SPECIALIZED SERIES

Contents

DC ammeter (permanent magnet moving coil type)

Type name: DEf-100TE
DEf-100YE

Ef SERIES

*T: Vertical Mount / Y: Horizontal Mount

Power supply specifications

	AC 100V	AC 200V	DC 24V	DC 100V
DEf-100□E	Yes	Yes	No	Yes

E: Electro-luminescence

Specifications

Upper measurement range limit	DEf-100TE / DEf-100YE	
	Internal resistance	Shunt
50 μA	4000 Ω	Unnecessary
100 μA	3600 Ω	
200 μA	1300 Ω	
500 μA	200 Ω	
1 mA	45 Ω	
2 mA	11 Ω	
5 mA	5 Ω	
10 mA	2 Ω	
20 mA	1.2 Ω	
50 mA	Voltage drop: 60mV Sensitivity: approximately 10 mA	Internal
100 mA		
500 mA		
750 mA		
1 A		
5 A		
10 A		External
15 A		
20 A		
30 A		
50 A		
≀		
5000 A		
Mass of meter	Approximately 0.2 kg	

Receiving indicator Meter input	DEf-100TE / DEf-100YE	
	Internal resistance	Shunt
4~20mA	4 Ω	Unnecessary
10~50mA	1.5 Ω	

Note 1: Intrinsic errors of internal resistance is ±30% (at 23°C).

Summary

Connecting the shunt

1. Connect the shunt to the line on the ground side.
2. For outside dimensions of the shunt, refer to other brochure.

Instrument lead

1. Instrument lead **does not come with the meter**.

I nstrument lead resistance

1. The meter with the shunt attached externally is normally adjusted with the instrument lead resistance set **at 0.05 Ω**. (LEAD 0.05 Ω is marked on the scale plate.) Therefore, use the instrument lead which is the equivalent of 0.05 Ω.
2. For instrument lead resistance other than 0.05 Ω, specify separately. When combined with a shunt rated at 60 mV, for instrument lead resistance, up to 1.0 Ω specification can be manufactured. When resistance value exceeds 1.0 Ω, combine with a high mV shunt.
3. When instrument lead resistance is not clearly determined, the meter equipped with a resistor for adjusting sensitivity (VR) can also be manufactured. (VR = adjuster) The adjustable range will be up to 1.0 Ω for a 60 mV meter.
   Note: The letter "V" is appended to the normal type name of the indicator with VR. Example: DEf-100□ V

Remarks

Meters with needle swinging right or left (upper or lower side) of center (zero center) and double scale meters can also be manufactured. We also manufacture 50 mV and 100 mV meters with a shunt attached externally.

References

Table of Instrument Lead Resistance

[Unit: Ω (at 20°C)

Wire diameter \ Length	1m	2m	3m	4m	5m	10m	20m	Conductor resistance Ω/km
0.75 mm²	0.05	0.1	0.15	0.2	0.25	0.5	1.0	24.4
1.25 mm²	0.03	0.06	0.09	0.12	0.15	0.3	0.6	14.7
2.0 mm²	0.02	0.04	0.06	0.08	0.1	0.2	0.4	9.50
3.5 mm²	0.01	0.02	0.03	0.04	0.05	0.1	0.2	5.09
5.5 mm²	0.0066	0.0132	0.0198	0.0264	0.033	0.066	0.132	3.27

Notes) 1. Resistance values shown in the table above indicate resistance value when wiring both ways is carried out along the length shown.
2. When the length exceeds 20 m, calculate from the conductor resistance value column.

Example: for 2.0 mm² 36m $2 \times 9.50\ [\Omega/\text{km}] \times \frac{36}{1000}\ [\text{km}] \fallingdotseq 0.68\ \Omega$

DC voltmeter (permanent magnet moving coil type)

Ef SERIES

Type name: DEf-100TE
DEf-100YE

*T: Vertical Mount / Y: Horizontal Mount

Power supply specifications

	AC 100V	AC 200V	DC 24V	DC 100V
DEf-100□E	Yes	Yes	No	Yes

E: Electro-luminescence

Specifications

Upper measurement range limit	DEf-100TE / DEf-100YE		Remarks
	Consumption current	Series resistor	
1 V 1.5 V 3 V 5 V 7.5 V 10 V 15 V 30 V 50 V 75 V 100 V 150 V 300 V	1mA	Internal	
500 V (600V) *		M-1	Series connection type series resistor
750 V 1000 V 1500 V 2000 V 3000 V 4000 V 5000 V 7500 V		M-2B M-3 M-4A M-6	Voltage division type Series resistor
Mass of meter	Approximately 0.2 kg		

* For the meter greater than 600 V and less than 750 V, the M-2A type series resistor is attached externally. (series connection, consumption current 1 mA)
No JIS Mark will be affixed.

Receiving indicator Meter input	DEf-100TE / DEf-100YE		Remarks
	Consumption current	Series resistor	
1~5 V	1mA	Unnecessary	

Summary

Connecting series resistor

1. To use the DEf-100 type 500 V (600 V) meter, connect the series resistor in the table above to **the positive side of the meter**. (For outside dimensions of the series resistor, refer to other brochure.)
2. To use the meter of 750 V or more, connect the voltage division type series resistor in the table above **as shown to the right**.

Note) Use the M-6 type series resistor by **grounding the terminal G**.

Sensitivity of meter

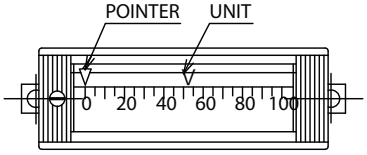
Sensitivity of DC voltmeter is baced on 1 mA (1 kΩ/V) as a standard high sensitivity meters can also be manufactured.

Remarks

Meters with needle swinging right or left (upper or lower side) of center and double scale meters can also be manufactured.

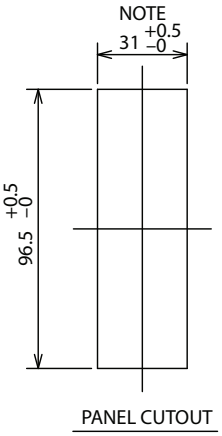
Outline

DEf-100TE
DEf-100YE



HORIZONTAL-TYPE
□Ef-100YE

SHOWN SCALE IS AN EXAMPLE.



PANEL CUTOUT

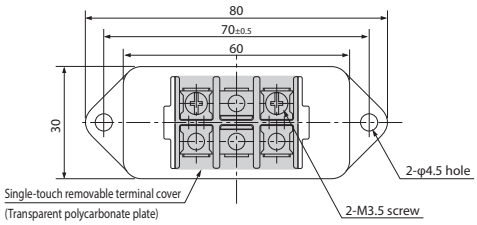
INSTALLATION METHODS OF THE INSTRUMENTS

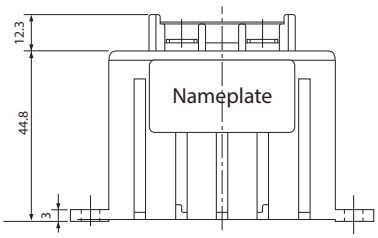
1. REMOVE INSTALLATION METAL FITTINGS FROM THE METER BASE. (TWO PLACES OF UPPER AND LOWER SIDES)
2. AFTER THE PANEL CUTTING,SET THE METER IN THE HOLE.
3. FIX THE FISH-PLATES TO THE METER BASE BY TIGHTENING THE M4 INSTALL SCREWS.
4. MOUNT THE METER ON THE FACE OF THE PANEL BY TURNING THE M4 PUSH SCREWS.
5. MAKE THE PREVENTIVE TREATMENT OF SCREW LOOSENESS BY M4 NUTS.

■ Accessories

Accessories

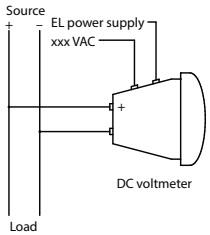
M-2A type series resistor (for indicator with VR)
Weight: approximately 70 g



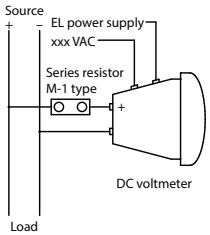


Connection diagram

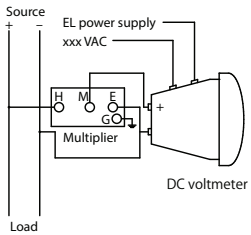
Internal series resistor



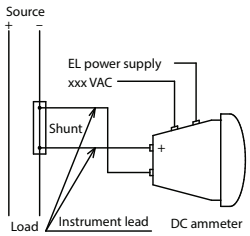
External series connection
type series resistor
(500 V and 600 V meters)

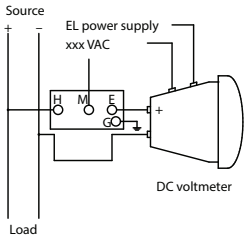


External voltage division
type series resistor
(Meter of 750 V or more)



External shunt





AC ammeter (rectifier type)

Ef SERIES

Type name: SEf-100TE
SEf-100YE

*T: Vertical Mount / Y: Horizontal Mount

Power supply specifications

	AC 100V	AC 200V	DC 24V	DC 100V
SEf-100□E	Yes	Yes	No	Yes

E: Electro-luminescence

Specifications

Upper measurement range limit	SEf–100		Remarks
	Consumption VA	Accessories	
200 μA 300 μA 500 μA 1 mA 3 mA 5 mA 10 mA 20 mA 50 mA 75 mA		Unnecessary	Direct measurement
100 mA ~ 100 A	0.16 VA ~ 2 VA	C-3 type "Upper measurement range limit/10 mA" Current converter	Use the meter in combination with the current converter at left (The circuit voltage of 460 V or less)
Current exceeds 100 A	0.26 VA (0.17 VA)	C-3 type "5 A(1 A)/10 mA" Current converter	Use the meter in combination with the current converter at left and CT
Weight	Approximately 0.2 kg		

Summary

Using CT

1. When the current exceeds 100 A, use the **5 A (1 A)/10 mA meter in combination with CT**.
2. When the circuit voltage exceeds 460 V at 100 A or lower, use the **5 A (1 A)/10 mA meter in combination with CT** for insulation.

Note) The C-3 type current converter is a dedicated accessory for the meter. Intrinsic error of the meter in combination with the C-3 type current converter is ±2.5%.

Frequency

When the current other than commercial frequency is measured, **specify frequency**. (No JIS Mark will be affixed.)
(Up to 30 Hz - 10 kHz can be manufactured.)

Meters with extension scale

For measuring a circuit through which the starting current of motor, etc. runs, meters with scale extended 2, 3 or 5 times can also be manufactured.

Scale calibration

Performed on a sine wave.

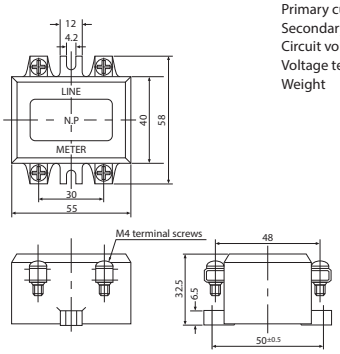
Accessories

C-3 type current converter

1) Less than 15 A

Specifications

Rated burden	0.1 VA
Primary current	Various types of less than 15 A
Secondary current	10 mA
Circuit voltage	460 V
Voltage test	AC2000 V
Weight	Approximately 0.2 kg



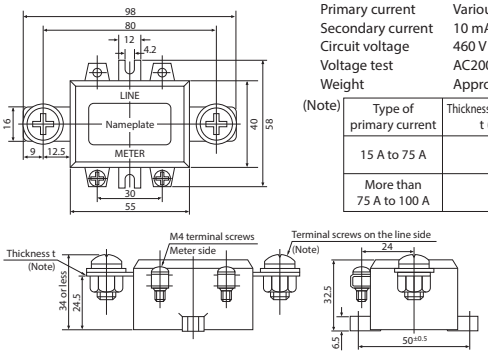
2) 15 A to 100 A

Specifications

Rated burden	0.1 VA
Primary current	Various types from 15 A to 100 A
Secondary current	10 mA
Circuit voltage	460 V
Voltage test	AC2000 V
Weight	Approximately 0.26 kg

(Note)

Type of primary current	Thickness of conductor t (mm)	Terminal screws on the line side
15 A to 75 A	1.5	M6×14
More than 75 A to 100 A	2	M8×16



AC voltmeter (rectifier type)

Ef SERIES

Type name: SEf-100TE
SEf-100YE

*T: Vertical Mount / Y: Horizontal Mount

Power supply specifications

	AC 100V	AC 200V	DC 24V	DC 100V
SEf-100□E	Yes	Yes	No	Yes

E: Electro-luminescence

Specifications

Upper measurement range limit	SEf–100		Remarks
	Consumption current	Series resistor	
3 V 5 V 7.5 V 10 V 15 V 30 V 50 V 75 V 100 V 150 V 300 V	AC1 mA	Internal	Direct measurement
500 V ~ 20 kV		Used in combination with VT	Use the 150 V meter in combination with VT
Weight	Approximately 0.2 kg		

Summary

Using VT

When the voltage exceeds 300 V, use the **150 V meter in combination with VT**.
Example of use Meter: scale markings 0 - 9000 V, input 0 - 150 V VT: 6600 V/110 V

Frequency

When the current other than commercial frequency is measured, **specify frequency**. (No JIS Mark will be affixed.)
(Up to 30 Hz - 10 kHz can be manufactured.)

Sensitivity of meter

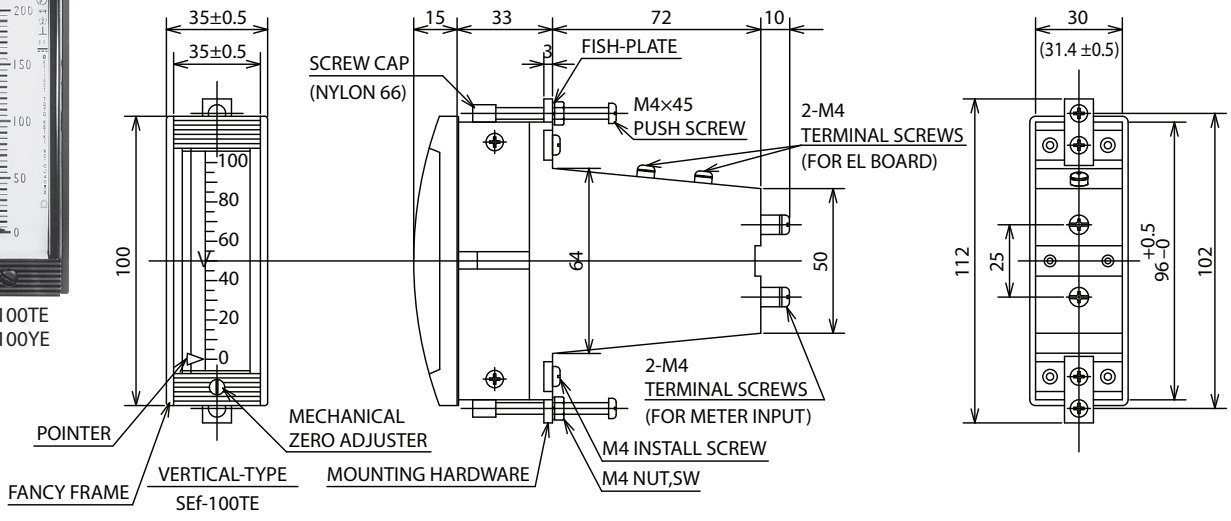
The sensitivity of the AC voltmeter is based on 1 mA (1 kΩ/V) as a standard. High sensitivity meters can also be manufactured.

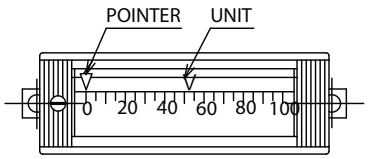
Scale calibration

Performed on a sine wave.

Outline

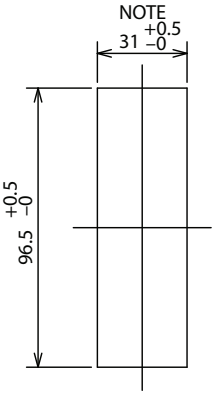
SEf-100TE
SEf-100YE





HORIZONTAL-TYPE
SEf-100YE

SHOWN SCALE IS AN EXAMPLE.



PANEL CUTOUT

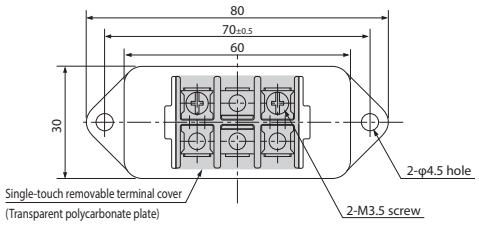
INSTALLATION METHODS OF THE INSTRUMENTS

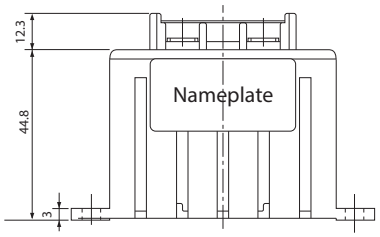
1. REMOVE INSTALLATION METAL FITTINGS FROM THE METER BASE. (TWO PLACES OF UPPER AND LOWER SIDES)
2. AFTER THE PANEL CUTTING,SET THE METER IN THE HOLE.
3. FIX THE FISH-PLATES TO THE METER BASE BY TIGHTENING THE M4 INSTALL SCREWS.
4. MOUNT THE METER ON THE FACE OF THE PANEL BY TURNING THE M4 PUSH SCREWS.
5. MAKE THE PREVENTIVE TREATMENT OF SCREW LOOSENESS BY M4 NUTS.

■ Accessories

Accessories

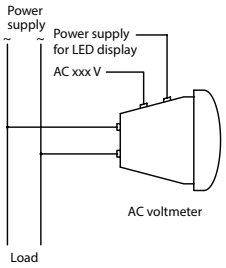
M-2A type series resistor (for indicator with VR)
Weight: approximately 70 g



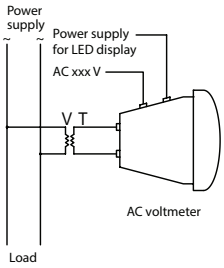


Connection diagram

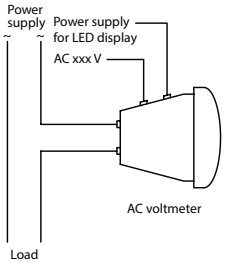
Direct measurement
(300 V or less)



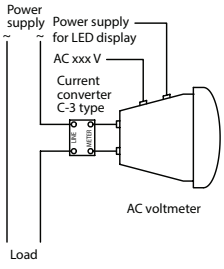
Combined with VT
(Voltage exceeds 300V)



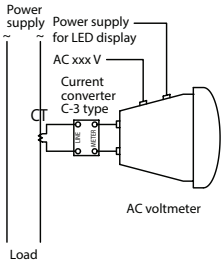
Direct measurement



Combined with
current converter



Combined with current
converter and CT



DC ammeter (permanent magnet moving coil type)

VF SERIES

Type name: DVF-8NLED
DVF-8E
DVF-11E
DVF-12E

Power supply specifications

	AC 100V	AC 200V	DC 24V	DC 100V
DVF-8NLED	No	No	Yes	Yes
DVF-8E	Yes	Yes	No	No
DVF-11E	Yes	Yes	No	No
DVF-12E	Yes	Yes	No	No

LED: LED E: Electro-luminescence

Specifications

Upper measurement range limit	DVF - 8E / DVF - 8NLED		DVF - 11E		DVF-12E	
	Internal resistance	Shunt	Internal resistance	Shunt	Internal resistance	Shunt
200 μA	1.9 kΩ	unnecessary	1.9 kΩ	unnecessary	6 kΩ	unnecessary
500 μA	1.1 kΩ		1.1 kΩ		4.7 kΩ	
1 mA	380 Ω		380 Ω		1 kΩ	
2 mA	125 Ω		125 Ω		500 Ω	
5 mA	21 Ω		21 Ω		200 Ω	
10 mA	8 Ω		8 Ω		30 Ω	
20 mA	3 Ω		3 Ω		5 Ω	
50 mA 100 mA 500 mA 1 A	Voltage drop : 100mV Sensitivity : Approximately 10 mA	Internal	Voltage drop ：100mV Sensitivity : Approximately 10mA	Internal	Voltage drop ：100mV Sensitivity : Approximately 11 mA	Internal
5 A 10 A 15 A 20 A 30 A	Voltage drop ：60mV Sensitivity : Approximately 10 mA	Shouldering				
40 A ～ 5 kA		External	Voltage drop ：60mV Sensitivity : Approximately 10 mA	External	Voltage drop ：60mV Sensitivity : Approximately 11 mA	External
Weight	Approximately 0.23 kg		Approximately 0.45 kg		Approximately 0.85 kg	

Receiving indicator Meter input	DVF - 8E / DVF - 8NLED		DVF - 11E		DVF - 12E	
	Internal resistance	Shunt	Internal resistance	Shunt	Internal resistance	Shunt
4～20mA	4Ω	unnecessary	50Ω	unnecessary	50Ω	unnecessary
10～50mA	3Ω		3Ω		20Ω	
Weight	Approximately 0.23 kg		Approximately 0.45 kg		Approximately 0.85 kg	

Note 1) Internal resistance tolerance: ±30% (at 23°C)

Summary

Connecting the shunt

1. Connect the shut to the line on the ground side.
2. For outside dimensions of the shunt, refer to other brochure.

Instrument lead

1. Instrument lead **does not come with the meter**.

instrument lead resistance

1. The meter with the shunt attached externally is normally adjusted with the instrument lead resistance set **at 0.05 Ω**. (LEAD 0.05 Ω is marked on the scale plate.) Therefore, use the instrument lead which is the equivalent of 0.05 Ω.
2. For instrument lead resistance other than 0.05 Ω, specify separately. When combined with a shunt rated at 60 mV, for instrument lead resistance, up to 1.0 Ω specification can be manufactured. When resistance value exceeds 1.0 Ω, combine with a high mV shunt.
3. When instrument lead resistance is not clearly determined, the meter equipped with a resistor for adjusting sensitivity (VR) can also be manufactured (VR = adjuster). The adjustable range will be up to 1.0 Ω for a 60 mV meter.
   Note: The letter "V" is appended to the normal type name of the indicator with VR. Example: DVF-11 V

Remarks Meters with needle swinging right or left of center (zero center) and double scale meters can also be manufactured. We also manufacture 50 mV and 100 mV meters with shunt attached externally.

References Table of Instrument Lead Resistance

[Unit: Ω (at 20°C)]

Wire diameter \ Length	1 m	2 m	3 m	4 m	5 m	10 m	20 m	Conductor resistance Ω/km
0.75 mm²	0.05	0.1	0.15	0.2	0.25	0.5	1.0	24.4
1.25 mm²	0.03	0.06	0.09	0.12	0.15	0.3	0.6	14.7
2.0 mm²	0.02	0.04	0.06	0.08	0.1	0.2	0.4	9.50
3.5 mm²	0.01	0.02	0.03	0.04	0.05	0.1	0.2	5.09
5.5 mm²	0.0066	0.0132	0.0198	0.0264	0.033	0.066	0.132	3.27

Notes) 1. Resistance values shown in the table above indicate resistance value when wiring both ways is carried out along the length shown.

2. When the length exceeds 20 m, calculate from the conductor resistance value column Example: For 2.0 mm² 36 m, $2 \times 9.50 \times \frac{36}{1000} \fallingdotseq 0.68\ \Omega$

DC voltmeter (permanent magnet moving coil type)

VF SERIES

Type name: DVF-8NLED
DVF-8E
DVF-11E
DVF-12E

Power supply specifications

	AC 100V	AC 200V	DC 24V	DC 100V
DVF-8NLED	No	No	Yes	Yes
DVF-8E	Yes	Yes	No	No
DVF-11E	Yes	Yes	No	Yes
DVF-12E	Yes	Yes	No	No

LED: LED E: Electro-luminescence

Specifications

Upper measurement range limit	DVF - 8E / DVF - 8NLED		DVF - 11E		DVF - 12E		Remarks
	Consumption current	Series resistor	Consumption current	Series resistor	Consumption current	Series resistor	
1 V 1.5 V 3 V 5 V 7.5 V 10 V 15 V 30 V 50 V 75 V 100 V 150 V 300 V 500 V (600V) *	1mA	Internal	1mA	Internal	1mA	Internal	
750 V		M-2B		M–2B		M–2B	Voltage division type Series resistor
1 kV 1.5 kV		M-3		M–3		M–3	
2 kV 3 kV		M-4A		M–4A		M–4A	
4 kV 5 kV 7.5 kV		M-6		M–6		M–6	
Weight	Approximately 0.23 kg		Approximately 0.45 kg		Approximately 0.85 kg		

* For the meter greater than 600 V and less than 750 V, the external "M-2A" type series resistor is connected. (series connection, consumption current 1 mA) For specifications exceeding 600 V. No JIS Mark will be affixed.

Meter input of receiving indicator	DVF - 8E / DVF - 8NLED		DVF - 11E		DVF - 12E		Remarks
	Consumption current	Series resistor	Consumption current	Series resistor	Consumption current	Series resistor	
1～5V	1mA	Internal	1mA	Internal	1mA	Internal	
Weight	Approximately 0.23 kg		Approximately 0.45 kg		Approximately 0.85 kg		

* Internal impedance of a series resistor becomes approximately 5 kΩ.

Summary

Connecting series resistor

1. Use the meter of 750 V or more by connecting a voltage division type series resistor in the table above as shown to the right.

Note) Use the "M–6" type series resistor by grounding the terminal "G".
(The terminal "G" is only provided in the M-6 type series resistor.
The terminal "G" is not provided in other series resistors due to resin-made box.)

2. For outside dimensions of series resistors, refer to other brochure.

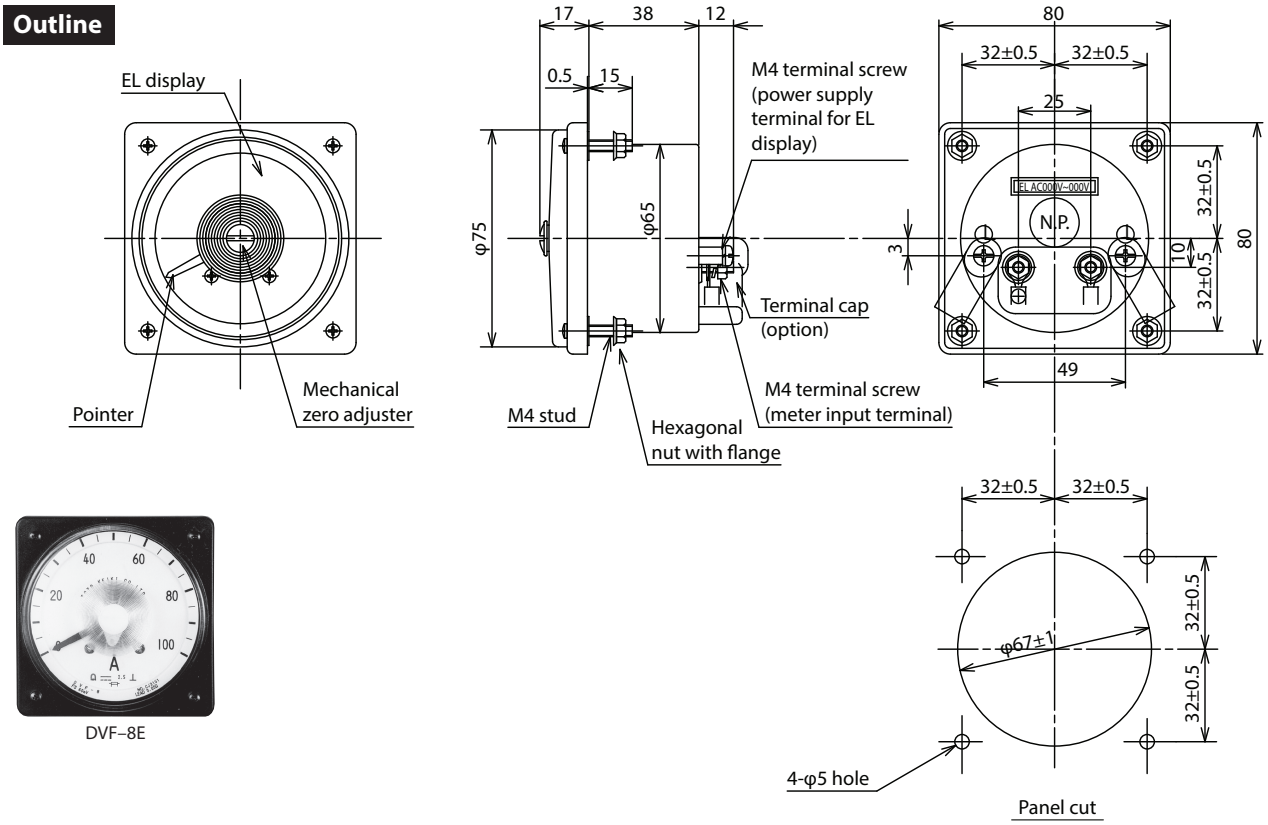
Sensitivity of meter

Sensitivity of DC voltmeter is baced on 1 mA (1 kΩ/V) as a standard high sensitivity meters can also be manufactured.

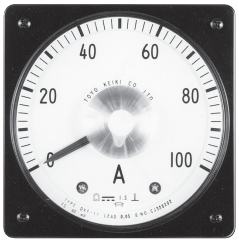
Remarks

Meters with needle swinging right or left of center (zero center) and double scale meters can also be manufactured.

Outline



DVF–8E



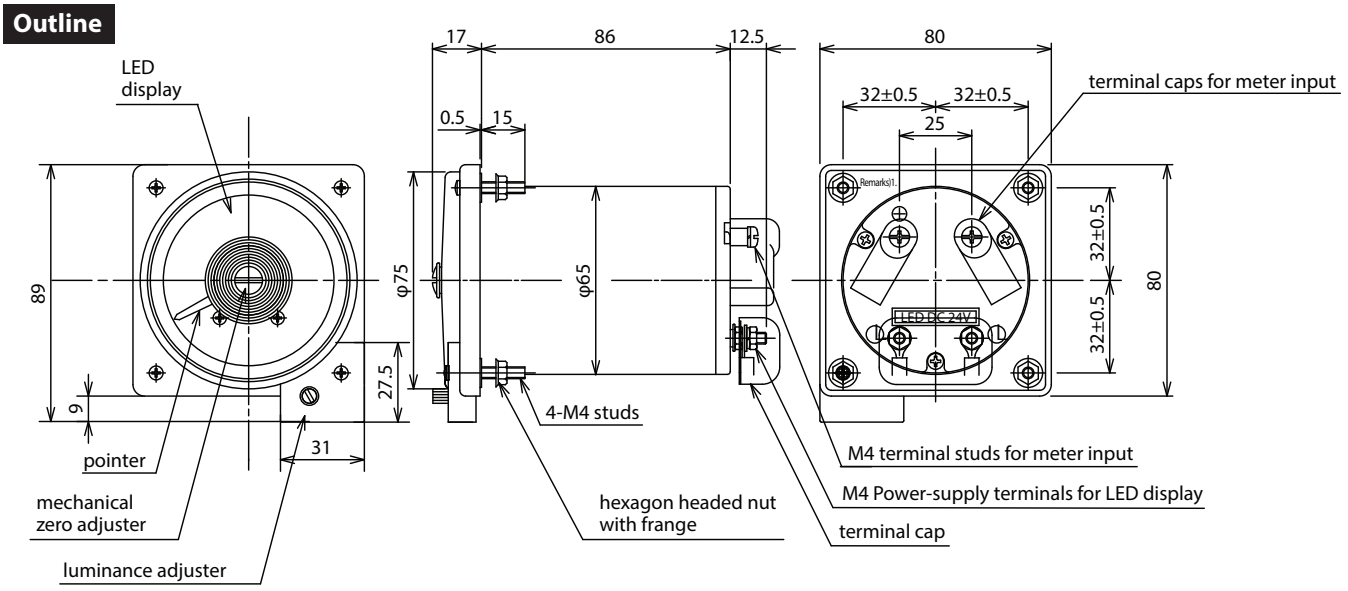
DVF-11E / DVF-12E

Item	Meter type name / Dimensions	A	B	C	D	E	F
1	□VF-11E	110	45	102	99	50	102
2	□VF-12E	120	50	110	109	50	112

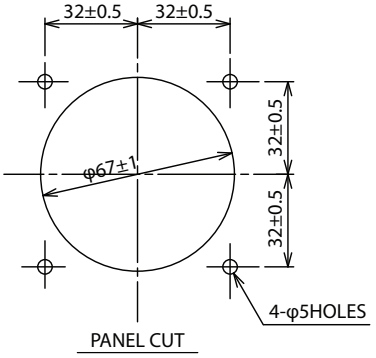
Item	Meter type name	Operating principles	i
1	DVF-11E,12E	Permanent magnet moving coil type	102

Note) 1. For power supply for EL display, apply voltage between L-L terminals.
2. For EL display color, specify green or orange.
3. The □VF-11EV and □VF-12EV types incorporate resistors for adjusting the sensitivity (VR) marked with an asterisk (*).

Outline

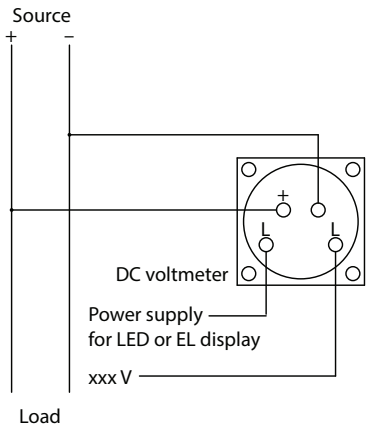


DVF–8NLED

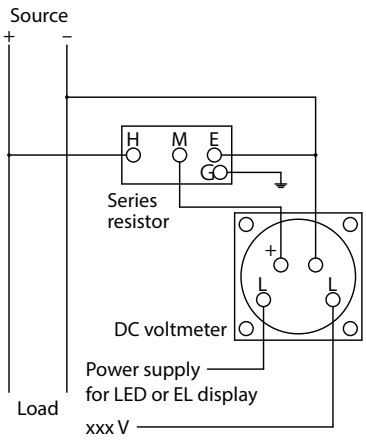


Connection diagram

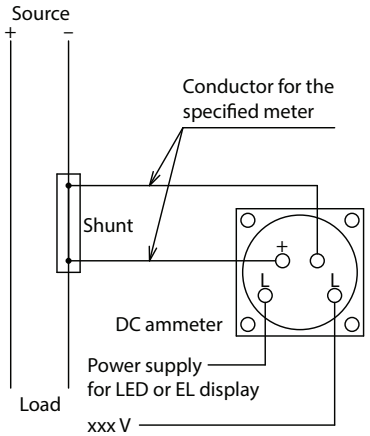
Internal series resistor (Meter of 600 V or less)



External voltage division type series resistor (Meter of 750 V or more)

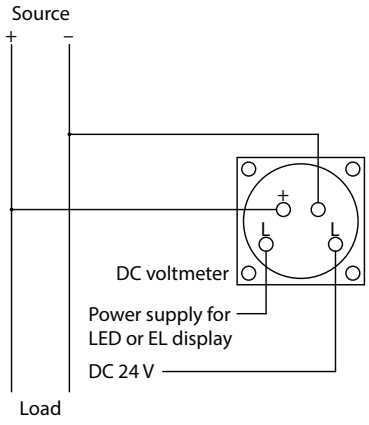


External shunt

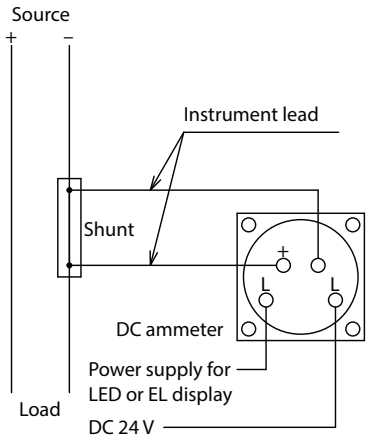


Connection diagram

Internal series resistor



With shunt



AC ammeter (rectifier type)

VF SERIES

Type name: SVF-8NLED
SVF-8NE
SVF-11E
SVF-12E

Power supply specifications

	AC 100V	AC 200V	DC 24V	DC 100V
SVF-8NLED	No	No	Yes	Yes
SVF-8NE	Yes	Yes	No	No
SVF-11E	Yes	Yes	No	Yes
SVF-12E	Yes	Yes	No	No

LED: LED E: Electro-luminescence

Specifications

Upper measurement range limit	SVF - 8NE / SVF - 8NLED		SVF - 11E		SVF - 12E		Remarks
	Consumption VA	Accessories	Consumption VA	Accessories	Consumption VA	Accessories	
300 μA 500 μA 1 mA 3 mA 5 mA 10 mA 20 mA 50 mA 75 mA		Unnecessary		Unnecessary		Unnecessary	
100 mA 300 mA 500 mA 1 A 3 A 5 A	0.2VA	Unnecessary	0.2VA	Unnecessary	0.2VA	Unnecessary	
7.5 A ≀ 10 kA							Use the 5A (1A) meter in combination with CT
Weight	Approximately 0.33 kg		Approximately 0.55 kg		Approximately 0.95 kg		

Summary

Using CT

1. When the current exceeds 5 A, use the **5 A (1 A) meter in combination with CT.**
2. When the circuit voltage exceeds 500 V at 5 A or lower, use the **5 A (1 A) meter in combination with CT** for insulation.

Frequency

When the current other than commercial frequency is measured, **specify frequency**.
(No JIS Mark will be affixed.) (Up to 30 Hz - 10 kHz can be manufactured.)

Meters with extension scale

For measuring a circuit through which the starting current of motor, etc. runs, meters with scale extended 2, 3 or 5 times can also be manufactured.

Waveform distortion

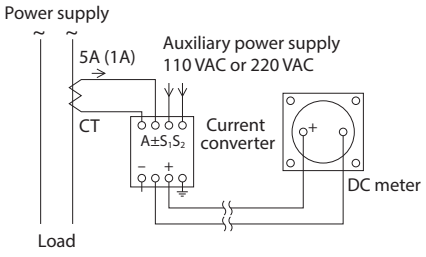
If waveform is distorted, use the **electronic device type** (SeVF type: effective value response, refer to other brochure) which is less vulnerable to waveform distortion.
Note) Scale calibration of a rectifier meter is performed on a sine wave.

Remarks Double scale meters can also be manufactured.

References

Remote measurement

For direct remote measurement, use the 1 A meter in combination with CT rated at 1A for the secondary side, so that line loss can be reduced. (When rated at 5 A, line loss becomes 1/25.)
To further reduce loss, use the DC meter in combination with the power current converter.
(For more information on power current converter, refer to power converter brochure.)



AC voltmeter (rectifier type)

VF SERIES

Type name: SVF-8NLED
SVF-8NE
SVF-11E
SVF-12E

Power supply specifications

	AC 100V	AC 200V	DC 24V	DC 100V
SVF-8NLED	No	No	Yes	Yes
SVF-8NE	Yes	Yes	No	No
SVF-11E	Yes	Yes	No	Yes
SVF-12E	Yes	Yes	No	No

LED: LED E: Electro-luminescence

Specifications

Upper measurement range limit	SVF - 8E / SVF - 8NLED		SVF - 11E		SVF - 12E		Remarks
	Consumption current	Accessories	Consumption current	Accessories	Consumption current	Accessories	
3 V 5 V 7.5 V 10 V 15 V 30 V 50 V 75 V 100 V 150 V 300 V 500 V (600V)	AC1mA	Internal	AC1mA	Internal	AC1mA	Internal	
600 V ɾ 20 kV		Used in combination with VT		Used in combination with VT		Used in combination with VT	Use the 150 V meter in combination with VT
Weight	Approximately 0.25 kg		Approximately 0.45 kg		Approximately 0.85 kg		

Summary

Using VT When the voltage exceeds 500 V, use the **150 V meter in combination with VT**.
Example of use Meter: scale markings 0 - 9000 V, input 0 - 150 V VT: 6600 V/110 V

Frequency When the voltage other than commercial frequency is measured, **specify frequency**.
(Up to 30 Hz - 10 kHz can be manufactured, No JIS Mark will be affixed.)

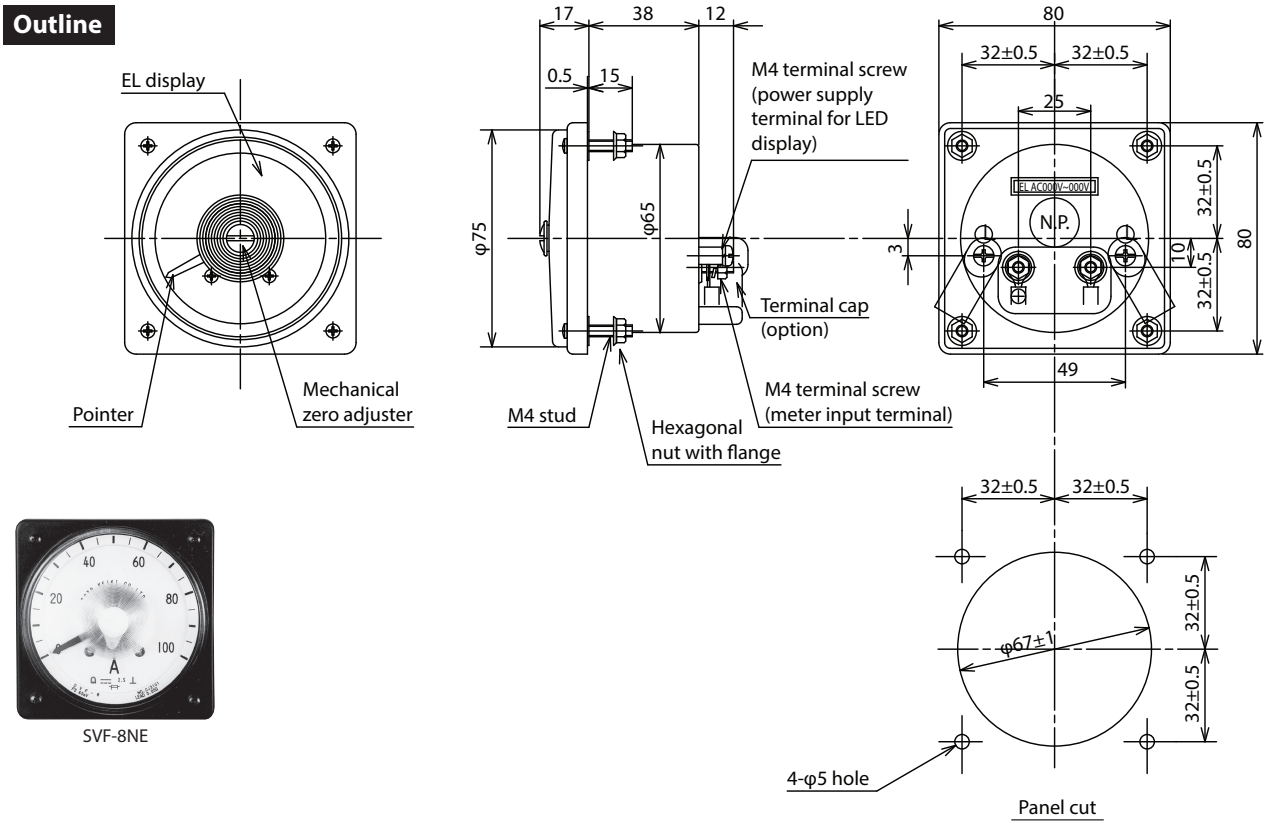
Sensitivity of meter Sensitivity of AC voltmeter is based on 1 mA (1 kΩ/V) as a standard. High sensitivity meters can also be manufactured.

Waveform distortion If waveform is distorted, use the **electronic device type** (SeVF type: effective value response, refer to other brochure) which is less vulnerable to waveform distortion.
Note) Scale calibration of a rectifier meter is performed on a sine wave.

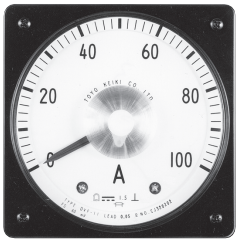
Remarks

Double scale meters can also be manufactured.

Outline



SVF-8NE



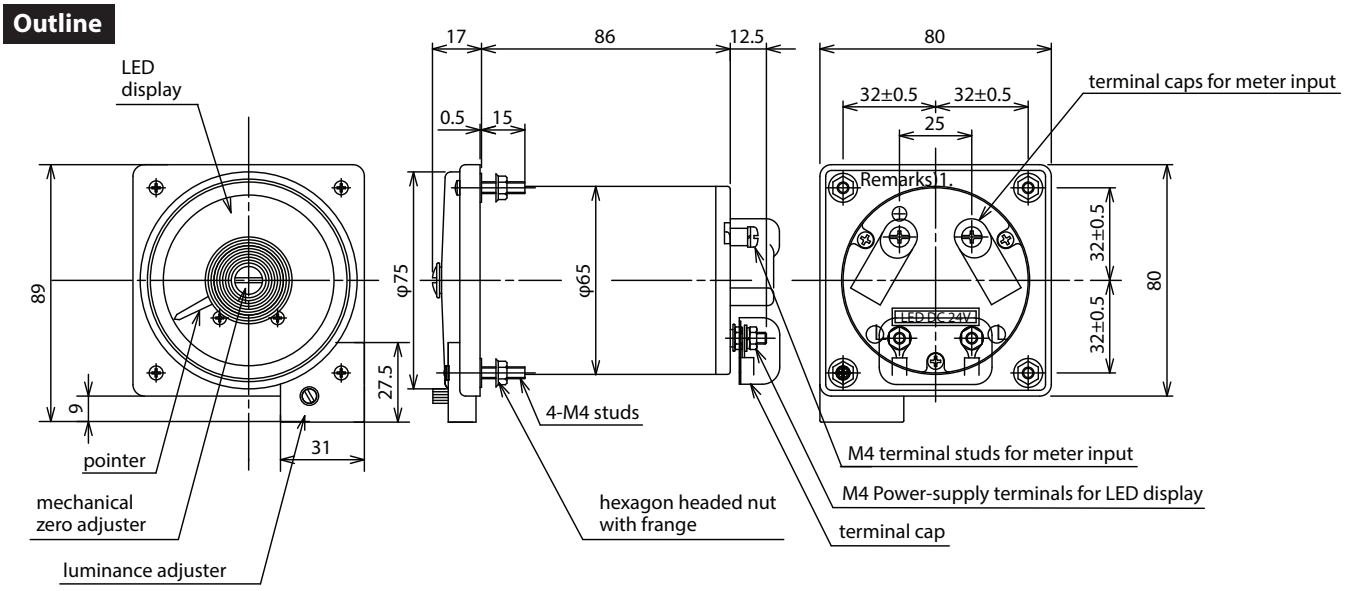
SVF-11E / SVF-12E

Item	Meter type name / Dimensions	A	B	C	D	E	F
1	□VF-11E	110	45	102	99	50	102
2	□VF-12E	120	50	110	109	50	112

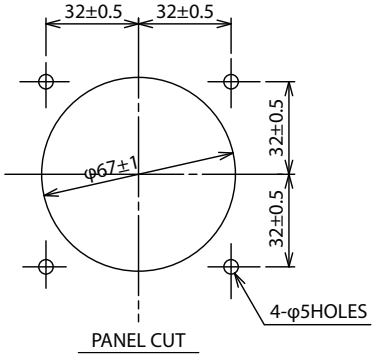
Item	Meter type name	Operating principles	i
2	SVF-11E,12E	Rectifier type	102

Note) 1. For power supply for EL display, apply voltage between L-L terminals.
2. For EL display color, specify green or orange.
3. The □VF-11EV and □VF-12EV types incorporate resistors for adjusting the sensitivity marked with an asterisk (*).

Outline

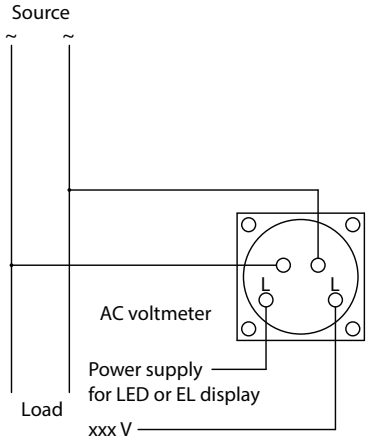


SVF-8NLED

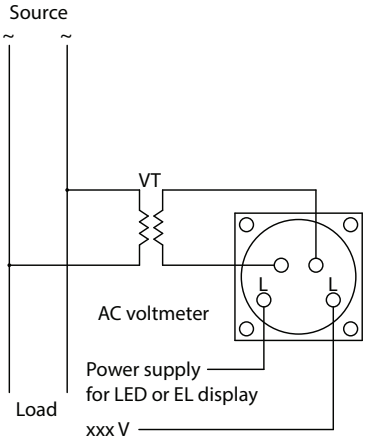


Connection diagram

Direct measurement
(500 V or less)



Combined with VT
(Greater than 500 V)



Combinded with CT
(Greater than 5 A)