

100W Single Output Medical Type

MSP-100 series



GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

- Features :
- Universal AC input / Full range
- · Built-in active PFC function
- High efficiency up to 90%
- Withstand 300VAC surge input for 5 seconds
- * Protections: Short circuit / Overload / Over voltage
- Protections: Over temperature (optional)
- Cooling by free air convection
- 1U low profile 38mm
- Medical safety approved (MOOP level)
- Built-in remote ON-OFF control
- No load power consumption<0.5W
- * All using 105°C long life electrolytic capacitors
- 5 years warranty



User's Manual

CRAUS CB INCOM

SPECIFICATION

REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	3.1 ~ 3.8V +2.5,-3.5% ±0.5% ±2.0% 2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz	20ms/115 120 ~ 370V		MSP-100-12 12V 8.5A 0 ~ 8.5A 102W 120mVp-p 11.4 ~ 13.8V ± 1.5% ± 0.3% ± 0.8% 5VAC at full load	MSP-100-15 15V 7A 0~7A 105W 150mVp-p 14.25~18V ±1.5% ±0.3% ±0.8%	MSP-100-24 24V 4.5A 0~4.5A 108W 150mVp-p 22.8 ~ 28.8V ±1.5% ±0.2% ±0.5%	MSP-100-36 36V 2.9A 0~2.9A 104.4W 200mVp-p 34.2~39.6V ±1.5% ±0.2% ±0.5%	MSP-100-48 48V 2.2A 0~2.2A 105.6W 240mVp-p 45.6~55.2V ±1.5% ±0.2%				
ATED CURRENT URRENT RANGE ATED POWER UPPLE & NOISE (max.) Note.2 OLTAGE ADJ. RANGE OLTAGE TOLERANCE Note.3 INE REGULATION OAD REGULATION ETUP, RISE TIME OLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) INUSH CURRENT (Typ.)	20A 0 ~ 20A 66W 2 80mVp-p 3.1 ~ 3.8V +2.5,-3.5% ±0.5% ±2.0% 2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	17A 0~17A 85W 80mVp-p 4.75~5.8V +2.5,-3.5% ±0.5% ±2.0% /230VAC 24 20ms/115' 120~370V AC PF>0.5	13.5A 0 ~ 13.5A 101.3W 100mVp-p 7.1 ~ 9V ±2.5% ±0.5% ±1.5% 500ms, 100ms/11 VAC at full load	8.5A 0~8.5A 102W 120mVp-p 11.4~13.8V ±1.5% ±0.3% ±0.8%	7A 0~7A 105W 150mVp-p 14.25~18V ±1.5% ±0.3%	4.5A 0~4.5A 108W 150mVp-p 22.8~28.8V ±1.5% ±0.2%	2.9A 0~2.9A 104.4W 200mVp-p 34.2~39.6V ±1.5% ±0.2%	2.2A 0~2.2A 105.6W 240mVp-p 45.6~55.2V ±1.5%				
URRENT RANGE ATED POWER UPPLE & NOISE (max.) Note.2 OLTAGE ADJ. RANGE OLTAGE TOLERANCE Note.3 INE REGULATION OAD REGULATION OLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	0~20A 66W 280mVp-p 3.1~3.8V +2.5,-3.5% ±0.5% ±2.0% 2500ms, 100ms 50ms/230VAC 85~264VAC 47~63Hz PF>0.95/230V 78% 1.2A/115VAC	0~17A 85W 80mVp-p 4.75~5.8V +2.5,-3.5% ±0.5% ±2.0% x/230VAC 24 20ms/115 120~370V AC PF>0.5	0~13.5A 101.3W 100mVp-p 7.1~9V ±2.5% ±0.5% ±1.5% 500ms, 100ms/11 VAC at full load	0~8.5A 102W 120mVp-p 11.4~13.8V ±1.5% ±0.3% ±0.8%	0~7A 105W 150mVp-p 14.25~18V ±1.5% ±0.3%	0~4.5A 108W 150mVp-p 22.8~28.8V ±1.5% ±0.2%	0~2.9A 104.4W 200mVp-p 34.2~39.6V ±1.5% ±0.2%	0~2.2A 105.6W 240mVp-p 45.6~55.2V ±1.5%				
ATED POWER IPPLE & NOISE (max.) Note.2 OLTAGE ADJ. RANGE OLTAGE TOLERANCE Note.3 INE REGULATION OAD REGULATION ETUP, RISE TIME IOLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) IRUSH CURRENT (Typ.)	66W 80mVp-p 3.1 ~ 3.8V +2.5,-3.5% ±0.5% ±2.0% 2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	85W 80mVp-p 4.75 ~ 5.8V +2.5,-3.5% ±0.5% ±2.0% x/230VAC 29 20ms/115 120 ~ 370V AC PF>0.9	101.3W 100mVp-p 7.1 ~ 9V ±2.5% ±0.5% ±1.5% 500ms, 100ms/11 VAC at full load	102W 120mVp-p 11.4 ~ 13.8V ±1.5% ±0.3% ±0.8%	105W 150mVp-p 14.25 ~ 18V ±1.5% ±0.3%	108W 150mVp-p 22.8 ~ 28.8V ±1.5% ±0.2%	104.4W 200mVp-p 34.2 ~ 39.6V ±1.5% ±0.2%	105.6W 240mVp-p 45.6~55.2V ±1.5%				
IPPLE & NOISE (max.) Note.2 OLTAGE ADJ. RANGE OLTAGE TOLERANCE Note.3 INE REGULATION OAD REGULATION ETUP, RISE TIME IOLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) IRUSH CURRENT (Typ.)	2 80mVp-p 3.1 ~ 3.8V +2.5,-3.5% ±0.5% ±2.0% 2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	80mVp-p 4.75 ~ 5.8V +2.5,-3.5% ±0.5% ±2.0% y/230VAC 29 20ms/115 120 ~ 370V AC PF>0.9	100mVp-p 7.1 ~ 9V ±2.5% ±0.5% ±1.5% 500ms, 100ms/11: VAC at full load	120mVp-p 11.4 ~ 13.8V ±1.5% ±0.3% ±0.8%	150mVp-p 14.25~18V ±1.5% ±0.3%	150mVp-p 22.8 ~ 28.8V ±1.5% ±0.2%	200mVp-p 34.2 ~ 39.6V ±1.5% ±0.2%	240mVp-p 45.6 ~ 55.2V ±1.5%				
OLTAGE ADJ. RANGE OLTAGE TOLERANCE Note.3 INE REGULATION OAD REGULATION ETUP, RISE TIME IOLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) IRUSH CURRENT (Typ.)	3.1 ~ 3.8V +2.5,-3.5% ±0.5% ±2.0% 2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	4.75 ~ 5.8V +2.5,-3.5% ±0.5% ±2.0% √230VAC 29 20ms/115 120 ~ 370V AC PF>0.9	7.1 ~ 9V $\pm 2.5\%$ $\pm 0.5\%$ $\pm 1.5\%$ 500ms, 100ms/11: VAC at full load	11.4 ~ 13.8V ±1.5% ±0.3% ±0.8%	14.25 ~ 18V ±1.5% ±0.3%	22.8~28.8V ±1.5% ±0.2%	34.2~39.6V ±1.5% ±0.2%	45.6 ~ 55.2V ±1.5%				
OLTAGE TOLERANCE Note.3 INE REGULATION OAD REGULATION ETUP, RISE TIME IOLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) IRUSH CURRENT (Typ.)	+2.5,-3.5% ±0.5% ±2.0% 2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	+2.5,-3.5% ±0.5% ±2.0% %/230VAC 29 20ms/115 120 ~ 370V AC PF>0.9	±2.5% ±0.5% ±1.5% 500ms, 100ms/11 VAC at full load	±1.5% ±0.3% ±0.8%	±1.5% ±0.3%	±1.5% ±0.2%	±1.5% ±0.2%	±1.5%				
INE REGULATION OAD REGULATION ETUP, RISE TIME OLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) IFFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	±0.5% ±2.0% 2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	±0.5% ±2.0% /230VAC 24 20ms/115 120 ~ 370V AC PF>0.9	$\pm 0.5\%$ $\pm 1.5\%$ 500ms, 100ms/11 VAC at full load	±0.3% ±0.8%	±0.3%	±0.2%	±0.2%					
OAD REGULATION ETUP, RISE TIME OLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	±2.0% 2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	±2.0% //230VAC 2! 20ms/115' 120 ~ 370V AC PF>0.9	\pm 1.5% 500ms, 100ms/11 VAC at full load	±0.8%				= 0.2 /0				
ETUP, RISE TIME IOLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) IRUSH CURRENT (Typ.)	2500ms, 100ms 50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	230VAC 25 20ms/115 120 ~ 370V AC PF>0.5	500ms, 100ms/11 VAC at full load			- 010 /0		±0.5%				
OLD UP TIME (Typ.) OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	50ms/230VAC 85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	20ms/115 120 ~ 370V AC PF>0.9	VAC at full load					_ 0.070				
OLTAGE RANGE Note.5 REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	85 ~ 264VAC 47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	120 ~ 370V AC PF>0.9			50ms/230VAC 20ms/115VAC at full load							
REQUENCY RANGE OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	47 ~ 63Hz PF>0.95/230V 78% 1.2A/115VAC	AC PF>0.9										
OWER FACTOR (Typ.) FFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	PF>0.95/230V 78% 1.2A/115VAC											
FFICIENCY (Typ.) C CURRENT (Typ.) NRUSH CURRENT (Typ.)	78% 1.2A/115VAC		PF>0.95/230VAC PF>0.98/115VAC at full load									
C CURRENT (Typ.) NRUSH CURRENT (Typ.)	1.2A/115VAC	/-	84%	87.5%	88%	88.5%	89%	90%				
NRUSH CURRENT (Typ.)		0.6A/230VA				,-						
	J JJA/ T JVAC	65A/230VA										
LANAGE CONTENT NOTE.0	Earth leakage	current < 300µA/	264VAC , Touch I	leakage current <	: 100µA/264VAC							
OVERLOAD	105 ~ 135% rated output power											
				=50 ~ 100% of rat	ted voltage, recov	vers automaticall	y after fault cond	dition is removed				
OVER VOLTAGE	3.96~4.62V	6~7V	9.4 ~ 10.9V	14.4 ~ 16.8V	18.8 ~ 21.8V	30~34.8V	41.4 ~ 48.6V	57.6~67.2V				
	Protection type	e : Shut down o/	p voltage, re-pov	wer on to recove	r							
VER TEMPERATURE	Shut down o/p	voltage, recove	rs automatically	after temperatu	re goes down							
EMOTE CONTROL	RC+/RC-:0~	0.8V= power on	; 4 ~ 10V = powe	er off								
ORKING TEMP.	-40~+60°C (F	Refer to "Deratin	g Curve")									
ORKING HUMIDITY	20 ~ 90% RH non-condensing											
TORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH ±0.04%/°C (0 ~ 50°C)											
EMP. COEFFICIENT												
IBRATION	10~500Hz, 50	G 10min./1cycle	, 60min. each ale	ong X, Y, Z axes								
AFETY STANDARDS	ANSI/AAMI ES60601-1, IEC60601-1, EAC TP TC 004 approved, Design refer to BS EN/EN60601-1, BS EN/EN62368-1											
SOLATION LEVEL	Primary-Secondary: 2×MOOP, Primary-Earth: 1×MOOP, Secondary-Earth: 1×MOOP											
ITHSTAND VOLTAGE	I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC											
SOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH											
MC EMISSION	Compliance to BS EN/EN55011 (CISPR11) Class B, BS EN/EN61000-3-2,-3, EAC TP TC 020											
MC IMMUNITY	Compliance to	BS EN/EN6100	0-4-2,3,4,5,6,8,	11, BS EN/EN55	5035,BS EN/EN6	60601-1-2, EAC	TP TC 020					
ITBF	2272.8K hrs m	in. Telcordia S	R-332 (Bellcore)) ; 352.4K hrs mir	n. MIL-HDBK-	217F (25℃)						
IMENSION	159*97*38mm	(L*W*H)										
	0.38Kg; 24pcs/	10.1Kg/0.9CUF	Г									
ACKING	d at 20MHz of ba	andwidth by using gulation and load t which will be in	g a 12" twisted p regulation. stalled into a fina equipment must ower supplies." (air-wire terminate al equipment. All be re-confirmed (as available on h	ed with a 0.1 μ F the EMC tests at that it still meets https://www.mean	& 47 μ F paralle re been executed EMC directives. well.com//Upload	by mounting th For guidance or d/PDF/EMI_state	n how to perform ement_en.pdf)				
	KING parameters NOT specially pple & noise are measured	KING 0.38Kg; 24pcs/ parameters NOT specially mentioned are pple & noise are measured at 20MHz of ba lerance : includes set up tolerance, line reg ne power supply is considered a componen	ENSION 159*97*38mm (L*W*H) KING 0.38Kg; 24pcs/10.1Kg/0.9CUF1 parameters NOT specially mentioned are measured at 230 pple & noise are measured at 20MHz of bandwidth by using oblerance : includes set up tolerance, line regulation and load ep ower supply is considered a component which will be in 50mm*360mm metal plate with 1mm of thickness. The final ese EMC tests, please refer to "EMI testing of component p	ENSION 159*97*38mm (L*W*H) KING 0.38Kg; 24pcs/10.1Kg/0.9CUFT parameters NOT specially mentioned are measured at 230VAC input, rated pole & noise are measured at 20MHz of bandwidth by using a 12" twisted polerance : includes set up tolerance, line regulation and load regulation. power supply is considered a component which will be installed into a fina 60mm*360mm metal plate with 1mm of thickness. The final equipment must ease EMC tests, please refer to "EMI testing of component power supple:" (erating may be needed under low input voltages. Please check the derating	ENSION 159*97*38mm (L*W*H) KING 0.38Kg; 24pcs/10.1Kg/0.9CUFT parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C opple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminate blerance : includes set up tolerance, line regulation and load regulation. ne power supply is considered a component which will be installed into a final equipment. All 50mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed see EMC tests, please refer to "EMI testing of component power supplies." (as available on herating may be needed under low input voltages. Please check the derating curve for more d	ENSION 159*97*38mm (L*W*H) KING 0.38Kg; 24pcs/10.1Kg/0.9CUFT I parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient tempe pole & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 µ F I plerance : includes set up tolerance, line regulation and load regulation. tep power supply is considered a component which will be installed into a final equipment. All the EMC tests ar 00mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets ese EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.mean areting may be needed under low input voltages. Please check the derating curve for more details. buch current was measured from primary input to DC output.	ENSION 159*97*38mm (L*W*H) KING 0.38Kg; 24pcs/10.1Kg/0.9CUFT I parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. pple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 µ F & 47 µ F paralle verance : includes set up tolerance, line regulation and load regulation. re power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed v0mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. ese EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload verating may be needed under low input voltages. Please check the derating curve for more details. vuccurent was measured from primary input to DC output.	ENSION 159*97*38mm (L*W*H) KING 0.38Kg; 24pcs/10.1Kg/0.9CUFT I parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. pple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F & 47 μ F parallel capacitor. plerance : includes set up tolerance, line regulation and load regulation. ne power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting th i0mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance or see EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_state erating may be needed under low input voltages. Please check the derating curve for more details.				



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