ARTESYN ADQ600 SERIES

10 Volt, 600 Watt 1/4 Brick DC-DC Converter



Advanced Energy's Artesyn ADQ600 series quarter-brick isolated DC-DC converter produces a single fully regulated 12 V output. Rated at 600 watts, the converter can deliver up to 50 amps output current and has no minimum load requirement. It has an input voltage range of 40 to 60 V and is primarily designed for use with standard 48 V supplies in computing and server applications, as well as regulated 48V supplies in telecommunications equipment.

DATA SHEET

Total Power:

600 Watts

Input Voltage:

45 - 56 V

# of Outputs:

Single

SPECIAL FEATURES

- 625 W continuous power
- Ultra high efficiency 97% @ 80% load
- 45-56 Vdc Datacomm input range
- Baseplate for contact cooling or heatsink mounting
- Excellent thermal performance
- Parallel and Droop current sharing
- Remote output sense
- Fully regulated output voltage
- No minimum load requirement
- Remote control function
- Low ripple and noise
- Fixed switching frequency
- High capacitive load capability
- Pre-bias start-up capability
- Excellent thermal performance
- High reliability
- RoHS compliant
- UL94 V-0 materials
- Two year warranty (Consult factory for extended terms

SAFETY

- TUV/CE 62368-1
- UL/cUL 60950-1

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ELECTRICAL SPECIFICATIONS

Input	
Input voltage	45 - 56 Vdc
Input surge	80 V / 100 mSec
Input UVLO	Turn-on: 45 Vdc typical Turn-off: 42.5 Vdc typical Hysteresis: 2 Vdc typical
Efficiency (48 Vin, 25 °C ambient)	96.9% @ 100% load 97% @ 80% load
I/O insulation	Functional insulation
I/O isolation	750 Vdc
Output	
Output voltage (Vin = 48 V	10.1 V
Output current maximum	63 A
Noise & ripple	150 mV pk-pk typical
Overtemperature protection	140 °C
Overvoltage protection method / OVP operation	12 - 14 V window / Hiccup auto restart
Overcurrent protection method / OCP operation	69.3 - 88 A window / Hiccup and auto restart
Control	
Enable	TTL compatible (negative logic)
Switching frequency	160 KHz fixed frequency
Prebias startup	0% Vout - 100% Vout full load
Parallel connection & droop share	Droop share

ENVIRONMENTAL SPECIFICATIONS

Operating ambient temperature range	-20 °C to +90 °C
Storage temperature	-55 °C to +125 °C
Humidity	5% to 95% (non-condensing)
MTBF	2 Million hours
RoHS Compliant	RoHS 6

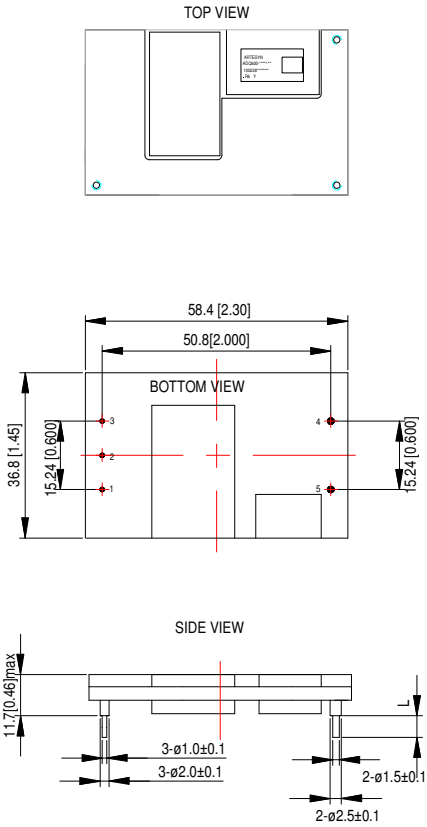
ORDERING INFORMATION

Model number	Input voltage	Output voltage	Efficiency
ADQ600-48S10-4L	45 - 56 V	10.1 V @ 63 A	97% (80% load)
ADQ600-48S10B-4L	45 - 56 V	10.1 V @ 63 A	97% (80% load)

"-4" = 4.6 mm + 0.25 mm pin length
"-6" = 3.8 mm + 0.25 mm pin length
"-8" = 2.8 mm + 0.25 mm pin length
None = 5.8 mm + 0.25 mm pin length
"-L" = RoHS 6 compliance
"B" = Baseplate

MECHANICAL DRAWINGS

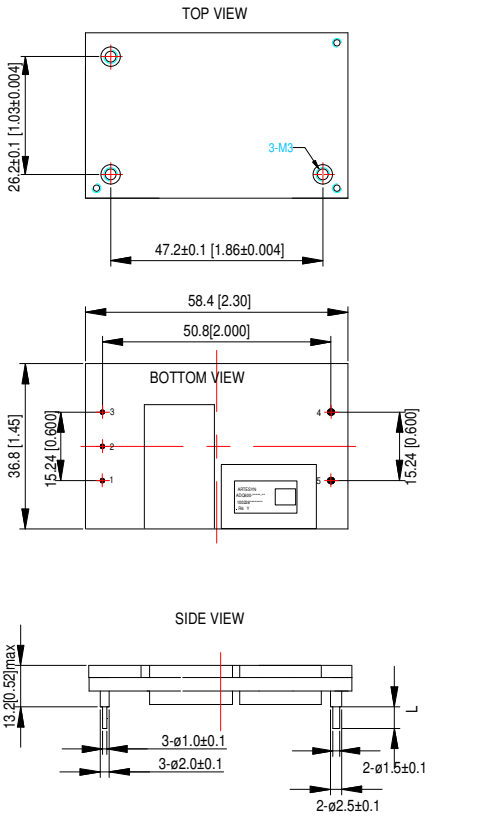
ADQ600-48S10-4L



UNIT: mm[inch] BOTTOM VIEW: pin on upside L=4.60mm

TOLERANCE: X.Xmm±0.5mm[X.XX in.±0.02in.]
X.XXmm±0.25mm[X.XXX in.±0.01in.]

ADQ600-48S10B-4L



UNIT: mm[inch] BOTTOM VIEW: pin on upside L=4.60mm

TOLERANCE: X.Xmm±0.5mm[X.XX in.±0.02in.]
X.XXmm±0.25mm[X.XXX in.±0.01in.]

PIN ASSIGNMENTS

Pin #	Function
1	+Vin
2	Remote On/Off
3	-Vin
4	-Vout
5	+Vout

Notes:
1. All specifications are subject to change without notice. Mechanical drawings are for reference only.
2. Warranty: 2 years
3. Label and logo appearance may vary from what is shown on mechanical drawings.

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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