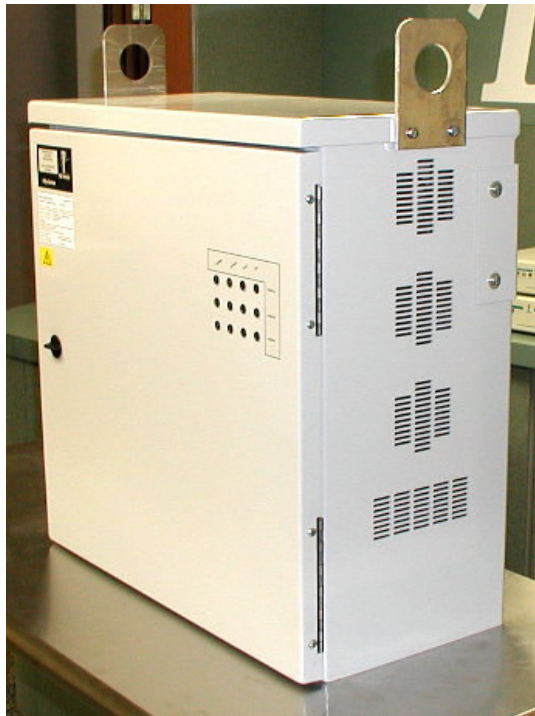


VRp-22500-0338 Three-Phase Precision AC Voltage Regulator



INSTALLATION INSTRUCTIONS

Inspection and Unpacking

Please inspect the wooden crate for obvious shipping damage. Some crates contain up to six (6) units, each individually shrink-wrapped. If no visible damage to crate is found, proceed to remove the cover using a suitable Phillips screwdriver. Proceed to remove the sides to expose the units. Insert a lifting device into the lifting brackets on top of the VRp unit, remove the unit from the pallet—inspect for damages until all units are checked. File claim with the freight carrier if any damage is found, contact TSi if a replacement unit needs to be purchased.

If no damage is found, proceed to remove the protective shrink-wrap film from each unit. Leave the lifting brackets in place, as they are required during installation.

Mounting

VRp-22500-0338 is designed for use with the ILC-22500-0338 isolation line conditioner cabinet. Proceed as follows:

1. Invert the wall fixing brackets on the VRp cabinet



Bracket

1. Place the VRp cabinet on top of the ILC cabinet and mark the wall for hole drilling.
2. Use wood screws of suitable size if holes line up with wooden studs; for concrete surfaces a carbide tip drillbit is required—drill a hole deep enough for insertion of a concrete anchor. Insert anchor, put VRp on top of ILC and tighten screws; if only drywall is available the installer should consider using a piece of wood to bridge the gap between wall studs.
3. After securing VRp remove lifting brackets and replace screws. Keep the lifting brackets in case they are required later.



Electrical

VRp-22500-0338 is designed to receive power from ILC-22500-0338 ONLY. DO NOT INSTALL VRP USING ANY OTHER POWER SOURCE UNLESS APPROVED BY TSI POWER. INSTALLING VRP WITHOUT AN APPROVED POWER SOURCE MAY RESULT IN VOIDED WARRANTY.

ILC-22500-0338 provides a three-phase output plus neutral and ground (5 wire). The voltage is either 400/230VAC or 415/240VAC depending on country of installation.

VRp-22500 uses a three-pole, 40A circuit breaker for over current protection and is connected in series with the output. THIS BREAKER IS NOT A DISCONNECT, NOR DOES IT PROVIDE INPUT PROTECTION. The ILC-22500-0338 has a three-pole, 50A circuit breaker on its input. The two (2) units together provide the necessary input/output protection.

Please refer to ILC-22500-0338 installation instructions for information on this unit. NOT CONTAINED HEREIN.

Grounding and Bonding

VRp/ILC are not a replacement for proper site grounding and bonding. Be sure to follow proper site preparation procedures. NOT CONTAINED HEREIN.

Extra Lightning Protection

VRp/ILC together are designed to withstand Normal and Common-Mode indirect surge voltages and have internally coordinated surge protection devices. VRP ITSELF IS NOT A SURGE PROTECTIVE DEVICE (SPD) AND REQUIRES ILC TO PROVIDE PROTECTION FOR THE LOAD, AS WELL AS ITSELF. DO NOT INSTALL VRP WITHOUT ILC AS THIS WILL RESULT IN VOIDED WARRANTY AND RISK TO THE CONNECTED LOAD.

If immunity against the more severe surges resulting from lightning strokes (defined by LPZ0a and LPZ0b) is required, it is recommended that an external surge diverter capable of withstanding IEC-61312 be installed.

WARNING: MAKE SURE THAT VOLTAGE SUPPLY TO VRp IS OFF BY SWITCHING OFF UPSTREAM ILC-22500-0338 SUPPLY CIRCUIT BREAKER BEFORE PROCEEDING!

Take care to follow local electrical codes where unit is installed.

Power entry is through two circular holes on the upper left side of unit. Use the two provided strain-relief connectors to route cable between ILC and VRp. Use lower entry point for power supplied from ILC and the upper exit for output from VRp. If compliance with North-American electrical standards is required, use 1" conduit connectors (not provided).



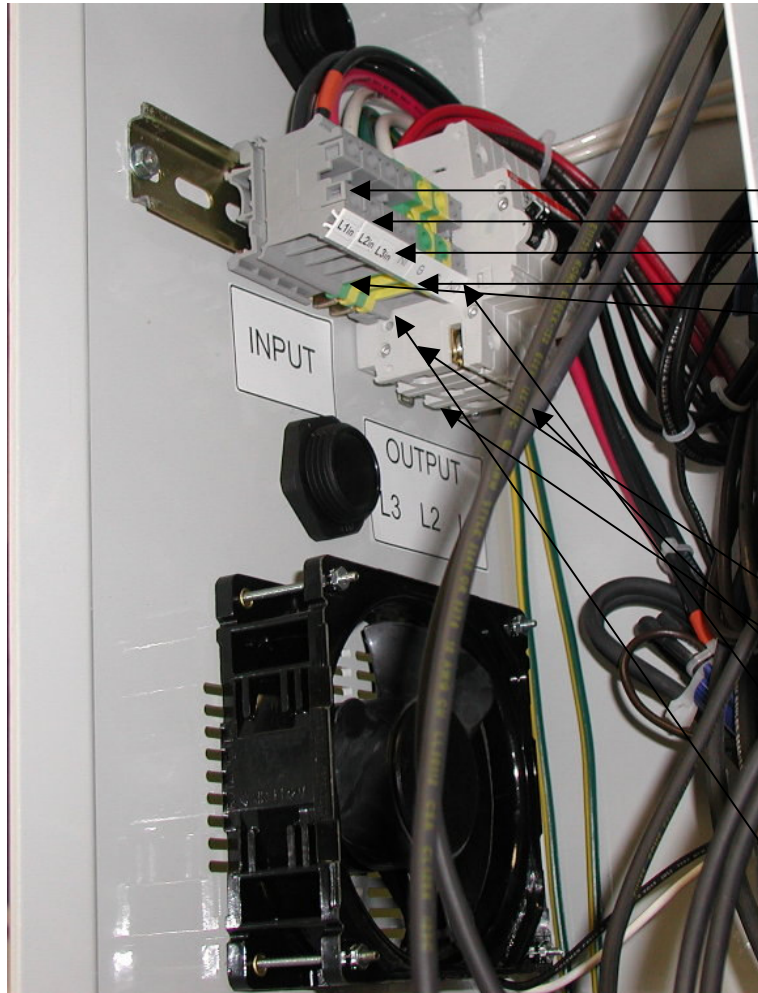
Use minimum AWG 8 (8.4 square mm). All conductors must be of the same size. TSi recommends using stranded copper wire with a minimum 105°C insulation system.

Note that three wires plus neutral and ground are required for both input and output.

Insert wire through the strain-relief connectors. Ensure that there is enough wire to reach the respective terminal, take care to leave enough slack.

Strip approximately 3/8" (or 10 mm) insulation from the end of each pair of (5) wires.

Input terminals are located on a DIN-rail inside the VRp cabinet on the left side. The three-phase Output is provided by the three-pole circuit breaker on the left side of the cabinet—neutral and ground conductors must be connected to the DIN-rail terminals next to the circuit breaker.



The input terminals are marked as follows:

- L1in for phase A,
- L2in for phase B,
- L3in for phase C,
- NI for neutral in,
- G for input earth ground, terminal is green/yellow stripes.

The output terminals are marked as follows:

The OUTPUT label below the circuit breaker from left to right:

- L3 for phase C,
- L2 for phase B,
- L1 for phase A.

The output neutral is located on the DIN-rail next to the circuit breaker and is marked: NO

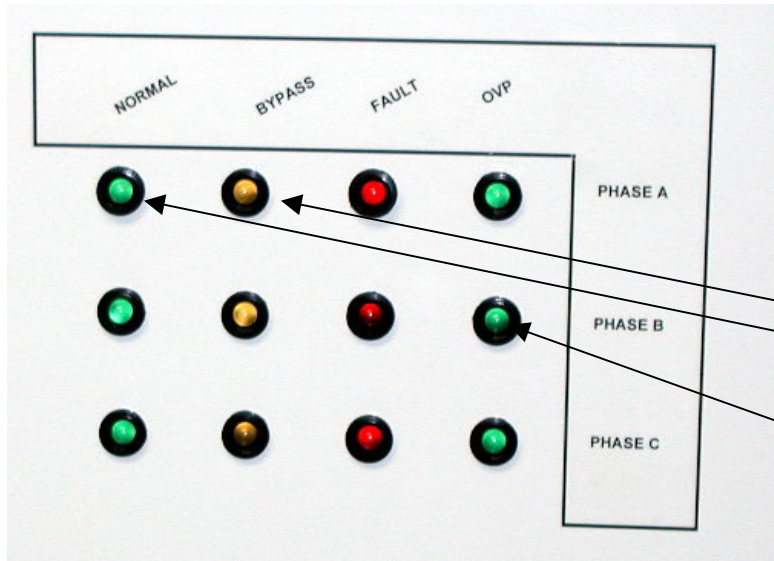
The output earth ground, yellow/green stripe, is located to the left of the NO terminal on the DIN-rail.

VERIFY PHASE SEQUENCE BEFORE PROCEEDING. MAKE ABSOLUTELY SURE THAT INPUT/OUTPUT ARE NOT REVERSED AS SERIOUS DAMAGE WILL OCCUR WHEN ENERGIZING AN INCORRECTLY WIRED UNIT.

Before proceeding to the next step, make sure that ILC-22500-0338 produces a phase to neutral output voltage of between 220 to 240VAC. Using a volt meter, check each phase to neutral to verify proper voltage. Turn the breaker off.

Carefully insert each wire into the appropriate terminal, taking care to ensure that all strands are inserted properly. Tighten each terminal screw, and perform a pull test to make sure the connection is adequate. Note that failure to follow these instructions can lead to malfunction or short circuit.

Energizing VRp



1. Close the front door,
2. Switch on the ILC-22500-0338 circuit breaker,
3. VRp is now energized,
4. After a short blink of the Amber BYPASS LED the Green NORMAL LED, located on the left of each row, should be ON.
5. The Green OVP LED, located to the right of each row, should also be ON,

6. VRp is now operational,
7. To turn on power to the load open the VRp cabinet door—be careful not to touch any live circuits.
8. Switch on the Output circuit breaker and close the door.

VRp is operating normally when the green LEDs in each of the three rows are lit. Please contact TSi or its representative in your country if any of the green LEDs are off; or if a Red or Amber LED is permanently lit.