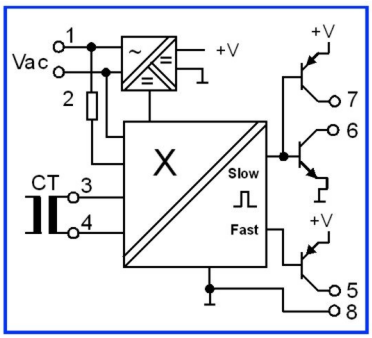
Watt-hour Transducer (v1) BWHT290

DESCRIPTION

The BWHT290 Watt-hour Transducer provides an economical and compact solution to monitoring of single phase AC power consumption applications. Due to its total width of only 23.5mm on a 35mm Din-Rail, the BWHT290 is ideal for retrofitting into standard power distribution panels and fuse boxes. The AC voltage is directly connected for measurement and this also provides power for the internal circuit. The AC current is measured by using an external current transformer for isolation that is supplied with some models. The split core CT, CST007 is the most common type. Two DC pulse outputs **Slow** and **Fast** are provided. The **Slow** output is scaled to suit maximum power input while the **Fast** output is generally used to verify module function. Both outputs are visibly indicated by LEDs on the front of the BWHT290.

General Specifications

Size:	23.5W x 71.5H x 109D (mm).
Mounting:	Clip for 35mm DIN-Rail.
Housing material:	ABS.
Connection:	Screw terminals.
Protection class:	IP40 (IP65 Enclosure opt.)
Weight:	0.15 kg.
Input voltage swing:	+/-20% of nominal value, 50/60Hz.
Input Current swing:	0 – 150% of nominal value.
Outputs:	12V pulse, or open collector transistor,
Accuracy:	1% from 10 to 100% current.
Input to output isolation:	2kV rms.
Electromagnetic compatibility:	AS/NZS 4251.1 (CE,EN 50081.1)



Ordering Key: **BWHT290 –X X X X 1 0**

Voltage Input:

1 = 240Vac, 50/60Hz (192-288V)
2 = 120Vac, 50/60Hz (96-141V)
9 = Other (specify)

External CT:

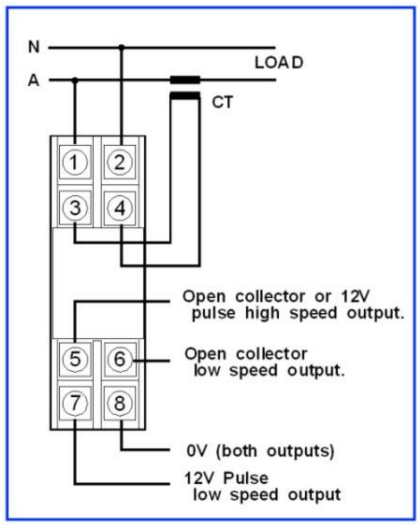
1 = 0 – 50A,50/60Hz (SCT007 supplied with unit)
*) 2 = 0 – 100A,50/60Hz (SCT012 supplied with unit)
3 = 5A secondary (customer's CT)
4 = 1A secondary (customer's CT)
*) 9 = Other (specify)

W-hour Output:

1 = 1.8 Pulses/Wh @ 2kW load 1Hz slow, 16Hz fast
2 = 1 Pulse/Wh @ ?? kW load (advise maximum load)
9 = ? Pulse/Wh @ ?? kW load (advise pulse rate and maximum load)

Fast Output:

1 = 12V pulse (source) on terminal 5.
*) 2 = Open Collector transistor (sink) on terminal 5.

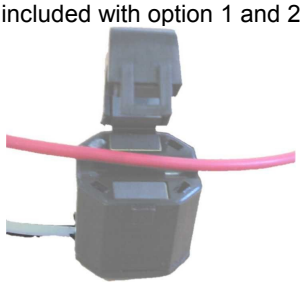


If the required output pulse rate is N pulses/Wh, and the maximum load is W watts, then the **Slow** output frequency = $\frac{W \times N}{3600}$ *Hz*

The **Fast** output frequency = K times the **Slow** output frequency where K depends on the maximum value of the **Slow** frequency.

Slow freq max (Hz)	**K**
0.64 – 1.28	16
0.32 – 0.64	32
0.16 – 0.32	64
0.08 – 0.16	128
0.04 – 0.08	256
0.02 – 0.04	512
0.01 – 0.02	1024
0.005 – 0.01	2048
0.0025 – 0.005	4096
0.0012 – 0.0025	8192
0.0006 – 0.0012	16384
0.0003 – 0.0006	32768
0.00015 – 0.0003	65536
0.00008 – 0.00015	131072

Split Core CT
External split core CT is included with option 1 and 2



*) = Extra price