green - Board OK, valid comms link
  - Red - Fault, no comms link
- Replaceable Fuse
  - 4x20mm 5A 250V or 3A 300V
- MODBUS RTU Protocol
- RS485 9600,8,n,1
- Open-frame PCB
- Mount with standard nylon standoffs
- 0-50°C operating temperature
- Low-profile design
  - 3.95" x 3.95" x 1.0"

**PRODUCT DATA SHEET**
**ENAC**

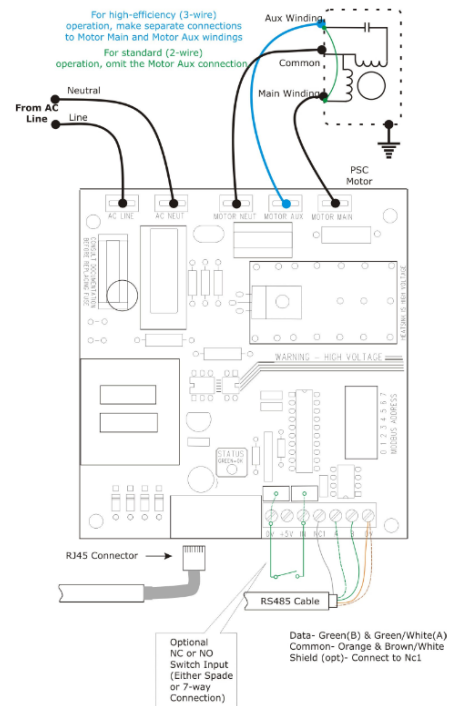
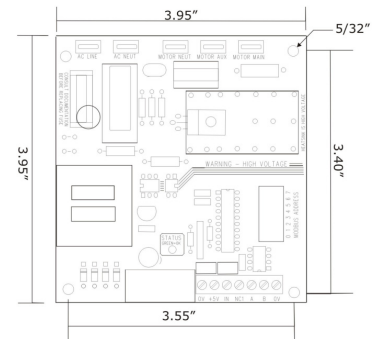
Part No.	Description
64083-001	ENAC 120V, MAC10 ORG
64083-002	ENAC 208-240V, MAC10 ORG
64083-003	ENAC 277V, MAC10 ORG
64083-004	ENAC 120V, MAC10 LEAC2
64083-005	ENAC 208-240V, MAC10 LEAC2
64083-006	ENAC 277V, MAC10 LEAC2

**MODBUS Register Functions**

Reg	Upper Byte	Lower Byte	Type
1		Bit 0: Start/Stop	R/W
2		Set Speed (0-100%)	R/W
7	Aux Input Level		R
8	Minimum Speed		R/W
9	Status Flags		R
10		Default Speed (0-100%)	R/W
11	Version Major	Version Minor	R
12	Actual Speed (0-100%)		
14		Bit 0: Default Start/Stop	R/W
17	Number of Good Packets		R/W
18	Number of Bad Packets		R/W
19	Reset Counter		R/W
23	Configuration Flags		R/W
100		Product ID	R

**Status & Configuration Flags**

Bit Position	Status Flags Register 9	Configuration Flags Register 23
0	Zero Crossing	unused
1	unused	Enable Soft-start
2	Soft-start in Progress	unused
3	AC Line is 50Hz	unused
4	Motor Run	unused
5	Internal Use	unused
6	unused	unused
7	Digital Input State	unused


**Specifications**

Parameter	Value
Supply Voltage (ACV Custom 115V)	85-130Vac
Supply Voltage (ACV Custom 230V)	207-255Vac
Supply Voltage (ACV Custom 277V)	250-305Vac
Load Current ACV Custom 115V and ACV Custom 230V	3A <sub>rms</sub>
Load Current ACV Custom 277V	2A <sub>rms</sub>
Starting load current	4.5A for 1 min
Ambient Temperature	0-50°C
Sensor Supply Voltage	5.0Vdc 10mA
Digital Input Threshold (Vil/Vih)	0.7V / 2.6 V

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