ARTESYN
ERM150 ¼ BRICK SERIES

150 Watt ¼ brick DC/DC converter



Advanced Energy's Artesyn ERM150 series is a new generation of high performance, isolated dc-dc converter modules. The product offers 150W 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 90% which allows ambient temperatures range up to +85°C with derating.

AT A GLANCE

Total Power

150 W

Input Voltage

36 to 160 VDC

# of Outputs

Single

RoHS

SPECIAL FEATURES

- 150 W continuous power
- High efficiency 90%
- 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
- RoHS 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)

©2024 Advanced Energy Industries, Inc.

ELECTRICAL SPECIFICATIONS

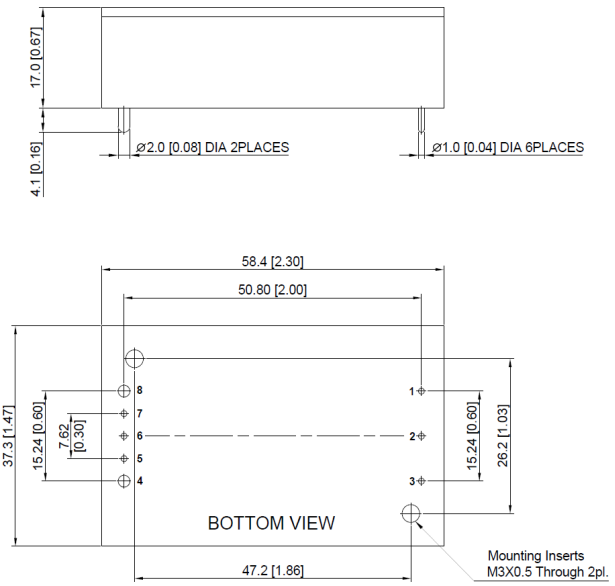
Input	
Input voltage	36 to 160 VDC
Input surge	170 V / 100 mSec
UVLO Turn-on Turn-off	 36 VDC nom 35 VDC nom
Input Maximum Current ERM30A100(N)-(HS) ERM12B100(N)-(HS) ERM10C100(N)-(HS) ERM6H100(N)-(HS) ERM02U100(N)-(HS)	 1.364 A 1.515 A 1.532 A 1.550 A 1.542 A
Efficiency ERM30A100(N)-(HS) ERM12B100(N)-(HS) ERM10C100(N)-(HS) ERM6H100(N)-(HS) ERM02U100(N)-(HS)	 90.0% 90.0% 89.0% 88.0% 88.5%
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 adjust range Other models 54 V model	 ±10% of O/P voltage -15% to 5% of O/P voltage
Output current maximum	27 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 ERM30A100(N)-(HS) ERM12B100(N)-(HS) ERM10C100(N)-(HS) ERM6H100(N)-(HS) ERM02U100(N)-(HS) Method / OVP operation	 6.2 VDC nom 15 VDC nom 18 VDC nom 30 VDC nom 66 VDC nom 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

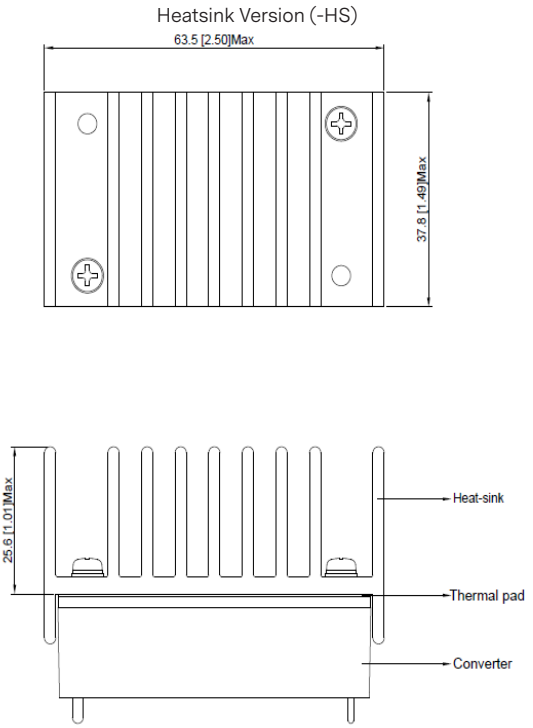
ORDERING INFORMATION

Input Voltage	Output Voltage Set-point	Output Current	Efficiency	Model Number
36 to160 VDC	5	27	90.0%	ERM30A100(N)-(HS)
36 to160 VDC	12	12.5	90.0%	ERM12B100(N)-(HS)
36 to160 VDC	15	10	89.0%	ERM10C100(N)-(HS)
36 to160 VDC	24	6.25	88.0%	ERM6H100(N)-(HS)
36 to160 VDC	54	2.78	88.5%	ERM02U100(N)-(HS)

Negative enable (N)
Heatsink (-HS)

MECHANICAL DRAWINGS





Note1: The case material is plastic resin, there is no electrical connection.
Note2: The Top Side Base Material is an aluminum plate, which has electrical connections.

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

For international contact information,
visit advancedenergy.com.

powersales@aei.com (Sales Support)
productsupport.ep@aei.com (Technical Support)
+1 888 412 7832

Specifications are subject to change without notice. Not responsible for errors or omissions. ©2024 Advanced Energy Industries, Inc. All rights reserved. Advanced Energy®, AE® and Artesyn™ are U.S. trademarks of Advanced Energy Industries, Inc.

ENG-ERM150-235-01 05.08.24