WATT/WATT-HOUR TRANSDUCER

WWH-3

VAR/VAR-HOUR TRANSDUCER

VVH-3

- ☐ *ACCURACY OF 0.1%*
- ☐ *THREE-PHASE THREE-WIRE*
- ☐ *DRY CONTACT or OPTO-ISOLATOR OUTPUT*
- ☐ *COMPLETE ISOLATION*
- ☐ *3-YEAR WARRANTY*

The WWH-3 and VVH-3 combine power and energy transducers in one compact housing.

The WWH-3 incorporates a watt transducer providing a linear process current output with watt-hour measurement with output of either dry-contact Reed relay or opto-isolator, the VVH-3 provides the same for the imaginary power.

The transducers provide instantaneous Watt/Var current loop output extracted from the voltage and current inputs, and Watt- hour or Var-hour pulse outputs for energy accumulation.

The WWH-3 and the VVH-3 can be calibrated to wide input ranges and to a large scale of pulse rates, reflecting the required energy resolutions.

Advanced circuitry design make the WWH-3 and the VVH-3 top grade instruments, offering true 0.1% accuracy in power and energy outputs.

The transducers family are available as single-phase or 3-phase units. They can be ordered with a dry contact Reed relay output, having a maximum rate of 720 pulse/hour, or with an optically isolated open-collector NPN transistor, obtaining a maximum rate of 95,000 pulse per hour.
This high energy resolution makes them perfect measuring device for a bakery dough mixering control or monitor system.

The WWH-3 and the VVH-3 transducers are housed in a polycarbonate plastic enclosure, mounted on a standard DIN rail.

ConLAB

SPECIFICATIONS — WWH-3 / VVH-3

INPUTS

CONNECTION: 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 SPANS: 1 - 5 Aac RMS (up to 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 minuets (opt.)

VOLTAGE

VOLTAGE SPANS: 85 - 500 Vac
VOLTAGE OVER-RANGE: +20% (at full accuracy)
VOLTAGE OVERLOAD :
1.6 x [nominal rating] continuous, limited to 600 Vac

POWER SUPPLY

SUPPLY RANGES:
115, 230 Vac -15/+25% and Self-powered
Option: 380 Vac -15/+20%
POWER OVERLOAD: Withstand 1.45x[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: 2.5 KV RMS/1 minute (current inputs)
4KV RMS/1 minute (voltage and power inputs)

FREQUENCY RANGE: 45 - 440 Hz
FREQUENCY VARIATION EFFECT: < 0.02%/Hz for Watt

OUTPUTS (Watt or Var)

OUTPUT SPANS: 0..1 to 0/4..20 mA
MAXIMUM OUTPUT LOAD: Rload (KΩ) = 16/Iout (mA)
OUTPUT RESISTANCE: Z (KΩ) = 0.1 * Vo (Vdc)
LOAD VARIATION EFFECT: < ±0.03% (for full change)
RESPONSE TIME: < 200 msec (10-90% of span)

ACCURACY:

±0.1% typical for 5 - 140% range

WATT/VAR-HOUR

DRY CONTACT: Reed relay SPST N.O (Opt. N.C relay)
Contact Rating: 10 Watt maximum.
(maximum voltage 200V, maximum current 0.5A)
Maximum Pulse Rate:
720 pulses per hour at 20mA Watt/Var output
OPTO ISOLATOR:
NPN Open Collector Isolation: 2500Vdc or peak AC
Maximum Pulse Current: 20mA
Minimum Pull-Up Resistor: Rmin = V/0.02 (V - External DC voltage)
Maximum Pulse Rate:
96000 pulses per hour at 20mA Watt/Var output.

TEMPERATURE

OPERATING: -5 to +65°C
STORAGE: -35 to +85°C
TEMPERATURE STABILITY: Better than ±0.01%/1°K

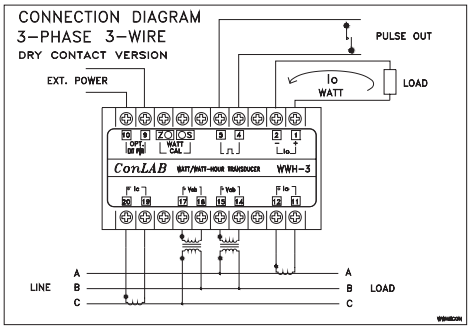
HUMIDITY: 5 - 95% relative, non condensed

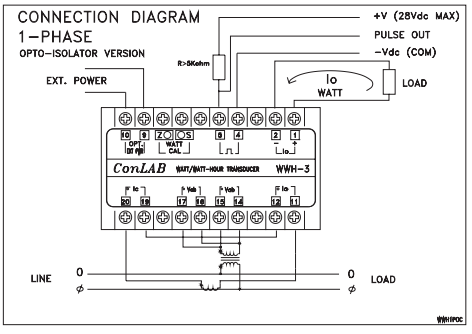
HOUSING: Plastic Polycarbonate

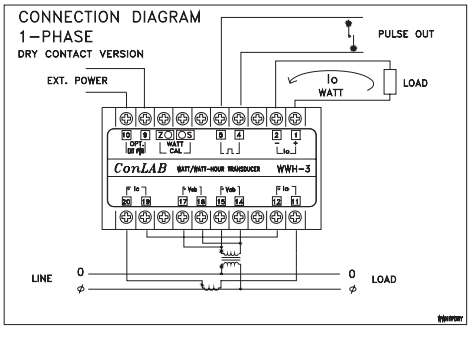
PROTECTION LEVEL:
Box: According to IP-40
Terminals: According to IP-20

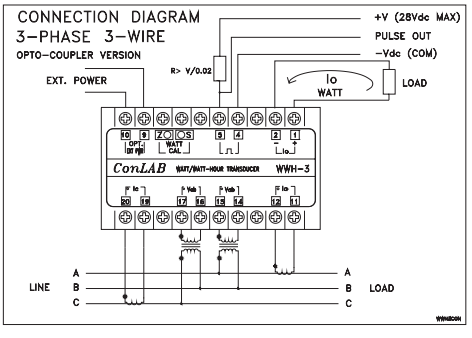
WEIGHT: 0.6 Kg

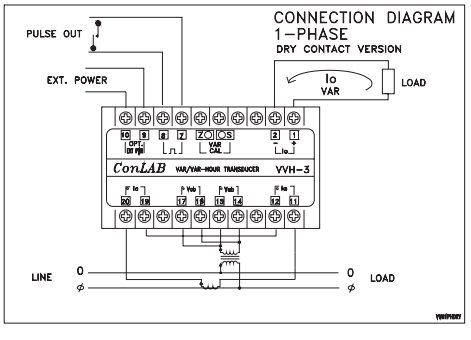
CONNECTION DIAGRAMS

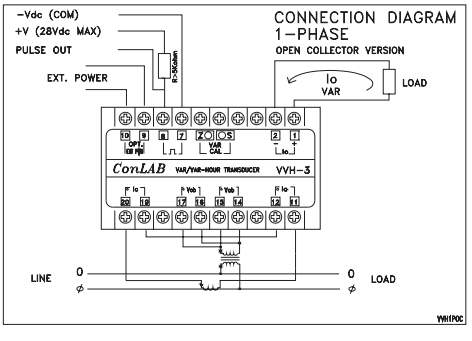


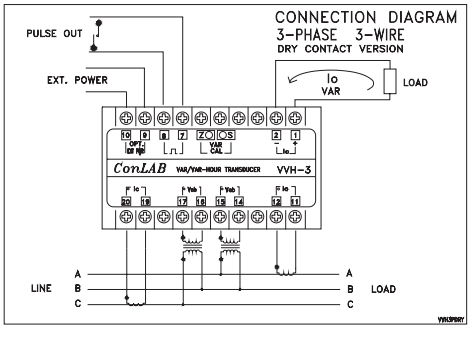


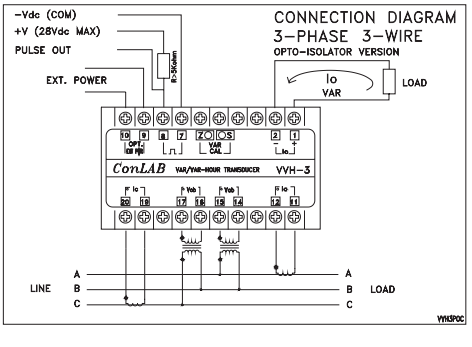












ORDERING INFORMATION

WWH-3	-S	-F1	-V2	-I2	-P2	-Q2
MODEL: WWH-3 VVH-3	S: Self Power A: 115 Vac B: 230 Vac	F1: 50 Hz F2: 60 Hz F3: 400 Hz	V1: 115 Vac V2: 230 Vac V3: 380 Vac	11: 0...1 Aac 12: 0...2 Aac 13: 0...3 Aac 14: 0...5 Aac	P1: 0...±1mA P2: 0...±5mA P3: 4...±20mA	Q1—DRY Q2—OPTO- ISOLATOR

Example: WWH-3-A-F1-V3-I4-P3-Q1-500*

* This number indicates the maximum pulse/hour at full input power

DIMENSIONS (mm)