

# COMPACT MOTOR POWER SENSOR MODEL TP-2



## IDEAL FOR SMALL MOTOR STARTER ENCLOSURES

- MEASURES TRUE MOTOR POWER
- 10X BETTER THAN SENSING JUST AMPS

**ALSO AVAILABLE: TP-2 SINGLE PHASE**

### COMPACT

- 3" x 3.9" x 1.75" high (77mm x 100mm x 45mm)
- Fits in size 1 "Buckets"
- Mounts in any direction
- DIN RAIL ADAPTOR AVAILABLE

### 4-20 MILLIAMPER ANALOG OUTPUT

- Proportional to Motor Power
- Loop Powered

### HOOK TO

- Meters
- Data Collection Systems
- Programmable Controllers
- Recorders

### MATCH MOTOR SIZE WITH DIP SWITCHES

#### For smaller motors

- Take extra turns

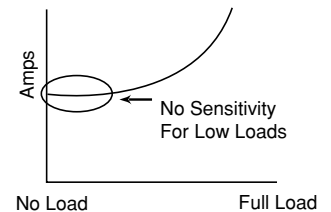
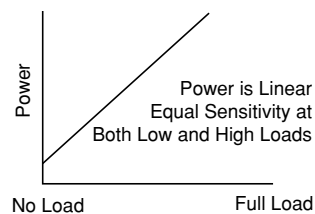
#### For bigger motors

- Use with Current Transformer
- Or, use Power Cell

1 & 2 =	25HP
1 & 3 =	20HP
1 =	15HP
2 =	10HP
3 =	5HP
4 =	3HP
5 =	1HP
6 =	.5HP

**FREE 30 DAY TRIAL AVAILABLE**  
Model TP-2 \$400 – Immediate Shipment

### WHY MONITOR POWER INSTEAD OF JUST AMPS?



# TYPICAL INSTALLATION – MODEL TP-2

The TP-2 senses the electrical power input to a motor (horsepower). The Output is a 4-20 Milliamp LOOP POWERED analog signal proportional to power.

## VOLTAGE

120 Volts AC are taken from two of the phases. If the motor starter already has a 120 Volt control transformer, it can be used. Otherwise, install a separate transformer. It is OK if the secondary is grounded. BE SURE TO NOTE WHICH TWO PHASES SUPPLY THE TRANSFORMER.

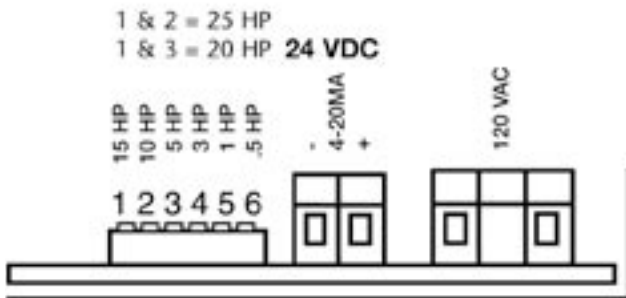
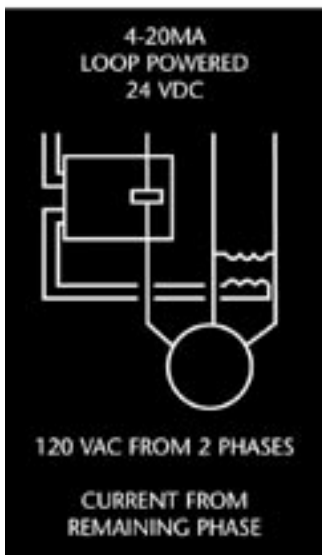
In a 120/208V three phase system, the 120V MUST come from a transformer connected to two of the phases. The 120V phase to ground voltage cannot be used.

## CURRENT

The current signal is taken from the REMAINING phase. Pass this wire directly through the window in the TP-2.

It is VERY IMPORTANT that the current signal comes from the phase that IS NOT supplying the 120 Volt control transformer. Be extra careful when the machine has reversing starters or multi-speed windings. If a wrong phase is used the control will either:

- Work backwards
- Have reduced sensitivity



## ANALOG OUTPUT

4-20MA Loop Powered. Max. Loop voltage 28 VDC

## CAPACITY

Select the capacity by turning one (or two) of the Dip Switches on:

### Full Scale HP

#### 460 Volt (nominal) Primary

Switch	HP
6	.5HP
5	1HP
4	3HP
3	5HP
2	10HP
1	15HP
1 & 3	20HP
1 & 2	25HP

### Multipliers

For Nominal Voltages  
Other than 460 Volts

Multiply 460V  
full scale by:

208V =	.45
230V =	.5
380V =	.83
415V =	.9
575V =	1.25

- For smaller motors, take more passes or turns through the window. Example: Passing the wire through twice reduces .5HP to .25HP.
- For larger motors use TP-2 plus Current Transformer or, use Power Cell.

## TP-2 WITH CURRENT TRANSFORMER

- Set Dip Switch for 3HP
- CT 5 Amp Secondary through hole
- Full Scale HP = (Primary Volts) (CT Primary) (0.0016)  
Example: 100:5 Current Transformer, 460 Volts Primary  
Full Scale HP = (100) (460) (0.0016) = 73.6HP  
KW=HP x .746

### Full Scale HP at 460 Volts with Current Transformer

50:5	36.8HP	200:5	147HP
75:5	55.2HP	300:5	221HP
100:5	73.6HP	400:5	294HP
150:5	110HP	500:5	368HP

REMEMBER: Put the CT on the phase that is not supplying the 120 Volt transformer.

## SPECIFICATIONS

### ACCURACY

- 2%

### RESPONSE TIME

- 500 MS

### TEMPERATURE

- 0-50° C

## DIMENSIONS

- 3" x 3.9" x 1.75" high (77mm x 100mm x 45mm)
- Window .5" (13mm)

