

ARTESYN ADQ700 SERIES

700 W Quarter Brick DC-DC
Converter



ADQ700 series quarter-brick isolated DC-DC converters produce a single fully regulated 12 V output and rated at 700 W, these converters can deliver up to 58 A output current and have no minimum load requirement. They have an input voltage range of 40 to 60 V and are primarily designed for use with standard 48 V supplies in computing and server applications, as well as regulated 48V supplies in communications equipment.

SPECIAL FEATURES

- 700 W continuous power
- Ultra high efficiency > 96%
- 40 to 60 Vdc Datacomm input range
- Baseplate optimized for contact cooling or heatsink mounting
- Open frame version optimized for air cooling
- Low ripple and noise
- Fixed switching frequency
- High capacitive load capability
- Pre-bias start-up capability
- High reliability
- RoHS 6 compliant
- UL94 V-0 materials

- Heatsink accessory pack can be ordered (heatsink, thermal pad and screws)
- DOSA footprint compliant
- PMBus® communication
- Droop and Parallel function (ADQ700-48S12B-8LIG)
- IPC9592 component stress compliant
- Two year warranty (consult factory for extended terms)

SAFETY

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

DATA SHEET

Total Power

700 W (target)
(12 V @ 58 A)

Input Voltage

40 to 60 VDC

Single Outputs

12 V Nom



ELECTRICAL SPECIFICATIONS

Input	
Input Voltage	40 to 60 VDC
Input Surge	80 V/100 mSec
Input UVLO	Turn-on: 38.7 VDC Turn-off: 37 VDC Hysteresis: 2 VDC
Input OVP	Turn-off: 64.5 VDC Recovery point: 62.3 VDC Hysteresis: 2 VDC
I/O Insulation	Basic insulation
I/O Isolation	1500 VDC
Efficiency (48 Vin, 25 °C ambient)	96% @ 12 V (100% load and 50% load)
Output	
Output Voltage	12 V nominal set point
Output Voltage Regulation	12 V \pm 1%
Output Current Maximum	58 A for 12 V
Noise & Ripple	At 12 V; 200 mV pk-pk max
Overtemperature Protection	Baseplate: 110°C Open frame: 120°C hot spot
Overvoltage Protection Method / OVP Operation	Auto restart 13.8 to 16 V window
Overcurrent Protection Method / OCP Operation	Auto-restart 64 A - 82 A window
Isolation	
Enable	TTL compatible (negative logic)
PMBus Connectivity	Connection port and control/monitoring available
Switching Frequency	200 KHz
Pre-bias Start-up	0% to 95% Vout

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C
MTBF	1.5 Million hours

ORDERING INFORMATION

Model number	Input voltage	Output voltage set point	Output current	Efficiency
ADQ700-48S12-4L	40 to 60 Vdc	12 Vdc	58 A	96% (full load)
ADQ700-48S12-4LI	40 to 60 Vdc	12 Vdc	58 A	96% (full load)
ADQ700-48S12B-4L	40 to 60 Vdc	12 Vdc	58 A	96% (full load)
ADQ700-48S12B-4LI	40 to 60 Vdc	12 Vdc	58 A	96% (full load)
ADQ700-48S12B-8LIG	40 to 60 Vdc	12 Vdc	58 A	96% (full load)
ADQ700-48S12B-8LIO	40 to 60 Vdc	12 Vdc	58 A	96% (full load)

"B" = Baseplate

"I" = Digital Interface Option

"G" = Customer Code

"O" = Customer Code

PIN LENGTH OPTIONS

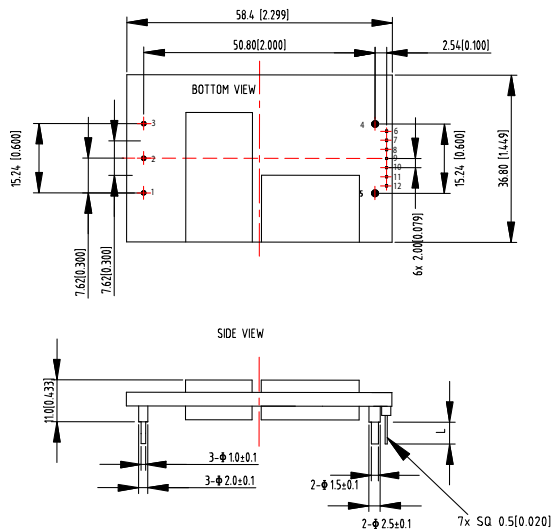
Device code suffix	L
-4	4.6 mm ± 0.25 mm
-6	3.8 mm ± 0.25 mm
-8	2.8 mm ± 0.25 mm
None	5.8 mm ± 0.25 mm

PIN DESIGNATIONS

Pin	Function	Function
1	Vin+	Positive input voltage
2	Remote On/Off	Remote control
3	Vin-	Negative input voltage
4	Vo-	Negative output voltage
5	Vo+	Positive output voltage
6	C2	Digital
7	Sig_Gnd	Digital
8	Data	Digital
9	SMBAlert	Digital
10	Clock	Digital
11	NA	NA
12	NA	NA

PIN DESIGNATIONS

Open Frame Module

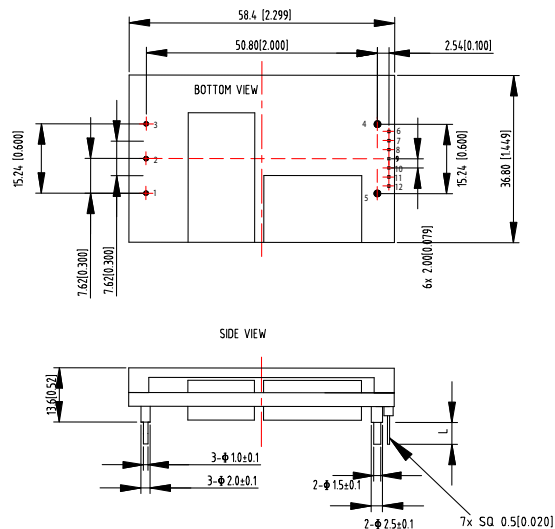


UNIT: mm[inch] BOTTOM VIEW: pin on upside L=4.60mm

TOLERANCE: X.Xmm±0.5mm[X.XX in±0.02in.]

X.XXmm±0.25mm[X.XXX in±0.01in.]

Baseplate Module



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.]



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ABOUT ADVANCED ENERGY

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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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