

Watt-hour Meter (Transducer Type) - LWK

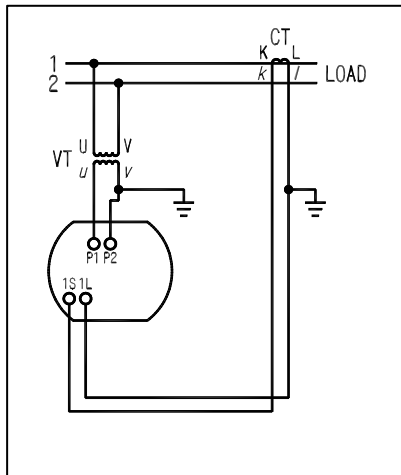
WATTHOUR METER (All-In-One Transducer Type) ⁽¹⁾

Application	Type	Rating ⁽²⁾	Consumption VA		Accessory
			Voltage	Current	
Single phase	LWK-12NC-12	110V, 5A (1A)	2VA	1VA	—
		220V, 5A (1A)	3.5VA	1VA	
Single phase 3-wire	LWK-12NC-13	110V, 5A (1A)	2VA	1VA	—
3 phase 3-wire	LWK-12NC-33	110V, 5A (1A)	2VA	1VA	—
		220V, 5A (1A)	3.5VA	1VA	
3 phase 4-wire	LWK-12NC-34	110V $\sqrt{3}$ V, 5A (1A)	2VA	1VA	—
		220V $\sqrt{3}$ V, 5A (1A)	3.5VA	1VA	

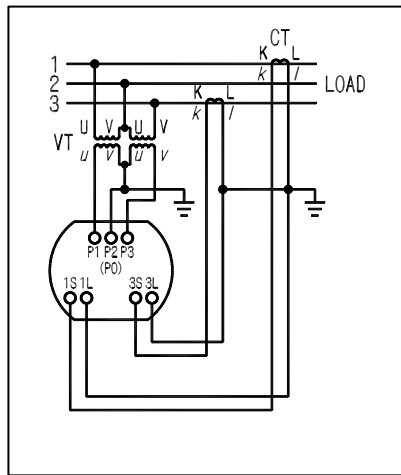
Note:

- ⁽¹⁾ Please refer to (page 18) for manufacture limit and max. scale value.
- ⁽²⁾ Please use external CT, 5A(1A) or VT, 110V respectively if above rating is exceeds.
Usable voltage range: 110V: 90~130V & 220V: 180~260V

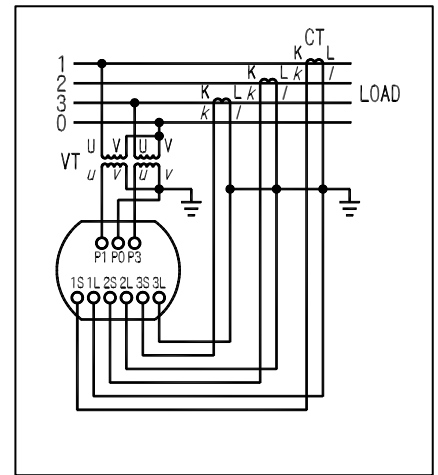
Connection Diagram



Single phase watt-hour meter

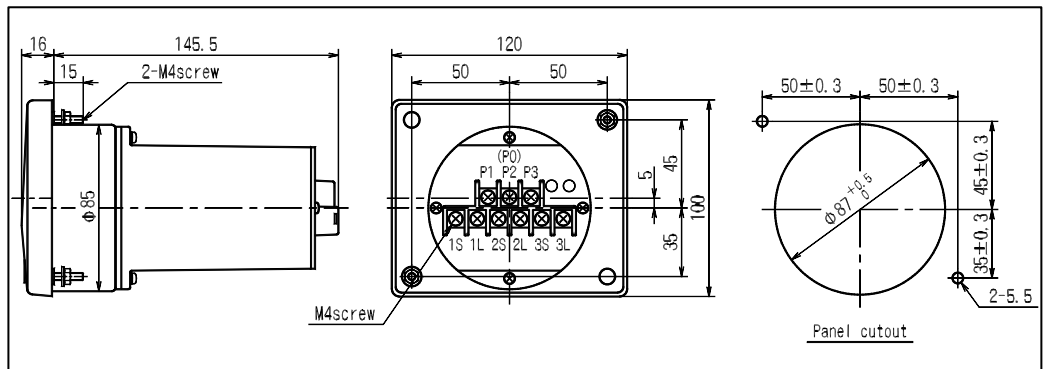


Single phase 3-wire & 3 phase 3-wire watt-hour meter



3 phase 4-wire watt-hour meter

Dimensions



Type	Weight
LWK-12NC	0.44kg
LWVK-12NC	

Var Meter (Transducer Type) - LWVK

VAR METER (All-In-One Transducer Type) ⁽¹⁾

Application	Type	Rating ⁽²⁾	Consumption VA		Accessory
			Voltage side	Current side	
Single phase	LWVK-12NC-12	110V, 5A (1A)	2VA	1VA	—
		220V, 5A (1A)	3.5VA	1VA	
Single phase 3-wire	LWVK-12NC-33	110V, 5A (1A)	2VA	1VA	—
		220V, 5A (1A)	3.5VA	1VA	
3 phase 4-wire	LWVK-12NC-34	110V, 5A (1A)	2VA	1VA	—
		220V, 5A (1A)	3.5VA	1VA	

Note:

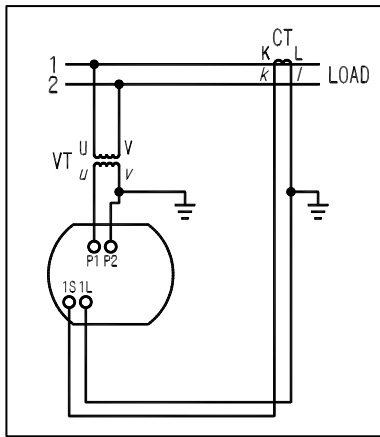
⁽¹⁾ Please refer to (page 18) for manufacture and max. scale value.

Standard scale: Lead □ var ~ 0 ~ Lag □ var

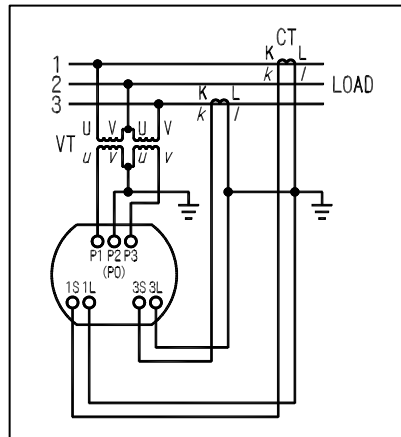
⁽²⁾ Please use external CT, 5A (1A) or VT, 110V respectively if above rating is exceeds.

Usable voltage range: 110V: 90~130V & 220V: 180~260V

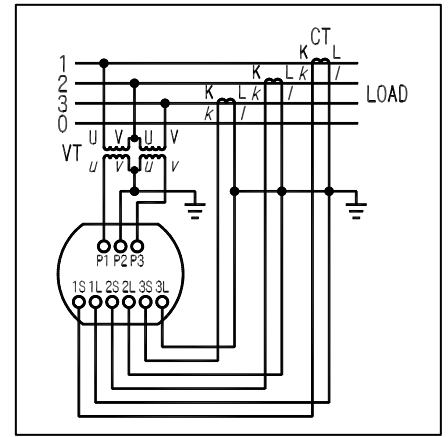
Connection Diagram



Single phase var meter

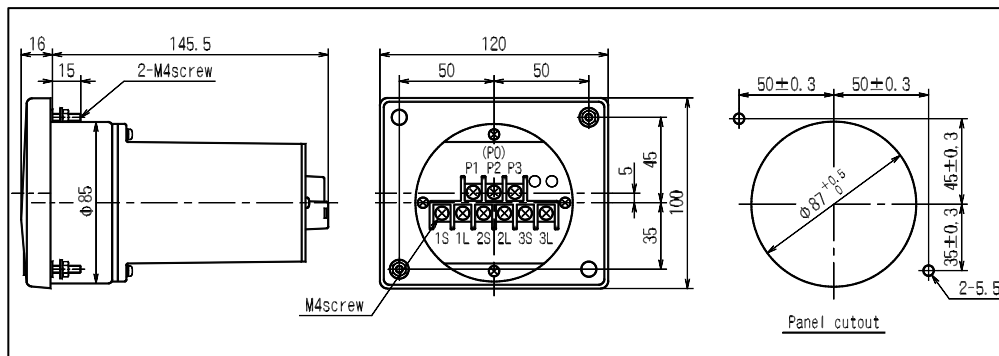


3 phase 3-wire var meter



3 phase 4-wire var meter

Dimensions



Type	Weight
LWK-12NC	0.44kg
LWVK-12NC	

Watt-hour Meter (Transducer Type) - LWK

WATTHOUR METER (External with Transducer Type) ⁽¹⁾

Application	Type	Rating ⁽²⁾	Consumption VA		Accessory (Transducer)
			Voltage side	Current side	
Single phase	LWK-10C-12	110V, 5A (1A)	2VA	1VA	WT-62M-12
	8C-12	220V, 5A (1A)	3.5VA	1VA	
Single phase 3-wire	LWK-10C-13 8C-13	110V, 5A (1A)	Each phase 2VA	Each phase 1VA	WT-83M-13
3 phase	LWK-10C-33	110V, 5A (1A)	Each phase 2VA	Each phase 1VA	WT-83M-33
	8C-33	220V, 5A (1A)	Each phase 3.5VA	Each phase 1VA	
3 phase 4-wire ⁽³⁾	LWK-10C-34	110V/√3V, 5A (1A)	Each phase 1.5VA	Each phase 1VA	WT-83M-34
	8C-34	220V/√3V, 5A (1A)	Each phase 3VA	Each phase 1VA	

Note:

- ⁽¹⁾ Please refer to (page 18) for manufacture limit and max. scale value.
- ⁽²⁾ Please use external CT, 5A (1A) or VT, 110V respectively if above rating is exceeds.
Usable voltage range: 110V: 90~130V & 220V: 180~260V
- ⁽³⁾ 3 phase 4-wire is voltage balanced.

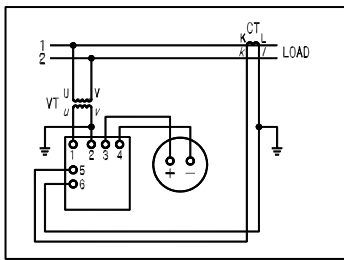
► For High harmonic ware, please specify the frequency.

For SCR Control Wareform

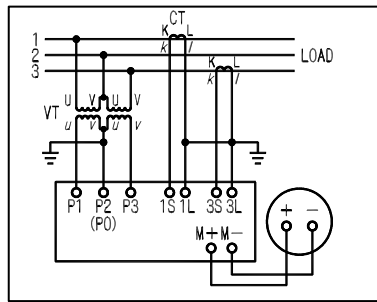
Type name: LWK-□CH-□.

Aux. power is necessary. (3 phase 4-wire can not be manufacture)

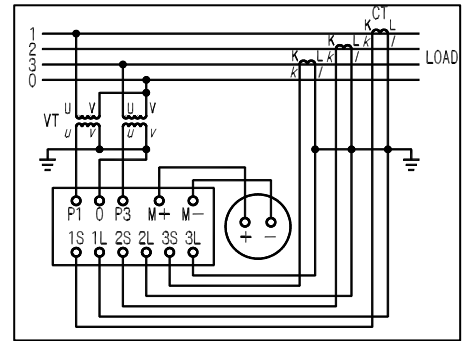
Connection Diagram



Single phase watt-hour meter
External with WT-62M-12

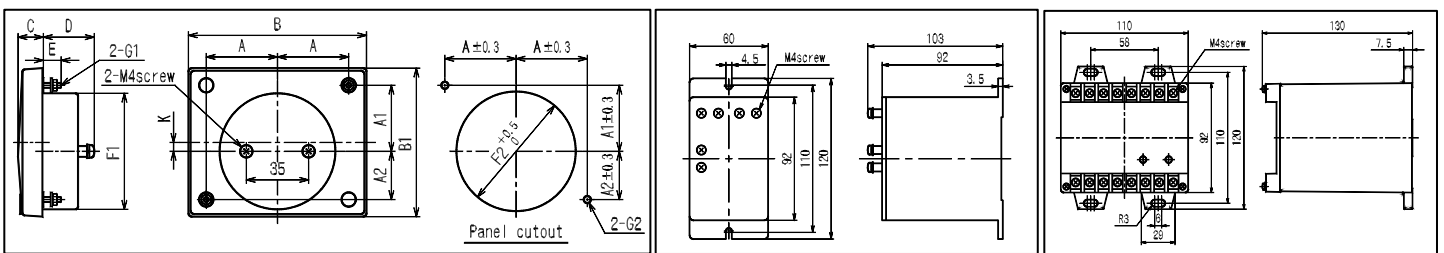


Single phase 3 wire & 3 phase watt-hour
meter external with WT-83M-13/33



3 phase 4 wire watt-hour meter
external with WT-83M-34

Dimensions



For Type: □T-62M□-□

For Type: □T-83M□-□

Type	A	A1	A2	B	B1	C	D	E	F1	F2	G1	G2	K	weight (g)
LWK-10C	40	37	27	100	83	14	29.5	10	65 Φ	67Φ Hole	M3 Screw	4Φ Hole	5	990
LWK-8C	32	29.5	18.5	80	67	14	29.5	10	52 Φ	54Φ Hole	M3 Screw	4Φ Hole	5.5	950

Var Meter (Transducer Type) - LWVK

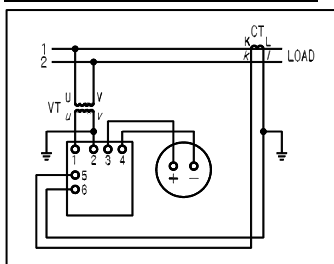
VAR METER (External with Transducer Type) ⁽¹⁾

Application	Type	Rating ⁽²⁾	Consumption VA		Accessory (Transducer)
			Voltage side	Current side	
Single phase ⁽³⁾	LWVK-10C-12 8C-12	110V, 5A(1A)	3.5VA	1.5VA	WVT-62M-12
		220V, 5A(1A)	3.5VA	1.5VA	
3 phase ⁽⁴⁾ (balanced)	LWVBK-10C-33 8C-33	110V, 5A(1A)	Each phase 3.5VA	Each phase 1.5VA	WVBT-83M-33
		220V, 5A(1A)	Each phase 3.5VA	Each phase 1.5VA	
3 phase ⁽⁴⁾ (unbalanced)	LWVK-10C-33 8C-33	110V, 5A(1A)	Each phase 3.5VA	Each phase 1.5VA	WVT-83M-33
		220V, 5A(1A)	Each phase 3.5VA	Each phase 1.5VA	
3 phase 4-wire ⁽⁴⁾⁽⁵⁾ (unbalanced)	LWVK-10C-34 8C-34	110V, 5A(1A)	Each phase 3.5VA	Each phase 1.5VA	WVT-83M-34
		220V, 5A(1A)	Each phase 3.5VA	Each phase 1.5VA	

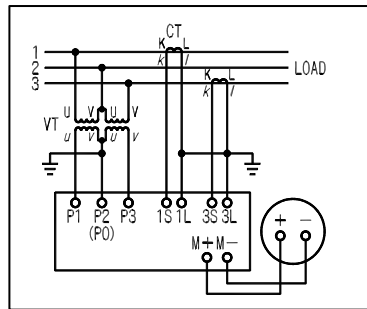
Note:

- ⁽¹⁾ Please refer to (page 18) for manufacture limit and max. scale value.
Standard scale: Lead □ var ~ 0 ~ Lag □ var
- ⁽²⁾ Please use external CT, 5A (1A) or VT, 110V respectively if above rating is exceeds.
Usable voltage range: 110V: 90 ~ 130V & 220V: 180 ~ 260V
- ⁽³⁾ Please specify the frequency (50Hz or 60Hz) for single phase circuit.
- ⁽⁴⁾ Please use 3 phase, 3 phase 4-wire in positive phase sequence.
- ⁽⁵⁾ 3 phase 4-wire is voltage balanced.

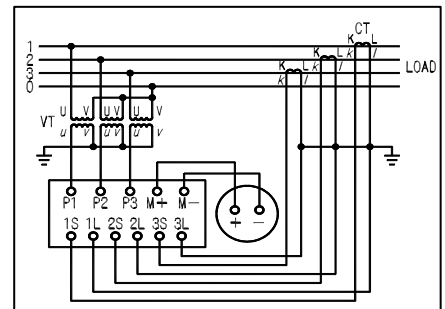
Connection Diagram



Single phase var meter external WVT-62M-12

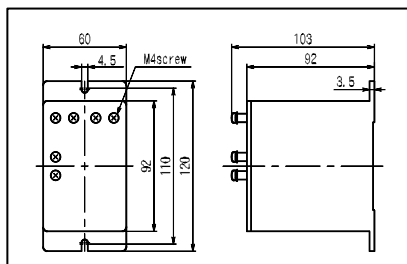
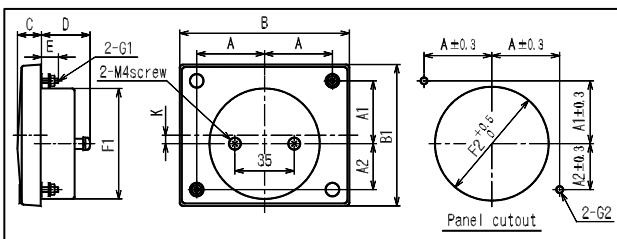


Single phase 3-wire / 3 phase var meter external WVT, WVBT-83M-13/33

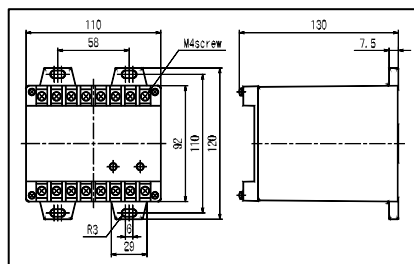


3 phase 4-wire var meter external WVT-83M-34

Dimensions



For Type: □T-62M□-□



For Type: □T-83M□-□

Type	A	A	A2	B	B1	C	D	E	F1	F2	G1	G2	K	weight (g)
LWV(B)K-10C	40	37	27	100	83	14	29.5	10	65 φ	67φ Hole	M3 Screw	4φHole	5	990
LWV(B)K-8C	32	29.5	18.5	80	67	14	29.5	10	52 φ	54φ Hole	M3 Screw	4φHole	5.5	950

Watt-hour Meter & Var Meter (Transducer Type) - LWK/LWVK

MANUFACTURED LIMIT MAX. SCALE VALUE METER

Manufacturable range will be limited where intrinsic max. scale value is within the scope as shown in the list at below. But in the case, the meter is used external CV or VT, max. scale value will be calculated as following formula:

$$\frac{\text{Intrinsic Max. scale value}}{\text{Max. scale value}} = \frac{\text{Max. scale value}}{\text{VT ratio} \times \text{CT ratio}}$$

Type Name	Rating			Manufacturable Intrinsic Range	
				Watt-hour Meter	Var Meter
Single phase	110V / 5A(1A)			350~600W (70~120W)	350~600var (70~120var)
	220V / 5A(1A)			700~1200W (140~240W)	700~1200var (140~240var)
Single phase 3-wire	110V / 5A(1A)			600~1200W (120~240W)	—
3 phase 3-wire	110V / 5A(1A)			600~1200W (120~240W)	600~1200var (120~240var)
	220V / 5A(1A)			1200~2400W (240~480W)	1200~2400var (240~480var)
3 phase 4-wire	Line	Phase	Current	—	—
	110V	110/√3V	5A (1A)	600~1200W (120~240W)	600~1200var (120~240var)
	220V	220/√3V	5A (1A)	1200~2400W (240~480W)	1200~2400var (240~480var)

REFERENCE LIST FOR STANDARD MAX. SCALE VALUE THREE PHASE WATTMETER

The following table is the standard of 3 phase wattmeter.

This table also applies for 3 phase 4 wire wattmeter, single phase 3 wire wattmeter and var meter.

Standard for single phase wattmeter calculation : listed value × 1/2

Line vol. CT ratio	6600V (VT6600 / 110V)			3300V (VT3300 / 110V)			440V (VT440 / 110V)			220V			110V		
	kW 60	kW 50	kW 40	kW 30	kW 25	kW 20	kW 4	kW 5	kW 3	kW 2	kW 1.5	kW 1.2	kW 1	kW 0.8	kW 0.6
5 / 5A	90	75	60	45	40	30	6	5	4	3	2.5	2	1.5	1.2	1
7.5 / 5A	120	100	80	60	50	40	8	7.0	6	4	3	2.5	2	1.5	1.2
10 / 5A	200	150	120	100	75	60	12	10	8	6	5	4	3	2.5	2
15 / 5A	240	200	150	120	100	80	15	—	12	8	6	5	4	3	2.5
20 / 5A	300	250	200	150	120	100	20	—	15	10	8	7.5	5	4	3
25 / 5A	400	300	240	200	150	120	24	—	20	12	10	8	6	5	4
30 / 5A	480	400	300	240	200	150	30	—	24	15	12	10	8	7.5	5
40 / 5A	600	500	400	300	250	200	40	—	30	20	15	12	10	8	6
50 / 5A	750	600	480	400	300	240	48	—	40	24	—	20	12	10	8
60 / 5A	900	750	600	450	400	300	60	50	40	30	25	20	15	12	10
75 / 5A	1200	1000	800	600	500	400	80	75	60	40	30	25	20	15	12
100 / 5A	2000	1500	1200	1000	750	600	120	100	80	60	50	40	30	25	20
150 / 5A	2400	2000	1500	1200	1000	800	150	—	120	80	60	50	40	30	25
200 / 5A	3000	2500	2000	1500	1200	1000	200	—	150	100	80	75	50	40	30
250 / 5A	4000	3000	2400	2000	1500	1200	240	—	200	120	100	80	60	50	40
300 / 5A	4000	—	3000	2000	—	1500	300	250	200	150	120	100	75	60	50
350 / 5A	4800	4000	3000	2400	2000	1500	300	—	250	150	120	100	80	75	50
400 / 5A	6000	5000	4000	3000	2500	2000	400	300	250	200	150	120	100	75	60
450 / 5A	6000	5000	4000	3000	2500	2000	400	—	300	200	150	120	100	75	60
500 / 5A	7500	6000	4800	4000	3000	2400	500	—	400	240	—	200	120	100	70
600 / 5A	9000	7500	6000	4500	4000	3000	650	500	400	300	250	200	150	120	100
750 / 5A	10MW	8000	7500	5000	—	4000	700	600	500	300	250	200	150	120	100
800 / 5A	12MW	10MW	8000	6000	5000	4000	800	750	600	400	300	250	200	150	120
1000 / 5A	15MW	12MW	10MW	7500	6000	5000	1000	800	750	500	400	300	250	200	150
1200 / 5A	20MW	15MW	12MW	10MW	7500	6000	1200	1000	800	600	500	400	300	250	200
1500 / 5A															