

Indicators with Changeover Switch

AC ammeters

Using AC ammeters with changeover switches, the currents of the respective phases of a 3-phase, 3-wire system (or 1-phase, 3-wire system) circuit can be measured by a single meter.

● Equipped with a protective circuit to protect the CT secondary circuit.



YR-8UNAA



YR-10UNAA

Specifications

Size (width × height)		mm		82×99		102×119		122×139			
Model name		YR-8UNAA		YR-10UNAA		YR-12UNAA					
Operation principle		Rectifier (movable iron core) ^{Note 1}						Rectifier			
Accuracy (grade)		2.5		2.5		1.5					
Frequency		50 and 60Hz									
Scale length (mm)		70		90		100					
Weight (kg)		0.2		0.25		0.4					
Indicator rating and delivery period classification	Terminal configuration	Maximum scale	Consumption VA	Ordinary		Expanded		Ordinary		Expanded	
				Direct	Combined with CT	Direct	Combined with CT	Direct	Combined with CT	Direct	Combined with CT
4-terminal	4-terminal	1A	0.2	△	△	△	△	△	△	△	△
		5A		○	○	○	○	○	○	○	○
		10A		△	△	△	△	△	△	△	△
		15A		△	△	△	△	△	△	△	△
		20A		△	△	△	△	△	△	△	△
3-terminal	3-terminal ^{Note 2}	/5A (indicator rating: 5A)	1.5	◎	○	○	○	○	○	○	
		/1A (indicator rating: 1A)		◎	○	○	○	○	○	○	

Note 1. With YR-8UNAA and 10UNAA, the 3-terminal-combined-with-CT model is of the movable iron core type.

Note 2. The 4-terminal configuration can be manufactured for models combined with CT. Please designate as "4-terminal." However, the operation principle will be the rectifying type.

Remarks (1) A switch nameplate for 1-phase, 3-wire systems can be manufactured. Please specify "with 1-3 nameplate."

Nameplate examples: OFFRNS OFFRNT Make sure to specify the indication contents when ordering.

(2) Expanded scale refers to scales expanded three-fold.

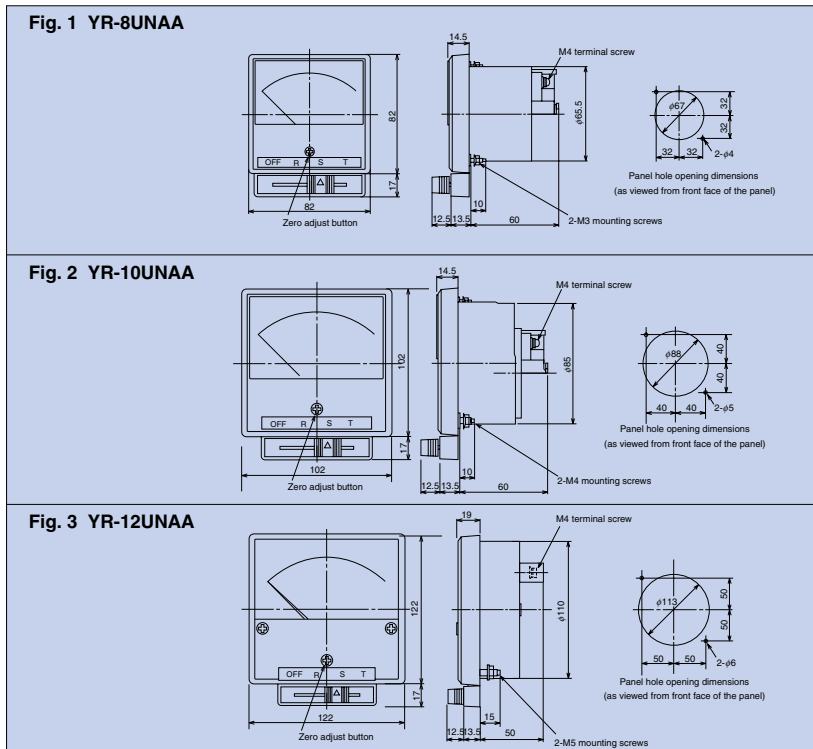
(3) Supplementary anti-corrosion treatment is not possible.

(4) Please make sure to read the "Safety Precautions" (pp.5-8) and the "Selection Precautions" (p.9) to assist in selecting the model and use specifications suited to the application.

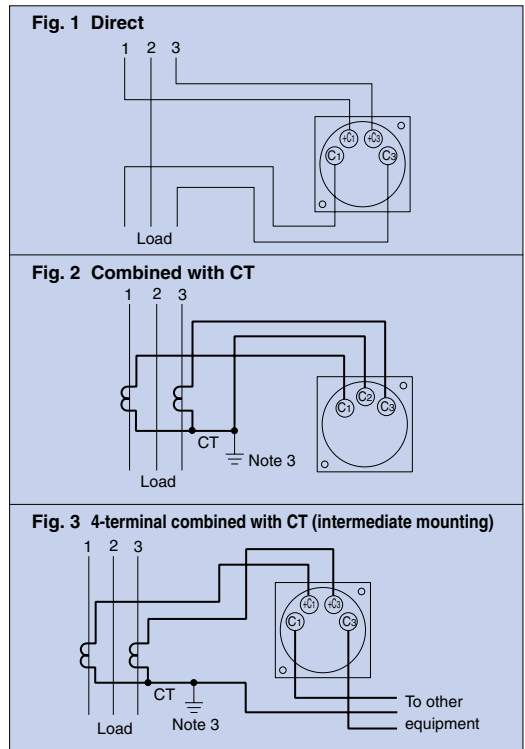
Delivery period classification

Symbol	◎ Standard product	○ Quasi-standard product	△ Special product
Reference delivery period	Immediate delivery	Within 20 days	21 to 60 days

Outer dimensions



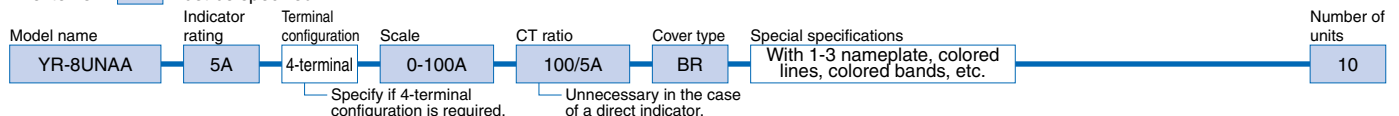
Connection diagrams



Note 3. For low-voltage circuits, grounding of the secondary side of the current transformer is unnecessary.

Ordering method

The items in must be specified.



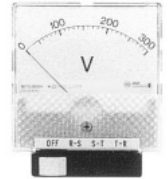
AC voltmeters

Using AC voltmeters with changeover switches, the voltages between the respective wires of a 3-phase, 3-wire system (or 1-phase, 3-wire system) circuit can be measured by a single meter.

- Equipped with a protective circuit to protect the VT secondary circuit.



YR-8UNAV



YR-10UNAV

Specifications

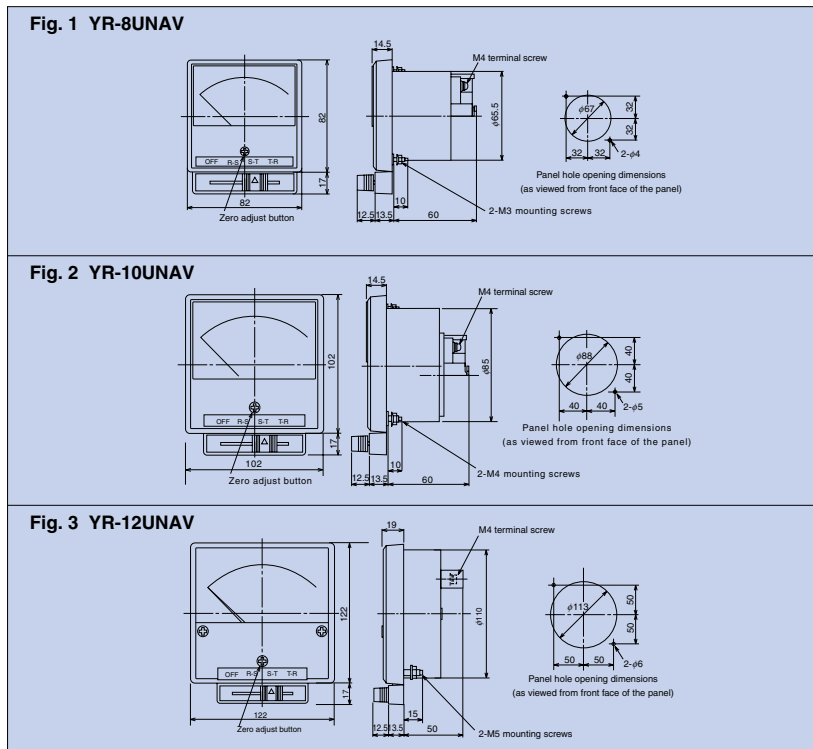
Size (width × height)		mm	82×99	102×119	122×139		
Model name			YR-8UNAV	YR-10UNAV	YR-12UNAV		
Operation principle			Rectifier				
Accuracy (grade)			2.5	2.5	1.5		
Frequency			50 and 60Hz				
Scale length (mm)			70	90	100		
Weight (kg)			0.15	0.2	0.4		
Indicator rating and delivery period classification	Direct	Maximum scale		Consumption VA		Delivery period classification	
		150V	0.5	○	○	○	
		300V	1.2	◎	◎	◎	
	Combined with VT	600V	2.4	○	○	○	
		VT ratio	Scale	○	○	○	
		440/110V	0-600V				
		3300/110V	0-4500V				
6600/110V	0-9000V						
besides the above, □110V VT ratio × 150V		0.5	○	○	○		

- Remarks**
- (1) In the case of a 1-phase, 3-wire system circuit (100/200V), use a model rated at 300V direct.
 - (2) A switch nameplate for 1-phase, 3-wire systems can be manufactured. Please specify "with 1-3 nameplate."
- Nameplate examples: OFF R-N N-S R-S OFF R-N N-T R-T Make sure to specify the indication contents when ordering.
- (3) Supplementary anti-corrosion treatment is not possible.
 - (4) Please make sure to read the "Safety Precautions" (pp.5-8) and the "Selection Precautions" (p.9) to assist in selecting the model and use specifications suited to the application.

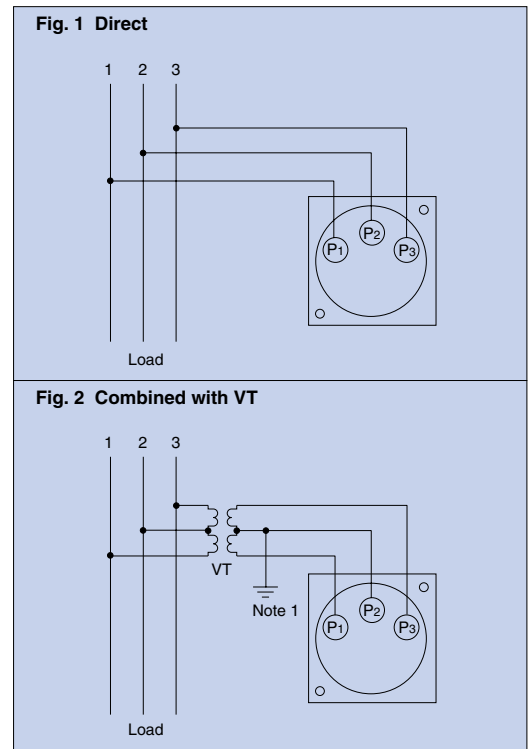
Delivery period classification

Symbol	◎ Standard product	○ Quasi-standard product	△ Special product
Reference delivery period	Immediate delivery	Within 20 days	21 to 60 days

Outer dimensions

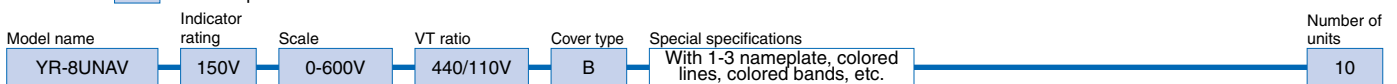


Connection diagrams



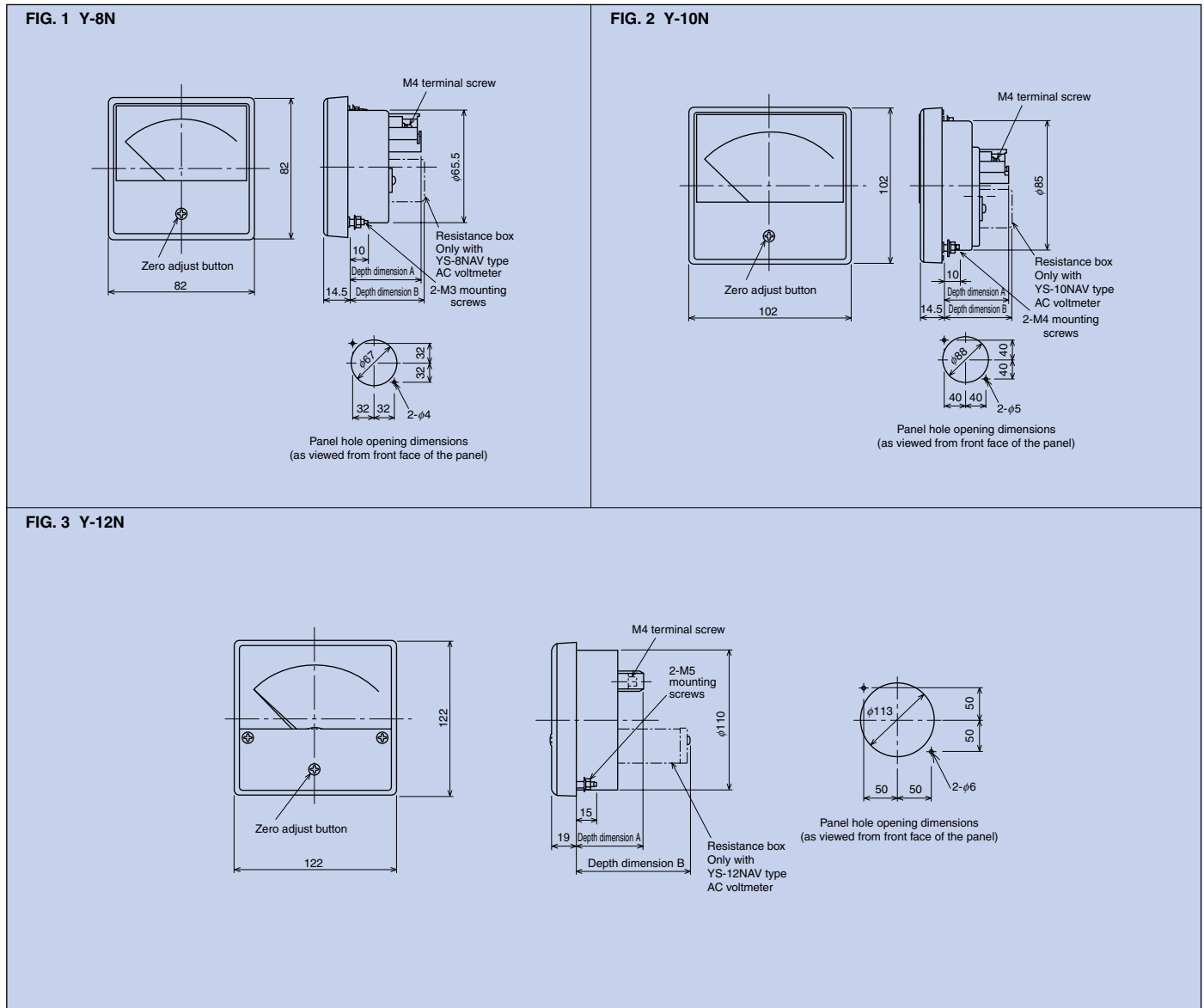
Ordering method

The items in must be specified.



Unnecessary in the case of a direct indicator.

Rectangular indicators (Y-N Series)



● Depth dimension details

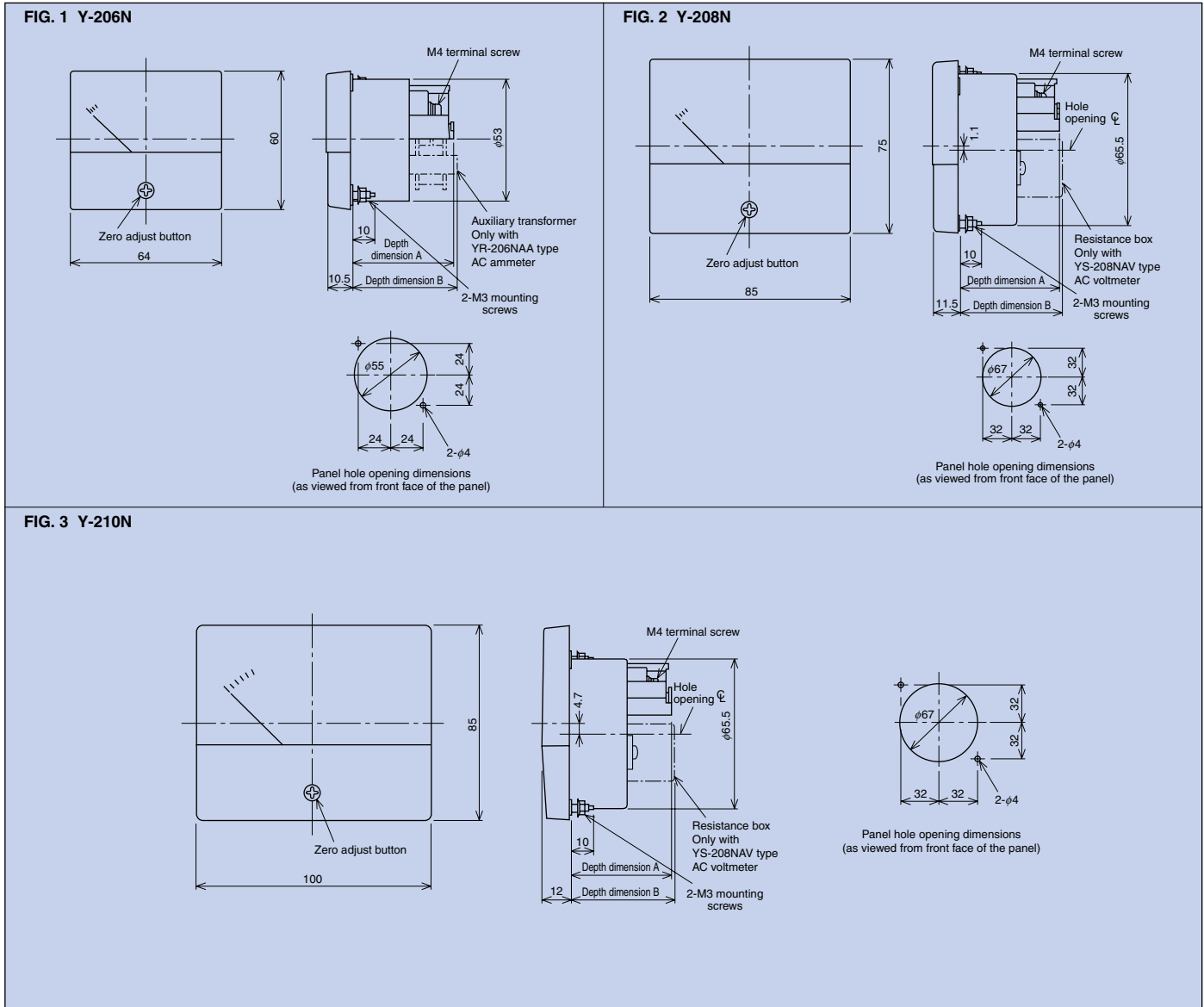
Indicator type		Y-8N			Y-10N			Y-12N			
		Type name	A dimension	B dimension	Type name	A dimension	B dimension	Type name	A dimension	B dimension	
DC	Ammeters	YM-8NDA	41	—	YM-10NDA	41	—	YM-12NDA	50	—	
	Voltmeters	YM-8NDV	41	—	YM-10NDV	41	—	YM-12NDV	50	—	
AC	Ammeters	YS-8NAA	41	—	YS-10NAA	41	—	YS-12NAA	50	—	
		Uniform scale	YR-8NAA	41	—	YR-10NAA	41	—	YR-12NAA	50	—
	Voltmeters	YS-8NAV	41	43	YS-10NAV	41	43	YS-12NAV	50	85	
		Uniform scale	YR-8NAV	41	—	YR-10NAV	41	—	YR-12NAV	50	—
	Wattmeters	YP-8NW	41	—	YP-10NW	41	—	YP-12NW	100	—	
	Varmeters	YP-8NVAR	41	—	YP-10NVAR	41	—	YP-12NVAR	100	—	
	Power-factor meters	Balanced	YP-8NPF	81	—	YP-10NPF	81	—	YP-12NPF	50	Note
		Unbalanced	YP-8NPFU	41	—	YP-10NPFU	41	—	YP-12NPFU	100	—
Frequency meters	YP-8NF	81	—	YP-10NF	81	—	YP-12NF	50	—		
Receiving indicators	DC indicators	YM-8NRI	41	—	YM-10NRI	41	—	YM-12NRI	50	—	
	AC indicators	YR-8NRI	41	—	YR-10NRI	41	—	YR-12NRI	50	—	

Note. 100mm in the case of a model for 1-phase 2-wire systems.

Outer Dimension Drawings

(Refer to the specification tables regarding models other than the Y-2N series, Y-N series, and L-N series.)

Rectangular indicators (Y-2N Series)



● Depth dimension details

Indicator type	Y-206N			Y-208N			Y-210N				
	Type name	A dimension	B dimension	Type name	A dimension	B dimension	Type name	A dimension	B dimension		
DC	Ammeters	YM-206NDA	43	—	YM-208NDA	43	—	YM-210NDA	43	—	
	Voltmeters	YM-206NDV	43	—	YM-208NDV	43	—	YM-210NDV	43	—	
AC	Ammeters	YS-206NAA	43	—	YS-208NAA	43	—	YS-210NAA	43	—	
		Uniform scale	YR-206NAA	43	44	YR-208NAA	43	—	YR-210NAA	43	—
	Voltmeters	YS-206NAV	43	—	YS-208NAV	43	45	YS-210NAV	43	45	
		Uniform scale	YR-206NAV	43	—	YR-208NAV	43	—	YR-210NAV	43	—
	Wattmeters	YP-206NW	43	—	YP-208NW	43	—	YP-210NW	43	—	
	Varmeters	YP-206NVAR	43	—	YP-208NVAR	43	—	YP-210NVAR	43	—	
	Power-factor meters	Balanced	YP-206NPF	43	—	YP-208NPF	43	—	YP-210NPF	43	—
		Unbalanced	YP-206NPFU	43	—	YP-208NPFU	43	—	YP-210NPFU	43	—
Frequency meters	YP-206NF	83	—	YP-208NF	83	—	YP-210NF	83	—		
Receiving indicators	DC indicators	YM-206NRI	43	—	YM-208NRI	43	—	YM-210NRI	43	—	
	AC indicators	YR-206NRI	43	—	YR-208NRI	43	—	YR-210NRI	43	—	

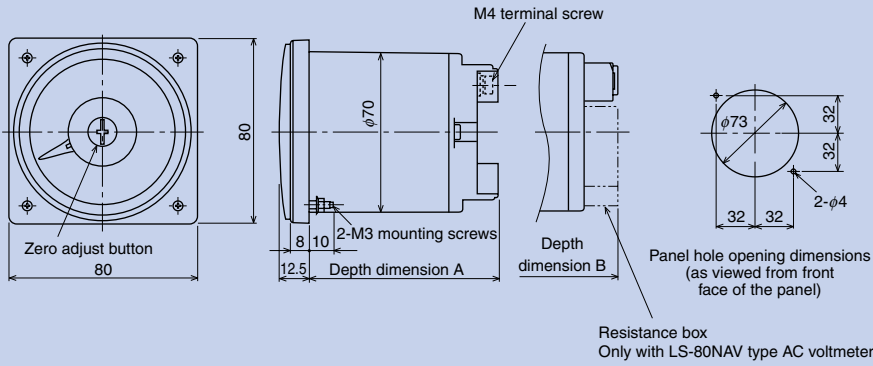


Outer Dimensional Drawings

(Refer to the specification tables regarding models other than the Y-2N series, Y-N series, and L-N series.)

Wide-angle indicators (L-N Series)

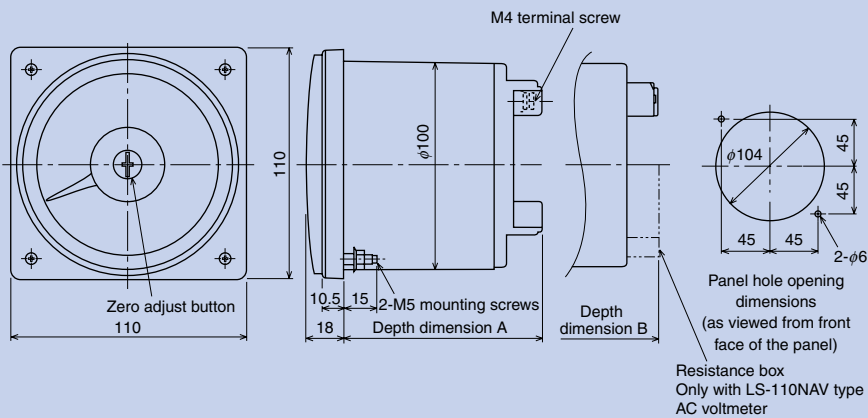
FIG. 1 L-80N



●Depth dimension details

Indicator type		L-80N			
		Type name	A dimension	B dimension	
DC	Ammeters	LM-80NDA	81	—	
	Voltmeters	LM-80NDV	81	—	
AC	Ammeters	LS-80NAA	—	81	
	Uniform scale	LR-80NAA	81	—	
	Voltmeters	LS-80NAV	—	81	
	Uniform scale	LR-80NAV	81	—	
	Wattmeters	LP-80NW	81	—	
	Varmeters	LP-80NVAR	81	—	
	Power-factor meters	Balanced	LP-80NPF	92	—
		Unbalance	LP-80NPFU	81	—
Frequency meters		LP-80NF	92	—	
Receiving indicators	DC indicators	LM-80NRI	81	—	
	AC indicators	LR-80NRI	81	—	






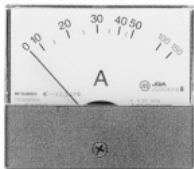

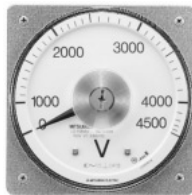



FIG. 2 L-110N



●Depth dimension details

Indicator type		L-110N			
		Type name	A dimension	B dimension	
DC	Ammeters	LM-110NDA	92	—	
	Voltmeters	LM-110NDV	92	—	
AC	Ammeters	LS-110NAA	—	92	
	Uniform scale	LR-110NAA	92	—	
	Voltmeters	LS-110NAV	—	92	
	Uniform scale	LR-110NAV	92	—	
	Wattmeters	LP-110NW	100	—	
	Varmeters	LP-110NVAR	100	—	
	Power-factor meters	Balanced	LP-110NPF	92	—
		Unbalance	LP-110NPFU	100	—
Frequency meters		LP-110NF	92	—	
Receiving indicators	DC indicators	LM-110NRI	92	—	
	AC indicators	LR-110NRI	92	—	

Covers

Cover specification	Classification	Y-2N Series	Y-N Series	L-N Series
B design cover (Munsell N 1.5 semi-gloss)	◎			
G design cover (all transparent)	○			—
F design cover ^{Note 1} (special color coating)	△			
Cover with red needle (can be manufactured for B, G, and F designs)	○			

Remarks The B design cover is standard specification. The G and F design covers and covers with red needles can be manufactured if required.

Note 1. When ordering the F-design cover, please use F as the cover code and specify the color coating. Munsell 7.5BG 4/1.5 will be used for orders with no color coating specified.

Cover codes

Cover specifications	Without red needle	With red needle
B design	B	BR*1
G design	G	GR
F design	F	FR

Remarks For the Y-N Series, a B cover with two red needles (BRR cover) can be manufactured depending on the model (please inquire for details).

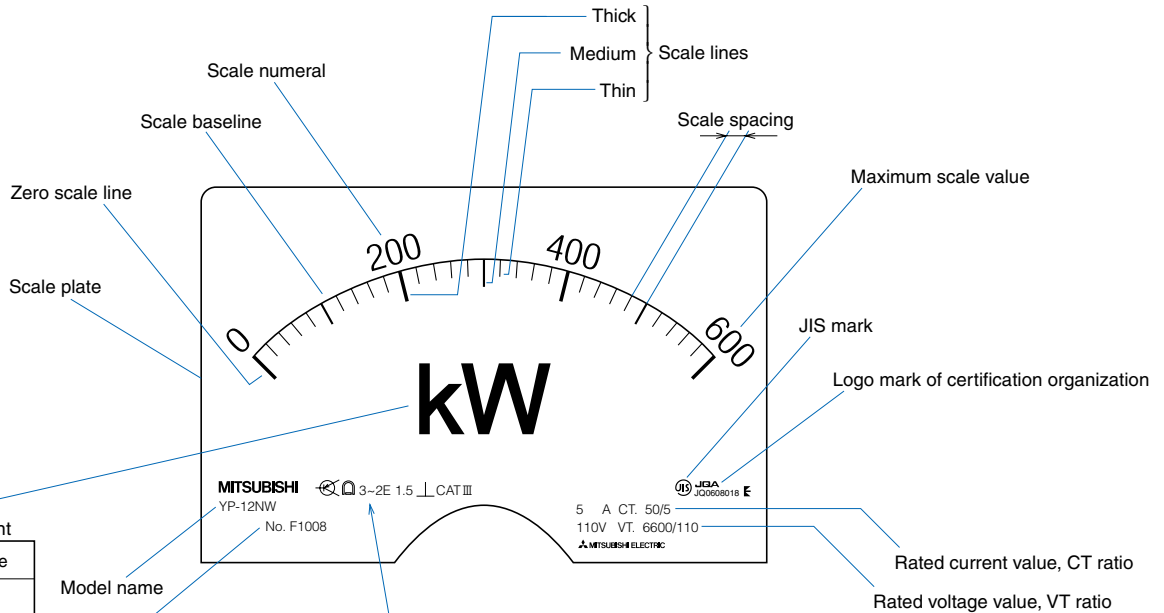
Accessories

Nuts for mounting screws are provided with all models. T-150 and other special accessories are indicated in the specification columns of the respective indicator types.

Mechanical Indicators

Common Specifications

Scale plate components and items indicated



Unit of measurement

Item	Code
Ampere	A
Volt	V
Watt	W
Var	var
Power factor	cos ϕ or cos ψ
Hertz	Hz
Prefix	
Mega 10^6	M
Kilo 10^3	k
Milli 10^{-3}	m

Model name
Serial number

⊗ 3~2E 1.5 ⊥ CAT III

Auxiliary symbols

Item	Symbol
Shunt	
Serial resistor	
Accessory	

Operation principle

Item	Symbol
Permanent magnet/movable coil	
Movable iron core	
Bimetal	
Electronic device in measurement circuit	
Electronic device in auxiliary circuit	
Rectifier	

Type of measurement and number of elements measured

Item	Symbol
DC circuit	
AC circuit	
3-phase AC circuit	3~
Single element for 3-wire circuit	3-1E
Two elements for unbalanced load 3-wire circuit	3~2E
Two elements for unbalanced load 4-wire circuit	3N~2E
Three elements for unbalanced load 4-wire circuit	3N~3E

Accuracy class

Class index	Code
Class 0.5	0.5
Class 1	1
Class 1.5	1.5
Class 2.5	2.5
Class 5	5
Class 1.5 in the case where the base value corresponds to the span	1.5
Class 2.5 in the case where the base value corresponds to the span	2.5

Mounting attitude

Item	Symbol
Instrument used with scale plate set vertically	
Instrument used with scale plate set horizontally	
Instrument used with scale plate set at a position inclined from the horizontal surface (example: 60°)	

Measurement category

Classification	Code
Measurement category III	CAT III

Scale plate indications

The following tables show the scales, including numerals, colored lines, bands and colors, used as standard specifications. Red, blue, green and yellow are used for the colored lines/bands.

	Y-2N Series	Y-N Series	L-N Series
Standard scale			
Expanded scale (expanded by 3 times)			
Positive/Negative scale			
Single scale with double stamp			
Double scale with double stamp			
Colored lines Colored bands			

Remarks (1) See the "Standard Scale Diagrams" on pp.31 to 34 regarding the scale division with respect to the maximum scale value.
 (2) Special scales can also be manufactured.