

## AN417; WATTNODE WNB PULSE WEIGHT CALCULATION:

Watt-hours per pulse for a standard 4Hz FS output meter are shown in the right four columns of Table 6 from the Wattnode WNB user manual (copied below).

### For quick calculation:

Find the Wh per pulse in table for the appropriate model

Multiply the table value by the ratio of the [Standard Full Scale Freq /Custom Full Scale Freq]

For example:

If it is a standard 4Hz output unit then multiply by 4Hz/4Hz (ie 1)

If it is a 400Hz custom output then multiply the value in the table by 4/400

For example, a 3Y-208 meter with 100Aac CT's outputs 2.5Wh per pulse (direct from the table)

If a 40Hz FS meter was ordered (custom) then each pulse would be  $2.5 \times (4/40) = 0.25\text{Wh}$

For a 300 Hz meter, each pulse =  $2.5 \times (4/300) = 0.0333 \text{ Wh}$

CT Size (amps)	Pulses Per kilowatt-hour ( <i>PpKWH</i> )				Watt-hours per pulse ( <i>WHpP</i> )			
	3Y-208 3D-240	3Y-400 3D-400	3Y-480 3D-480	3Y-600	3Y-208 3D-240	3Y-400 3D-400	3Y-480 3D-480	3Y-600
5	8000.00	4173.91	3465.70	2766.57	0.125	0.2396	0.2885	0.3615
15	2666.67	1391.30	1155.24	922.190	0.375	0.7188	0.8656	1.0844
20	2000.00	1043.48	866.426	691.643	0.500	0.9583	1.1542	1.4458
30	1333.33	695.652	577.617	461.095	0.750	1.4375	1.7313	2.1688
50	800.000	417.391	346.570	276.657	1.250	2.3958	2.8854	3.6146
60	666.667	347.826	288.809	230.548	1.500	2.8750	3.4625	4.3375
70	571.429	298.137	247.550	197.612	1.750	3.3542	4.0396	5.0604
100	400.000	208.696	173.285	138.329	2.500	4.7917	5.7708	7.2292
150	266.667	139.130	115.523	92.219	3.750	7.1875	8.6563	10.844
200	200.000	104.348	86.643	69.164	5.000	9.5833	11.542	14.458
250	160.000	83.478	69.314	55.331	6.250	11.979	14.427	18.073
300	133.333	69.565	57.762	46.110	7.500	14.375	17.313	21.688
400	100.000	52.174	43.321	34.582	10.000	19.167	23.083	28.917
600	66.667	34.783	28.881	23.055	15.000	28.750	34.625	43.375
800	50.000	26.087	21.661	17.291	20.000	38.333	46.167	57.833
1000	40.000	20.870	17.329	13.833	25.000	47.917	57.708	72.292
1200	33.333	17.391	14.440	11.527	30.000	57.500	69.250	86.750
1500	26.667	13.913	11.552	9.2219	37.500	71.875	86.563	108.44
2000	20.000	10.435	8.6643	6.9164	50.000	95.833	115.42	144.58
3000	13.333	6.9565	5.7762	4.6110	75.000	143.75	173.13	216.88
any	<u>40.000</u> <i>CtAmps</i>	<u>20.870</u> <i>CtAmps</i>	<u>17.329</u> <i>CtAmps</i>	<u>13.833</u> <i>CtAmps</i>	<u>CtAmps</u> 40	<u>CtAmps</u> 20.87	<u>CtAmps</u> 17.329	<u>CtAmps</u> 13.833

Table 6: Scale Factors - Bidirectional Outputs

Revision History:  
4-30-10: First draft  
6-2-2012: Edits