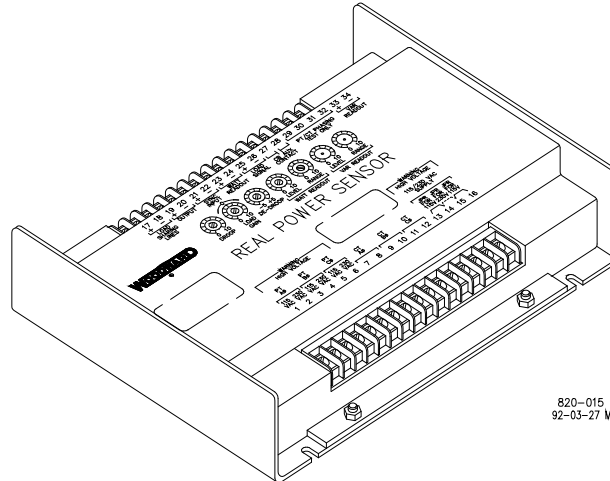


Real & Reactive Power Sensor

Applications

The Real and Reactive Power Sensor is used with Woodward speed controls to measure both real (watt) and reactive (VAR) power produced by a generator. The Real and Reactive Power Sensor provides kilowatt, test, and optional kiloVAR and load-sharing signals to the speed control.



Description

The Real and Reactive Power Sensor is a solid state, electronic device. It is housed in a metal chassis and is intended for mounting in a prime mover control cabinet.

The unit contains its own power supply and is powered separately from the speed control.

Four models are available:

- Kilowatt readout
- Kilowatt and kiloVAR readout
- Kilowatt readout, load sharing signal, speed and phase matching synchronizer input, and isoch/droop operation
- Kilowatt readout, kiloVAR readout, load sharing signal, speed and phase matching synchronizer input, and isoch/droop operation

The Real and Reactive Power Sensor will constantly monitor the generator output voltage and current with transformers. These transformers are selected to provide potential voltage of 115 Vac or 230 Vac at nominal generator voltage. The current transformers are selected to provide a 5 A secondary current at full generator output.

The Real and Reactive Power Sensor provides a signal to the speed control that is proportional to the output power of the generator.

Specifications

Power Source

95–130 or 190–260 Vac, 50 or 60 Hz

Potential Voltage Range

80–150 or 160–300 Vac, 45–66 Hz

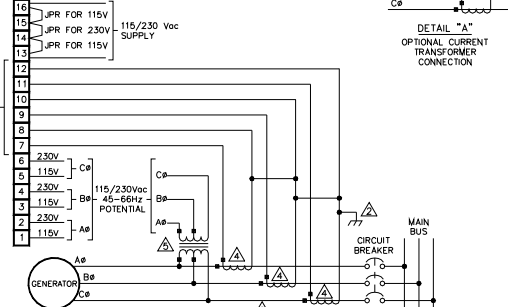
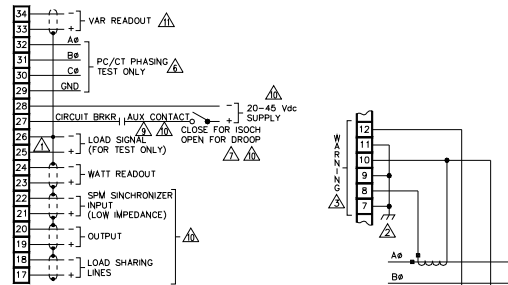
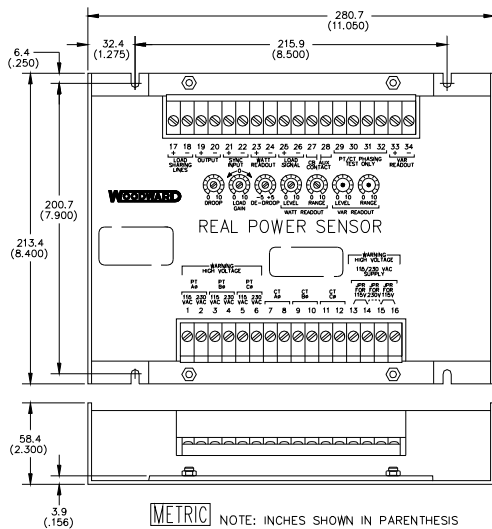
Current Transformer Range

5 A secondary current at full generator output. Works with leading or lagging power factor to 0.2

Power Consumption

14 W typical (20 W maximum)

- Watt readout signal
- Optional VAR readout signal
- Optional load sharing



- NOTES:
- ⚠ SHIELDED WIRES TO BE TWISTED PAIRS WITH SHIELD GROUNDED AT SENSOR END ONLY.
 - ⚠ POINT OF GROUNDING IF REQUIRED BY WIRING CODE.
 - ⚠ INTERNAL CURRENT TRANSFORMERS BURDEN MUST BE CONNECTED ACROSS POWER SOURCE CURRENT TRANSFORMER AT ALL TIMES, TO PREVENT LETHAL HIGH VOLTAGES.
 - ⚠ POWER SOURCE CURRENT TRANSFORMERS SHOULD BE SIZED TO PRODUCE 5A SECONDARY CURRENT WITH MAXIMUM GENERATOR CURRENT. CURRENT TRANSFORMER BURDEN IS LESS THAN 0.1 VA PER PHASE.
 - ⚠ WITH A BALANCED THREE PHASE LOAD AND UNITY POWER FACTOR, THE CURRENT TRANSFORMERS SHOULD BE WIRED IN THE CORRECT POTENTIAL LEG AND MUST BE PHASED AT THE CONTROL AS FOLLOWS:
 PHASE A: POTENTIAL TERMINAL 1 OR 2 WITH RESPECT TO NEUTRAL IN PHASE WITH CT TERMINALS 7 (♂) TO 8.
 PHASE B: POTENTIAL TERMINAL 3 OR 4 WITH RESPECT TO NEUTRAL IN PHASE WITH CT TERMINALS 9 (♂) TO 10.
 PHASE C: POTENTIAL TERMINAL 5 OR 6 WITH RESPECT TO NEUTRAL IN PHASE WITH CT TERMINALS 11 (♂) TO 12.
 - ⚠ SHORT TERMINAL 30,31 OR 32 TO TERMINAL 29 TO DISABLE PHASE.
 - ⚠ FOR ISOCH CONTROL, WITHOUT ISOCH/DROOP SWITCH, SET DROOP POTENTIOMETER MAX CCW AND REPLACE DROOP SWITCH WITH JUMPER. IF DROOP POTENTIOMETER IS NOT MAX CCW, CONTROL IS IN DROOP WHEN ISOCH/ DROOP SWITCH OR CIRCUIT BREAKER AUXILIARY CONTACT IS OPEN.
 - ⚠ FOR OPTIONAL CURRENT TRANSFORMER CONNECTION, SEE DETAIL "A".
 - ⚠ CIRCUIT BREAKER AUXILIARY CONTACT CLOSURES WHEN CIRCUIT BREAKER CLOSSES.
 - ⚠ THESE FUNCTIONS ARE NOT AVAILABLE ON 8272-702 & 720.
 - ⚠ THESE FUNCTIONS ARE NOT AVAILABLE ON 8272-719 & 720.

Outline Drawing and Wiring Diagram
(Do not use for construction)

820-015 F
92-02-26 MCL



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