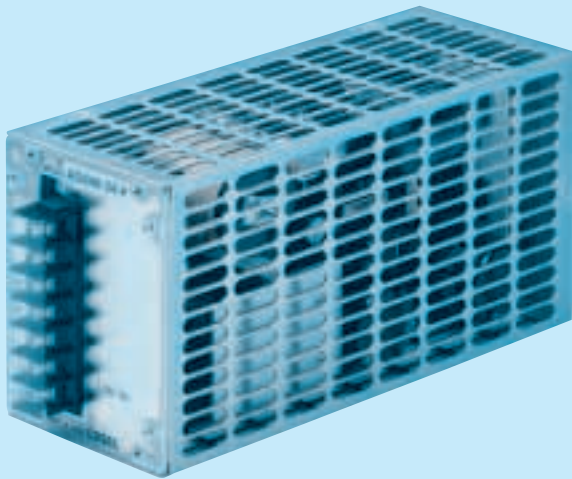


AD240

AD 240 -24 -□

① ② ③ ④

RoHS



- ① Series name
- ② Output wattage
- ③ Output voltage
- ④ Optional
- 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

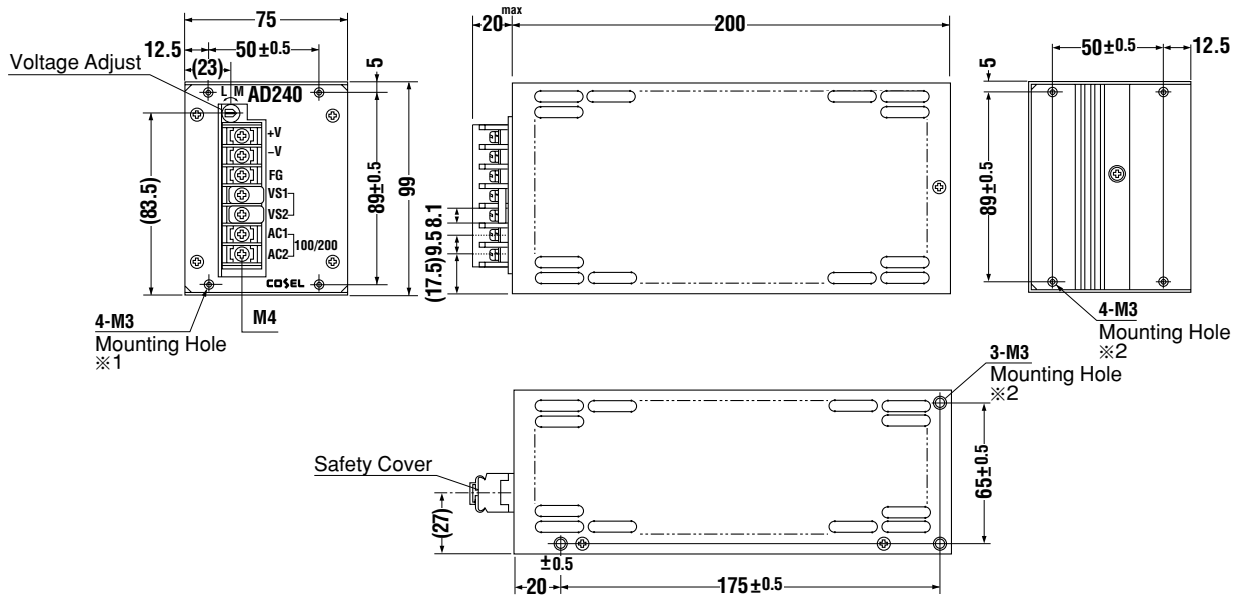
SPECIFICATIONS

	MODEL	AD240-24	AD240-30	
INPUT	VOLTAGE[V]	AC85 - 132 / 170 - 264 1 φ (User-selectable)		
	FREQUENCY[Hz]	47 - 440		
	EFFICIENCY[%]	85typ	85typ	
	INRUSH CURRENT[A]	ACIN 100V	15max (I _o =100%)	
		ACIN 200V	30max (I _o =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°C *1	240max	240max
		0 to +45°C *1	480max	480max
	TEMPERATURE REGULATION[mV]	0 to +45°C	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, I _o =100%)		
	HOLD-UP TIME[ms]	15typ (ACIN 100/200V, I _o =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°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max		
	STORAGE TEMP., HUMID. AND ALTITUDE	-25 to +80°C, 10 - 95%RH (Non condensing), 9,000m (30,000feet) max		
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 30minutes each along X, Y and Z axis		
	IMPACT	98.0m/s ² (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°C, with the input voltage held constant at the rated input/output.

External view



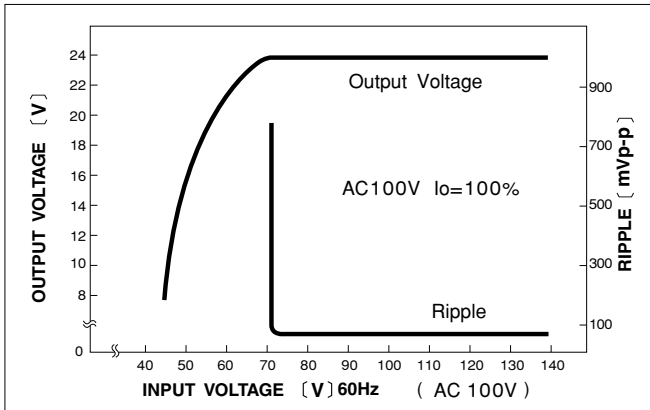
AD

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

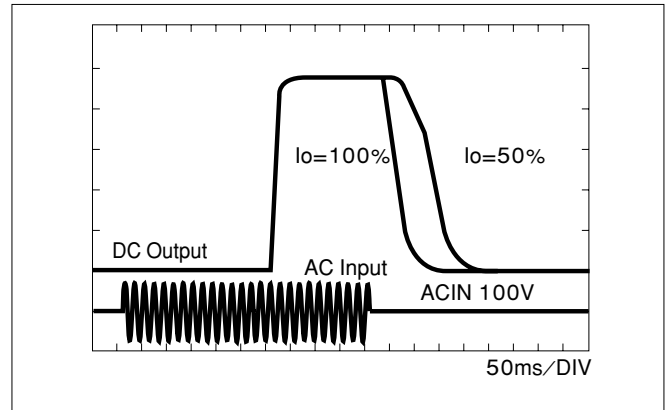
- ※Weight : 1.8kg or less
- ※Tolerance : ±1
- ※Dimensions in mm.

Performance data

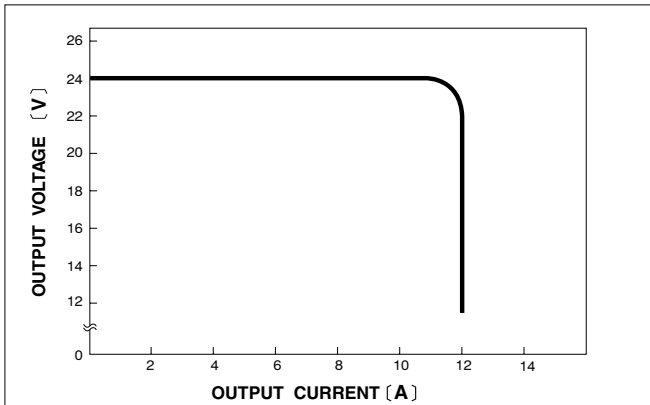
■STATIC CHARACTERISTICS



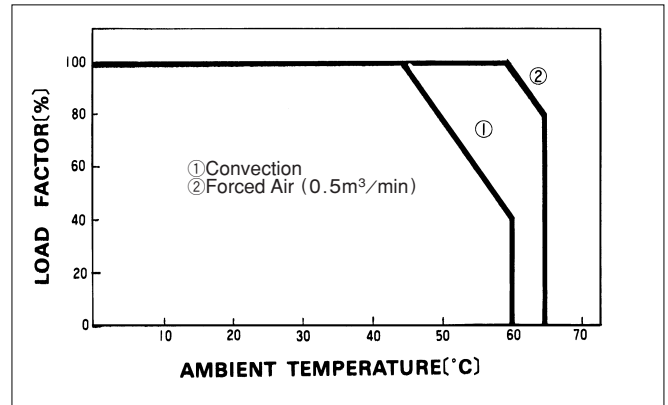
■RISE TIME & FALL TIME



■OVERCURRENT CHARACTERISTICS



■DERATING CURVE



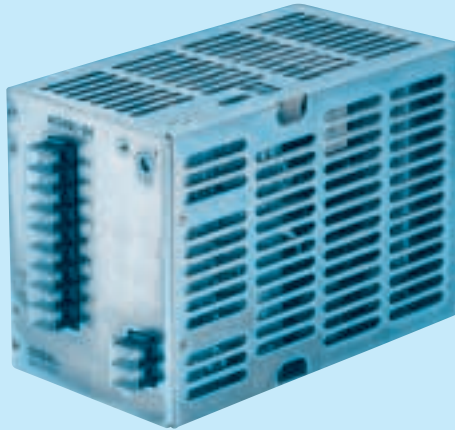
AD480

AD 480 -24

① ② ③

① Series name
② Output wattage
③ Output voltage

RoHS



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 1 ϕ (User-selectable)		
	FREQUENCY[Hz]	47 - 440		
	EFFICIENCY[%]	85typ	85typ	
	INRUSH CURRENT[A]	ACIN 100V	30max (I _o =100%)	
		ACIN 200V	60max (I _o =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°C	10 (Peak 24) Ta=45°C
	LINE REGULATION[mV]	300max	260max	
	LOAD REGULATION[mV]	300max	420max	
	RIPPLE[mVp-p]	*1 240max (0 to +45°C)	240max (0 to +50°C)	
	RIPPLE NOISE[mVp-p]	*1 480max (0 to +45°C)	480max (0 to +50°C)	
	TEMPERATURE REGULATION[mV]	500max (0 to +45°C)	600max (0 to +50°C)	
	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, I _o =100%)			
HOLD-UP TIME[ms]	15typ (ACIN 100/200V, I _o =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 100M Ω min (At Room Temperature)		
	INPUT-FG	AC1,500V 1minute, Cutoff current = 10mA, DC500V 100M Ω min (At Room Temperature)		
	OUTPUT-FG	AC500V 1minute, Cutoff current = 50mA, DC500V 100M Ω min (At Room Temperature)		
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	0 to +65°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max		
	STORAGE TEMP., HUMID. AND ALTITUDE	-25 to +80°C, 10 - 95%RH (Non condensing), 9,000m (30,000feet) max		
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis		
	IMPACT	196.1m/s ² (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°C, 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.

AD960

AD 960 -24

① ② ③

① Series name
② Output wattage
③ Output voltage



RoHS



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

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

SPECIFICATIONS

	MODEL	AD960-24	AD960-30	
INPUT	VOLTAGE[V]	AC170 - 264 1 φ 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°C*2	240max	240max
	RIPPLE NOISE[mVp-p]	-10 to +45°C*2	480max	480max
	TEMPERATURE REGULATION[mV]	-10 to +45°C	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°C, 10 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max		
	STORAGE TEMP.,HUMID.AND ALTITUDE	-20 to +75°C, 10 - 90%RH (Non condensing), 9,000m (30,000feet) max		
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 60minutes each along X, Y and Z axis		
	IMPACT	196.1m/s ² (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		

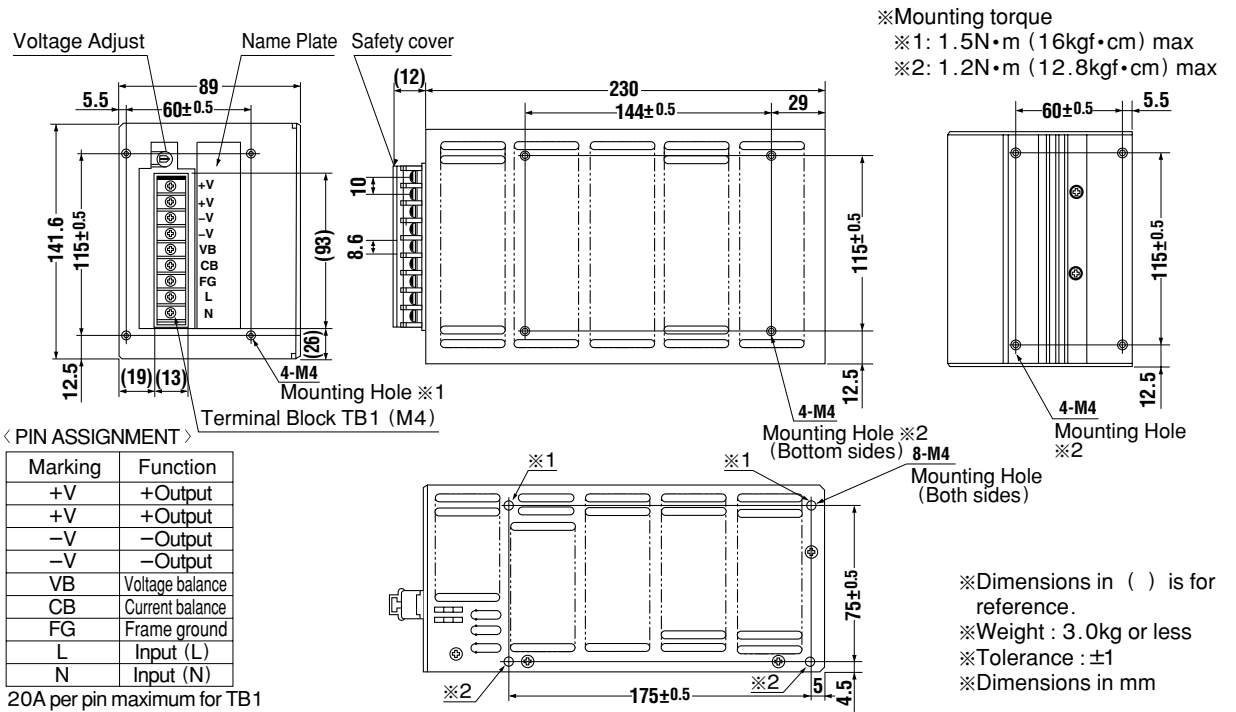
*1 For convection cooling, peak current for 10 seconds or less is acceptable, and output current must be less than 20A on average.

*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°C, 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.

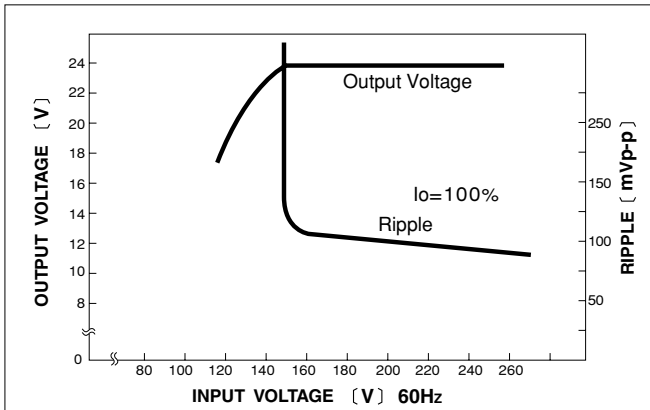
External view



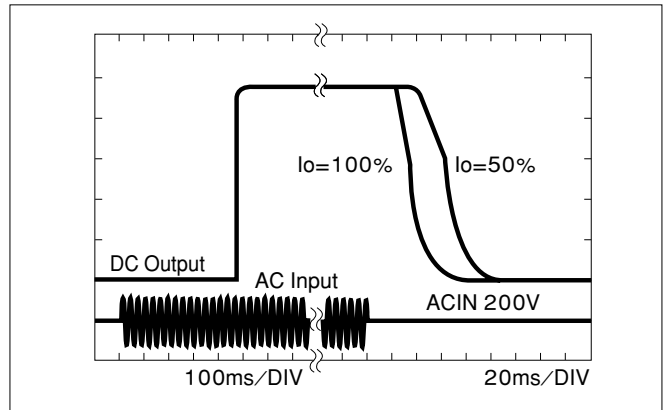
AD

Performance data

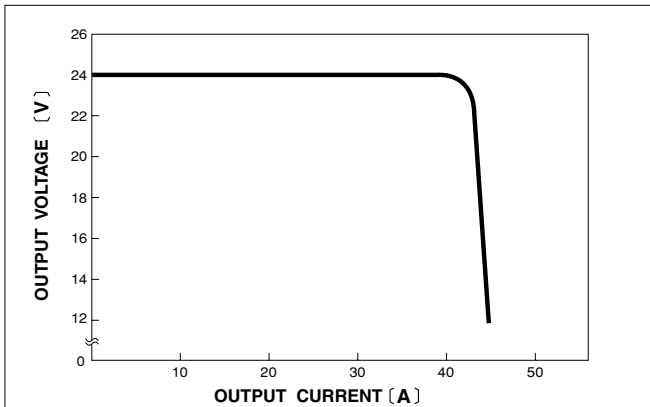
■ STATIC CHARACTERISTICS



■ RISE TIME & FALL TIME



■ OVERCURRENT CHARACTERISTICS



■ DERATING CURVE

