

# MMK150S

## MEDICAL GRADE 150 WATT ENCLOSED SWITCHING POWER SUPPLIES

The MMK150S series is a 150-watt medical-grade enclosed switching power supply with a universal input range of 90-264 VAC, making it ideal for various global applications. This series features a compact design, allowing it to fit into tight spaces, and offers high efficiency, ensuring minimal energy loss and reduced heat generation. The regulated outputs available in this series include 5, 12, 15, and 24-volt DC, providing flexibility for different medical devices and equipment. All MMK150S series power supplies come with built-in EMI filters, which help to minimize electromagnetic interference, ensuring the smooth operation of sensitive medical equipment.



### FEATURES

#### UNIVERSAL INPUT VOLTAGE

90-132/176-264 VAC  
100-120 / 200-240VAC Nominal

#### OUTPUT RANGE

150 Watts Output

#### OPERATING TEMPERATURE

0 to +60°C (See Derate)

#### SAFETY APPROVALS

UL/cUL: ANSI/AAMI ES60601-1 3rd ed.  
CSA C22.2 No. 60601-1 3rd ed.  
UL-EU: EN60601-1 3rd ed.  
CB: IEC60601-1 3rd ed.  
CE: EN60601-1-2

#### EFFICIENCY

77~80%, typ

#### ISOLATION

5656 VDC

#### EMI (Designed to Meet)

EN55011, Class B

#### CONSTRUCTION

Enclosed

### HOW TO ORDER

MMK150S-5

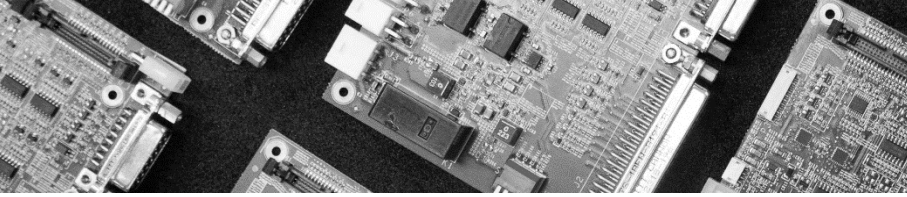
OUTPUT VOLTAGE

5 = 5 VDC  
12 = 12 VDC  
15 = 15 VDC  
24 = 24 VDC

S = SINGLE OUTPUT  
D = DOUBLE OUTPUT

OUTPUT POWER: 75 W

FAMILY: MMK SERIES



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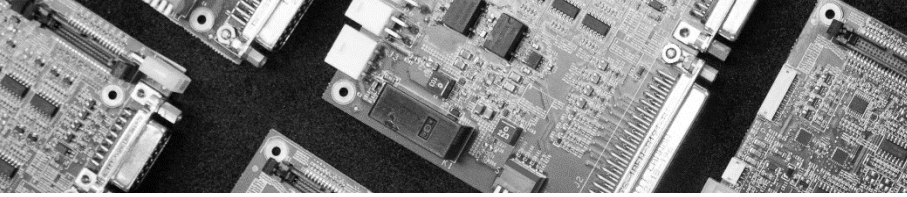
### PARAMETERS

### MMK150S

Input Voltage, Nominal	90-132/176-264 VAC 100-120 / 200-240VAC Nominal
Frequency Range	47-63 Hz
Inrush Current, typ:	20A @ 100VAC * 40A @ 200VAC *
Leakage Current	<0.3mA @ 264VAC, 50Hz
Voltage and Current	See Selection Chart
Line/Load Regulation (NL-FL)	± 0.5%, typ
Voltage Tolerance	± 1%, typ
DC Voltage Adjust (typ)	± 6%, typ
Temperature Coefficient	+/-0.03%/°C
Ripple/Noise	100mV, typ
Over Voltage Protection	130% max. auto-recovery *
Over Current Protection	160% max., Auto-recovery *
Short Circuit Protection	Auto-recovery
Hold Up Time	20mS, typ (Nom I/P, FL)
Turn On Time	≤ 1.5 sec, typ
Rise Time	≤ 250 mS, typ
Over/Under Shoot	< 10% of FS
Isolation	I/P-O/P: 5656VDC I/P-Ground: 2121VDC O/P-Ground: 707VDC
Efficiency	77~80%, typ
Switching Frequency	100Khz, (fixed, typical)
Safety	UL/cUL: ANSI/AAMI ES60601-1 3rd ed. CSA C22.2 No. 60601-1 3rd ed. UL-EU: EN60601-1 3rd ed. CB: IEC60601-1 3rd ed. CE: EN60601-1-2
MTBF	100,000 Hrs Mil Std 217, 25°C
Oper. Temperature	0 to +60°C (See Derate)
Storage Temperature	-25 to +85°C *
Relative Humidity	10% to +95%, non-cond *
EMI (Designed to Meet)	EN55011, Class B
Size	6" x 3.5" x 1.75"
Construction	Enclosed
Weight	1.37 lb, (630g)

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

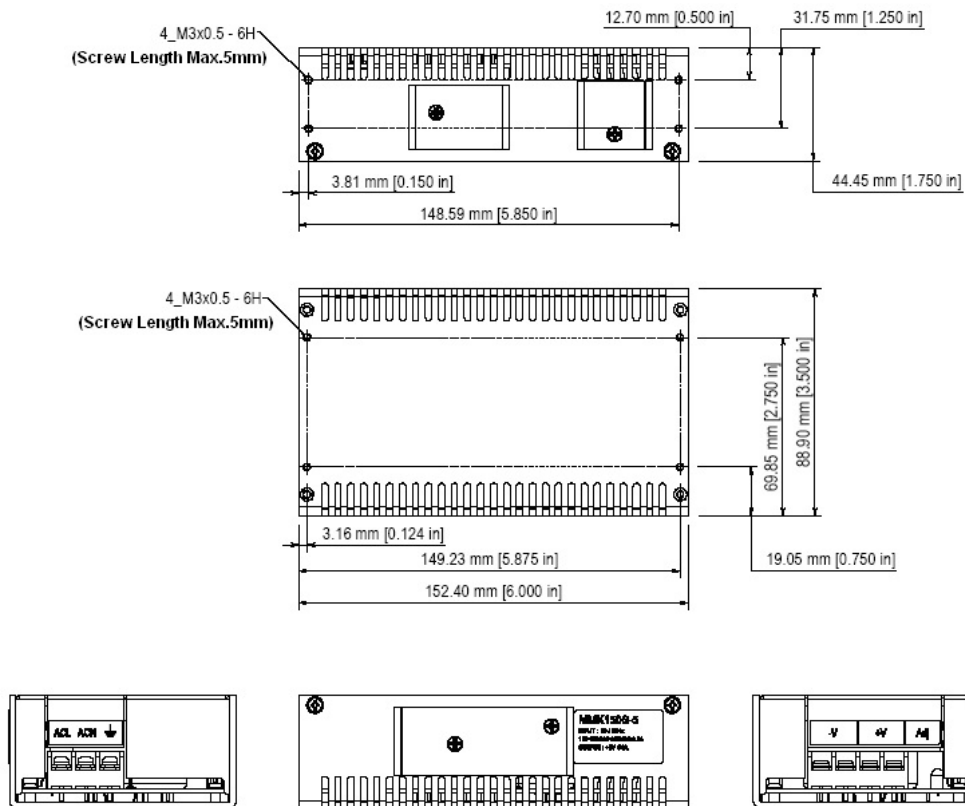
\* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long-term reliability. Proper operation under conditions other than standard conditions is neither warranted nor implied.



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### MECHANICAL DIMENSION

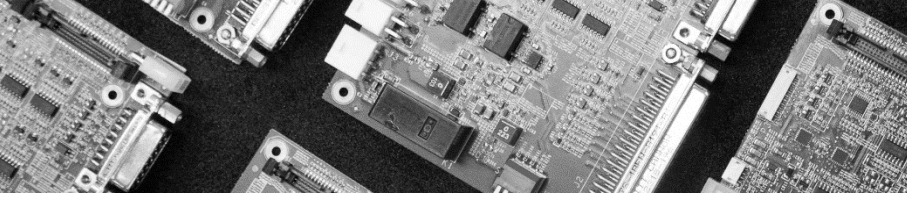


#### PLEASE NOTE:

To improve specifications and safety isolation, connection designations may have changed from prior revisions. Please verify connections per product labels on input and output connections before applying power to the unit

Note: For our M3 x 0.5 aluminum threaded holes:  
Recommended torque: 2.5 in-lbs, 3 in-lbs maximum (2.9 kgf-cm/3.5 kgf-cm max)

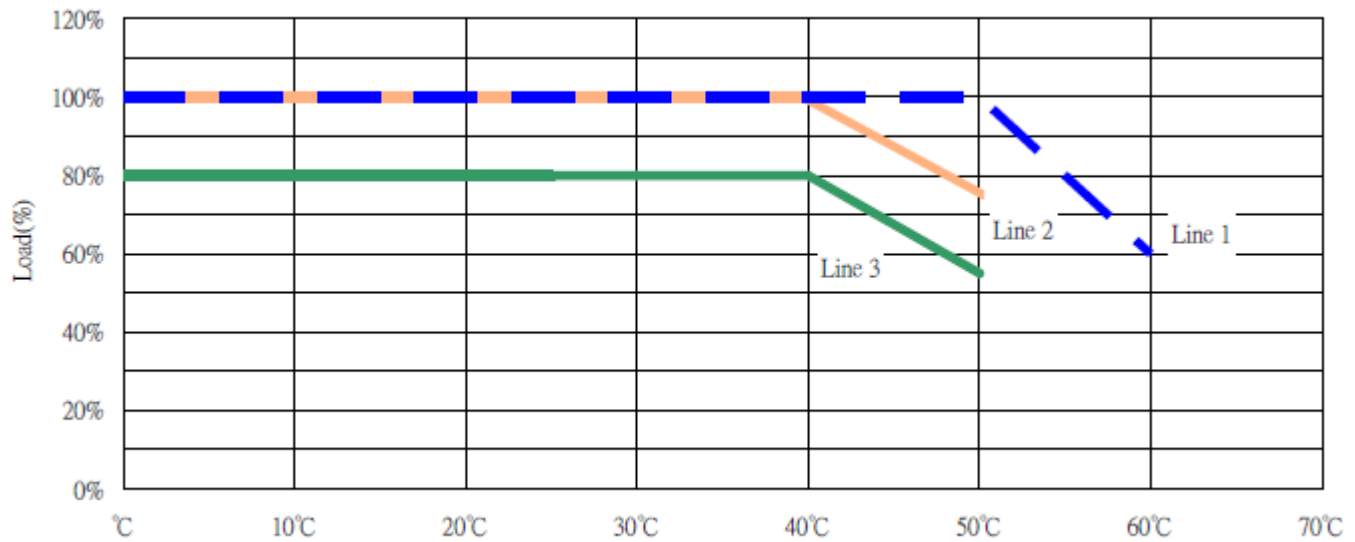
MODEL NUMBER	OUTPUT VOLTAGE	OUTPUT AMPS (MAX)	RIPPLE/NOISE PP,TYP
MMK150S-5	5 VDC	30	100 mv
MMK150S-12	12 VDC	12.5	100 mv
MMK150S-15	15 VDC	10	100 mv
MMK150S-24	24 VDC	6.25	100 mv



# MMK150S

## MEDICAL GRADE 150 WATT ENCLOSED SWITCHING POWER SUPPLIES

### OUTPUT DERATING CURVE



1. Line 1 : Force air cooling.
2. Line 2 : 12V, 15V & 24V convection cooling.
3. Line 3 : 5V convection cooling.