

AC Power Regulators

Single-phase APR- α series

Single-phase AC power regulators, APR- α series

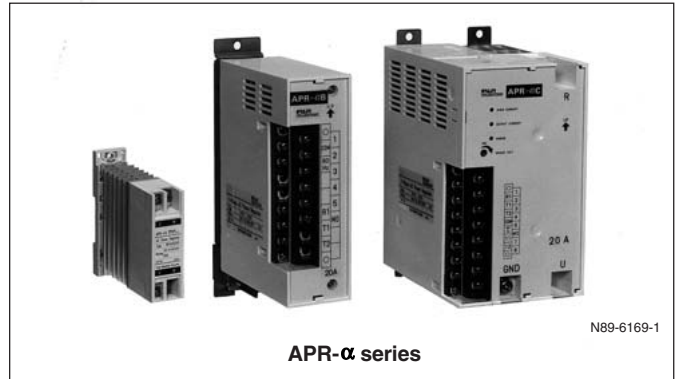
■ Description

The APR- α series is a compact, light-weight single-phase AC power regulator.

They have a wide variety of applications in such as resistive load, inductive load and transformer primary circuits.

■ Features

- Compact and light-weight product required only a small panel mounting space.
- Variety of models with output current ratings from 10 to 200A are available. Select optimum models for your applications.
- Fan error protection features are provided for 150 and 200A models.
- Overcurrent protection and low input voltage protection features are provided for the APR- α C series.



- The APR- α C series has LED indicators for overcurrent and fan error alarms and for load current and control power indications.

■ Types and ratings

Series	Input voltage	Output current	Type
APR- α A series	100V/200V common	10A	RPAE2010
		20A 30A 60A	RPAE2020 RPAE2030 RPAE2060
APR- α B series	100V/200V common	20A	RPBE2020 -□
		40A 60A 100A	RPBE2040 -□ RPBE2060 -□ RPBE2100 -□
APR- α C series	100V/200V common	20A	RPCE2020 -□
		40A 60A 100A	RPCE2040 -□ RPCE2060 -□ RPCE2100 -□
APR- α C series	200V	150A	RPBE2150 -□
		200A	RPBE2200 -□
APR- α C series	200V	150A	RPCE2150 -□
		200A	RPCE2200 -□

Note: Replace the □ mark by the parameter setting code shown in the Table.

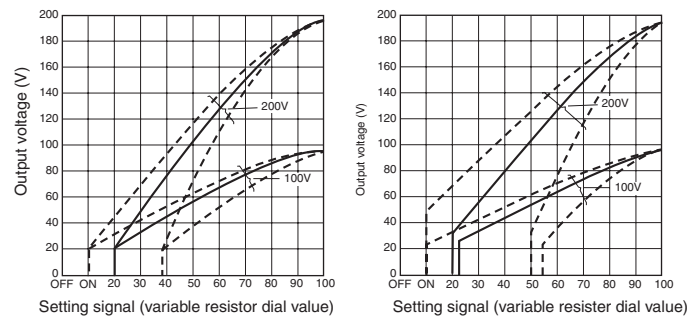
• Parameter setting type code For APR- α B and α C series

Code	Parameter setting type
N	Current signal: 4 to 20mA DC Voltage signal: 1 to 5V DC
A	Variable resistor
B	Two-point control
C	Code N + gradient setting
E	Code A or C switchable
F	Code A or N switchable
Z	Non-standard current and voltage signals (custom spec.)

■ Voltage output characteristics for resistive load (typical)

α A series

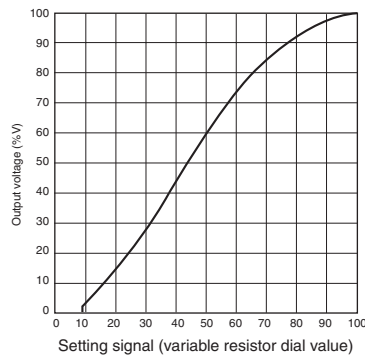
- RPAE2010, RPAE2020, RPAE2030
- RPBE2060



Note: • Output characteristics are variable at input voltage and input frequency.
• Solid line shown typical example.
• Dotted line shown variable area.

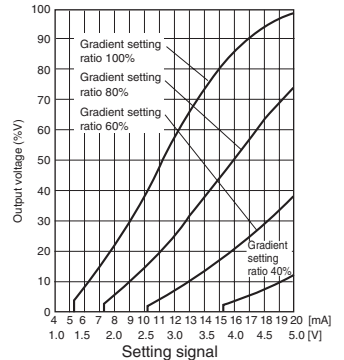
α B series

- Variable resistor setting



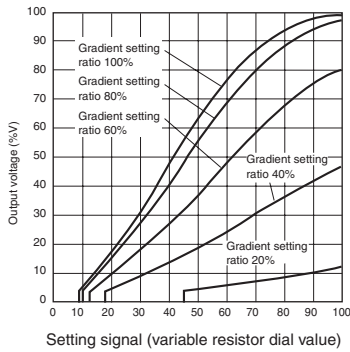
- Current signal setting

- Voltage signal setting

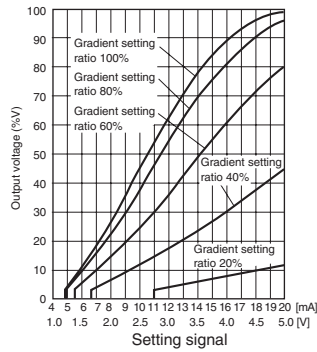


α C series

- Variable resistor setting



- Current signal setting
- Voltage signal setting



■ Specifications

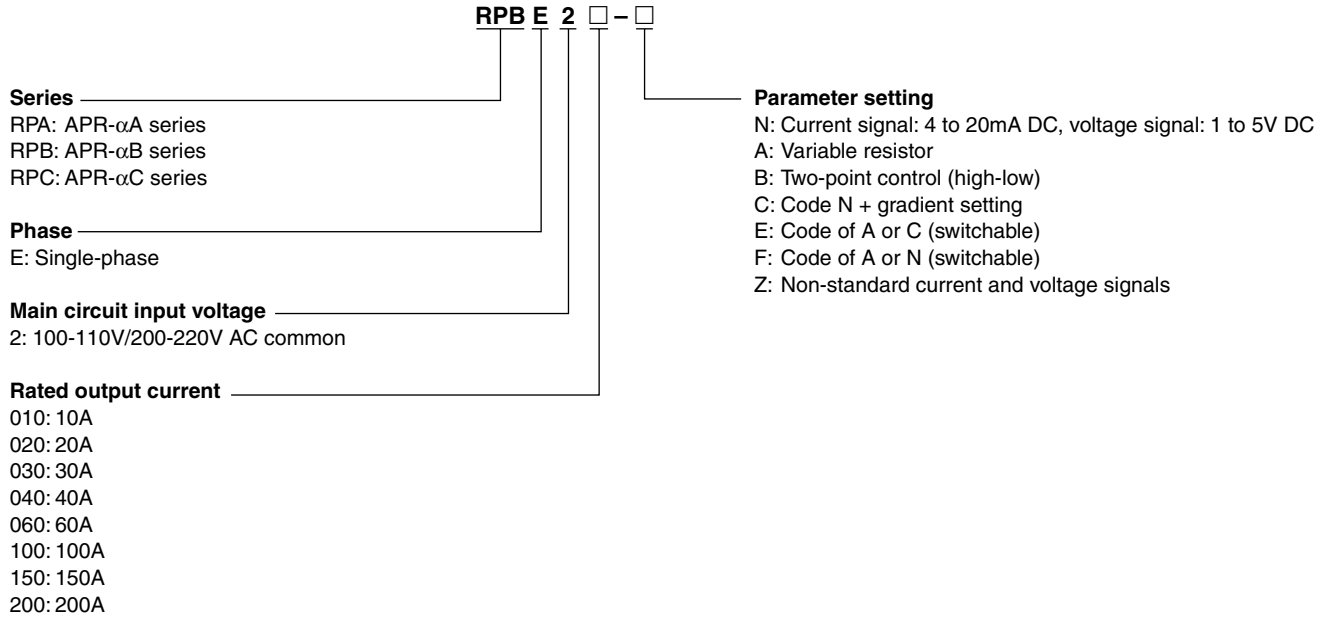
Series	α A series		α B series	α C series
Type	RPAE2 □		RPBE2 □-□	RPCE2 □-□
Applicable load	Resistive load		Resistive load	Resistive load, inductive load, transformer primary circuit, rectifier primary circuit
Rated output current	10A, 20A, 30A	60A	20A, 40A, 60A, 100A, 150A, 200A	
Minimum load current	0.8A (at 100V) 0.3A (at 200V)	0.3A	0.5A (at 98% output)	
Input voltage and frequency	100 to 110V AC, 200 to 220V AC \pm 10% 50/60Hz \pm 1Hz		Up to 100A: 100 to 110V AC/200 to 220V AC \pm 10%, 50/60Hz \pm 1Hz 150, 200A: 200 to 220V AC \pm 10%, 50/60Hz \pm 1Hz	
Minimum input voltage	-		10V AC	
Cooling	Self-cooled		Up to 100A: Self-cooled 150, 200A: Fan-cooled	
Wave control	Phase control			
Output voltage adjustment range	20 to 96% (100V) 10 to 98% (200V)	25 to 96% (100V) 25 to 98% (200V)	0 to 98% of input voltage	
Gradient setting range	-		0 to 100% of setting signal	
Output voltage setting	Variable resistor		Variable resistor	Current signal: 4 to 20mA DC (Z_{in} =250 Ω) Voltage signal: 1 to 5V DC
Time to soft-startup, soft-increase/decrease	-		1 second	
Protection	Short-circuit	Detected by super rapid fuse (externally mounted)		
	Overcurrent	-	-	Gate-off by built-in CT
	Fan-trouble	-	Gate-off by built-in sensor	
	Input voltage drop (control circuit)	-	-	Gate-off at voltage less than 15% of input voltage Reset at 15% or more of input voltage
Indication	Overcurrent/fan trouble	-	Red LED lights up	
	Load current	-	Yellow LED lights up	
	Control supply	-	Green LED lights up	
Ambient temperature	-15 to +55°C*		-10 to +55°C*	
Ambient humidity	30 to 90% RH (no condensation)			
Environment	Free from corrosive gases, dust and vibration			
Withstand voltage	2000V AC 1 minute between input and ground terminals (Variable resistor: 1000V AC 1 minute)			
Insulation resistance	20M Ω or more between input and ground terminals (500V DC megger)			

Note: * Output current should be derated when use above 40°C

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■ Type number nomenclature



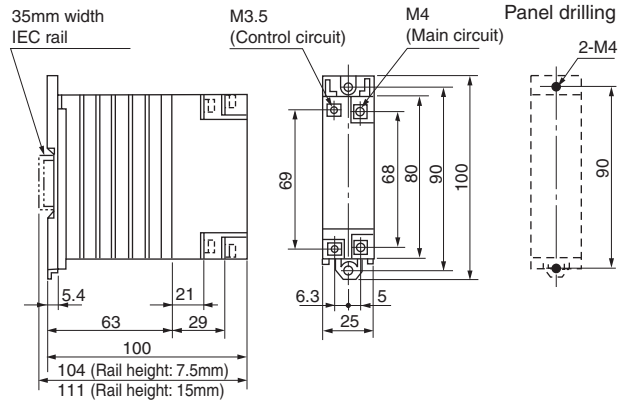
■ Ordering information

Specify the following:

1. Type number
2. Special specification

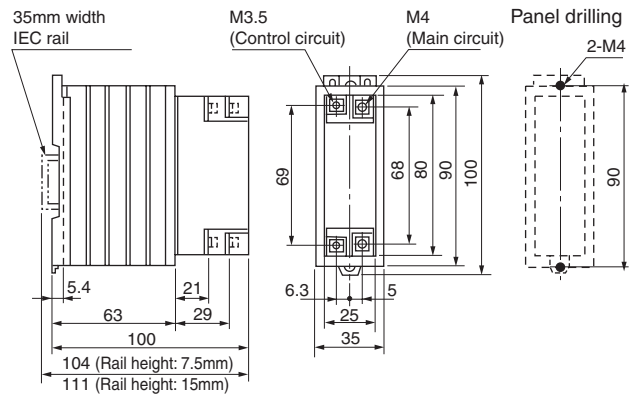
■ Dimensions, mm
● APR- α A series

RPAE2010



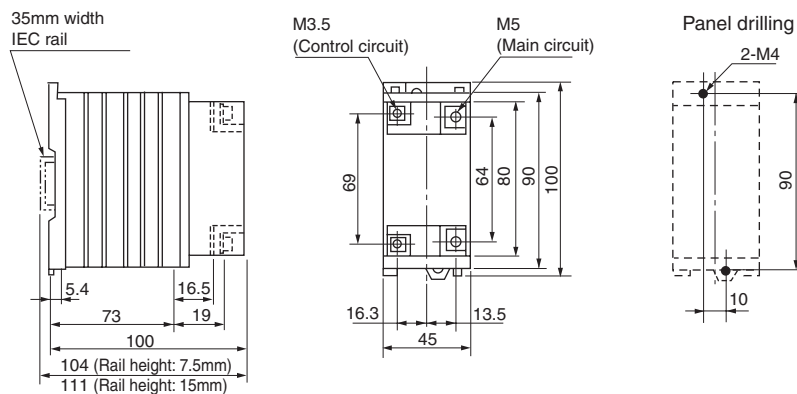
Mass : 200g

RPAE2020



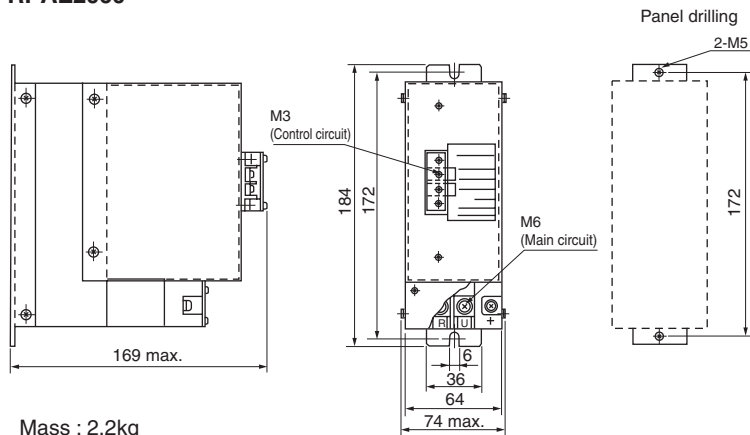
Mass : 230g

RPAE2030



Mass : 330g

RPAE2060



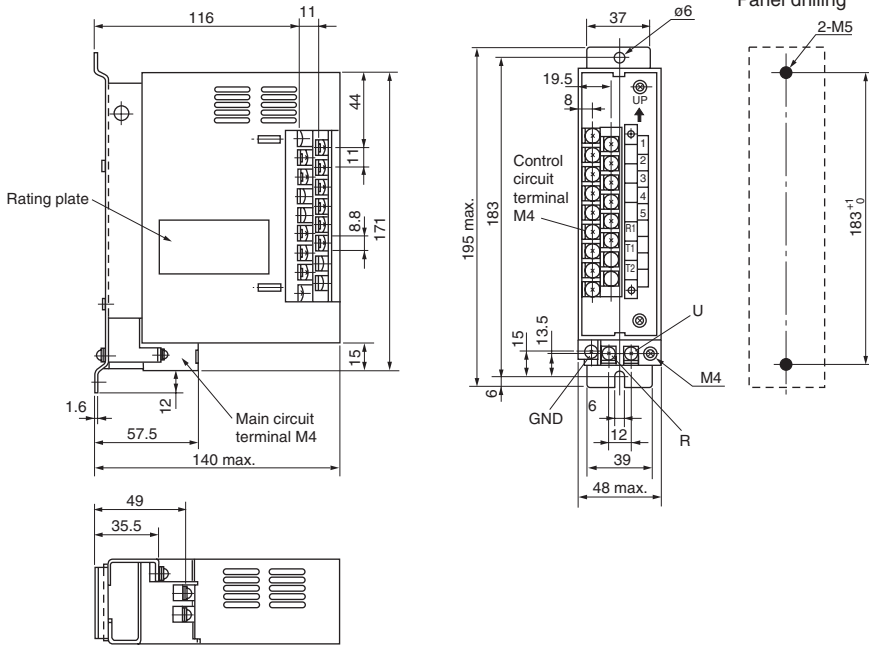
Mass : 2.2kg

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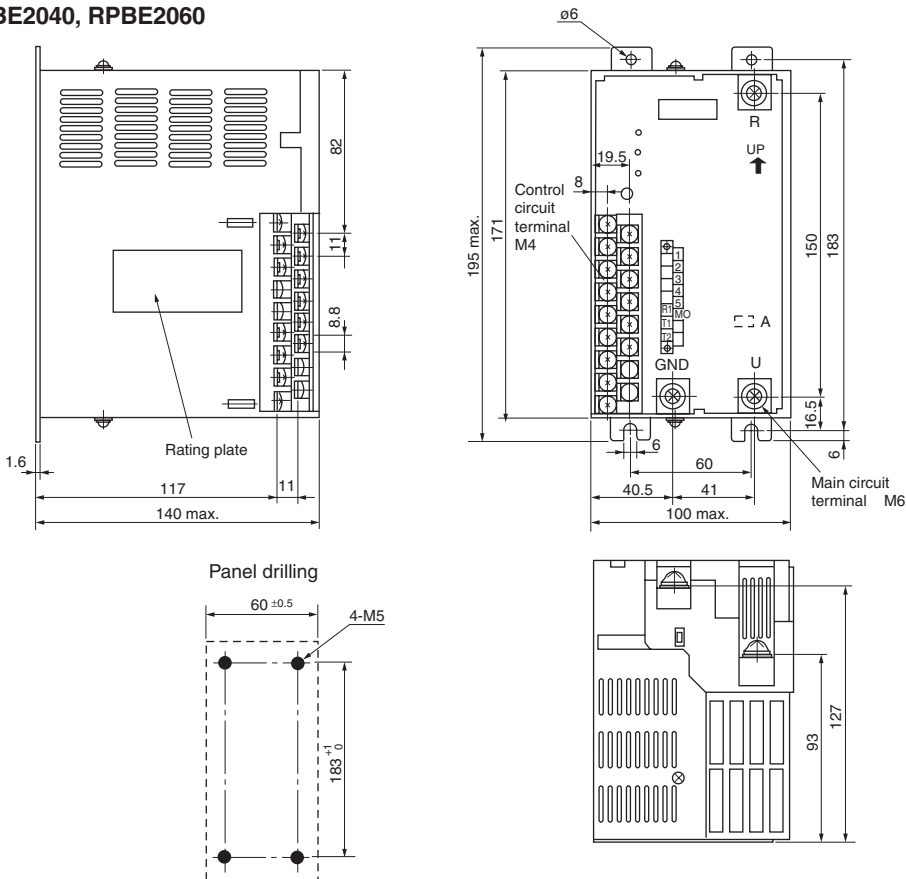
- Dimensions, mm
- APR- α B series

RPBE2020



Mass : 1.1kg

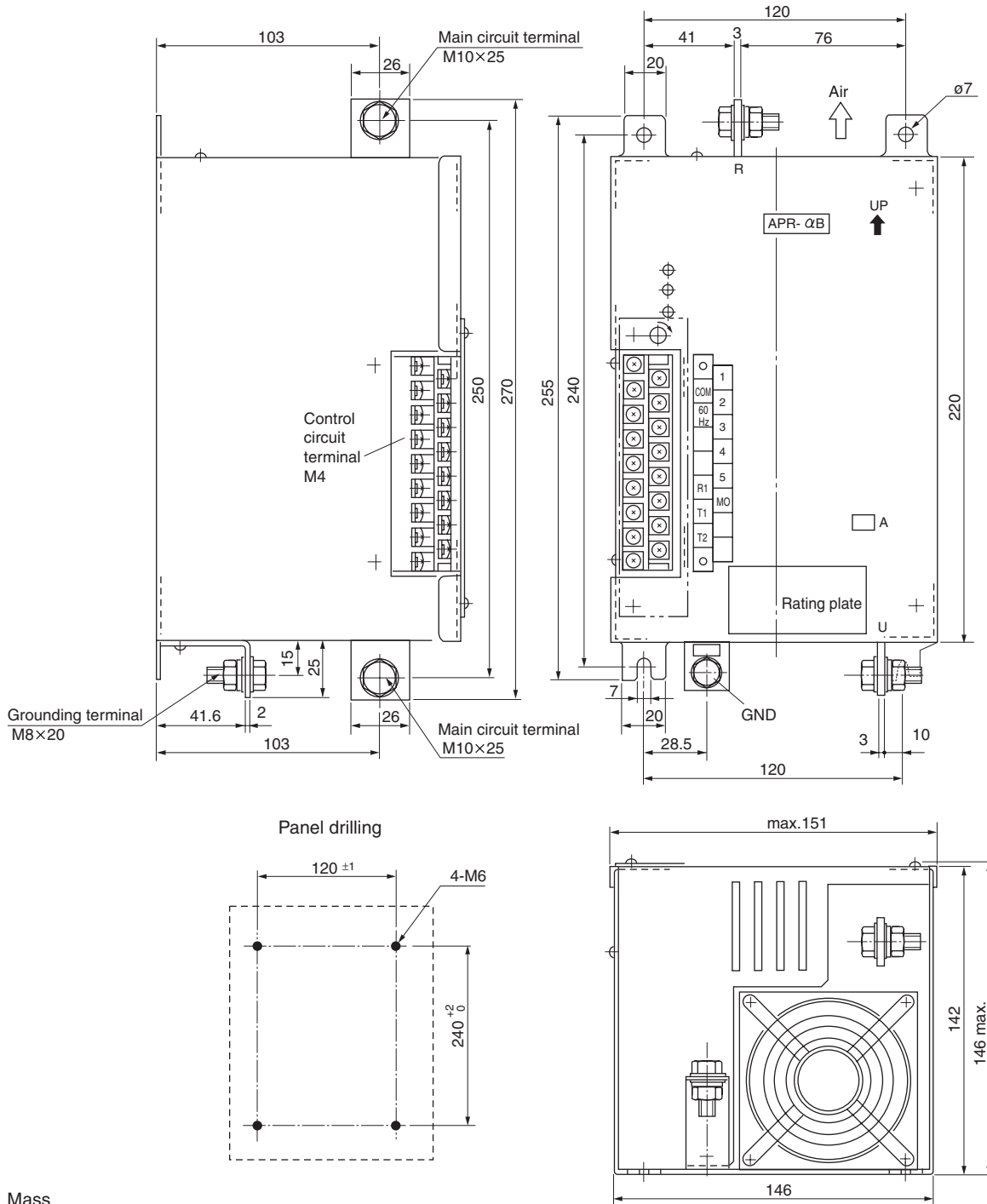
RPBE2040, RPBE2060



Mass : 1.8kg

- Dimensions, mm
- APR- α B series

RPBE2100, RPBE2150, RPBE2200



Mass
 100A : 4.1 kg
 150A, 200A : 4.5 kg

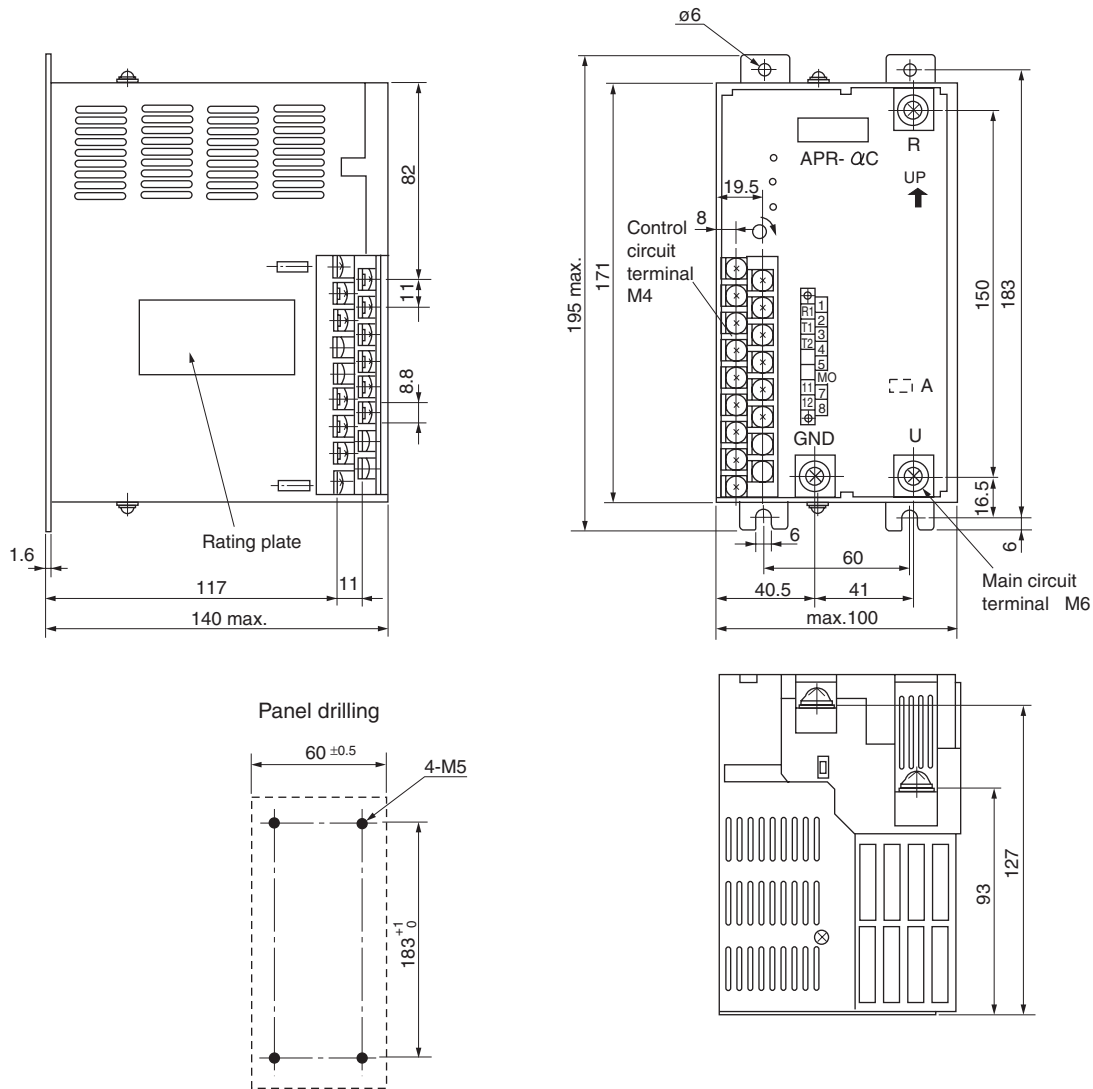
Notes: No fan is provided with 100A types.

AC Power Regulators

Single-phase APR- α series

- Dimensions, mm
- APR- α C series

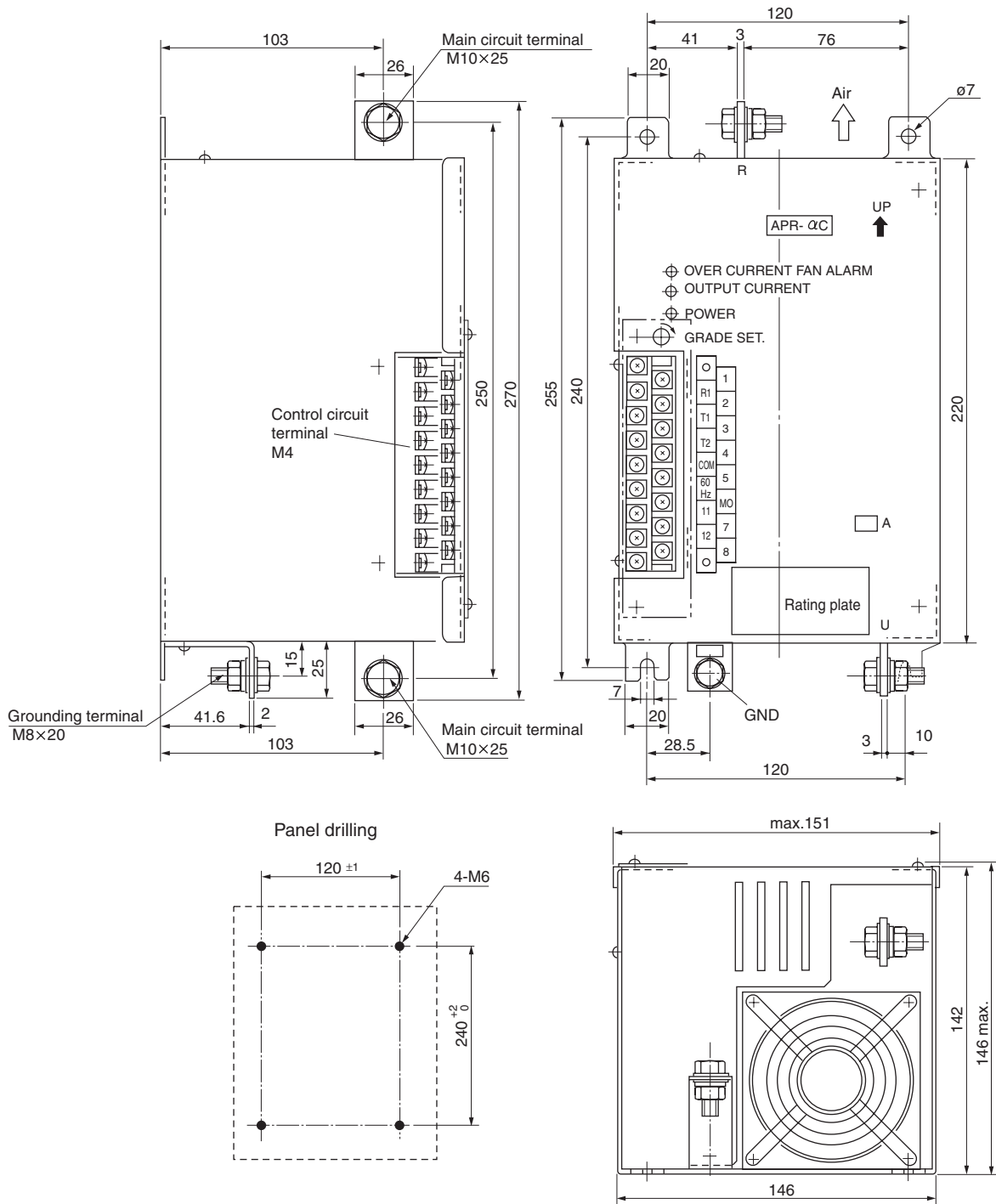
RPCE2020, RPCE2040, RPCE2060



Mass : 2.2kg

- Dimensions, mm
- APR- α C series

RPCE2100, RPCE2150, RPCE2200



Mass:
100A : 4.5 kg
150A, 200A : 4.9 kg

Note: No fan is provided with 100A types.