IMA Power Supply Series

For industrial, medical and IT applications

The IMA Power Supplies are available with 400 W, 600 W and 1000 W output power and with 12 V, 24 V, and 48 V output voltages. Additionally, they are equipped with a 5 V Auxiliary DC Output. The units are designed with 1U height and have one of the smallest footprints in his class, combined with high efficiency of up to 94 %. The IMA series fulfills all medical and industrial safety standards. Each unit is also aviable in a coated version for harsh environments.

Wide AC and DC input range

Each variant of the power supplies can be used either with AC input voltages from 80 V_{AC} to 275 V_{AC} and DC input voltages from DC 120 V_{DC} to 300 V_{DC}.

Wide output voltage range

The main output voltage can be adjusted in a wide range of ±20 %.
The 5 V Auxiliary DC Output supplies your controller board with up to 2 A.

Many built-in features

The unit comes along with a lot of useful features like Power good signaling, Remote ON/OFF, OCP, OTP, OVP and Remote voltage drop compensation. The PMBus™ communication interface allows to control and program the unit.

Easy scalability

For higher power rates or for redundancy, up to 8 units can be used in parallel. Active Load sharing allows intelligent power adaption to your application.

Industrial Medical IT

IMA Power Supply Series

	IMA-x400-xx			IMA-x600-xx			IMA-1000-xx		
AC/DC Input	**12 V**	**24 V**	**48 V**	**12 V**	**24 V**	**48 V**	**12 V**	**24 V**	**48 V**
Nominal AC input voltage range	100 V_{AC} to 240 V_{AC}								
AC operating input voltage range	80 V_{AC} to 275 V_{AC}								
Nominal input frequency	50 / 60 Hz								
Input frequency range	47 Hz to 63 Hz								
DC input voltage range	120 V_{DC} to 300 V_{DC}								
Maximum input current	6A at 80 V_{AC} / 3.8A at 120 V_{DC}			9A at 80 V_{AC} / 5.7A at 120 V_{DC}			15A at 80 V_{AC} / 9.5A at 120 V_{DC}		
Efficiency at full load at 230 V_{AC} [1]	92 %	94 %	94 %	92 %	94 %	94 %	93 %	94 %	94 %
Power factor (cos φ)	0.9 (typical)								
Main DC Output									
Nominal DC output voltage	12 V_{DC}	24 V_{DC}	48 V_{DC}	12 V_{DC}	24 V_{DC}	48 V_{DC}	12 V_{DC}	24 V_{DC}	48 V_{DC}
Minimum DC output voltage	9.6 V_{DC}	19.2 V_{DC}	38.4 V_{DC}	9.6 V_{DC}	19.2 V_{DC}	38.4 V_{DC}	9.6 V_{DC}	19.2 V_{DC}	38.4 V_{DC}
Maximum DC output power	400 W			600 W			1000 W		
Total DC output voltage regulation	2.25 %								
Maximum DC output current	33.3 A	16.7 A	8.3 A	50 A	25 A	12.5 A	84 A	42 A	21 A
Auxiliary DC Output									
Maximum output power	400 W			600 W			1000 W		
Nominal DC output voltage	5 V								
Maximum DC output current	0.5A			0.5A			2A		
Total output voltage regulation	2.25 %								
Protection									
DC output over voltage protection	Yes, latch mode, Main DC Output and Auxiliary DC Output								
DC output over current protection	Yes, auto recovery, Main DC Output and Auxiliary DC Output								
Short circuit protection	Yes, auto recovery, Main DC Output and Auxiliary DC Output								
Over temperature protection	Yes, auto recovery, Main DC Output and Auxiliary DC Output								
Mechanical design									
Dimensions L x W x D	176.8 x 101.6 x 40.6 mm (6.96 x 4 x 1.6 in)			203.1 x 101.6 x 40.6 mm (8.0 x 4.0 x 1.6 in)			209.5 x 127 x 40 mm (8.035 x 5 x 1.57 in)		
Weight	0.960 kg (2.12 lb)			1.1 kg (2.43 lb)			1.6 kg (3.53 lb)		
Cooling system	System airflow cooling or natural convection cooling			Fan with variable speed control			2 fans with variable speed control		

Connectors

AC/DC input terminal block	Block M3.5 x 3 pins
Main DC output terminal block	Block M5 x 2 pins [1]
Auxiliary DC output + signals port	Connector x 14 pins

1) IMA-x600-24 and -48; M4 x 2 pins

Environmental conditions

Operating temperature range	-20 °C ... +70 °C (-4 °F to +158 °F)
Storage temperature range	-40 °C ... +85 °C (-40 °F to +185 °F)
Relative humidity	< 95 %, non-condensing
Maximum operating altitude	-200 m to 5000 m (-650 ft to 16400 ft)

Safety and EMC

Safety	IEC/EN 60950-1, Edition 2 and all national deviations
	IEC/EN 60601-1, Edition 3 (tested against Edition 2, too) and all national deviations
Protection class	I
EMC	see data sheet on www.deltaenergysystems.com

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