

§ Wide Angle *METER* § L Series

FREQUENCY METER / POWER FACTOR METER (TRANSDUCER TYPE) AL PL

1. FREQUENCY METER

Rated Voltage	Measurement Range	Approx. VA Consumption		Attachment (transducer)
		AL-110NC, 80NC	AL-65C	
110V	45~55Hz	1.5VA	1.7VA	AL-65C: FT-62M
	55~65Hz			
	45~65Hz*			
	350~450Hz*			
220V	45~55Hz	1.5VA	2.5VA	
	55~65Hz			
	45~65Hz*			
	350~450Hz*			

* Class 1.0

- ▶ **Meter** of special frequency range can be manufactured as well (up to 1000Hz)
- ▶ **Meter** for SCR waveform input (distortion waveform) can be manufactured as well. (With H at the end of type name)
Type name: **AL-110CH**
- ▶ **Applicable** voltage range: 90~130V for 110V; 180~260V for 220V.
- ▶ **Rated** voltage and applicable voltage range other than those above can be manufactured. Have a consultation with us.

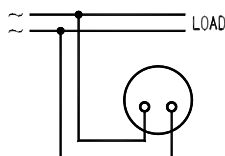
2. POWER FACTOR METER

Application	Type	Rating	Approx. VA Consumption		Attachment (transducer)	
			Voltage side	Current side	80C	65C
Single phase	PL-110NC-12	110V, 5A(1A) 220V, 5A(1A)	0.6VA 1.2VA	0.9VA 0.9VA	-	PT-62M-12
	80NC-12					
	65C-12					
3-phase (balanced)	PBL-110NC33	110V, 5A(1A) 220V, 5A(1A)	0.6VA each phase 1.2VA each phase	0.9VA each phase 0.9VA each phase	-	PBT-62M-33
	80NC33					
	65C33					
3-phase (unbalanced)	PL-110NC-33	110V, 5A(1A) 220V, 5A(1A)	1.9VA each phase 4.0VA each phase	1.1VA each phase 1.1VA each phase	PT-53MC-33	PT-63M-33
	80C-33					
	65C-33					
3-phase 4-wire (unbalanced)	PL-110NC-34	110/√3V, 5A(1A) 220/√3V, 5A(1A)	0.8VA each phase 2.5VA each phase	1.1VA each phase 1.1VA each phase	PT-53MC-34	PT-64M-33
	80C-34					
	65C-34					

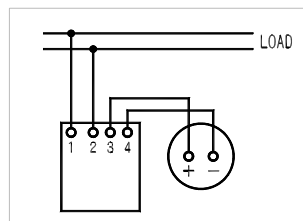
- ▶ **Except** meter for balanced 3 phase circuit, specify please the frequency either 50Hz or 60Hz.
- ▶ **Standard** scale is Lead0.5~1~Lag0.5. Lead0~1~Lag0 (effective measuring range: Lead0.3~1~Lag0.3) is only available for 3-phase 3-wire.
- ▶ **In** the case of rating exceeding those above, use an 110V, 5A (1A) meter together with a CT or a VT respectively.
- ▶ **Applicable** voltage range: 90~130V for 110V; 180~260V for 220V.
- ▶ **Please** use the meter in positive phase sequence. (Sine waveform)
- ▶ **Voltage** side consumption VA of PL-65 is max. 2VA.

CONNECTION DIAGRAM

Frequency Meter



Frequency Meter with External FT-62M

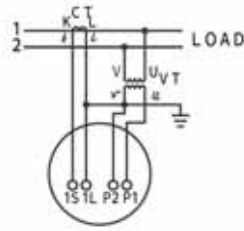


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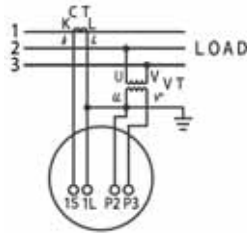
FREQUENCY METER / POWER FACTOR METER (TRANSDUCER TYPE) AL PL

L-110C

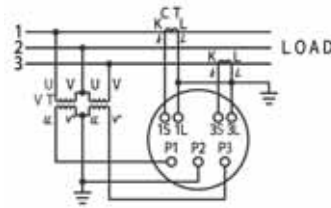
Single Phase Power Factor Meter



3-phase 3-wire Power Factor Meter (balance)

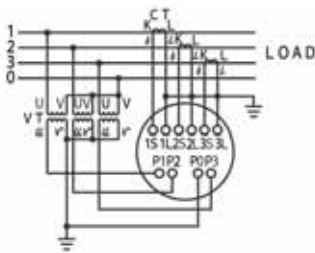


3-phase 3-wire Power Factor Meter (unbalance)



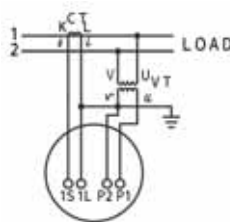
L-110C

3-phase 4-wire Power Factor Meter

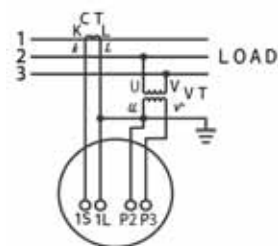


L-80C

Single Phase Power Factor Meter

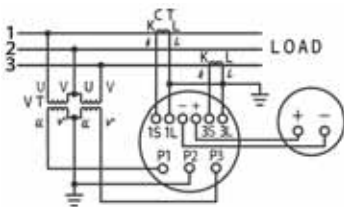


3-phase 3-wire Power Factor Meter (unbalance)

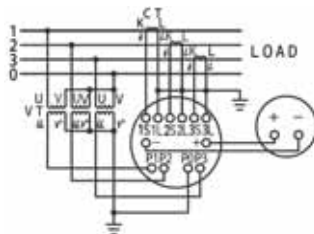


L-80C

3-phase 3-wire Power Factor Meter (unbalance) with External PT-53MC-33

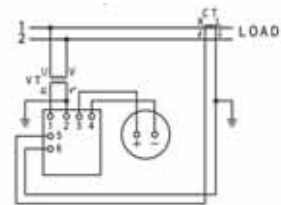


3-phase 4-wire Power Factor Meter (unbalance) with External PT-53MC-34



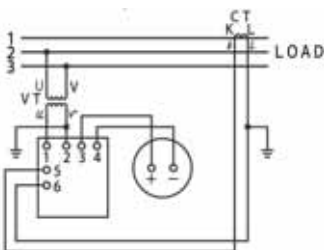
L-65C

Single Phase Power Factor Meter External PT-62M-12

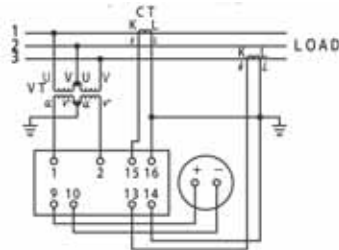


L-65C

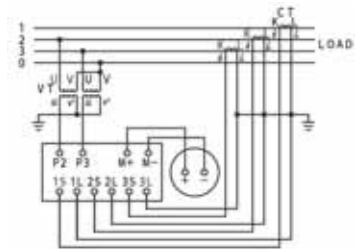
3-phase balanced balanced Power Factor Meter with External PBT-62M-33



3-phase balanced unbalanced Power Factor Meter with External PT-63M-33



3-phase 4-wire unbalanced Power Factor Meter with External PT-64M-34

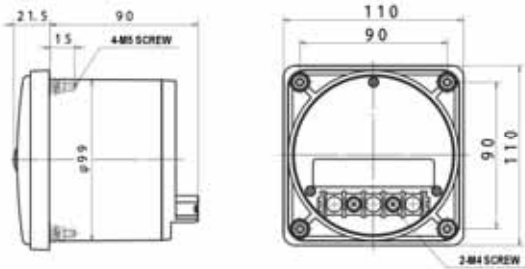


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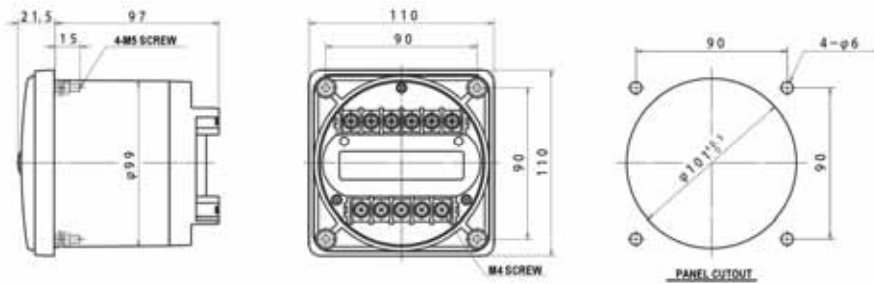
DIMENSIONS

L-110NC

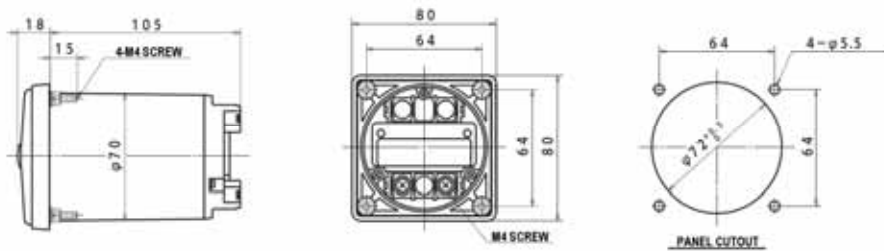
AL-110NC / PBL-110NC



PL-110NC



L80C / L-80NC



L-65C

