COSEL AC-DC Power Supplies Enclosed type

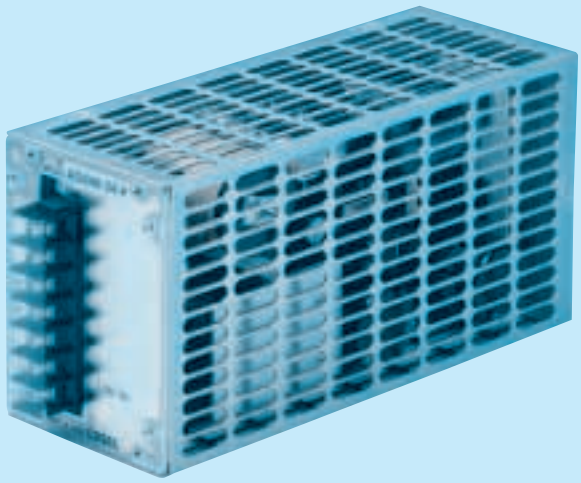
AD240

Ordering information

AD ① 240 ② -24 ③ -□ ④

RoHS

AD



①Series name
②Output wattage
③Output voltage
④Optional
C :with Coating
G :Low leakage current
P :Parallel operation
R :with Remote ON/OFF

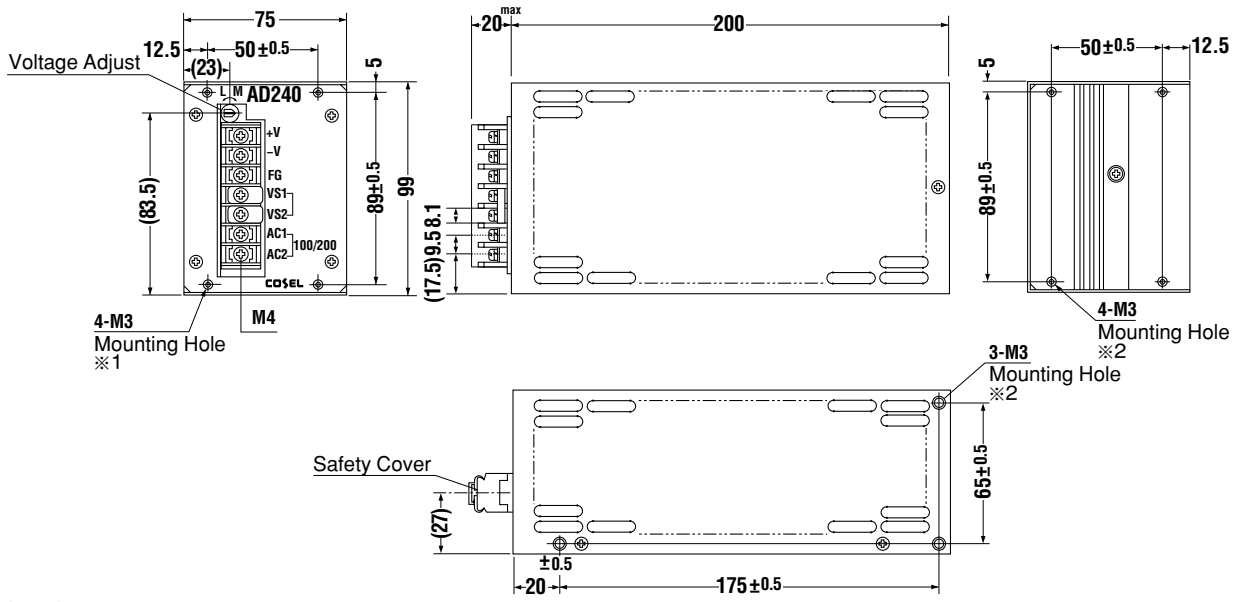
MODEL	AD240-24	AD240-30
MAX OUTPUT WATTAGE[W]	240	240
DC OUTPUT	24V 10A	30V 8A

SPECIFICATIONS

	MODEL		AD240-24	AD240-30
INPUT	VOLTAGE[V]		AC85 - 132 / 170 - 264 1φ (User-selectable)	
	FREQUENCY[Hz]		47 - 440	
	EFFICIENCY[%]		85typ	85typ
	INRUSH CURRENT[A]	ACIN 100V	15max (Io=100%)	
		ACIN 200V	30max (Io=100%)	
	LEAKAGE CURRENT[mA]		1.0max (60Hz, According to DEN-AN)	
OUTPUT	VOLTAGE[V]		24	30
	CURRENT[A]		10	8
	LINE REGULATION[mV]		300max	260max
	LOAD REGULATION[mV]		300max	420max
	RIPPLE[mVp-p]	0 to +45℃ ※1	240max	240max
	RIPPLE NOISE[mVp-p]	0 to +45℃ ※1	480max	480max
	TEMPERATURE REGULATION[mV]	0 to +45℃	500max	600max
	DRIFT[mV]	※2	500max	120max
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		21.6 - 26.4	28.5 - 33.0
	START-UP TIME[ms]		500max (ACIN 100/200V, Io=100%)	
	HOLD-UP TIME[ms]		15typ (ACIN 100/200V, Io=100%)	
PROTECTION CIRCUIT	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically	
ISOLATION	INPUT-OUTPUT		AC1,500V 1minute, Cutoff current = 10mA, DC500V 100MΩ min (At Room Temperature)	
	INPUT-FG		AC1,500V 1minute, Cutoff current = 10mA, DC500V 100MΩ min (At Room Temperature)	
	OUTPUT-FG		AC500V 1minute, Cutoff current = 50mA, DC500V 100MΩ min (At Room Temperature)	
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		0 to +60℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max	
	STORAGE TEMP.,HUMID.AND ALTITUDE		-25 to +80℃, 10 - 95%RH (Non condensing), 9,000m (30,000feet) max	
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 30minutes each along X, Y and Z axis	
	IMPACT		98.0m/s² (10G), 20ms, once each X, Y and Z axis	
OTHERS	CASE SIZE/WEIGHT		75×99×220mm (W×H×D) /1.8kg max	
	COOLING METHOD		Convection	

※1 Measured by 15MHz oscilloscope.
※2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.

External view

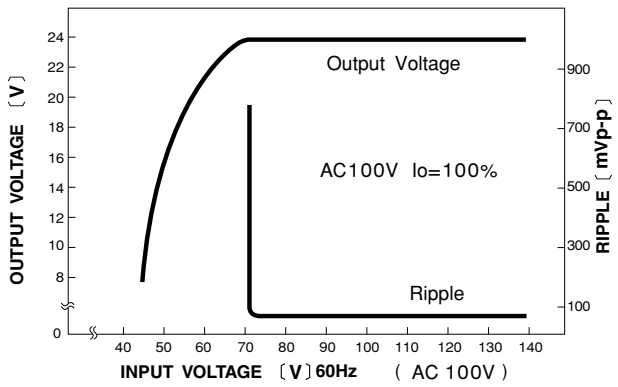


※Mounting torque
※1: 0.6N•m (6.3kgf•cm) max
※2: 0.4N•m (5.0kgf•cm) max

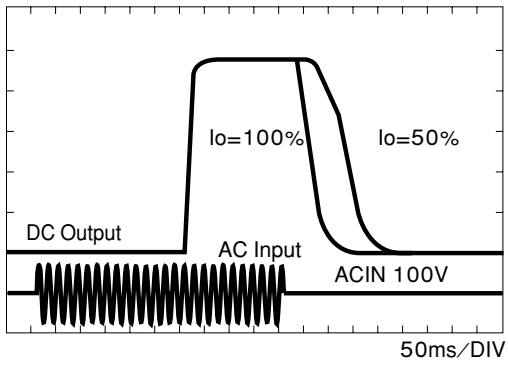
※Weight : 1.8kg or less
※Tolerance : ±1 ※Dimensions in mm.

Performance data

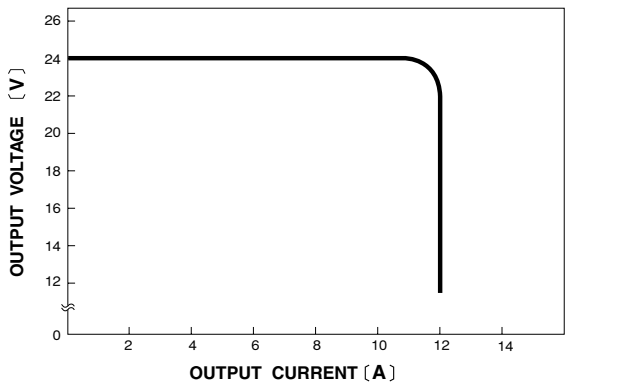
■STATIC CHARACTERISTICS



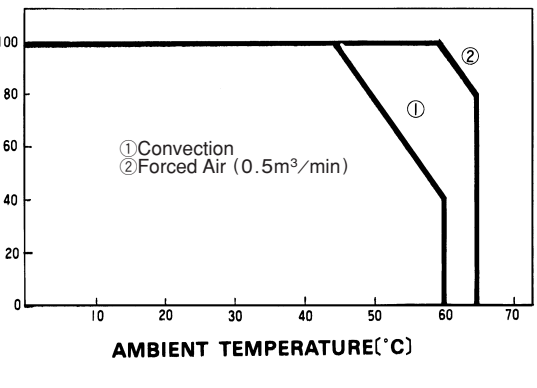
■RISE TIME & FALL TIME



■OVERCURRENT CHARACTERISTICS



■DERATING CURVE



COSEL AC-DC Power Supplies Enclosed type

AD480

Ordering information

AD 480 -24

① ② ③

RoHS

AD

①Series name
②Output wattage
③Output voltage

Please refer to derating curve, because the rated load current depends on cooling method that is convention cooling or forced air.

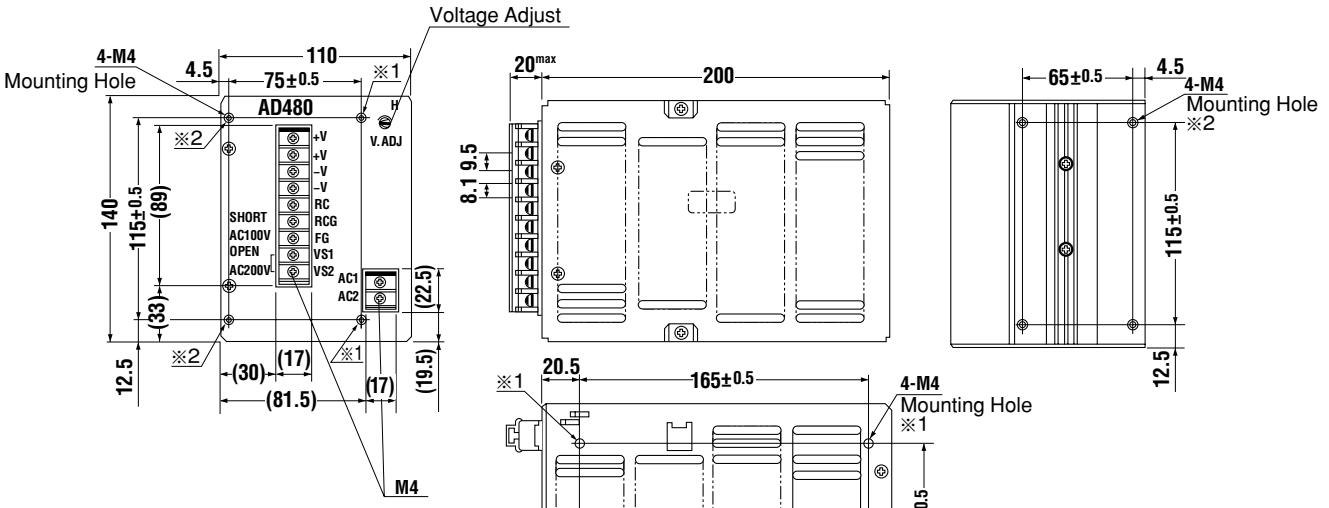
MODEL	AD480-24	AD480-30
MAX OUTPUT WATTAGE[W]	480	300(Peak 720)
DC OUTPUT	24V 20A	30V 10(Peak 24)A Forced air

SPECIFICATIONS

	MODEL		AD480-24	AD480-30
INPUT	VOLTAGE[V]		AC85 - 132 / 170 - 264 1φ (User-selectable)	
	FREQUENCY[Hz]		47 - 440	
	EFFICIENCY[%]		85typ	85typ
	INRUSH CURRENT[A]	ACIN 100V	30max (Io=100%)	
		ACIN 200V	60max (Io=100%)	
	LEAKAGE CURRENT[mA]		1.0max (60Hz, According to DEN-AN)	
OUTPUT	VOLTAGE[V]		24	30
	CURRENT[A]	Forced air	20 (Peak 25)	10 (Peak 24)
		Convection	12 (Peak 25) Ta=45℃	10 (Peak 24) Ta=45℃
	LINE REGULATION[mV]		300max	260max
	LOAD REGULATION[mV]		300max	420max
	RIPPLE[mVp-p]	*1	240max (0 to +45℃)	240max (0 to +50℃)
	RIPPLE NOISE[mVp-p]	*1	480max (0 to +45℃)	480max (0 to +50℃)
	TEMPERATURE REGULATION[mV]		500max (0 to +45℃)	600max (0 to +50℃)
	DRIFT[mV]	*2	100max	120max
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		21.6 - 26.4	28.5 - 33.0
	START-UP TIME[ms]		600max (ACIN 100/200V, Io=100%)	
	HOLD-UP TIME[ms]		15typ (ACIN 100/200V, Io=100%)	
PROTECTION CIRCUIT	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically	
	REMOTE ON/OFF		Use terminal RC and G	
ISOLATION	INPUT-OUTPUT		AC1,500V 1minute, Cutoff current = 10mA, DC500V 100MΩ min (At Room Temperature)	
	INPUT-FG		AC1,500V 1minute, Cutoff current = 10mA, DC500V 100MΩ min (At Room Temperature)	
	OUTPUT-FG		AC500V 1minute, Cutoff current = 50mA, DC500V 100MΩ min (At Room Temperature)	
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		0 to +65℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max	
	STORAGE TEMP.,HUMID.AND ALTITUDE		-25 to +80℃, 10 - 95%RH (Non condensing), 9,000m (30,000feet) max	
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis	
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis	
OTHERS	CASE SIZE/WEIGHT		110×140×220mm (W×H×D) /3.0kg max	
	COOLING METHOD		Forced air/Convection	

*1 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN: RM101).
*2 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
* When operated at pulse load, attach external capacitor at output line which is complying with the peak value of pulse current.

External view

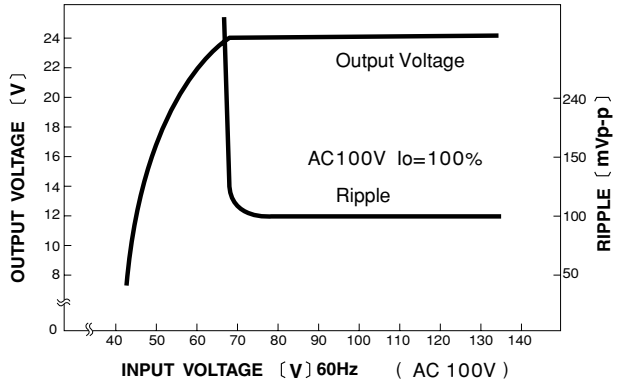


※Mounting torque
※1: 1.5N•m (16kgf•cm) max
※2: 1.2N•m (12.8kgf•cm) max

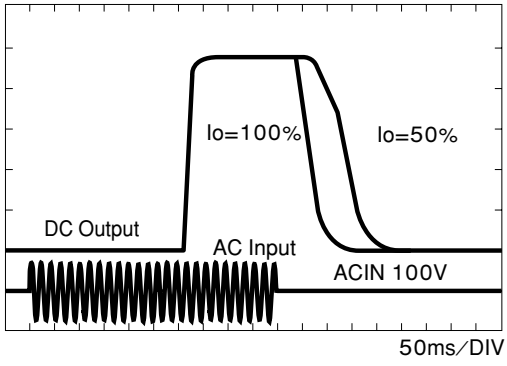
※Weight : 3.0kg or less
※Tolerance : ±1 ※Dimensions in mm.

Performance data

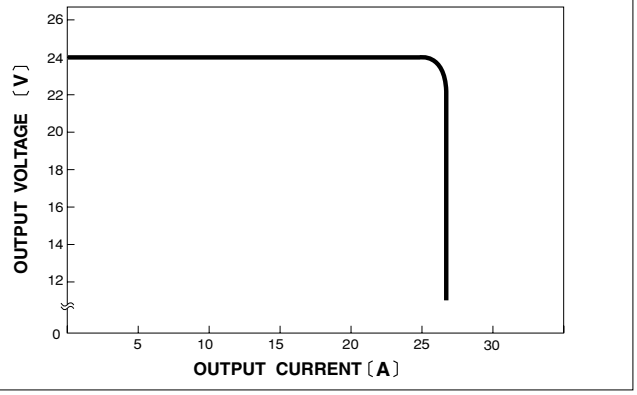
■STATIC CHARACTERISTICS



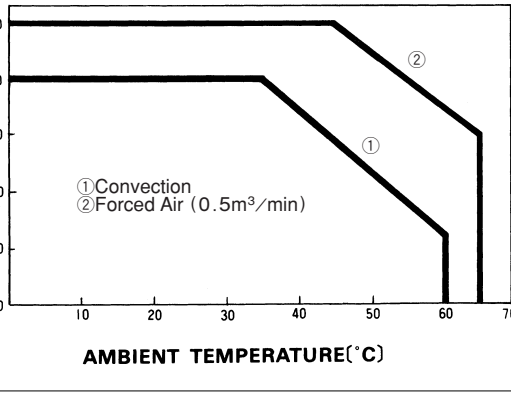
■RISE TIME & FALL TIME



■OVERCURRENT CHARACTERISTICS



■DERATING CURVE



COSEL AC-DC Power Supplies Enclosed type

AD960

Ordering information

AD 960 -24

① ② ③

①Series name
②Output wattage
③Output voltage

AD

RoHS

Please refer to derating curve, because the rated load current depends on cooling method that is convention cooling or forced air.

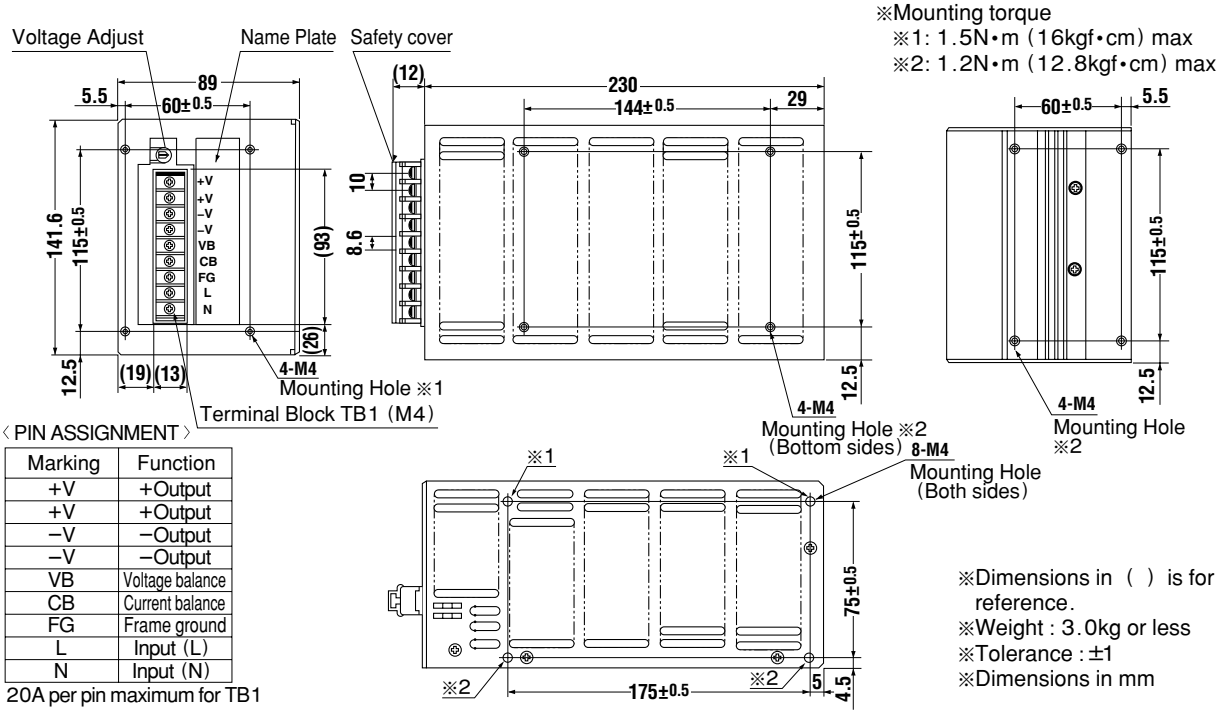
MODEL		AD960-24	AD960-30
MAX OUTPUT WATTAGE[W]		960	960
DC OUTPUT	Forced air	24V 40A	30V 32A
	Convection	24V 20(Peak 40)A	30V 16(Peak 32)A

SPECIFICATIONS

	MODEL		AD960-24	AD960-30
INPUT	VOLTAGE[V]		AC170 - 264 1φ or DC240 - 370	
	FREQUENCY[Hz]		47 - 440 or DC	
	EFFICIENCY[%]		85typ	85typ
	INRUSH CURRENT[A]	ACIN 200V	60typ (Io=100%)	
	LEAKAGE CURRENT[mA]		1.0max (60Hz, According to UL, CSA, VDE and DEN-AN)	
OUTPUT	VOLTAGE[V]		24	30
	CURRENT[A]	Forced air	40	32
		Convection *1	20 (Peak 40)	16 (Peak 32)
	LINE REGULATION[mV]		200max	260max
	LOAD REGULATION[mV]		340max	420max
	RIPPLE[mVp-p]	-10 to +45℃ *2	240max	240max
	RIPPLE NOISE[mVp-p]	-10 to +45℃ *2	480max	480max
	TEMPERATURE REGULATION[mV]	-10 to +45℃	420max	520max
	DRIFT[mV]	*3	100max	120max
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		22.8 - 26.4	28.5 - 33.0
	START-UP TIME[ms]		600max (ACIN 200V, Io=100%)	
	HOLD-UP TIME[ms]		15typ (ACIN 200V, Io=100%)	
PROTECTION CIRCUIT	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically	
	OVERVOLTAGE PROTECTION		Works at 115 - 140% of rating	
ISOLATION	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)	
	INPUT-FG		AC2,000V 1minute, Cutoff current = 25mA, DC500V 50MΩ min (At Room Temperature)	
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)	
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-10 to +65℃, 10 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max	
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +75℃, 10 - 90%RH (Non condensing), 9,000m (30,000feet) max	
	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis	
	IMPACT		196.1m/s² (20G), 11ms, once each X, Y and Z axis	
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, CSA C22.2 No.60950-1, EN60950-1, VDE0160 Complies with IEC950	
	CONDUCTED NOISE		Complies with FCC-A	
OTHERS	CASE SIZE/WEIGHT		89×141.6×230mm (without terminal block) (W×H×D) /3.0kg max	
	COOLING METHOD		Forced air/Convection	

*1 For convection cooling, peak current for 10 seconds or less is acceptable, and output current must be less than 20A on average.
*2 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN: RM101).
*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.
* When operated at pulse load, attach external capacitor at output line which is complying with the peak value of pulse current.

External view



〈PIN ASSIGNMENT〉

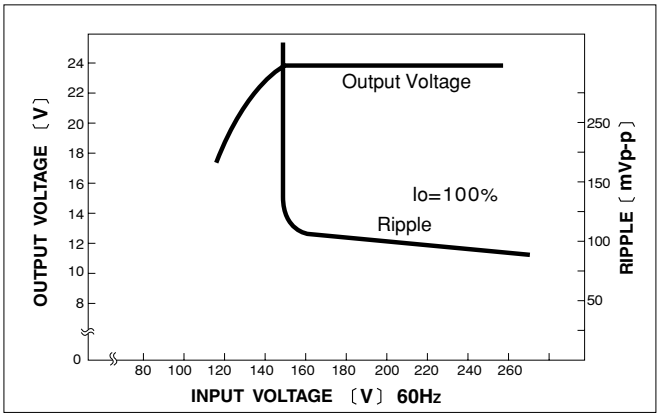
Marking	Function
+V	+Output
+V	+Output
−V	−Output
−V	−Output
VB	Voltage balance
CB	Current balance
FG	Frame ground
L	Input (L)
N	Input (N)

20A per pin maximum for TB1

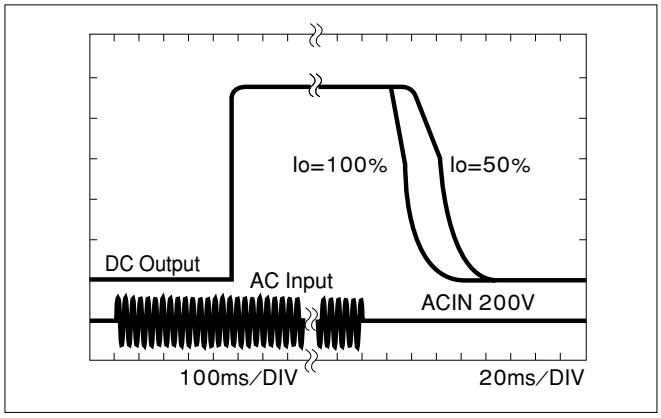
※Dimensions in ( ) is for reference.
※Weight : 3.0kg or less
※Tolerance : ±1
※Dimensions in mm

Performance data

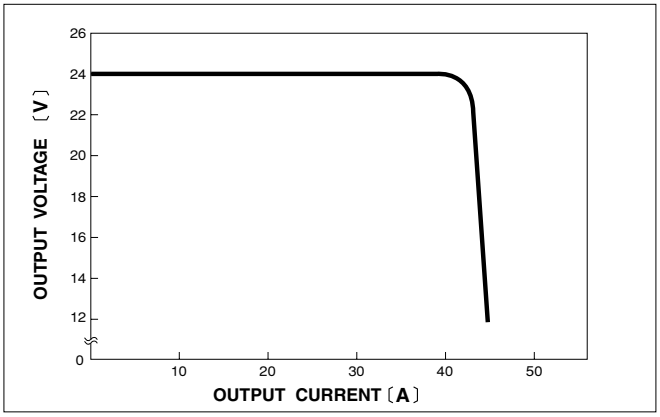
■STATIC CHARACTERISTICS



■RISE TIME & FALL TIME



■OVERCURRENT CHARACTERISTICS



■DERATING CURVE