

WVT-3

Watt-Var Transducer

Operator's Manual

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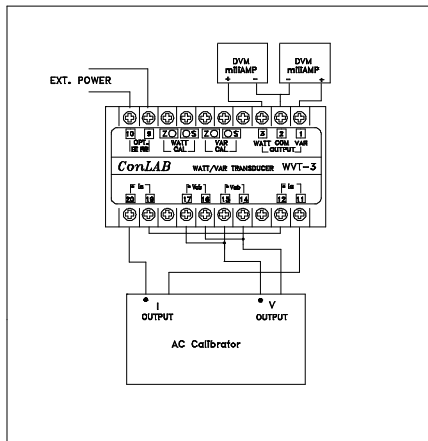
1. CALIBRATION INSTRUCTIONS

The WVT-3 is a precision instrument and was carefully and accurately calibrated.

Please do not change the internal potentiometers' setting.

In order to change slightly the calibration setting, please use the external Zero & Span potentiometers on the unit's panel

Please connect the unit to the calibrator according to the following:



For single-phase unit, the calibrator Calculated Power (CP):
 $CP = P_{max}$

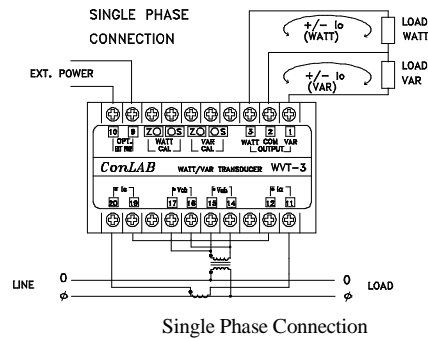
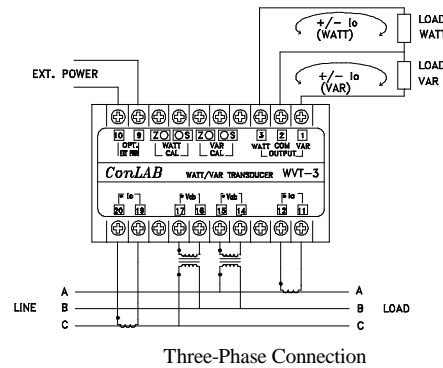
For Three-phase unit, the calibrator calculated power (CP):
 $CP = P_{max}/2$

Please follow the following instructions:

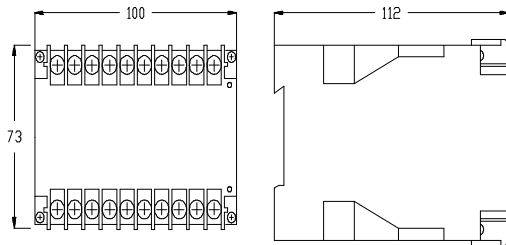
- a. Set the calibrator to the desired maximum input voltage. Set the output Calculated Power (CP) . Set Power Factor (P.F) = 1.0
- b. With no power delivered to the WVT-3 unit, set the Watt and Var potentiometers for 4mA reading in both current meters.
- c. Turn on the calibrator for full power. Tune the Watt's Span potentiometer to 20.000mA.
- d. Set the P.F = 0 and tune the Var's Span potentiometer to 20.000mA.

2. CONNECTION DIAGRAMS

The power transducer is phase sensitive. Please keep the voltage/current phases according to the following diagrams.



3. DIMENSIONS (mm)



4. SPECIFICATIONS

INPUTS

CONNECTION: 1 or 3 phase, 3 wire, unrestricted
POWER FACTOR: Unity - to lead or lag zero
POWER CALIBRATION SPAN: 170 to 8500 Watt/Var
OVER RANGE: +42% (at full accuracy)

CURRENT

CURRENT RANGES: 0 - 1 to 0 - 5 Aac RMS
(up to 0 - 10 Aac - optional)
CURRENT OVER RANGE: +20% (at full accuracy)
PEAK OVERLOAD: 40 Aac RMS, for 5 sec. every 10
minutes. 50 Aac RMS, for 30 sec.
every 10 minutes (opt.)

VOLTAGE

VOLTAGE RANGES: 0 - 85 to 0 - 500 Vac
VOLTAGE OVER-RANGE: +20% (at full accuracy)
VOLTAGE OVERLOAD (maximum 600 Vac):
Withstand 1.6 x [nom. rating]
continuous, limited to 600Vac

POWER SUPPLY

SUPPLY RANGES: 115, 230 Vac -15/+25%
and Self-powered
POWER OVERLOAD: Withstand 1.45 x [nom. rating]
continuous

INPUT BURDEN

CURRENT: 0.26 VA @ 5 Aac
VOLTAGE: 0.15 VA @ 150 Vac,
0.3 VA @ 300 Vac
VOLTAGE (Vab) (at Self-power config.):
2.6 VA @ 150 Vac

SUPPLY: 2.4 - 2.6 VA @ 150/300 Vac at 20 mA
output

ISOLATION:
Current Inputs: 2.5 KV RMS /1 minute
Voltage and power Inputs: 4KV RMS /1 minute

FREQUENCY RANGE: 45 - 65 and 400 Hz
FREQUENCY VARIATION EFFECT:
For Watt output: < 0.02%/Hz
For Var output: < 0.1%/Hz for

OUTPUTS (Watt or Var)

OUTPUT SPANS: -20 to +20mA, 0..1 to 0/4..20 mA
MAXIMUM OUTPUT LOAD: $R_{load} K\Omega = 16/I_{out} (mA)$
LOAD VARIATION EFFECT: < $\pm 0.03\%$ (for full change)
RESPONSE TIME: < 200 msec (10-90% of span)

ACCURACY

$\pm 0.1\%$ of span (typical), $\pm 0.25\%$ of span (max)

TEMPERATURE

OPERATING: -5 to +65°C
STORAGE: -35 to +85°C
TEMPERATURE STABILITY: Better than $\pm 0.01/1^\circ K$

HUMIDITY: 5 - 95% relative, non condensed

HOUSING: Plastic Polycarbonate

PROTECTION LEVEL:
Box: According to IP-40
Terminals: According to IP-20

WEIGHT: 0.6 Kg