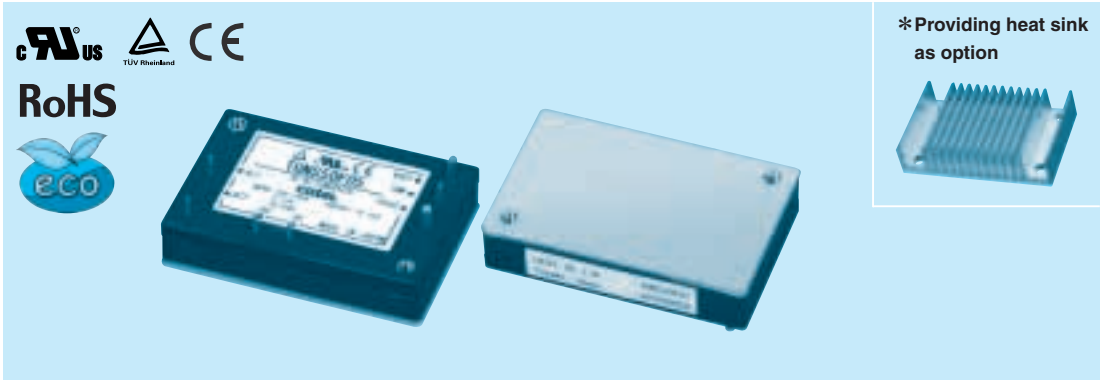
COSEL AC-DC Power Supplies Power Module type

TUNS50

Ordering information

TUN	S	50	F	05	
①	②	③	④	⑤	



*Providing heat sink as option

①Series name
②Single output
③Output wattage
④Universal Input
⑤Output voltage

TU

*Avoid short circuit between +BC and -BC. It may cause the failure of inside components.
*Keep TRM open, if output voltage adjustment is not necessary.

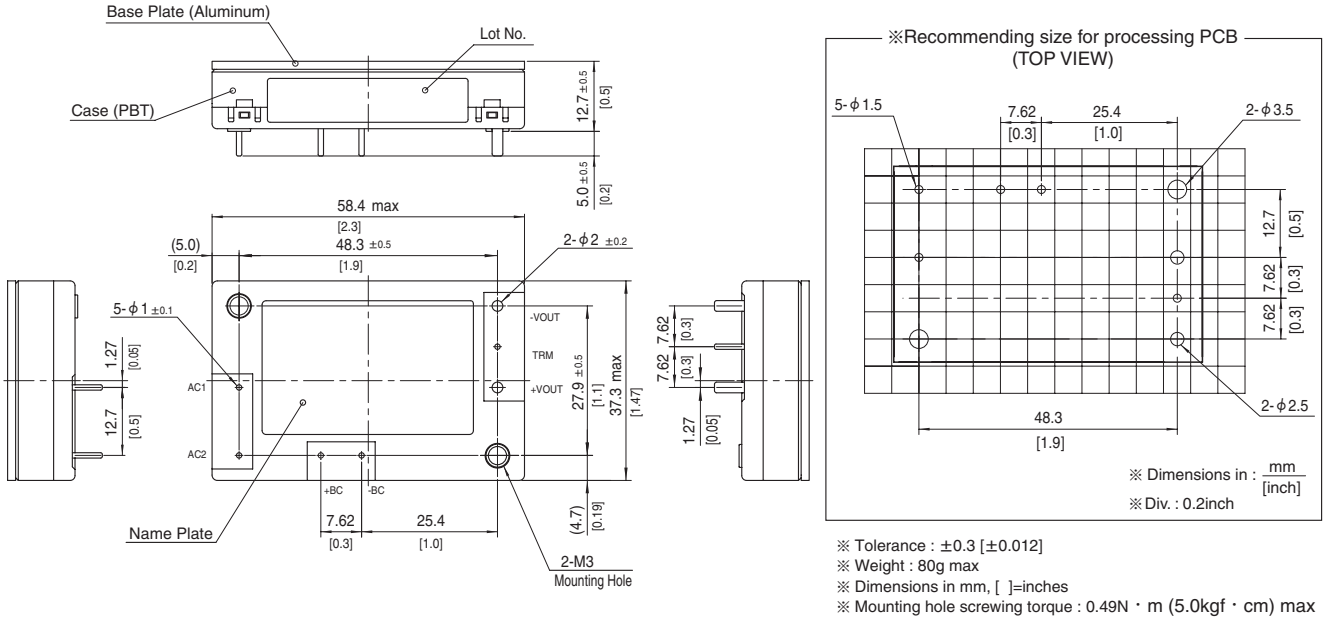
MODEL	TUNS50F05	TUNS50F12	TUNS50F24
MAX OUTPUT WATTAGE[W]	50.0	50.4	50.4
DC OUTPUT	5V 10A	12V 4.2A	24V 2.1A

SPECIFICATIONS

	MODEL		TUNS50F05	TUNS50F12	TUNS50F24
INPUT	VOLTAGE[V]		AC85 - 264 1φ (Please refer to the instruction manual, 6.5 Derating)		
	CURRENT[A]	ACIN 100V	0.67typ (Io=100%)		
		ACIN 200V	0.35typ (Io=100%)		
	FREQUENCY[Hz]		50/60 (47 - 63)		
	EFFICIENCY[%]	ACIN 100V	79typ	81typ	84typ
		ACIN 200V	81typ	83typ	86typ
	POWER FACTOR (Io=100%)	ACIN 100V	0.95typ		
		ACIN 200V	0.90typ		
	INRUSH CURRENT		Limited by external components (Thermistor)		
	LEAKAGE CURRENT[mA]		0.75 max (60Hz, According to IEC60950-1)		
OUTPUT	VOLTAGE[V]		5	12	24
	CURRENT[A]		10	4.2	2.1
	LINE REGULATION[mV]		10max	24max	48max
	LOAD REGULATION[mV]		10max	24max	48max
	RIPPLE[mVp-p]	0 to +100℃ *1	80max	120max	120max
		-40 to 0℃ *1	120max	150max	150max
		0 to 15% Load *1	200max	280max	380max
	RIPPLE NOISE[mVp-p]	0 to +100℃ *1	120max	150max	150max
		-40 to 0℃ *1	200max	200max	250max
		0 to 15% Load *1	280max	360max	460max
	TEMPERATURE REGULATION[mV]	0 to +65℃	50max	120max	240max
		-40 to +100℃	100max	240max	480max
	DRIFT[mV]	*2	20max	40max	90max
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		Fixed (TRM pin open), adjustable by external resistor or external signal		
			4.50 - 6.00	10.80 - 13.20	21.60 - 26.40
	OUTPUT VOLTAGE SETTING[V]		4.97 - 5.13	11.91 - 12.29	23.62 - 24.38
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically		
	OVERVOLTAGE PROTECTION[V]		6.30 - 7.00	13.90 - 16.35	27.60 - 32.40
	REMOTE SENSING		Not provided		
	REMOTE ON/OFF		Not provided		
ISOLATION	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max		
	STORAGE TEMP.,HUMID.AND ALTITUDE		-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max		
	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis		
	IMPACT		196.1m/s² (20G), 11ms, once each along X, Y and Z axis		
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178		
	HARMONIC ATTENUATOR		Comply with IEC61000-3-2		
OTHERS	CASE SIZE/WEIGHT		58.4×12.7×37.3mm [2.3×0.5×1.47 inches] (W×H×D) / 80g max		
	COOLING METHOD		Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)		

*1 Refer to instruction manual for measuring method of electric characteristics.
*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



※ Tolerance : ±0.3 [±0.012]
※ Weight : 80g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

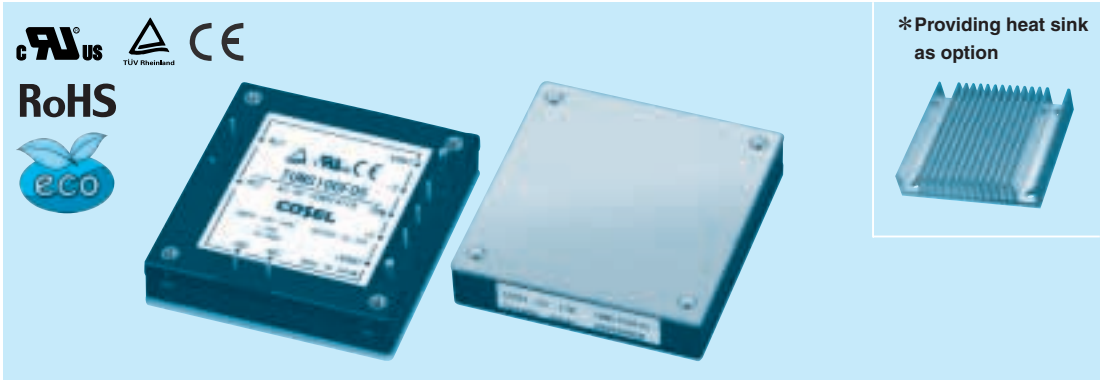
TU

COSEL AC-DC Power Supplies Power Module type

TUNS100

Ordering information

TUN	S	100	F	05	
①	②	③	④	⑤	



＊Providing heat sink as option

①Series name
②Single output
③Output wattage
④Universal Input
⑤Output voltage

TU

＊Avoid short circuit between +BC and -BC. It may cause the failure of inside components.
＊Keep TRM open, if output voltage adjustment is not necessary.
＊If remote sensing is not necessary, connect between +Vout & +S and between -Vout & -S.

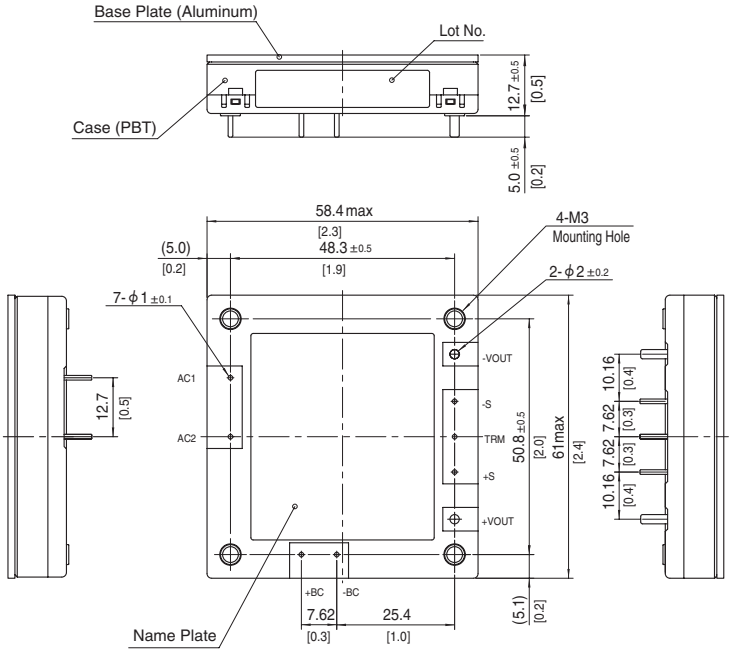
MODEL	TUNS100F05	TUNS100F12	TUNS100F24
MAX OUTPUT WATTAGE[W]	100.0	100.8	100.8
DC OUTPUT	5V 20A	12V 8.4A	24V 4.2A

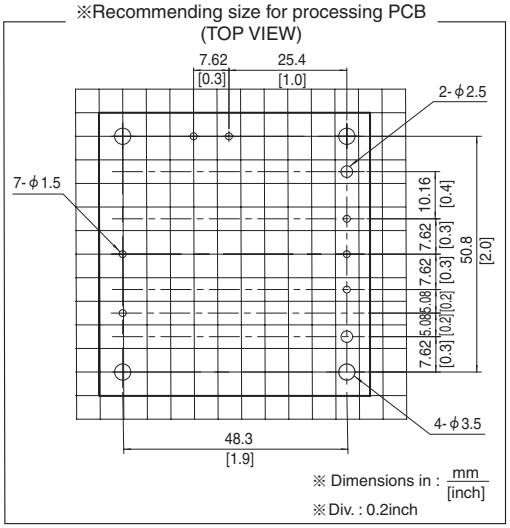
SPECIFICATIONS

	MODEL		TUNS100F05	TUNS100F12	TUNS100F24
INPUT	VOLTAGE[V]		AC85 - 264 1φ (Please refer to the instruction manual, 6.5 Derating)		
	CURRENT[A]	ACIN 100V	1.3typ (Io=100%)		
		ACIN 200V	0.7typ (Io=100%)		
	FREQUENCY[Hz]		50/60 (47 - 63)		
	EFFICIENCY[%]	ACIN 100V	82typ	83typ	85typ
		ACIN 200V	85typ	85typ	88typ
	POWER FACTOR (Io=100%)	ACIN 100V	0.95typ		
		ACIN 200V	0.90typ		
	INRUSH CURRENT		Limited by external components (Thermistor)		
	LEAKAGE CURRENT[mA]		0.75 max (60Hz, According to IEC60950-1)		
OUTPUT	VOLTAGE[V]		5	12	24
	CURRENT[A]		20	8.4	4.2
	LINE REGULATION[mV]		10max	24max	48max
	LOAD REGULATION[mV]		10max	24max	48max
	RIPPLE[mVp-p]	0 to +100℃ ＊1	80max	120max	120max
		-40 to 0℃ ＊1	120max	150max	150max
		0 to 15% Load ＊1	160max	240max	240max
	RIPPLE NOISE[mVp-p]	0 to +100℃ ＊1	120max	150max	150max
		-40 to 0℃ ＊1	200max	200max	250max
		0 to 15% Load ＊1	240max	300max	300max
	TEMPERATURE REGULATION[mV]	0 to +65℃	50max	120max	240max
		-40 to +100℃	100max	240max	480max
	DRIFT[mV]	＊2	20max	40max	90max
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		Fixed (TRM pin open), adjustable by external resistor or external signal		
			4.50 - 6.00	10.80 - 13.20	21.60 - 26.40
	OUTPUT VOLTAGE SETTING[V]		4.97 - 5.13	11.91 - 12.29	23.62 - 24.38
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically		
	OVERVOLTAGE PROTECTION[V]		6.30 - 7.00	13.90 - 16.35	27.60 - 32.40
	REMOTE SENSING		Provided		
	REMOTE ON/OFF		Not provided		
ISOLATION	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max		
	STORAGE TEMP.,HUMID.AND ALTITUDE		-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max		
	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis		
	IMPACT		196.1m/s² (20G), 11ms, once each along X, Y and Z axis		
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178		
	HARMONIC ATTENUATOR		Comply with IEC61000-3-2		
OTHERS	CASE SIZE/WEIGHT		58.4×12.7×61.0mm [2.3×0.5×2.4 inches] (W×H×D) / 120g max		
	COOLING METHOD		Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)		

＊1 Refer to instruction manual for measuring method of electric characteristics.
＊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





※ Tolerance : ±0.3 [±0.012]
※ Weight : 120g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

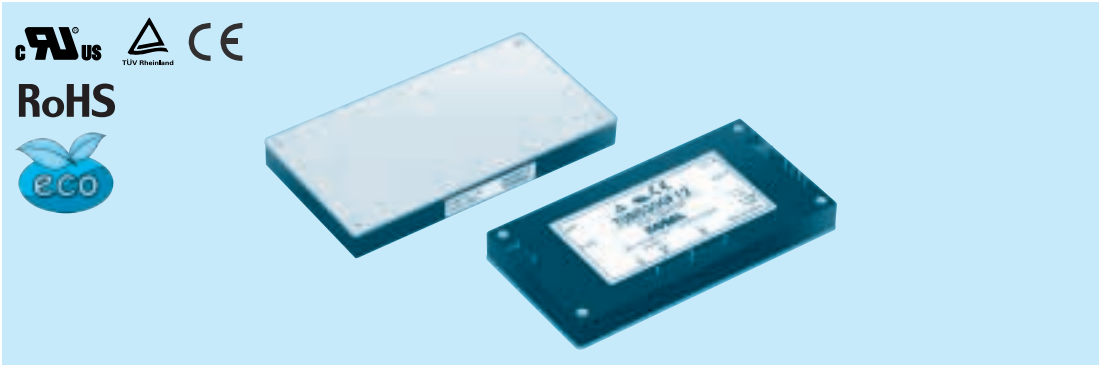
TU

COSEL AC-DC Power Supplies Power Module type

TUNS300 PRELIMINARY

Ordering information

TUN	S	300	F	48	
①	②	③	④	⑤	



①Series name
②Single output
③Output wattage
④Universal Input
⑤Output voltage

TU

✻Avoid short circuit between +BC and -BC. It may cause the failure of inside components.
✻Keep TRM open, if output voltage adjustment is not necessary.
✻If remote sensing is not necessary, connect between +Vout & +S and between -Vout & -S.

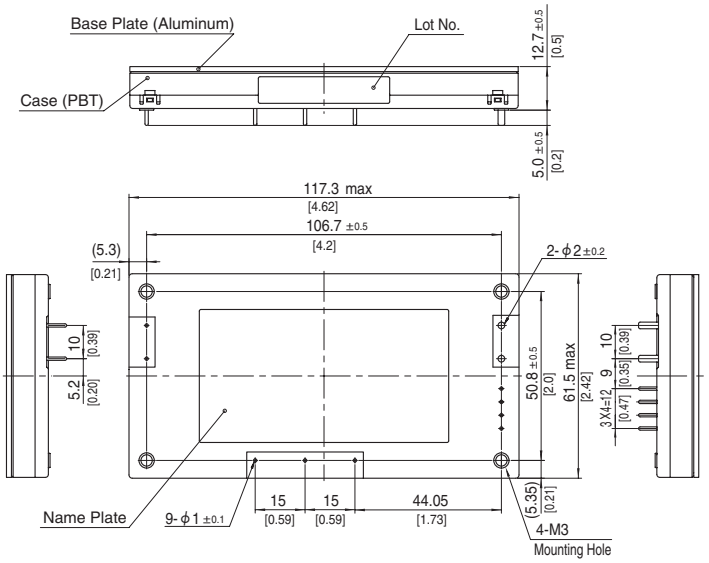
MODEL	TUNS300F12	TUNS300F28	TUNS300F48
MAX OUTPUT WATTAGE[W]	300	308	312
DC OUTPUT	12V 25A	28V 11A	48V 6.5A

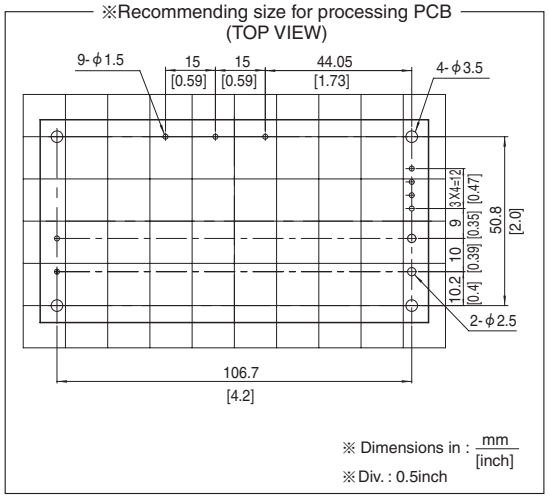
SPECIFICATIONS

	MODEL		TUNS300F12	TUNS300F28	TUNS300F48
INPUT	VOLTAGE[V]		AC85 - 264 1 ϕ (Please refer to the instruction manual, 6.5 Derating)		
	CURRENT[A]	ACIN 100V	3.8typ (Io=100%)		
		ACIN 200V	2.0typ (Io=100%)		
	FREQUENCY[Hz]		50/60 (47 - 63)		
	EFFICIENCY[%]	ACIN 100V	83typ	85typ	84typ
		ACIN 200V	85typ	88typ	87typ
	POWER FACTOR (Io=100%)	ACIN 100V	0.96typ		
		ACIN 200V	0.93typ		
	INRUSH CURRENT		Limited by external resistance		
	LEAKAGE CURRENT[mA]		0.75 max (60Hz, According to IEC60950-1)		
OUTPUT	VOLTAGE[V]		12	28	48
	CURRENT[A]		25	11	6.5
	LINE REGULATION[mV]		24max	56max	96max
	LOAD REGULATION[mV]		24max	56max	96max
	RIPPLE[mVp-p]	0 to +100℃ ✻1	120max	180max	250max
		-40 to 0℃ ✻1	150max	200max	300max
		0 to 15% Load ✻1	240max	240max	400max
	RIPPLE NOISE[mVp-p]	0 to +100℃ ✻1	150max	200max	300max
		-40 to 0℃ ✻1	200max	300max	450max
		0 to 15% Load ✻1	300max	300max	500max
	TEMPERATURE REGULATION[mV]	0 to +65℃	120max	280max	480max
		-40 to +100℃	240max	560max	960max
	DRIFT[mV]	✻2	40max	90max	180max
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		Fixed (TRM pin open), adjustable by external resistor or external signal		
			9.60 - 14.40	22.40 - 33.60	38.40 - 52.80
	OUTPUT VOLTAGE SETTING[V]		11.91 - 12.29	27.56 - 28.44	47.24 - 48.76
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically		
	OVERVOLTAGE PROTECTION[V]		15.00 - 16.80	35.00 - 39.20	55.20 - 64.80
	REMOTE SENSING		Provided		
	REMOTE ON/OFF		Not provided		
ISOLATION	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max		
	STORAGE TEMP.,HUMID.AND ALTITUDE		-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max		
	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis		
	IMPACT		196.1m/s² (20G), 11ms, once each along X, Y and Z axis		
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178		
	HARMONIC ATTENUATOR		Comply with IEC61000-3-2		
OTHERS	CASE SIZE/WEIGHT		117.3×12.7×61.5mm [4.62×0.5×2.42 inches] (W×H×D) / 240g max		
	COOLING METHOD		Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)		

✻1 Refer to instruction manual for measuring method of electric characteristics.
✻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





※ Tolerance : ±0.3 [±0.012]
※ Weight : 240g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

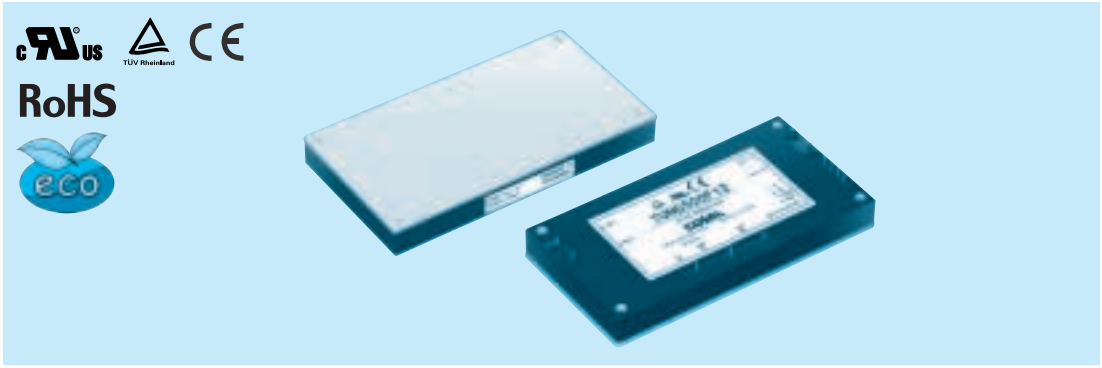
TU

COSEL AC-DC Power Supplies Power Module type

TUNS500 PRELIMINARY

Ordering information

TUN	S	500	F	48	
①	②	③	④	⑤	



①Series name
②Single output
③Output wattage
④Universal Input
⑤Output voltage

TU

✻Avoid short circuit between +BC and -BC. It may cause the failure of inside components.
✻Keep TRM open, if output voltage adjustment is not necessary.
✻If remote sensing is not necessary, connect between +Vout & +S and between -Vout & -S.

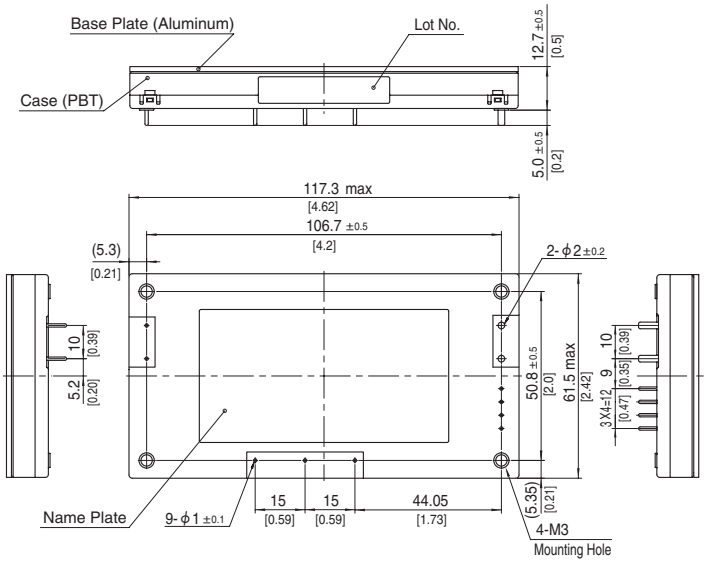
MODEL	TUNS500F12	TUNS500F28	TUNS500F48
MAX OUTPUT WATTAGE[W]	504	504	504
DC OUTPUT	12V 42A	28V 18A	48V 10.5A

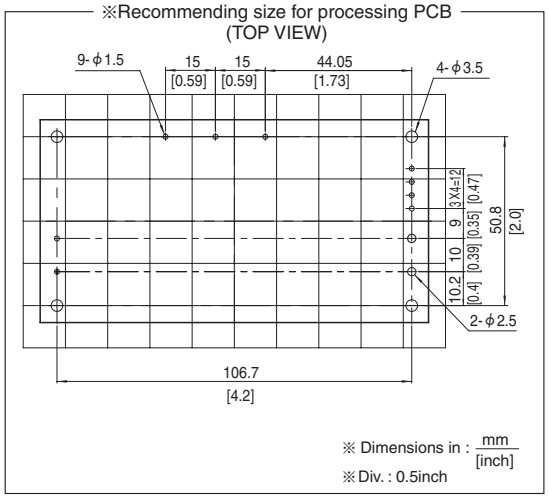
SPECIFICATIONS

	MODEL		TUNS500F12	TUNS500F28	TUNS500F48
INPUT	VOLTAGE[V]		AC85 - 264 1 ϕ (Please refer to the instruction manual, 6.5 Derating)		
	CURRENT[A]	ACIN 100V	6.3typ (Io=100%)		
		ACIN 200V	3.2typ (Io=100%)		
	FREQUENCY[Hz]		50/60 (47 - 63)		
	EFFICIENCY[%]	ACIN 100V	84typ	86typ	85typ
		ACIN 200V	86typ	89typ	88typ
	POWER FACTOR (Io=100%)	ACIN 100V	0.96typ		
		ACIN 200V	0.93typ		
	INRUSH CURRENT		Limited by external resistance		
	LEAKAGE CURRENT[mA]		0.75 max (60Hz, According to IEC60950-1)		
OUTPUT	VOLTAGE[V]		12	28	48
	CURRENT[A]	✻3	42 (Peak 55)	18 (Peak 24)	10.5 (Peak 14)
	LINE REGULATION[mV]		24max	56max	96max
	LOAD REGULATION[mV]		24max	56max	96max
	RIPPLE[mVp-p]	0 to +100℃ ✻1	120max	180max	250max
		-40 to 0℃ ✻1	150max	200max	300max
		0 to 15% Load ✻1	240max	240max	400max
	RIPPLE NOISE[mVp-p]	0 to +100℃ ✻1	150max	200max	300max
		-40 to 0℃ ✻1	200max	300max	450max
		0 to 15% Load ✻1	300max	300max	500max
	TEMPERATURE REGULATION[mV]	0 to +65℃	120max	280max	480max
		-40 to +100℃	240max	560max	960max
	DRIFT[mV]	✻2	40max	90max	180max
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		Fixed (TRM pin open), adjustable by external resistor or external signal		
			9.60 - 14.40	22.40 - 33.60	38.40 - 52.80
	OUTPUT VOLTAGE SETTING[V]		11.91 - 12.29	27.56 - 28.44	47.24 - 48.76
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically		
	OVERVOLTAGE PROTECTION[V]		15.00 - 16.80	35.00 - 39.20	55.20 - 64.80
	REMOTE SENSING		Provided		
	REMOTE ON/OFF		Not provided		
ISOLATION	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max		
	STORAGE TEMP.,HUMID.AND ALTITUDE		-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max		
	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis		
	IMPACT		196.1m/s² (20G), 11ms, once each along X, Y and Z axis		
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178		
	HARMONIC ATTENUATOR		Comply with IEC61000-3-2		
OTHERS	CASE SIZE/WEIGHT		117.3×12.7×61.5mm [4.62×0.5×2.42 inches] (W×H×D) / 240g max		
	COOLING METHOD		Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)		

✻1 Refer to instruction manual for measuring method of electric characteristics.
✻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.
✻3 ( ) means peak current. Avoid operating with peak current continuously. It may cause failure of the components inside the product.
There are limitation of available condition of the peak current, such as input voltage range, peak time, duty etc. (Refer to the instruction manual in detail.)

External view





※ Tolerance : ±0.3 [±0.012]
※ Weight : 240g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

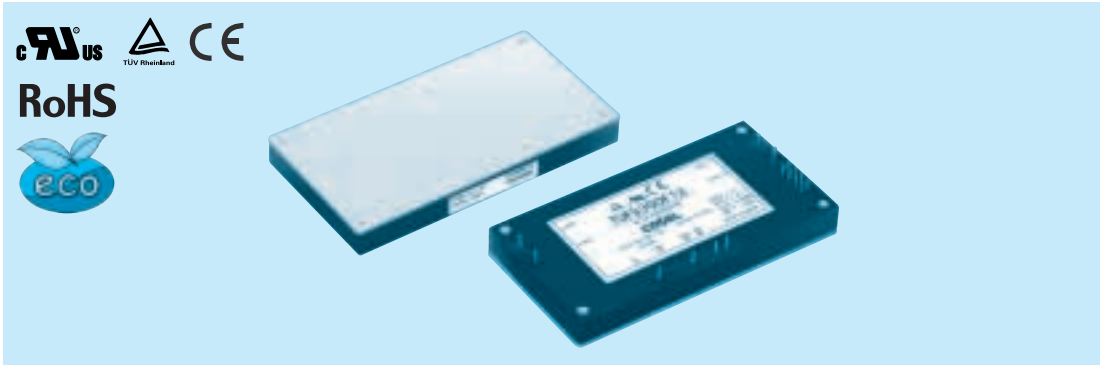
TU

COSEL AC-DC Power Supplies Power Module type

TUFS300 PRELIMINARY

Ordering information

TUF	S	300	F	48	
①	②	③	④	⑤	



①Series name
②Single output
③Output wattage
④Universal Input
⑤Output voltage

TU

✻Avoid short circuit between +BC and -BC. It may cause the failure of inside components.
✻Keep TRM open, if output voltage adjustment is not necessary.
✻If remote sensing is not necessary, connect between +Vout & +S and between -Vout & -S.

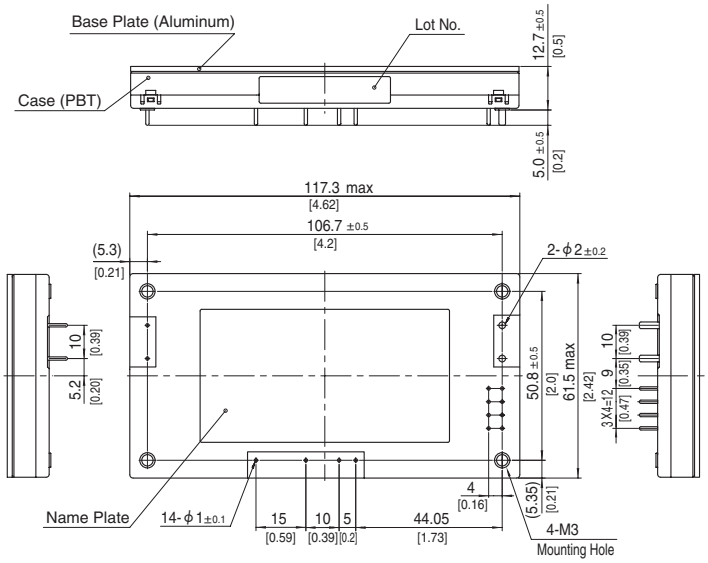
MODEL	TUFS300F12	TUFS300F28	TUFS300F48
MAX OUTPUT WATTAGE[W]	300	308	312
DC OUTPUT	12V 25A	28V 11A	48V 6.5A

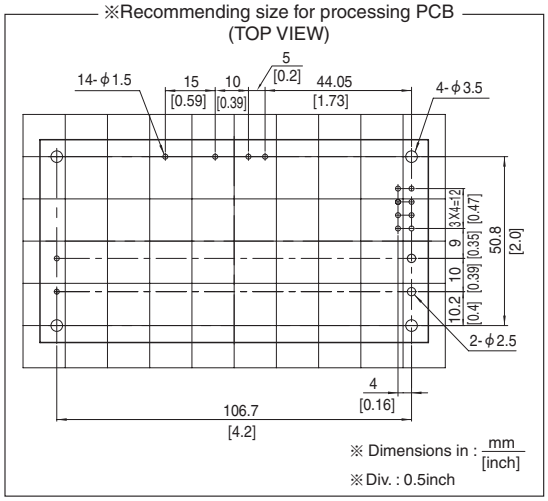
SPECIFICATIONS

	MODEL		TUFS300F12	TUFS300F28	TUFS300F48
INPUT	VOLTAGE[V]		AC85 - 264 1 ϕ (Please refer to the instruction manual, 6.5 Derating)		
	CURRENT[A]	ACIN 100V	3.8typ (Io=100%)		
		ACIN 200V	2.0typ (Io=100%)		
	FREQUENCY[Hz]		50/60 (47 - 63)		
	EFFICIENCY[%]	ACIN 100V	83typ	85typ	84typ
		ACIN 200V	85typ	88typ	87typ
	POWER FACTOR (Io=100%)	ACIN 100V	0.96typ		
		ACIN 200V	0.93typ		
	INRUSH CURRENT		Limited by external resistance		
	LEAKAGE CURRENT[mA]		0.75 max (60Hz, According to IEC60950-1)		
OUTPUT	VOLTAGE[V]		12	28	48
	CURRENT[A]		25	11	6.5
	LINE REGULATION[mV]		24max	56max	96max
	LOAD REGULATION[mV]		24max	56max	96max
	RIPPLE[mVp-p]	0 to +100℃ ✻1	120max	180max	250max
		-40 to 0℃ ✻1	150max	200max	300max
		0 to 15% Load ✻1	240max	240max	400max
	RIPPLE NOISE[mVp-p]	0 to +100℃ ✻1	150max	200max	300max
		-40 to 0℃ ✻1	200max	300max	450max
		0 to 15% Load ✻1	300max	300max	500max
	TEMPERATURE REGULATION[mV]	0 to +65℃	120max	280max	480max
		-40 to +100℃	240max	560max	960max
	DRIFT[mV]	✻2	40max	90max	180max
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		Fixed (TRM pin open), adjustable by external resistor or external signal		
			9.60 - 14.40	22.40 - 33.60	38.40 - 52.80
	OUTPUT VOLTAGE SETTING[V]		11.91 - 12.29	27.56 - 28.44	47.24 - 48.76
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically		
	OVERVOLTAGE PROTECTION[V]		15.00 - 16.80	35.00 - 39.20	55.20 - 64.80
	REMOTE SENSING		Provided		
	REMOTE ON/OFF		Provided on the output side		
ISOLATION	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-RC1, RC2		AC100V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max		
	STORAGE TEMP.,HUMID.AND ALTITUDE		-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max		
	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis		
	IMPACT		196.1m/s² (20G), 11ms, once each along X, Y and Z axis		
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178		
	HARMONIC ATTENUATOR		Comply with IEC61000-3-2		
OTHERS	CASE SIZE/WEIGHT		117.3×12.7×61.5mm [4.62×0.5×2.42 inches] (W×H×D) / 240g max		
	COOLING METHOD		Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)		

✻1 Refer to instruction manual for measuring method of electric characteristics.
✻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





※ Tolerance : ±0.3 [±0.012]
※ Weight : 240g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

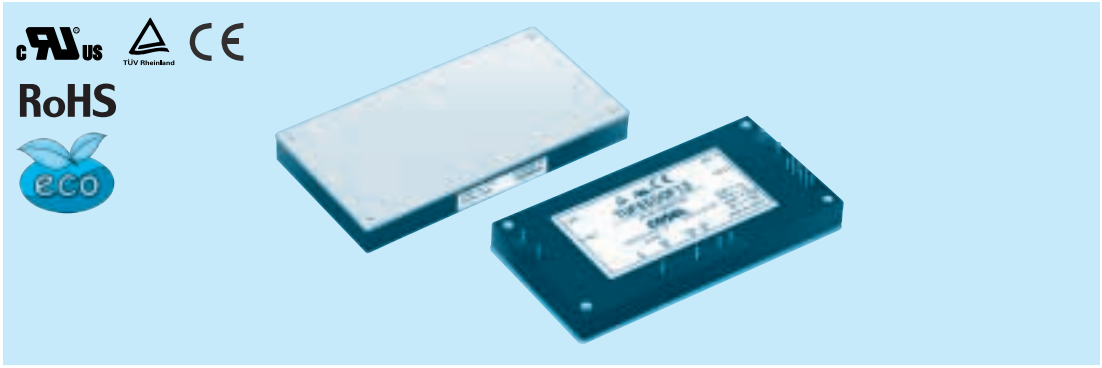
TU

COSEL AC-DC Power Supplies Power Module type

TUFS500 PRELIMINARY

Ordering information

TUF	S	500	F	48	
①	②	③	④	⑤	



①Series name
②Single output
③Output wattage
④Universal Input
⑤Output voltage

TU

＊Avoid short circuit between +BC and -BC. It may cause the failure of inside components.
＊Keep TRM open, if output voltage adjustment is not necessary.
＊If remote sensing is not necessary, connect between +Vout & +S and between -Vout & -S.

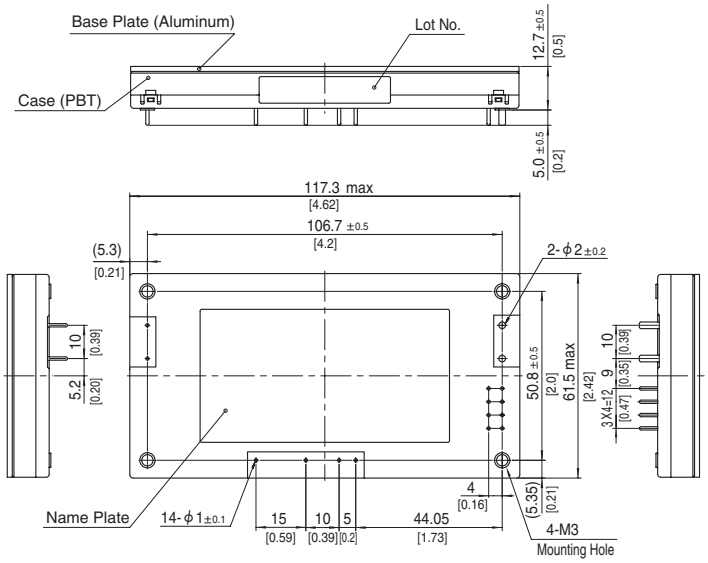
MODEL	TUFS500F12	TUFS500F28	TUFS500F48
MAX OUTPUT WATTAGE[W]	504	504	504
DC OUTPUT	12V 42A	28V 18A	48V 10.5A

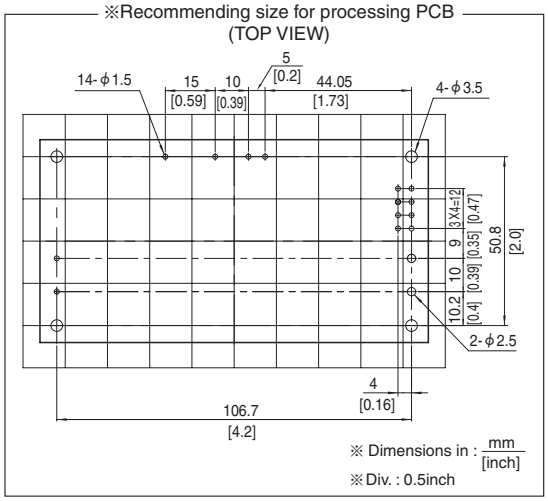
SPECIFICATIONS

	MODEL		TUFS500F12	TUFS500F28	TUFS500F48
INPUT	VOLTAGE[V]		AC85 - 264 1 ϕ (Please refer to the instruction manual, 6.5 Derating)		
	CURRENT[A]	ACIN 100V	6.3typ (Io=100%)		
		ACIN 200V	3.2typ (Io=100%)		
	FREQUENCY[Hz]		50/60 (47 - 63)		
	EFFICIENCY[%]	ACIN 100V	84typ	86typ	85typ
		ACIN 200V	86typ	89typ	88typ
	POWER FACTOR (Io=100%)	ACIN 100V	0.96typ		
		ACIN 200V	0.93typ		
	INRUSH CURRENT		Limited by external resistance		
	LEAKAGE CURRENT[mA]		0.75 max (60Hz, According to IEC60950-1)		
OUTPUT	VOLTAGE[V]		12	28	48
	CURRENT[A]	＊3	42 (Peak 55)	18 (Peak 24)	10.5 (Peak 14)
	LINE REGULATION[mV]		24max	56max	96max
	LOAD REGULATION[mV]		24max	56max	96max
	RIPPLE[mVp-p]	0 to +100℃＊1	120max	180max	250max
		-40 to 0℃＊1	150max	200max	300max
		0 to 15% Load＊1	240max	240max	400max
	RIPPLE NOISE[mVp-p]	0 to +100℃＊1	150max	200max	300max
		-40 to 0℃＊1	200max	300max	450max
		0 to 15% Load＊1	300max	300max	500max
	TEMPERATURE REGULATION[mV]	0 to +65℃	120max	280max	480max
		-40 to +100℃	240max	560max	960max
	DRIFT[mV]	＊2	40max	90max	180max
	START-UP TIME[ms]		500max (ACIN 100V, Io=100%)		
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]		Fixed (TRM pin open), adjustable by external resistor or external signal		
			9.60 - 14.40	22.40 - 33.60	38.40 - 52.80
	OUTPUT VOLTAGE SETTING[V]		11.91 - 12.29	27.56 - 28.44	47.24 - 48.76
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION		Works over 105% of rating and recovers automatically		
	OVERVOLTAGE PROTECTION[V]		15.00 - 16.80	35.00 - 39.20	55.20 - 64.80
	REMOTE SENSING		Provided		
	REMOTE ON/OFF		Provided on the output side		
ISOLATION	INPUT-OUTPUT		AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-FG		AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
	OUTPUT-RC1, RC2		AC100V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)		
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE		-40 to +100℃ (On aluminum base plate), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max		
	STORAGE TEMP.,HUMID.AND ALTITUDE		-40 to +100℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max		
	VIBRATION		10 - 55Hz, 49.0m/s² (5G), 3minutes period, 60minutes each along X, Y and Z axis		
	IMPACT		196.1m/s² (20G), 11ms, once each along X, Y and Z axis		
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS		UL60950-1, C-UL (CSA60950-1), EN60950-1, EN50178		
	HARMONIC ATTENUATOR		Comply with IEC61000-3-2		
OTHERS	CASE SIZE/WEIGHT		117.3×12.7×61.5mm [4.62×0.5×2.42 inches] (W×H×D) / 240g max		
	COOLING METHOD		Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)		

＊1 Refer to instruction manual for measuring method of electric characteristics.
＊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.
＊3 ( ) means peak current. Avoid operating with peak current continuously. It may cause failure of the components inside the product.
There are limitation of available condition of the peak current, such as input voltage range, peak time, duty etc. (Refer to the instruction manual in detail.)

External view





※ Tolerance : ±0.3 [±0.012]
※ Weight : 240g max
※ Dimensions in mm, [ ]=inches
※ Mounting hole screwing torque : 0.49N・m (5.0kgf・cm) max

TU