



# UIC200

## Optical Interface Module



The Power-Tronics UIC200 Optical Interface Module is an optional add-on module for Power-Tronics voltage regulating systems designed to allow the voltage regulator to receive control signals from a Genset or VAR controller or other remote computerized control system.

The UIC200 is the latest upgrade to the Power-Tronics UIC product line and replaces the UIC100 and UIC100X series Optical Interface Modules. The UIC200 is a very rugged and reliable interface module designed to last a lifetime.

The UIC200 offers 2 different modes of operation: Fully Automatic, and Automatic/Manual selectable for the convenience of the system operator.

The Power-Tronics UIC200 is fully encapsulated to ensure a long service life and protect the unit from moisture or external contamination.

The UIC200 is compatible with all UVR and XR series Power-Tronics Universal Voltage Regulators, PC500, XR, and UVR series Phase Controllers, and most Power-Tronics full Static Exciters.

### Specifications

Input Voltage:	+/- 10vdc
Maximum Input Output:	250mA
Physical Size:	3.5 x 5.5 x 1 in.
Weight:	6 oz
Fully Encapsulated:	Yes



## Table of Contents

Introduction and Functional Description:.....	3
Fully Automatic Operation Hookup:.....	4
Automatic/Manual Selectable Operation Hookup:.....	5
Initial Setup and Commissioning:.....	6
Installation Warranty Form:.....	7
Product Warranty Certificate:.....	8



## Introduction and Functional Description

# Caution: Read This Installation Manual Carefully and Entirely!

---

**Warning:** Do not use digital equipment to read voltage, Hz, or amperage during this installation. Use only Analog sensing equipment! Failure to do so may result in damage to equipment or in personal injury!

**ALWAYS** perform all setup procedures off-line

**ALWAYS** wear eye protection

**ALWAYS** strip wire insulation properly or use insulated connectors

**ALWAYS** use analog metering equipment when setting up the regulator

**ALWAYS** ensure the regulator receives ample airflow

**NEVER** hold the regulator in your hand when energized

**NEVER** install the regulator in a place it can get wet or is exposed to the elements

**NEVER** mount the regulator over a screw, bolt, rivet, welding seam, or other fastener

**NEVER** remove the regulator cover while the unit is in operation

**NEVER** insert a screwdriver or other object under the regulator cover

**NEVER** install a switch in the DC portion of the regulator's wiring

**NEVER** touch any exposed portion of the UIC200 when in operation

**NEVER USE A DIGITAL FREQUENCY METER** (It can give a false reading!)

---

## Functional Description

The Power-Tronics UIC200 is an optional add-on module for UVR and XR series voltage regulating systems and UVR, XR, and PC500 series phase controllers designed to allow the voltage regulator (or phase controller) to be controlled by an external Genset or VAR controller.

Instead of using a manual or motorized potentiometer for control, the UIC200 allows a completely solid-state solution for remote adjustment of the UVR and XR series voltage regulators. The UIC200 is capable of interpreting +/- 5, 9, or 10VDC signals or 0-10VDC signals with minimal adjustment.

Instead of linking the control signal directly to the voltage regulator's circuitry, the UIC200 contains an optical isolation circuit, which allows the control system to be completely isolated from the voltage regulating circuitry. The UIC200 also has a maximum current draw of 250mA to conform to industry standard PLC based controls.

Due to its reliable design and complete encapsulation, the UIC200 is designed to provide reliable service for a lifetime when properly installed.



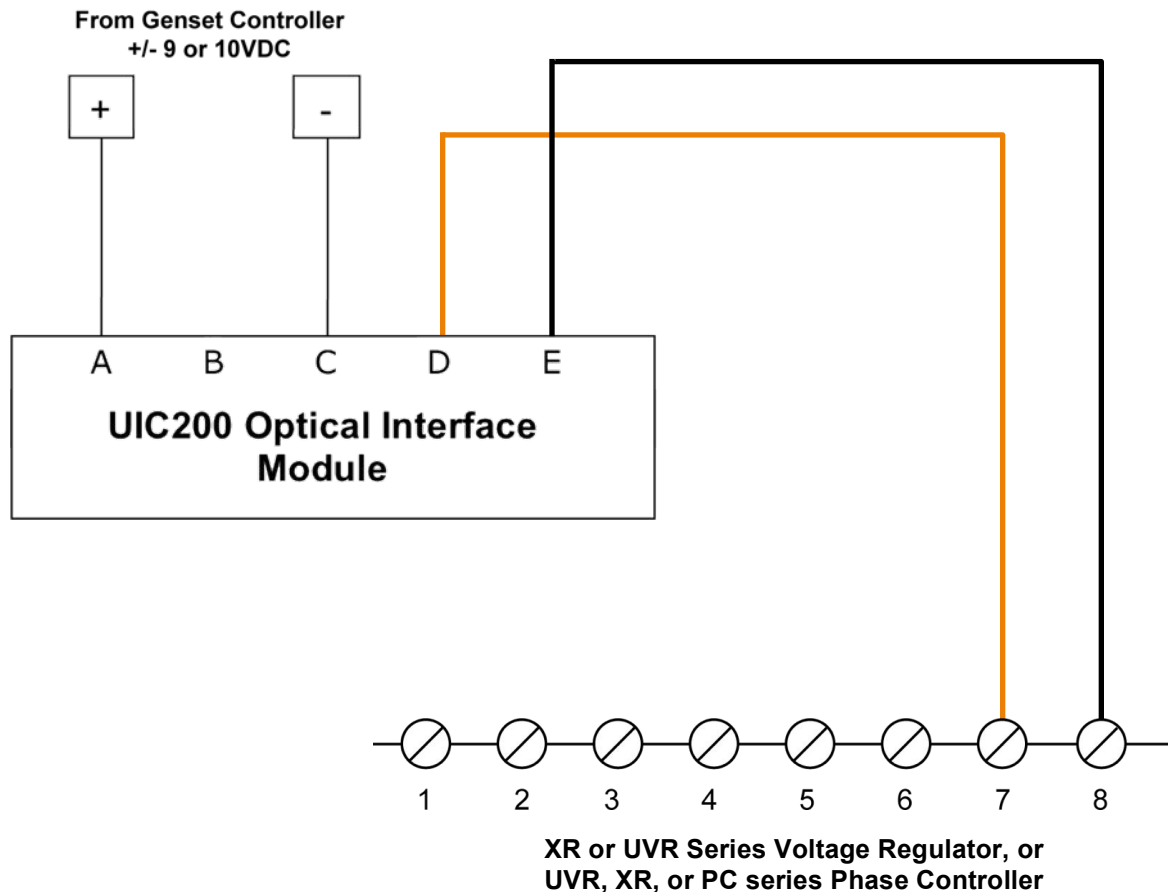
## Fully Automatic Operation

This configuration should be used if the UIC200 is to be used in an unattended application, or if manual voltage control is not needed on your application.

**NOTE:** This instruction manual only contains instructions for your UIC200's connection to the voltage regulator or phase controller. For wiring details regarding your voltage regulator or phase controller, see the instructions that came with your model.

**NOTE:**

All wiring to and from the UIC200 should be in shielded cable with the shield **UNGROUND**ED for best operation!

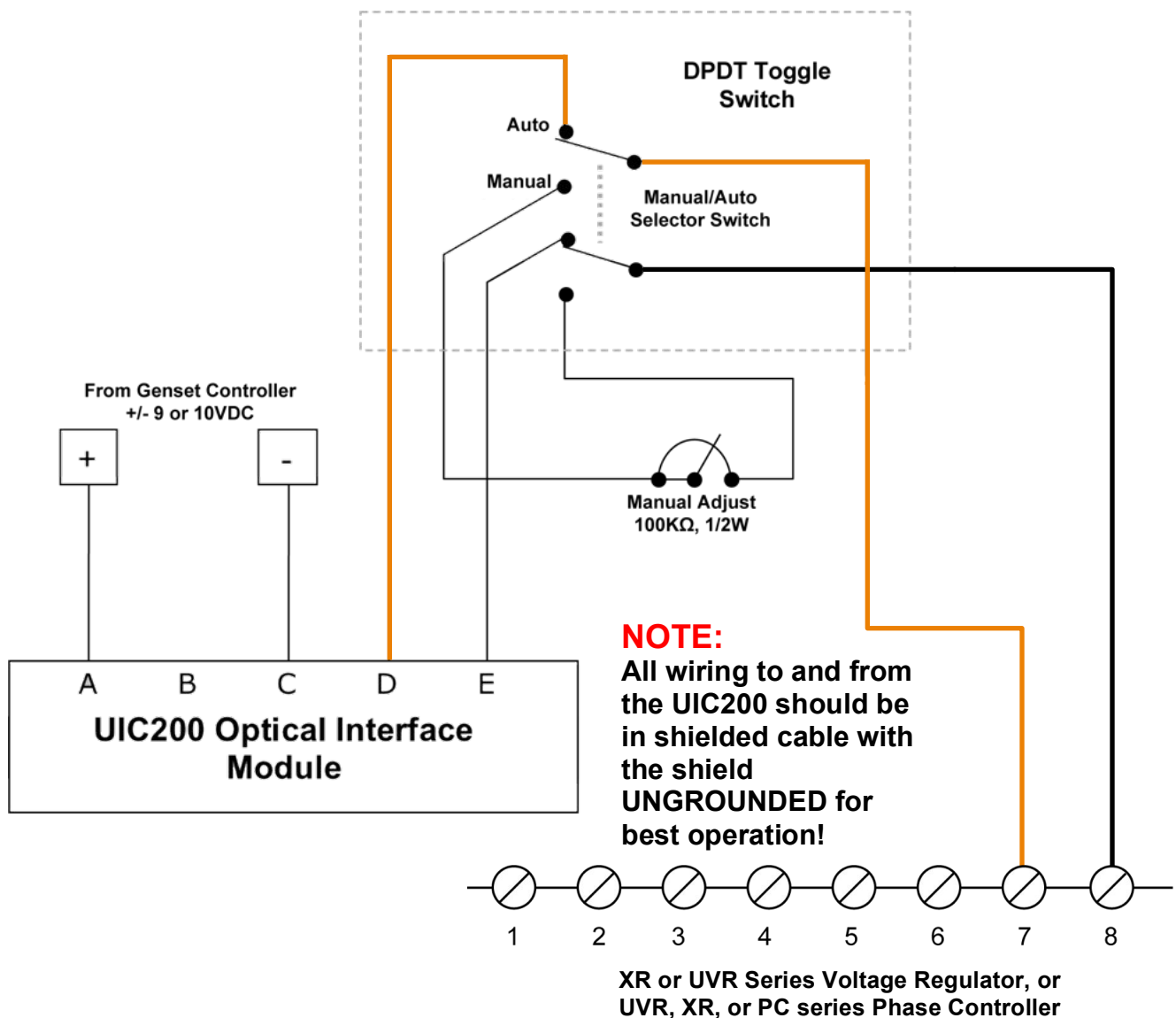




## Automatic/Manual Selectable Operation

This configuration should be used if the UIC200 is to be used in an installation where manual voltage adjustment is required or is important for redundancy.

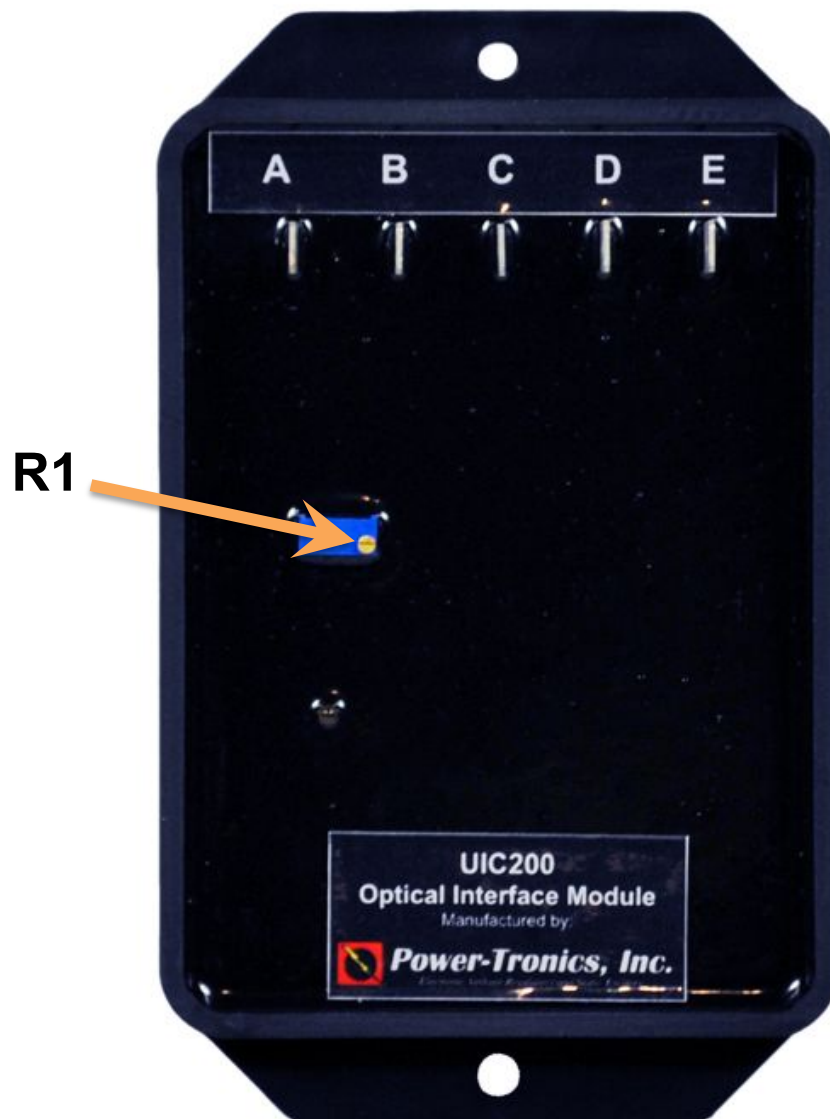
**NOTE:** This instruction manual only contains instructions for your UIC200's connection to the voltage regulator or phase controller. For wiring details regarding your voltage regulator or phase controller, see the instructions that came with your model.





## Initial Setup and Commissioning

1. Install the UIC200 and wire up to the correct wiring diagram (Fully Automatic, or Selectable Automatic/Manual).
2. Start up the generator and bring the engine up to design speed, then manually adjust the voltage regulator to just below no-load voltage (See the manual that came with your voltage regulator for these instructions).
3. Adjust the Genset or VAR controller to provide a small positive voltage at no-load.
4. The response ratio of the UIC200 is adjusted at the factory for full range at +/-9VDC, however if you wish to restrict the range of the UIC200, turn the adjustment screw R1 counterclockwise until a satisfactory range limit is achieved.
5. Place the generator online and observe its operation. You should not have to readjust these settings after the initial installation.





## Installation Warranty Form

It is very important that you fill out this form completely when installing a voltage regulator. This form serves as a history record on the application. This form also contains the information needed by Power-Tronics, Inc., for repair and troubleshooting of any product you may be having problems with.

**Failure to fill out this form during installation will result in a cancellation of your warranty coverage! Filling out this form takes only minutes but will save hours or days later on if your product should require service!**

Product		Other options			
Serial Number					
Date of Installation					
Type of Generator				Model #	
	Brush type	[ ]			
	Brushless	[ ]			
AC Stator Information					
Wired for	Volts	Phase	Hz		
Generator Configuration: Lead					
Exciter/Rotor Information					
Exciter field resistance		$\Omega$		@	F+ / F- $\Omega$
Exciter field volts		vdc		@	Slip Rings $\Omega$
Description of problem with product or generator					
Your phone number			Name:		
Your fax number			Ship to Address:		
Your email address			Ship to City, State, Zip:		



## PRODUCT WARRANTY

**Power-Tronics, Inc.**, assumes no liability for damages due to incorrect voltage or other voltage related damages resulting from either output of the generator or input to the generator exciter system. These problems should be protected with external devices provided by the customer such as **fuses, surge suppressors, over/under voltage and frequency controls.**

**Power-Tronics, Inc.**, warranties **only parts and workmanship** of this product for a **period of 2 years from the original date of purchase from Power-Tronics, Inc.** Under warranty, Power-Tronics, Inc. will replace, exchange or repair the defective product **without labor or parts cost to the customer.** Remaining warranty of the original product will be transferred to the replaced or repaired product. To obtain warranty, a copy of the original Installation Warranty Form must be sent in with the defective product, which clearly shows the purchase date and serial number of the defective part. A repair request form must be sent in with the product before repairs will begin. You can obtain this form by contacting Power-Tronics, Inc.

**Send repairs to: Power-Tronics, Inc., 2802 Cobbler Ln., Kerrville Texas USA 78028.**

***Send in repairs only by UPS or FedEx.* USPS will NOT deliver to our facility!**

**Any one of the following conditions will void the warranty:**

- ❖ Overheating of the power supply resistor on the printed circuit card.
- ❖ Overheating of the SCR or freewheeling diode.
- ❖ Physical damage to the printed circuit card, housing or components.
- ❖ Unauthorized repair or alteration of printed circuit card.
- ❖ Installation by anyone other than a qualified professional generator service technician.
- ❖ Conductive or corrosive contamination of the circuit card.
- ❖ Removal of our company identification from the product.
- ❖ Removal of any conformal coating of the printed circuit card or components.
- ❖ Overheating of foil on the printed circuit card.
- ❖ Inappropriate or infeasible application.
- ❖ Use with any external device other than manufactured by Power-Tronics, Inc.
- ❖ Failure to fill out the attached warranty card during installation

**No other warranty is expressed or implied.**