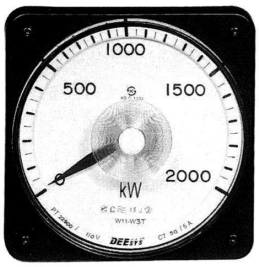
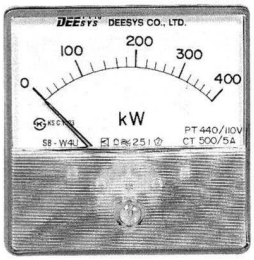
PANEL BOARD WATTMETER

"W" type



"S" type

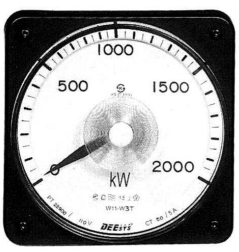


Specification

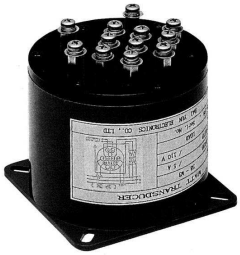
TYPE	Size	Circuit	Rated		Va		Remark		Hz	Class	Weight (kg)	REF
			V	A	V	A	V	A				
W8–W1	(wide angle) 80X80mm	1P2W	110,220	5	0.5	0.5	–	–	60	1.5	0.65	EXT. T/D
W8–W2		1P3W	110	5	0.5	0.5	–	–	60	1.5	0.75	
W8–W4		3P3W	110,220	5	0.5	0.5	B	U	60	1.5	0.75	
W11–W1		3P4W	190/√3,380/√3	5	0.5	0.5	B	U	60	1.5	0.85	
W11–W2		3P4W	190/√3,380/√3	5	0.5	0.5	U	U	60	1.5	0.90	
W11–W3	(wide angle) 110X110mm	1P2W	110,220	5	0.5	0.5	–	–	60	1.5	0.70	EXT. T/D
W11–W4		1P3W	110	5	0.5	0.5	–	–	60	1.5	0.85	
W11–W4U		3P3W	110,220	5	0.5	0.5	B	U	60	1.5	0.85	
W11–W1T		3P4W	190/√3,380/√3	5	0.5	0.5	B	U	60	1.5	0.95	
W11–W2T		3P4W	190/√3,380/√3	5	0.5	0.5	U	U	60	1.5	1.00	
W11–W3T		1P2W	110,220	5	0.5	0.5	–	–	60	1.5	0.60	INT. T/D
W11–W4T		1P3W	110	5	0.5	0.5	–	–	60	1.5	0.85	
W11–W4UT		3P3W	110,220	5	0.5	0.5	B	U	60	1.5	0.85	
S8–W1		3P4W	190/√3,380/√3	5	0.5	0.5	B	U	60	1.5	0.90	
S8–W2		3P4W	190/√3,380/√3	5	0.5	0.5	U	U	60	1.5	0.90	
S8–W3	Square 80X80mm	1P2W	110,220	5	0.5	0.5	–	–	60	1.5	0.55	EXT. T/D
S8–W4		1P3W	110	5	0.5	0.5	–	–	60	1.5	0.65	
S8–W4U		3P3W	110,220	5	0.5	0.5	B	U	60	1.5	0.65	
S10–W1		3P4W	190/√3,380/√3	5	0.5	0.5	B	U	60	1.5	0.75	
S10–W2		3P4W	190/√3,380/√3	5	0.5	0.5	U	U	60	1.5	0.85	
S10–W3	Square 100X84mm	1P2W	110,220	5	0.5	0.5	–	–	60	1.5	0.57	EXT. T/D
S10–W4		1P3W	110	5	0.5	0.5	–	–	60	1.5	0.67	
S10–W4U		3P3W	110,220	5	0.5	0.5	B	U	60	1.5	0.67	
S10–R4		3P4W	190/√3,380/√3	5	0.5	0.5	B	U	60	1.5	0.77	
S10–R4U		3P4W	190/√3,380/√3	5	0.5	0.5	U	U	60	1.5	0.87	

※U:Unbalance, T:Int. Transduce, W:Watt. ※EXT.T/D:Installation the Transducer outside, INT.T/D:Installation the transducer inside
※The specification of rating current 1A is based on ordering

U EXT. Watt meter



UEXT. T/D



Standard full scale table(Watt meters)

Phase Wire	1P2W	1P3W	3P3W								3P4W				
P.T.ratio(V)	110	110	220	380 /110	440 /110	3300 /110	6600 /110	22000 /110	22900 /110	154KV /110	208√3	380√3 /190√3	380 /√3	11400√3 /190√3	22900√3 /190√3
Calibrating watts / C.T.ratio	0.6kW	1.0kW	2.0kW	1.158kW	1.0kW	1.0kW	1.0kW	1.0kW	0.961kW	1.0kW	2.0kW	2.0kW	4.0kW	1.666kW	1.666kW
5/5	0.6	1	2	4	4	30	60	200	200	1400	2	4	4	100	200
10/5	1.2	2	4	8	8	60	120	400	400	2800	4	8	8	200	400
15/5	1.8	3	6	12	12	90	180	600	600	4200	6	12	12	300	600
20/5	2.4	4	8	16	16	120	240	800	800	5600	8	16	16	400	800
25/5	3.0	5	10	20	20	150	300	1000	1000	7000	10	20	20	500	1000
30/5	3.6	6	12	24	24	180	360	1200	1200	8400	12	24	24	600	1200
40/5	4.8	8	16	32	32	240	480	1600	1600	11.2MW	16	32	32	800	1600
50/5	6.0	10	20	40	40	300	600	2000	2000	14.0	20	40	40	1000	2000
60/5	7.2	12	24	48	48	360	720	2400	2400	16.8	24	48	48	1200	2400
75/5	9.0	15	30	60	60	450	900	3000	3000	21.0	30	60	60	1500	3000
80/5	9.6	16	32	64	64	480	960	3200	3200	22.4	32	64	64	1600	3200
100/5	12.0	20	40	80	80	600	1200	4000	4000	28.0	40	80	80	2000	4000
120/5	14.4	24	48	96	96	720	1440	4800	4800	33.6	48	95	95	2400	4800
150/5	18.0	30	60	120	120	900	1800	6000	6000	42.0	60	120	120	3000	6000
200/5	24.0	40	80	160	160	1200	2400	8000	8000	56.0	80	160	160	4000	8000
250/5	30.0	50	100	200	200	1500	3000	10MW	10MW	70.0	100	200	200	5000	10MW
300/5	36.0	60	120	240	240	1800	3600	12	12	84.0	120	240	240	6000	12
400/5	48.0	80	160	320	320	2400	4800	16	16	112.0	160	320	320	8000	16
500/5	60.0	100	200	400	400	3000	6000	20	20	140	200	400	400	10MW	20
600/5	72.0	120	240	480	480	3600	7200	24	24	168	240	480	480	12	24
750/5	90.0	150	300	600	600	4500	9000	30	30	210	300	600	600	15	30
800/5	96.0	160	320	640	640	4800	9600	32	32	224	320	640	640	16	32
1000/5	120.0	200	400	800	800	6000	12MW	40	40	280	400	800	800	20	40
1200/5	144.0	240	480	960	960	7200	14.4	48	48	336	480	960	960	24	48
1500/5	180.0	300	600	1200	1200	9000	18.0	60	60	420	600	1200	1200	30	60
2000/5	240.0	400	800	1600	1600	12MW	24.0	80	80	560	800	1600	1600	40	80
2500/5	300.0	500	1000	2000	2000	15	30.0	100	100	700	1000	2000	2000	50	100

Characteristics

1. Combine AC 110V P.T & AC 5A CT in case of over rating value.
2. Allowance of operating voltage is ± 10% of rating voltage.
3. For max scale. refer to the above Standard Full Scale Table.
4. Watt Meter Transducer is internal type and external type.
5. In case of 3φ 4W voltage in phase voltage($V\ell$ /√3)
6. Calibrating Watt = $\frac{\text{MAX. scale value}}{\text{PT ratio} \times \text{CT ratio}}$

ex) 3P 3W

full scale wattmeter : 600KW

P.T ratio : 3300V/110V

C.T ratio : 100A/5A

calibrating watts = $\frac{600\text{Kvar}}{(3300/110)\text{X}(100/5)}$ = 1.0Kvar

ex1) 3P 4W

full scale wattmeter : 2000KW

P.T ratio : $\frac{22900\text{V}}{\sqrt{3}} / \frac{190\text{V}}{\sqrt{3}}$

C.T ratio : 50A/5A

calibrating watts= $\frac{2000\text{KW}}{\left(\frac{22900\text{V}}{\sqrt{3}} / \frac{190\text{V}}{\sqrt{3}}\right)\text{X}(50\text{A}/5\text{A})}$ =1.666KW