POWER SUPPLY 1-PHASE, 5 V DC MINILINE SERIES

ML15.051 PSU 100-240V ac I/P 5V dc 3A 15W O/P

- Output current 3 A and 5 A
- Up to 80% efficiency
- · AC and dc input voltage
- Width of 22.5 mm





Product description

3 A model included in Pulse series Mini Line 2 is the latest development series of small power supplies with very compact dimensions and low weight. The units have high efficiency, low EMC interference and good protection against mains transients. This makes them useful in almost all electrical environments and are a great addition to the earlier Mini Line series.

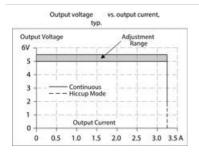
Very low quiescent current and high efficiency even at loads down to 60% makes the aggregates at a good energy and environmental choices.

5 A model is included in the earlier series Miniline having a very proven design and spring terminals for the best connection.

For good cooling free space of 40 mm above and 20 mm under the power supply is recommended. The sides 0 mm unless neighbouring products are a heat source, for example, a power supply unit. Leave then a 15 mm air gap

Output characteristics

ML15.051 (3 A) ML30.101 (5A)



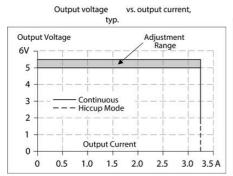


Specifications

Approvals	ABS, CB, CE, CSA, GL, NEC Class 2, UL
Clamp type	Screw on
Depth	91
Effect	15
Efficiency At 120 V AC, full load. Typical	76.8

Height 75 Hold-up time at 120 VAC, full load. Typical. 45 Hold-up time at 230 VAC, full load. Typical. 188 Input voltage AC 100-240 V Input voltage ac max 264 Input voltage ac min 85 Input voltage do max 375 Input voltage do min 88 Input voltage range Wide-range Inrush current at 120 V ac typical 13 Inrush current at 230 V ac typical 1920 Lifetime at 120 V ac, full load and +40° C 70000 Lifetime at 230 V ac, full load and +40° C 90000 Lifetime at 230 V ac, full load and +40° C 90000 Lifetime at 230 V ac, full load and +40° C 90000 Lifetime at 230 V ac, full load and +40° C 90000 Lifetime at 230 V ac, full load and +40° C 90000 Lifetime at 230 V ac, full load and +40° C 90000 Lifetime at 230 V ac, full load and +40° C 90000 Lifetime at 230 V ac, full load and +40° C 900000 Lifetime at 230 V ac, full load and +40° C 900000 Lifetime at 240 V ac, full load and +40° C 9000000	Efficiency At 230 V AC, full load. Typical	77.2
Input voltage AC 100-240 V Input voltage ac max 264 Input voltage ac min 85 Input voltage ac min 85 Input voltage ac min 100-300 V Input voltage dc max 375 Input voltage dc max 375 Input voltage dc min 88 Input voltage ac min 98 Input voltage 120 V ac, full load and +40 ° C 9000 Input voltage 99 Input voltage 90 Input voltage	Height	75
Input voltage ac max Input voltage ac min Input voltage ac min Input voltage ac min Input voltage ac min Input voltage dc max Input voltage dc max Input voltage dc max Input voltage dc min Input voltage dc min Input voltage dc min Input voltage arge Inrush current at 120 V ac typical Inrush current at 120 V ac typical Inrush current at 230 V ac typical Irrush current at 230 V ac full load and +40 ° C Irretime at 120 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, full load and +40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Maximum Load, 40 ° C Irretime at 230 V ac, Mull load. Typical Irretime at 230 V a	Hold-up time at 120 V AC, full load. Typical.	45
Input voltage ac min 85 Input voltage DC 110-300 V Input voltage dc max 375 Input voltage dc min 88 Input voltage dc min 88 Input voltage range Wide-range Inrush current at 120 V ac typical 13 IP Class IP20 Lifetime at 120 V ac, full load and +40 ° C 70000 Lifetime at 230 V ac, full load and +40 ° C 93000 Load Regulation <100 mV (0-3 A) Material Protection ABS plastic Number of phases 1 Output Voltage max 5 Output voltage max 5.5 Output voltage max 5.5 Parallel Connection For Increased Power delais. 9.28 Power Consumption At 120 V AC 0.28 Power Consumption At 230 V AC, full load. Typical 0.51 Power Reduction Of 60 To 70 ° C 0.44 Ripple, max 5.0	Hold-up time at 230 V AC, full load. Typical.	186
Input voltage ac min 85 Input voltage DC 110-300 V Input voltage dc max 375 Input voltage dc min 88 Input voltage dc min 88 Input voltage ar min 98 Inrush current at 120 V ac typical 13 Inrush current at 230 V ac typical 26 IP Class IP20 Lifetime at 120 V ac, full load and +40 ° C 70000 Lifetime at 230 V ac, full load and +40 ° C 90000 Load Regulation <100 mV (0-3 A) Material Protection At 250 V AC, Maximum Load, 40 ° C 888000 C Number of phases 1 Output voltage max 5.5 Output voltage max 5.5 Output voltage min 5 Parallel Connection For increased Power 6 details. Power Consumption At 120 V AC, full load. Typical 0.51 Power Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Reduction Of 60 To 70 ° C 0.4 Ripple. max 50 Output Politage Turner Advance Turn	Input voltage AC	100-240 V
Input voltage dc max Input voltage dc min Input voltage dc min Input voltage dc min Input voltage range Inrush current at 120 V ac typical Inrush current at 230 V ac typical IP20 IP20 Iffetime at 120 V ac, full load and +40 ° C Iffetime at 230 V ac, full load and +40 ° C Iffetime at 230 V ac, full load and +40 ° C IFFETI SPACE I	Input voltage ac max	264
Input voltage dc min Input voltage dc min Input voltage range Inrush current at 120 V ac typical Inrush current at 230 V ac typical IP Class IL Ifetime at 120 V ac, full load and +40 ° C IV Class IN Cl	Input voltage ac min	85
Input voltage dc min 88 Input voltage range Wide-range Inrush current at 120 V ac typical 13 Irvash current at 230 V ac typical 26 IP Class IP20 Lifetime at 120 V ac, full load and +40 ° C 70000 Lifetime at 230 V ac, full load and +40 ° C 39000 Load Regulation ABS plastic Material Protection ABS plastic Number of phases 1 Output Current 3 Output voltage 5 Output voltage max 5.5 Output voltage min 5 Parallel Connection For Increased Power Yes. See manufacturers datasheet or contact OEM Automatic for more details. Power Consumption At 120 V AC 0.28 Power Factor at 120 V AC, full load. Typical 0.51 Power Factor at 230 V AC, full load. Typical 0.44 Power Reduction Of 60 To 70 ° C 0.4 Rippie. max 50	Input voltage DC	110-300 V
Input voltage range Inrush current at 120 V ac typical Inrush current at 230 V ac typical IP Class IP Class IP 20 Lifetime at 120 V ac, full load and +40 ° C Lifetime at 230 V ac, full load and +40 ° C ABS plastic Load Regulation ABS plastic MTBF (IEC 61709) 230 V AC, Maximum Load, 40 ° C C Number of phases I Output Current 3 Output voltage Output voltage ABS plastic Output voltage min 5 Parallel Connection For Increased Power Ves. See manufacturers datasheet or contact OEM Automatic for more details. Power Consumption At 120 V AC Power Factor at 120 V AC, full load. Typical Power Reduction Of 60 To 70 ° C ABS plastic 13 ABS plastic ABS plas	Input voltage dc max	375
Inrush current at 120 V ac typical Inrush current at 230 V ac typical IP Class IF Class IP Class IP Class IF Class IP Class IF Cl	Input voltage dc min	88
Inrush current at 230 V ac typical IP Class IP 20 Lifetime at 120 V ac, full load and +40 ° C Lifetime at 230 V ac, full load and +40 ° C Load Regulation ABS plastic MTBF (IEC 61709) 230 V AC, Maximum Load, 40 ° C C Number of phases 1 Output Current 3 Output voltage Dutput voltage min Farillel Connection For Increased Power details. Power Consumption At 120 V AC, Mull load. Typical Power Factor at 120 V AC, full load. Typical Power Factor at 230 V AC, full load. Typical Power Reduction Of 60 To 70 ° C Right at 230 V AC, full load. Typical Signals A (A) Sig	Input voltage range	Wide-range
IP Class Lifetime at 120 V ac, full load and +40 ° C Lifetime at 230 V ac, full load and +40 ° C Load Regulation Material Protection Material Protection MBE (IEC 61709) 230 V AC, Maximum Load, 40 ° C C Number of phases 1 Output Current 3 Output voltage Dutput voltage min 5 Parallel Connection For Increased Power Power Consumption At 230 V AC Power Consumption At 230 V AC Power Factor at 120 V AC, full load. Typical Power Factor at 230 V AC, full load. Typical Power Reduction Of 60 To 70 ° C Right India Acceptable	Inrush current at 120 V ac typical	13
Lifetime at 120 V ac, full load and +40 ° C Lifetime at 230 V ac, full load and +40 ° C Load Regulation Material Protection Material Protection MBE (IEC 61709) 230 V AC, Maximum Load, 40 ° C C Number of phases 1 Output Current 3 Output voltage Output voltage max 5.5 Output voltage min 5 Parallel Connection For Increased Power details. Power Consumption At 120 V AC Power Consumption At 230 V AC, full load. Typical Power Factor at 230 V AC, full load. Typical Power Reduction Of 60 To 70 ° C Riod Waterial Poology and Power Sould Power Power Reduction Of 60 To 70 ° C Power Reduction Of 60 To 70 ° C Power Reduction Sould Power Power Power Power Reduction Of 60 To 70 ° C Power Reduction Of Sould Power Power Power Reduction Of Sould Power Power Reduction Of 60 To 70 ° C Power Reduction Sould Power Power Power Reduction Of Sould Power Power Reduction Of Sould Power Reduction Of Sould Power Power Reduction Of Sould Power Reduction Of Sould Power Reduction Of Sould Power Reduction Of Sould Power Reduction Of Sould Power Power Reduction Of Sould Power Power Power Reduction Of Sould Power Power Reduction Of Sould Power Power Reduction Of Sould Power Power Power Reduction Of Sould Power Power Reduction Of Sould Power Power Reduction Of Sould Power Power Power Power Reduction Of Sould Power Power Power Reduction Of Sould Power P	Inrush current at 230 V ac typical	26
Lifetime at 230 V ac, full load and +40 ° C Load Regulation Material Protection MTBF (IEC 61709) 230 V AC, Maximum Load, 40 ° C C Number of phases 1 Output Current 3 Output voltage 5 Output voltage max 5 Cutput voltage min Farallel Connection For Increased Power because Yes. See manufacturers datasheet or contact OEM Automatic for more details. Power Consumption At 120 V AC Power Factor at 120 V AC, full load. Typical Power Factor at 230 V AC, full load. Typical Power Reduction Of 60 To 70 ° C Right Material Protection ABS plastic ABS p	IP Class	IP20
Load Regulation father left	Lifetime at 120 V ac, full load and +40 ° C	70000
Material ProtectionABS plasticMTBF (IEC 61709) 230 V AC, Maximum Load, 40° C2686000Number of phases1Output Current3Output voltage5Output voltage max5.5Output voltage min5Parallel Connection For Increased Power details.Yes. See manufacturers datasheet or contact OEM Automatic for more details.Power Consumption At 120 V AC0.28Power Consumption At 230 V AC, full load. Typical0.51Power Factor at 120 V AC, full load. Typical0.44Power Reduction Of 60 To 70 ° C0.4Ripple. max50	Lifetime at 230 V ac, full load and +40 ° C	93000
MTBF (IEC 61709) 230 V AC, Maximum Load, 40 ° 2686000 Number of phases 1 Output Current 3 Output voltage 5 Output voltage max 5.5 Output voltage min 5 Parallel Connection For Increased Power Ves. See manufacturers datasheet or contact OEM Automatic for more details. Power Consumption At 120 V AC 0.28 Power Consumption At 230 V AC, full load. Typical 0.51 Power Factor at 120 V AC, full load. Typical 0.44 Power Reduction Of 60 To 70 ° C 0.4 Ripple. max 5	Load Regulation	<100 mV (0-3 A)
C Number of phases 1 Output Current 3 Output voltage 5 Output voltage max 5.5 Output voltage min 5 Parallel Connection For Increased Power details. Yes. See manufacturers datasheet or contact OEM Automatic for more details. Power Consumption At 120 V AC 0.28 Power Factor at 120 V AC, full load. Typical 0.51 Power Factor at 230 V AC, full load. Typical 0.44 Power Reduction Of 60 To 70 ° C 0.4 Ripple. max 50	Material Protection	ABS plastic
Output Current3Output voltage5Output voltage max5.5Output voltage min5Parallel Connection For Increased PowerYes. See manufacturers datasheet or contact OEM Automatic for more details.Power Consumption At 120 V AC0.28Power Consumption At 230 V AC, full load. Typical0.51Power Factor at 120 V AC, full load. Typical0.44Power Reduction Of 60 To 70 ° C0.4Ripple. max50		2686000
Output voltage5Output voltage max5.5Output voltage min5Parallel Connection For Increased PowerYes. See manufacturers datasheet or contact OEM Automatic for more details.Power Consumption At 120 V AC0.28Power Consumption At 230 V AC, full load. Typical0.51Power Factor at 230 V AC, full load. Typical0.44Power Reduction Of 60 To 70 ° C0.4Ripple. max50	Number of phases	1
Output voltage max 5.5 Output voltage min Farallel Connection For Increased Power Yes. See manufacturers datasheet or contact OEM Automatic for more details. Power Consumption At 120 V AC 0.28 Power Consumption At 230 V AC 0.17 Power Factor at 120 V AC, full load. Typical Power Factor at 230 V AC, full load. Typical O.44 Power Reduction Of 60 To 70 ° C 0.4 Ripple. max	Output Current	3
Output voltage min5Parallel Connection For Increased PowerYes. See manufacturers datasheet or contact OEM Automatic for more details.Power Consumption At 120 V AC0.28Power Consumption At 230 V AC0.17Power Factor at 120 V AC, full load. Typical0.51Power Factor at 230 V AC, full load. Typical0.44Power Reduction Of 60 To 70 ° C0.4Ripple. max50	Output voltage	5
Parallel Connection For Increased Power Yes. See manufacturers datasheet or contact OEM Automatic for more details. Power Consumption At 120 V AC Power Consumption At 230 V AC O.17 Power Factor at 120 V AC, full load. Typical Power Factor at 230 V AC, full load. Typical O.44 Power Reduction Of 60 To 70 ° C Ripple. max Yes. See manufacturers datasheet or contact OEM Automatic for more details. O.28 O.47 O.44 Power Reduction Of 60 To 70 ° C O.4	Output voltage max	5.5
Power Consumption At 120 V AC Power Consumption At 230 V AC Power Factor at 120 V AC, full load. Typical Power Factor at 230 V AC, full load. Typical O.44 Power Reduction Of 60 To 70 ° C Ripple. max details. O.28 O.47 O.47 Power Factor at 230 V AC, full load. Typical O.44 Power Reduction Of 60 To 70 ° C O.4	Output voltage min	5
Power Consumption At 230 V AC Power Factor at 120 V AC, full load. Typical Power Factor at 230 V AC, full load. Typical O.44 Power Reduction Of 60 To 70 ° C Ripple. max 0.17 0.44	Parallel Connection For Increased Power	
Power Factor at 120 V AC, full load. Typical 0.51 Power Factor at 230 V AC, full load. Typical 0.44 Power Reduction Of 60 To 70 ° C 0.4 Ripple. max 50	Power Consumption At 120 V AC	0.28
Power Factor at 230 V AC, full load. Typical 0.44 Power Reduction Of 60 To 70 ° C 0.4 Ripple. max 50	Power Consumption At 230 V AC	0.17
Power Reduction Of 60 To 70 ° C 0.4 Ripple. max 50	Power Factor at 120 V AC, full load. Typical	0.51
Ripple. max 50	Power Factor at 230 V AC, full load. Typical	0.44
	Power Reduction Of 60 To 70 ° C	0.4
Series Miniline	Ripple. max	50
	Series	Miniline

Series Connection For Increased Tension	Yes. See manufacturers datasheet or contact OEM Automatic for more details.
Supply Frequency	50-60 ±6 %
Temperature Range Without Derating From	-10
Temperature Range Without Derating To	60
Type Power Supply	AC-DC
Weight	0.13
Width	22.5



Allowable Output Power Vs. ambient temp.

15W
12.5
10.0
7.5
5.0
2.5
Ambient Temperature
-10 0 20 40 60 70°C

Fig. 8-1 Efficiency vs. output current at 5V, typ. **Efficiency** 78% 77 76 75 74 a) 100Vac b) 120Vac c) 230Vac 73 72 71 **Output Current** 70 1.5 2.0 2.5 3.0A 0.5 1.0

Fig. 8-2 Losses vs. output current at 5V, typ.

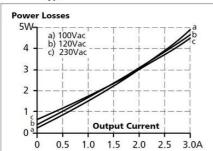


Fig. 6-2 Hiccup mode; output current at shorted output, 230Vac, typ.

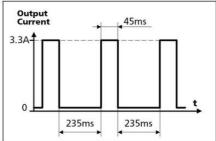


Fig. 10-1 Front side



