

Installation, Operation and Maintenance Instructions



**UNICON
CONTROLLER
1-15 AMP MODELS
NEMA 12 AND
CHASSIS MOUNT
115 OR 230
VOLT AC**

ERIEZ MAGNETICS HEADQUARTERS: 2200 ASBURY ROAD, ERIE, PA 16506-1402 U.S.A.
WORLD AUTHORITY IN SEPARATION TECHNOLOGIES

User Technical Safety Information

This description contains the necessary information for the correct application of the product described below. It is intended for use by technically qualified personnel.

Qualified personnel are persons who, because of their training, experience and position as well as their knowledge of appropriate standards, regulations, health and safety requirements and working conditions, are authorized to be responsible for the safety of the equipment, at all times, while carrying out their normal duties and are therefore aware of, and can report, possible hazards. (Definition of qualified employees according to IEC 364.)

Safety Instructions

The following instructions are provided for the personal safety of operators and also for the protection of the described product and connected equipment.

Specified Use

The units described herein are electrical controllers for installation in industrial plants.

They are designed for power adjustment on vibratory feed equipment.



WARNING!

Hazardous Voltage

Failure to observe can kill, cause serious injury or damage

- **Isolate from mains before installation or dismantling work, as well as for fuse changes or post installation modifications.**
 - **Observe the prescribed accident prevention and safety rules for the specific application.**
 - **Before putting into operation, check if the rated voltage for the unit conforms with the local supply voltage.**
 - **Emergency stop devices must be provided for all applications. Operation of the emergency stop must inhibit any further uncontrolled operation.**
 - **Electrical connections must be covered.**
 - **The earth connection must be checked, for correct function, after installation.**
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ERIEZ MODEL N-12 CHASSIS MOUNT UNICON 115/230VAC 1-15AMP 50/60HZ CONTROLLER

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General Description

Electronic control units for stepless adjustment of vibratory feeder throughput. The control units are suitable for feeders with a vibrating frequency of 60 Hz (50 Hz) and 120 Hz (100 Hz). The frequency is selected by using an internal link-switch on the printed circuit board. The feeder throughput can be adjusted by using the integrated potentiometer. An enable input is available for Stop/Start operation from contacts or a supervisory control system. Umin and Umax trimmers are provided to limit the throughput adjustment range.

An integral soft-start reduces jolting when the unit is switched on or enabled.

The enclosed version includes mains input and feeder output cables. In the front panel there is a mains switch and a throughput adjustment potentiometer. The potentiometer can be used to set the feed rate from 10...100%, it's also possible to reduce the range of output voltage by using the internal Umin and Umax trimmers.



Nema 12 Unicon Control



Chassis Mount Unicon Control

Technical Data

	UNICON 115/230VAC 15A MAX. 50/60 Hz	
Supply voltage	115V, +/- 10%, 230V, +/- 10%	115V, +/- 10%, 230V, +/- 10%
Mains frequency	50/60 Hz	50/60Hz
Output voltage	20...110V, 40...220V	20...110V, 40...220V
Output current	0,2...15A max.	0,2...15A max.
Vibrating frequency	3000/3600 (3600/7200)	3000/3600 (3600/7200)
Set point source	Internal Potentiometer 0...10 VDC, 22 kR 0...20 mA, 250 R	Internal Potentiometer 0...10 VDC, 22 kR 0...20 mA, 250 R
Enable	24 V, DC, 5 mA Contacts	24 V, DC, 5 mA Contacts
Construction	IP54 / NEMA 12 TYPE	IP 20 / NEMA 1 TYPE
Operating temperature	0....45°C / 32....113°F	0....45°C / 32....113°F
Storage temperature	20.....+70°C / -4.....158°F	20.....+70°C / -4.....158°F

Declaration of Conformity

We declare that these products conform with the following standards and directives:

EN 50081-2 and EN 50082-2 in accordance with Directive 89/336/EWG.

Commissioning

INSTALLATION

Ensure that the control units are mounted in a vibration free environment and ensure that sufficient air circulation is provided for cooling purposes

Preliminary Steps

- Check that the unit is correct for the local mains supply (rating plate information) and that it is correctly rated for the feed system.
 - Connect the controller according to the connection diagram
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IMPORTANT POINTS

When applications with frequently on and off cycles are required, use the enable control Input provided. It is prohibited to open the current circuit with a switch or a contactor while the feeder is running, as this may cause damage to the controller.

Operating Current of The Feeder Coil

The RMS current should be checked to ensure that the feeder/coil combinations are operating within their rated tolerance.

The different iterations of the UNICON control will be fused at specific levels to provide protection for specific feeder drive needs.

The coil should be designed for the correct operating frequency to prevent excessive current draw and the consequential overloading of the coil.

Settings

Check the input voltage before switching on the controller. The control is set to the voltage specified by the user at the factory. Be sure to use the same voltage specified. If voltage must be changed, see schematic for proper setting.

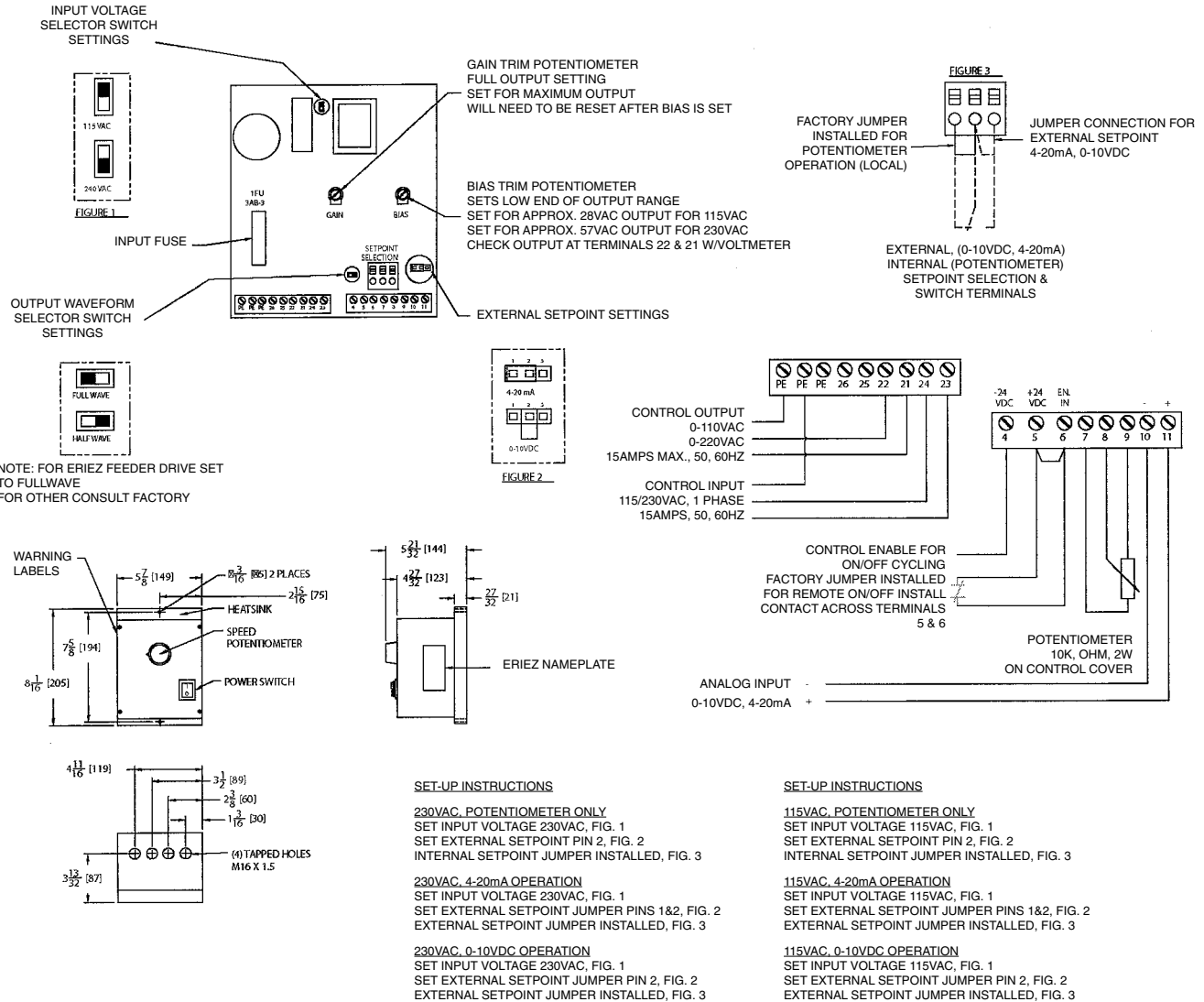
Check the Frequency of the Feeder to ensure that the frequency selection switch is in the correct setting.

Umin and Umax trimmers are provided to limit the throughput adjustment range, they are also located inside the controller.

Connections, Dimensions and Set-up Instructions

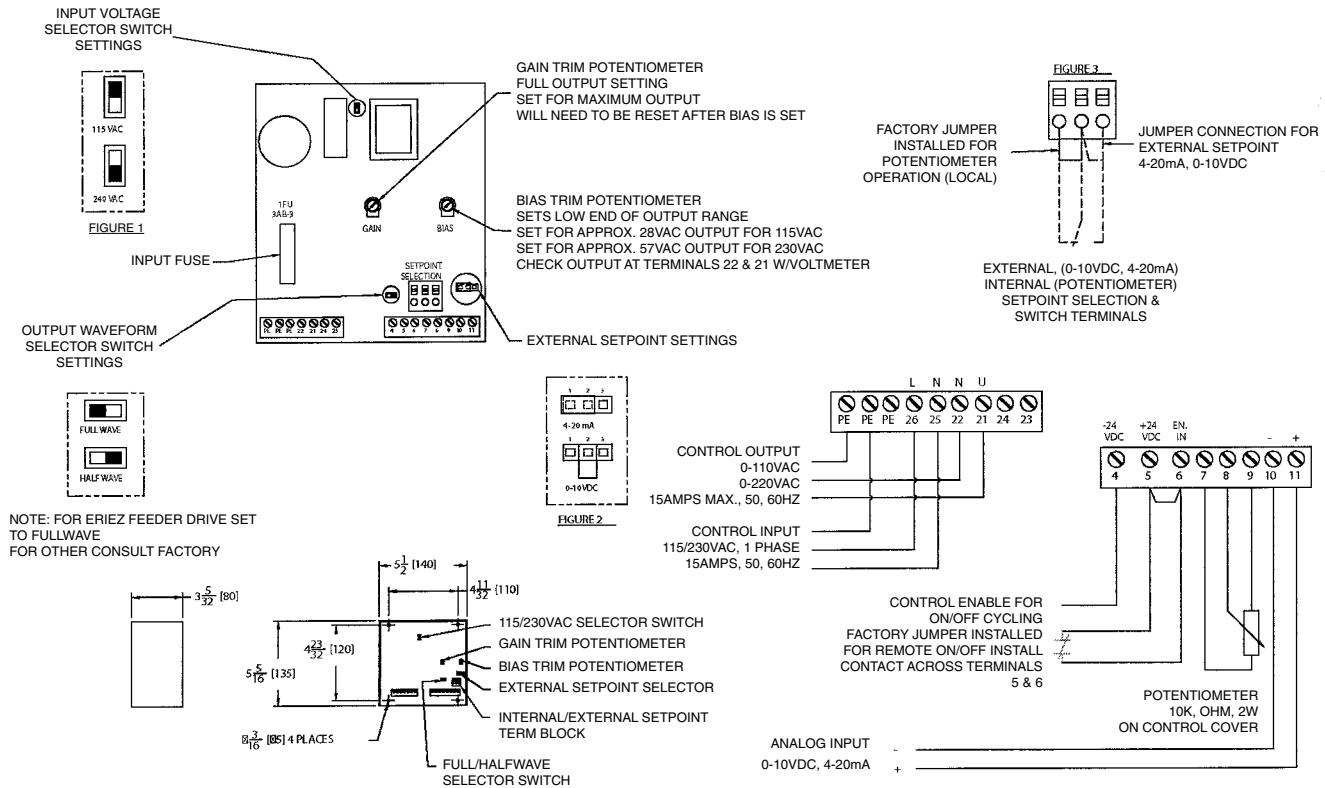
N12 Version

Definable Settings and connection information.



Connections, Dimensions and Set-up Instructions (Cont.)

Chasis Mount Version



SET-UP INSTRUCTIONS

230VAC, POTENTIOMETER ONLY
SET INPUT VOLTAGE 230VAC, FIG. 1
SET EXTERNAL SETPOINT PIN 2, FIG. 2
INTERNAL SETPOINT JUMPER INSTALLED, FIG. 3

230VAC, 4-20mA OPERATION
SET INPUT VOLTAGE 230VAC, FIG. 1
SET EXTERNAL SETPOINT JUMPER PINS 1&2, FIG. 2
EXTERNAL SETPOINT JUMPER INSTALLED, FIG. 3

230VAC, 0-10VDC OPERATION
SET INPUT VOLTAGE 230VAC, FIG. 1
SET EXTERNAL SETPOINT JUMPER PIN 2, FIG. 2
EXTERNAL SETPOINT JUMPER INSTALLED, FIG. 3

SET-UP INSTRUCTIONS

115VAC, POTENTIOMETER ONLY
SET INPUT VOLTAGE 115VAC, FIG. 1
SET EXTERNAL SETPOINT PIN 2, FIG. 2
INTERNAL SETPOINT JUMPER INSTALLED, FIG. 3

115VAC, 4-20mA OPERATION
SET INPUT VOLTAGE 115VAC, FIG. 1
SET EXTERNAL SETPOINT JUMPER PINS 1&2, FIG. 2
EXTERNAL SETPOINT JUMPER INSTALLED, FIG. 3

115VAC, 0-10VDC OPERATION
SET INPUT VOLTAGE 115VAC, FIG. 1
SET EXTERNAL SETPOINT JUMPER PIN 2, FIG. 2
EXTERNAL SETPOINT JUMPER INSTALLED, FIG. 3

NOTE: Some safety warning labels or guarding may have been removed before photographing equipment.

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