

# AC WATTHOUR TRANSDUCERS

## SUB-METERING WATTHOUR TRANSDUCER

Model WL40R

### DESCRIPTION

The Model WL40R Series of Watthour Transducers provide a relay closure rate proportional to the energy consumed by a load. High-accuracy, interleaved, split-core transformers are supplied with the transducers for current ranges up to 500 amperes. 480 volt inputs can be directly connected to some transducers.

The rugged metal enclosure, small size and split-core transducers make the WL40 ideal for retrofit or initial installation in submetering or building management applications.

All transducers can be powered from the circuit being measured or connected to a separate instrument power source.

The high-accuracy transformers supplied incorporate current-to-voltage converters to eliminate the problem of shock hazard when the output is disconnected. Transformers can be interchanged among transducers as long as proper current rating is used.

An LED lamp is incorporated to indicate relay closure when recording devices are located remotely.

### FEATURES

- Low Cost
- Split Core Current Transformers
- Open Secondary Protected
- Small Package
- Relay Pulse Output
- LED Indicator For Relay Closure

### APPLICATION

- Sub-metering

### ORDERING INFORMATION

Example: Three-phase, three-wire, 480V,  
50A output .01kWh/C  
WL40R-054L

\* Includes 3 current transformers.

VOLTAGE LINE TO LINE NOMINAL	CURRENT LINE	STANDARD MODEL WL40R-				
		1Ø 2W	1Ø 3W	3Ø 3W	3Ø 4W	kWh/C
120/240	50	049	052	053	-	.01
120/240	100	058	061	062	-	.01
120/240	200	067	070	071	-	.01
120/240	500	085	088	089	-	.1
* 480	50	-	-	054	-	.01
* 480	100	-	-	063	-	.01
* 480	200	-	-	072	-	.1
* 480	500	-	-	090	-	.1
LINE TO NEUTRAL						
120/277	50	050	-	-	056	.01
120/277	100	059	-	-	065	.01
120/277	200	068	-	-	074	.1
120/277	500	086	-	-	092	.1

## SPECIFICATIONS

### INPUTS

VOLTAGE: See Table

CURRENT: See Table

PHASE: See Table

VOLTAGE RANGE:  $\pm 20\%$  Nominal Input or 600V Max

FREQUENCY: 50-60Hz

POWER FACTOR: .5 Lead to .5 Lag

BURDEN:

VOLTAGE: 0.3VA Max

CURRENT: 0.17VA Max

BURDEN:

INSTRUMENT POWER: 2.5VA Max

ISOLATION (Input/Output/Case): 1500Vac

### OUTPUT

RELAY DRY CONTACT: 120V, 0.3A, 10VA Max

CLOSURE DURATION: 250 Milliseconds

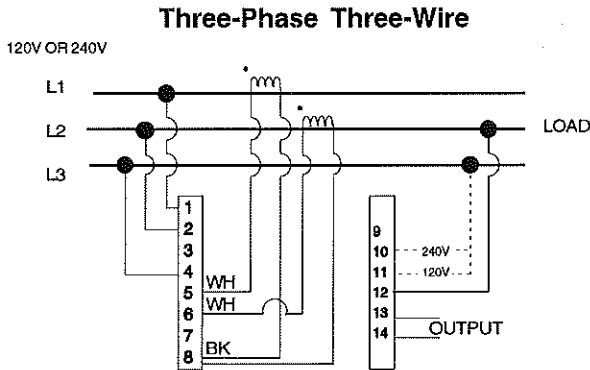
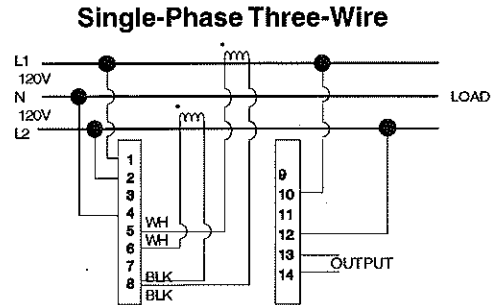
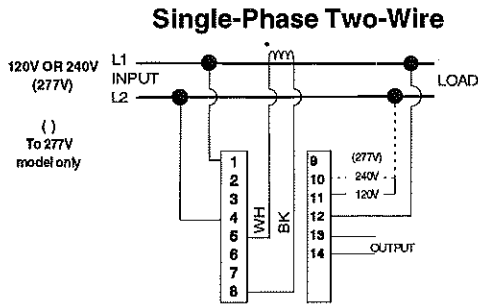
**ACCURACY:  $\pm 0.5\%$  F.S.**

(Includes linearity, setpoint, power factor, and current sensor.)

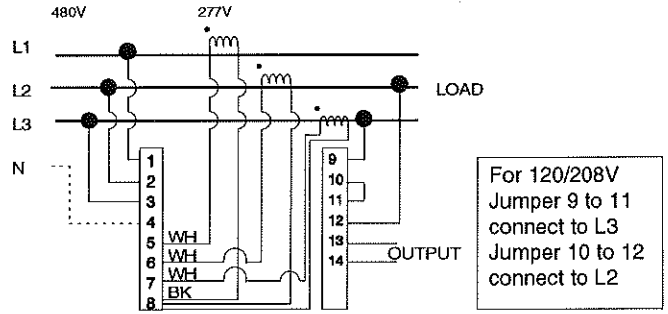
TEMPERATURE EFFECTS: + 0.03%/°C

# CONNECTION DIAGRAMS & CASE DIMENSIONS

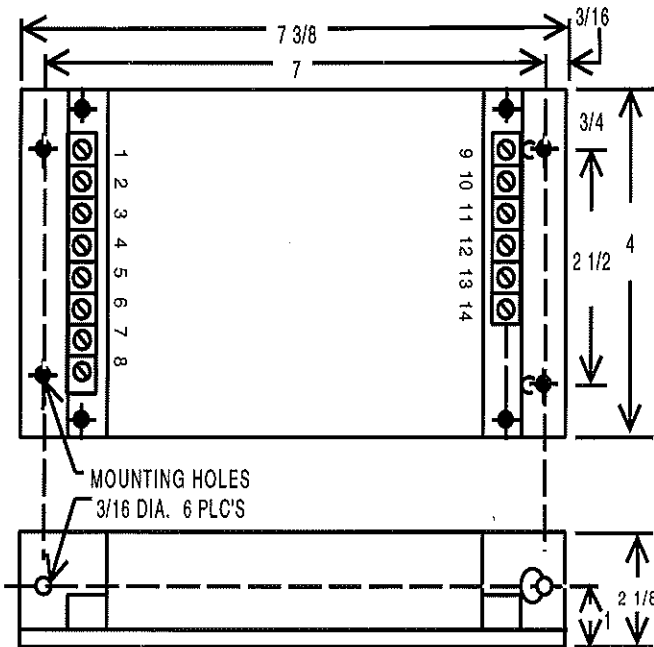
Model WL40R



### Three-Phase Three-Wire or Three-Phase Four-Wire



Connect neutral to term 4 for three-phase four-wire.

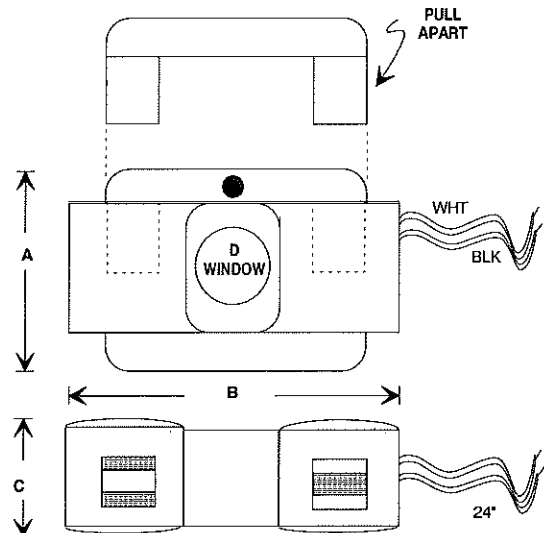


MODEL	A	B	C	D	E
50	1 11/16	2 1/2	1	7/16	BLUE
100	1 11/16	2 1/2	1	7/16	BLACK
200	2 1/8	3 1/8	1 1/4	7/8	YELLOW
500	2 1/2	3 3/8	1 1/4	1 1/4	RED

Add option "L" for 10 foot leads.

\* To open the current transformer, place fingers on both sides of the laminations and pull apart. To install, align the tapered poles, place around the cable and push together.

Secure with a wire tie or tape.



#### \* CAUTION

To prevent damage to power lines, transducer or personnel **NEVER** connect the current inputs directly, always use the current transformers provided with the unit.

UNUSED TERMINALS MAY HAVE HIGH VOLTAGE PRESENT