

AC-DC Converter



JB500/JB600/JB750/JB800 Series

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264-800W Active PFC

Single Output

(optional current share)

Features

- Universal AC Input / Full Range
- Optional N+1 Active Current Share
- Power Factor Corrected to EN61000-3-2 class D
- High Power Density (max. 9.1 watts per cubic inch)
- Approved to UL/cUL/TUV/CB/CE & Class B emissions
- U-Chassis & Enclosed with built-in fan options



Electrical Specification

Input Voltage	90-264Vac full range, 47-63Hz
Inrush Current	70A max. @ 230Vac with full load output, cold start
PFC	Active Power Factor Correction meets EN61000-3-2 class D
Transient Response	Returns to within 1% in less than 2.5mS for 50% load change & peak transient does not exceed 5%
Overshoot	Turn-on & turn-off overshoot <5% of nominal voltage
Efficiency	70% for 3.3V, 75% for 5V, 80% for 12V and 83% min. for other outputs @ 230Vac input and full load
Turn On Delay	1 second max. at 230Vac input
Hold Up Time	20mS min. at 80% of full load
Adjustability	Output user adjustable $\pm 5\%$ min.
Remote On/Off	Designated as RSW on CN3, requires a low signal to inhibit output
Remote Sense	Designated as RS+ and RS- on CN3, voltage compensates for up to 0.5V line drop (NOT available for current sharing models)
LED Display	Bi-colour LED1 emits Green for power on & Orange when protection is enabled or RSW is applied with a low signal
Power Good	Designated as PG on CN3. TTL high 100-500mS after regulation and low at least 1mS before loss of regulation for Power On reset signal
Current Sharing	Designated as CSH on CN3. Optional single wire forced current sharing function to enable up to 4 units to be connected in parallel with a 10% accuracy at full load
Current Monitor	Designated as CMN on CN3. A 0.5V - 3.0VDC output voltage to represent 0-100% of output current
Input Fusing Protection	T12A/250V fuse in the primary
Input Voltage Protection	Shuts down output when input is under 80Vac ± 5 Vac. Recovers when input above 86Vac.
Short Circuit Protection	Trip without damage and auto-recovery.
Over-Power Protection	Fold back mode 110-140% and auto-recovery
Over-Voltage Protection	Output latches off when output exceeds 130% of maximum. Recycle AC input to recover
Over-Temperature Protection	Unit protected against excessive operating ambient @85°C and auto-recovery
Operating Temperature	0 to 70°C ambient. De-rating at 2.5%/°C from 50°C to 70°C
Storage Temperature	-20 to 85°C
Operating Humidity	5% to 90% RH Non-condensing
Storage Humidity	5% to 95% RH Non-condensing
Vibration	5 - 50Hz, acceleration 7.35m/s ² s on X, Y and Z axis
Emissions	FCC Part 15, CISPR 22 class B, conducted
Safety Regulation	Approved to UL60950-1, CSA C22.2 No. 60950-1-03, TUV EN60950-1, CE Mark (LVD) EN61000-3-2, 3 & IEC61000-4 Series Regulations and CB
Leakage Current	3.5mA max @240Vac
HI-POT Withstand Voltage	1500Vac input line to chassis (10mA DC cut off current); 3000Vac primary to secondary windings; 1500Vac primary to core. All for 3 secs.
Grounding Test	Apply 25A from earth pin of input connector to far most earth point. Max. allowable resistance 0.1 Ω
MTBF	100,000 Hrs (according to MIL-HBK-217F) at 30°C
Enclosure	E Type: 9.17(L) x 4.25(W) x 2.5(H) inches U Type: 8(L) x 4.33(W) x 2.5(H) inches F Type: 8(L) x 4.33(W) x 3.4(H) inches
Cooling	E & F Type: built-in fan U Type: 30CFM to achieve max. power
Weight	E & F Type: 1450g U Type: 1350g

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Output Voltage and Current Ratings

MODEL	INPUT RATING	OUTPUT VOLTAGE Preset	Range	MAX OUTPUT CURRENT	REGULATION	RIPPLE & NOISE	POWER Max.
JB500X-3V3(I)	90-264Vac 8A	3.3VDC	2 - 3.3V	80A	±1%	75mV	264W
JB500X-5(I)	90-264Vac 8A	5VDC	5 - 6V	80A	±1%	75mV	400W
JB500X-12(I)	90-264Vac 8A	12VDC	12 - 15V	41.67A	±1%	±1%	500W
JB500X-18(I)	90-264Vac 8A	18VDC	16 - 21V	31.25A	±1%	±1%	500W
JB500X-24(I)	90-264Vac 8A	24VDC	22 - 30V	22.73A	±1%	±1%	500W
JB500X-36(I)	90-264Vac 8A	36VDC	31 - 47V	16.13A	±1%	±1%	500W
JB500X-48(I)	90-264Vac 8A	48VDC	48 - 56V	10.42A	±1%	±1%	500W
JB600X-12(I)	90-264Vac 10A	12VDC	12 - 14V	50A	±1%	±1%	600W
JB600X-15(I)	90-264Vac 10A	15VDC	15 - 19V	40A	±1%	±1%	600W
JB600X-24(I)	90-264Vac 10A	24VDC	20 - 26V	30A	±1%	±1%	600W
JB600X-36(I)	90-264Vac 10A	36VDC	27 - 36V	22.22A	±1%	±1%	600W
JB600X-40(I)	90-264Vac 10A	40VDC	37 - 47V	16.22A	±1%	±1%	600W
JB600X-48(I)	90-264Vac 10A	48VDC	48 - 60V	12.5A	±1%	±1%	600W
JB750X-12(I)	90-264Vac 12A	12VDC	12 - 14V	62.5A	±1%	±1%	750W
JB750X-15(I)	90-264Vac 12A	15VDC	15 - 19V	50A	±1%	±1%	750W
JB800X-24(I)	90-264Vac 12A	24VDC	20 - 26V	40A	±1%	±1%	800W
JB800X-36(I)	90-264Vac 12A	36VDC	27 - 36V	29.63A	±1%	±1%	800W
JB800X-40(I)	90-264Vac 12A	40VDC	37 - 47V	21.62A	±1%	±1%	800W
JB800X-48(I)	90-264Vac 12A	48VDC	48 - 60V	16.67A	±1%	±1%	800W

Notes:

- X in the part number can be 'E' (enclosed with end fan), 'F' (enclosed with top fan), 'U' (U chassis with optional cover)
- (I) denotes models with forced current sharing option (internal OR-ing diode)
- All voltages shown in output voltage range can be set and still carry agency certifications
- Standard models come with output voltage preset
- U chassis versions need external 30CFM forced air cooling to achieve maximum output power
- Ripple & noise are measured from 10KHz to 20MHz bandwidth with an 0.1µF ceramic and 22µF electrolytic capacitor across the output
- Provides peak power up to 900W for 500µS for all models. For longer duration contact sales office
- 1% minimum load required to maintain regulation
- Cover is optional for U-chassis type
- Output is fully isolated

Connection Details

AC Input Connector (CN1):

E Type: IEC320 or equivalent Snap-in mounting type or DINKLE Terminal block Part No. DT-35-A02W-03 (3 pin)

U & F Type: Mating Molex Part No. 09-91-0700 or equivalent (7 pins, 5 used) or Howder Terminal Block Part No. HD-121-8P
Crimps: Molex Part No. 2578

Output Connector (CN2):

Mating Molex Part No. 09-91-2000 (20 pin) or Howder Terminal Block Part No. HD-121-8P (8 pin)

Crimps: Molex Part No. 2578

Output Pin Assignment:

Molex: VO+ (Pins 1-10), VO- (Pins 11-20), **Howder:** VO+ (Pins 1-4), VO- (Pins 5-8)

Logic Signal Connectors (CN3):

Mating JST XHP-7 or equivalent (CHYAO SHIUNN JS-2001-07)

Crimps: JST SXH-001T-P0.6 (CHYAO SHIUNN JS-2001-TB)

Fan Drive: 12VDC/500mA.

Mating JST XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02)

Crimps: JST SXH-001T-P0.6 (CHYAO SHIUNN JS-2001-TB)

Mounting Inserts:

6-32 and M4, 4 places each with maximum penetration 0.2 inch on bottom side and 0.25 inch on both sides

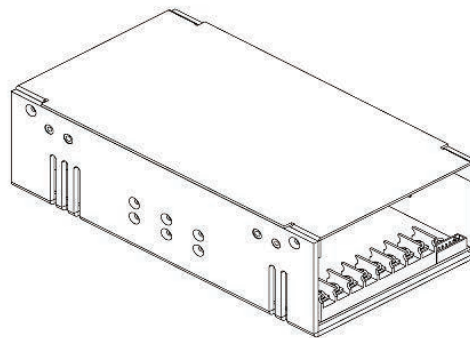
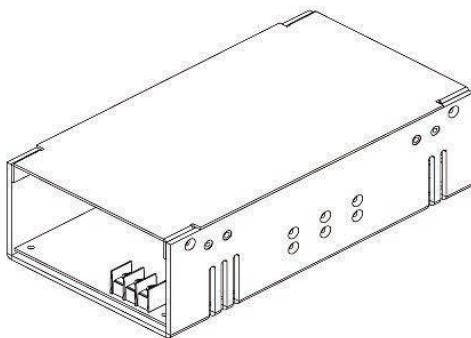
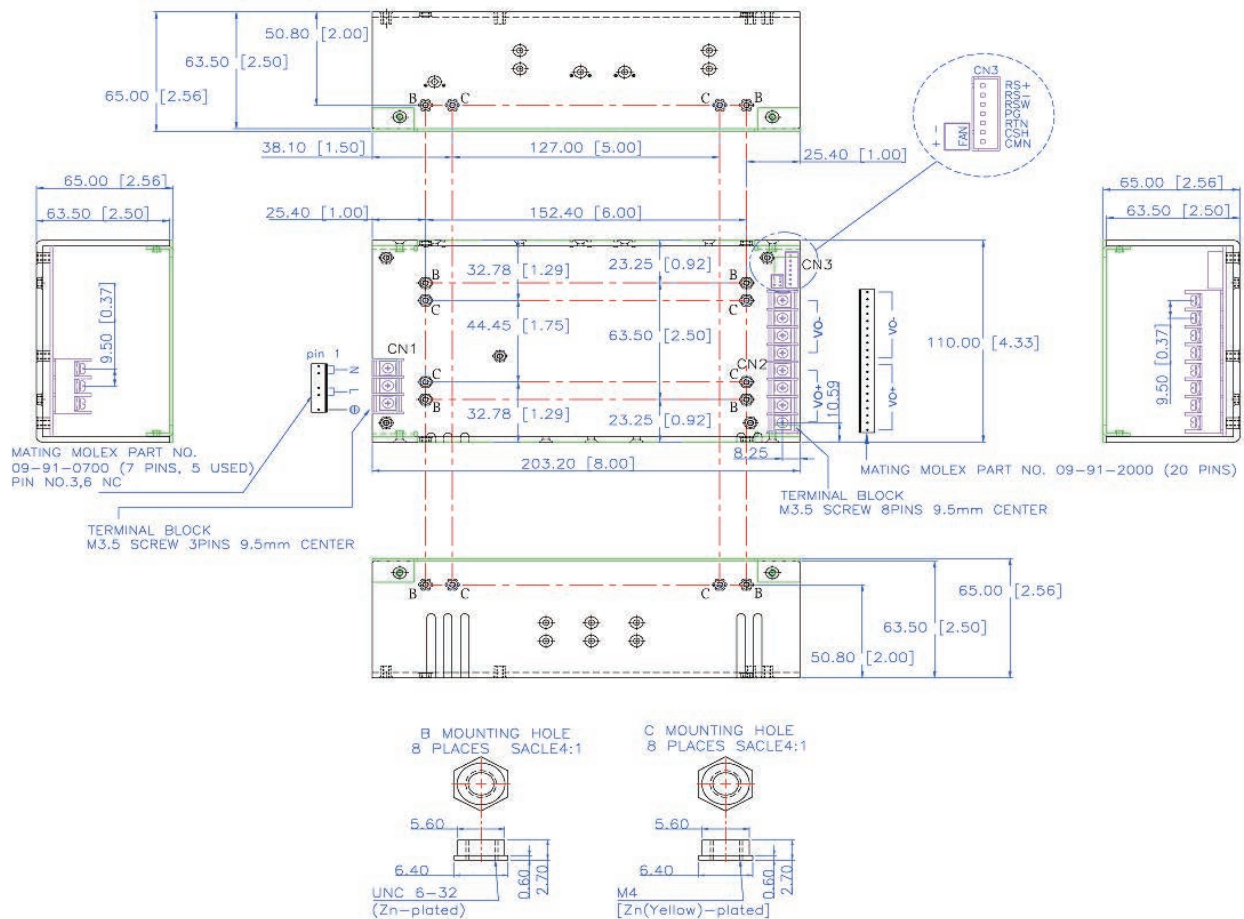
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Mechanical Details

U-Chassis Type: 8(L) x 4.33(W) x 2.5(H) inches; Weight: 1350g; (Option: Top Cover)

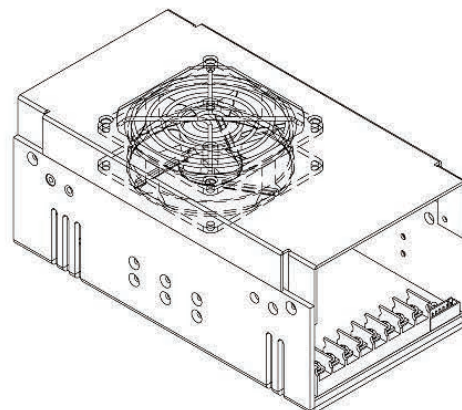
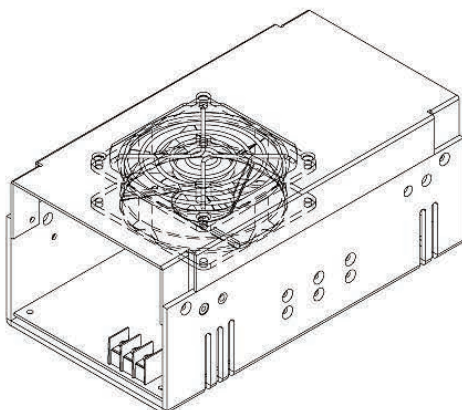
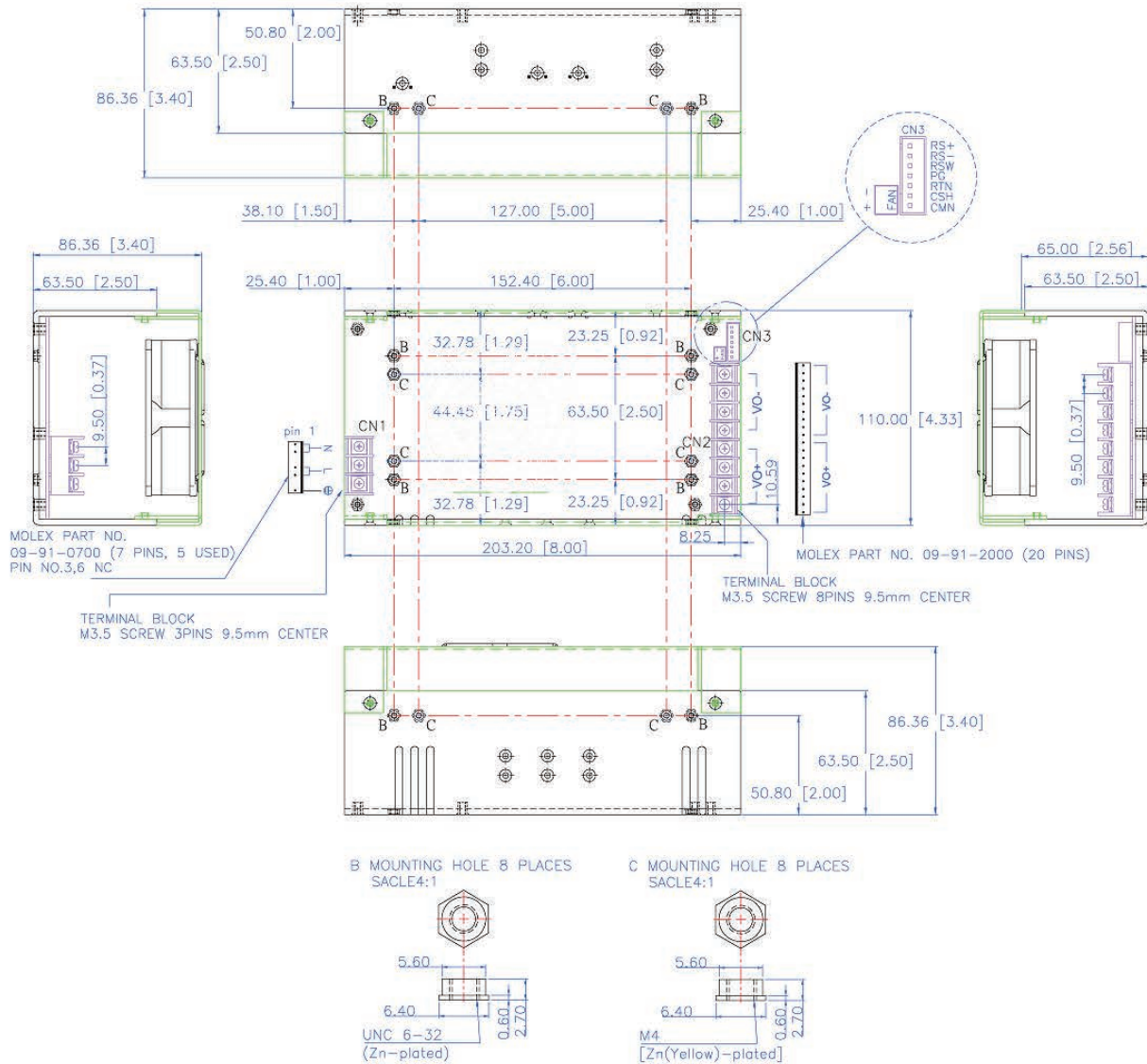


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Enclosed with built-in Top Fan Type: 8(L) x 4.44(W) x 3.4(H) inches; Weight: 1450g



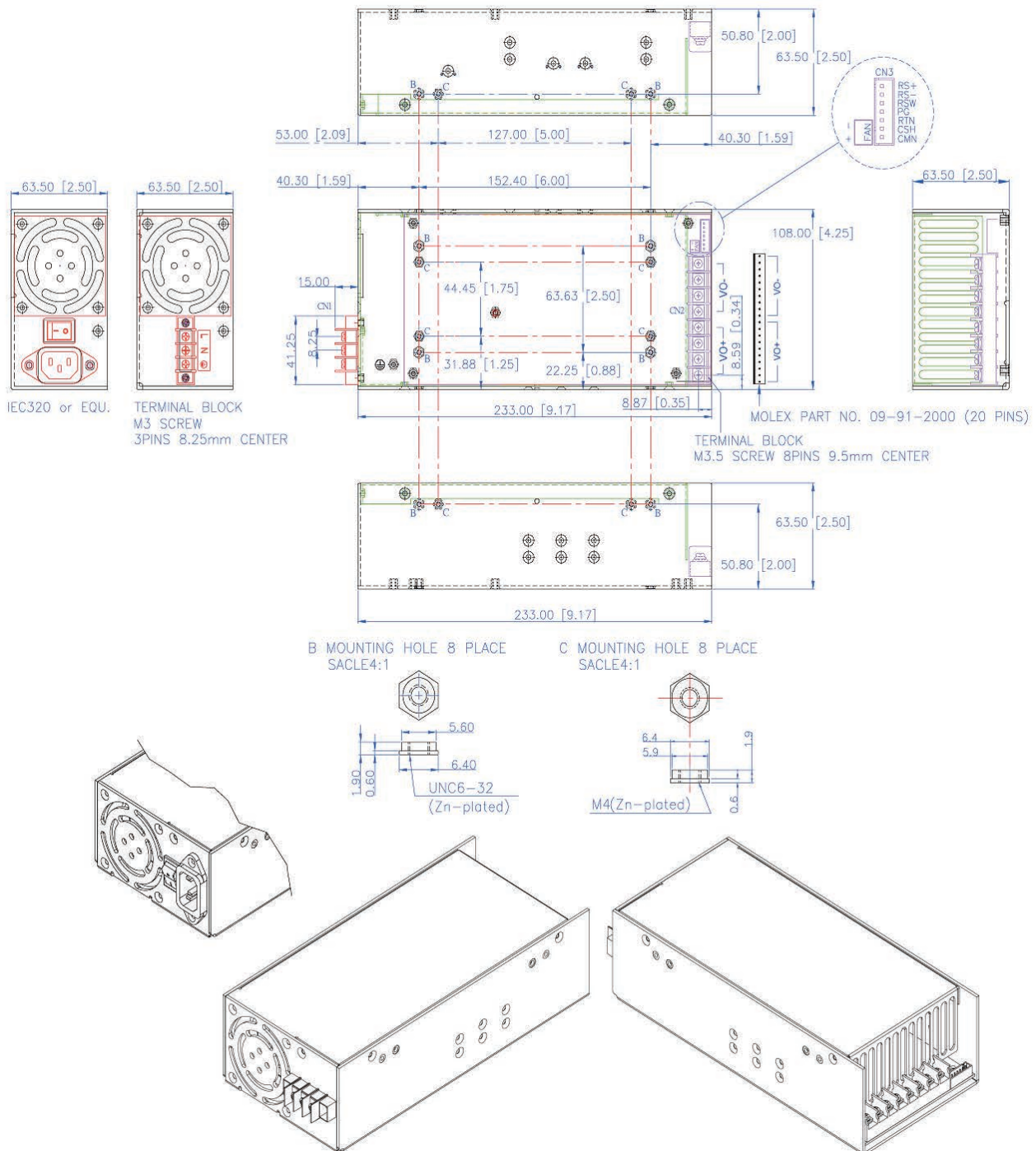
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Enclosed with built-in End Fan Type: 9.17(L) x 4.25(W) x 2.5(H) inches; Weight: 1450g



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