ARTESYN
ERM100 ¼ BRICK SERIES

100 Watt ¼ brick DC/DC converter



Advanced Energy's Artesyn ERM100 series is a new generation of high performance, isolated dc-dc converter modules. The product offers 100W in a small, fully encapsulated package. The input voltage ranges comply with European railway standard EN50155. Reinforced insulation and high EMC immunity qualifies these converters also for many demanding applications in railway and other transportation systems.

Advanced circuit topology provides a very high efficiency up to 91.5% which allows ambient temperatures range up to +85°C with derating.

AT A GLANCE

Total Power

100 W

Input Voltage

36 to 160 VDC

# of Outputs

Single

RoHS

SPECIAL FEATURES

- 100W continuous power
- High efficiency 91.5%
- 36 to 160 VDC wide-range input
- Base-plate optimised for contact cooling or heatsink mounting
- No minimum load requirement
- Low ripple and noise
- Fixed switching frequency
- High reliability
- RoHH 3.0 compliant
- UL94 V-0 materials
- DOSA quarter-brick footprint compliant
- Heatsink version available
- Operating temperature -40 to +85 °C (subject to derating)
- EN 61373; Vibration and thermal shock

SAFETY

- TUV — EN 62368, EN 50155
- UL — UL 62368-1
- TUV CB — IEC 62368-1, IEC 60571
- CE and UKCA Mark

WARRANTY

- 3 Years (Consult factory for extended terms)

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ELECTRICAL SPECIFICATIONS

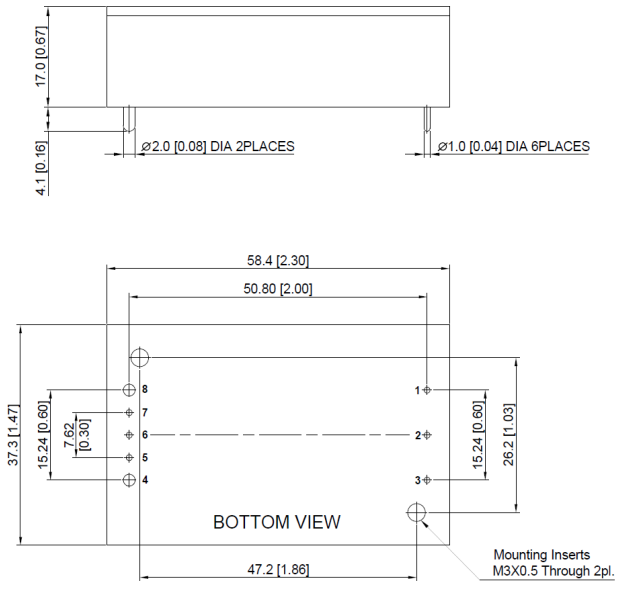
Input	
Input voltage	36 to160 VDC
Input surge	170 V / 100 mSec
UVLO Turn-on Turn-off	 36 VDC nom 35 VDC nom
Input current maximum ERM20A100(N)-(HS) ERM08B100(N)-(HS) ERM06C100(N)-(HS) ERM04H100(N)-(HS) ERM01U100(N)-(HS)	 993.5 mA 1007 mA 1009 mA 1029 mA 1020 mA
Efficiency ERM20A100(N)-(HS) ERM08B100(N)-(HS) ERM06C100(N)-(HS) ERM04H100(N)-(HS) ERM01U100(N)-(HS)	 91.5% 91.0% 90.5% 89.0% 89.0%
Input to output insulation Input to output isolation	Reinforced insulation 2000 VDC
Output	
Output voltage set point accuracy	±1% max
Output voltage regulation	±0.2% max
Output voltage adjustment range Other models 54 V model	 ±10% of output voltage -15% to 5% of output voltage
Output current maximum	20 A (for 5 V output version)
Noise & Ripple	5 V version; 100 mV nom 12 V, 15 V version; 150 mV nom 24 V version; 200 mV nom 54 V version; 300 mV nom
Over temperature protection	+110°C base-plate
Over voltage protection ERM20A100(N)-(HS) ERM08B100(N)-(HS) ERM06C100(N)-(HS) ERM04H100(N)-(HS) ERM01U100(N)-(HS) Method / OVP operation	 6.2 VDC nom 15 VDC nom 18 VDC nom 30 VDC nom 66 VDC nomt Latching mode
Over current protection method / OCP operation	130% nominal O/P current Auto-recovery hiccup mode
Control	
Enable	Positive or negative option
Switching frequency Other models 54 V model	 214 kHz 173 kHz

ORDERING INFORMATION

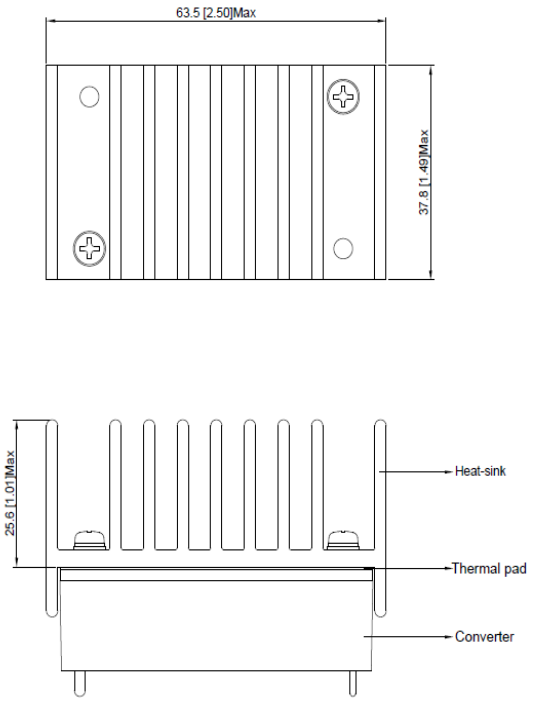
Input Voltage	Output Voltage Set-point	Output Current	Efficiency	Model Number
36 to 160 VDC	5	20	91.5%	ERM20A100(N)-(HS)
36 to 160 VDC	12	8.4	91.0%	ERM08B100(N)-(HS)
36 to 160 VDC	15	6.7	90.5%	ERM06C100(N)-(HS)
36 to 160 VDC	24	4.2	89.0%	ERM04H100(N)-(HS)
36 to 160 VDC	54	1.85	89.0%	ERM01U100(N)-(HS)

Negative enable (N)
Heatsink (-HS)

MECHANICAL DIMENSIONS



Heatsink Version (-HS)



PIN OUT INFORMATION

Pin	Function
1	+Vin
2	Remote On/Off
3	-Vin
4	-Vout
5	-Sense
6	Trim
7	+Sense
8	+Vout

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE

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