

ADQ700 Series

700 Watt Quarter Brick DC-DC Converter

Data Sheet

Total Power: 700 Watt (target)
(12 V @ 58 A)
Input Voltage: 40 - 60 Vdc
Single Outputs: 12 V Nom

SPECIAL FEATURES

- 700 W continuous power
- Ultra high efficiency > 96%
- 40 - 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
- IPC9592 component stress compliant
- Two year warranty (consult factory for extended terms)

SAFETY

- EN60950
- CSA
- CE
- UL



Electrical Specifications

Input

Input voltage	40 - 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 ± 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 V - 16 V window
Overcurrent protection method / OCP operation	Auto-restart 64 A - 82 A window

Control

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

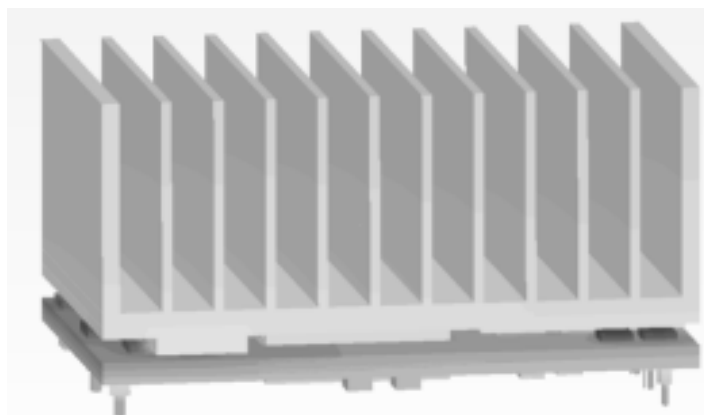
Ordering Information

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

“B” = Baseplate

“I” = Digital interface option

“HS” = Heatsink kit added, 1.4” heatsink, thermal pad



Example of heatsink integration
Height: 35.56 mm [1.40”]

Pin Length Options

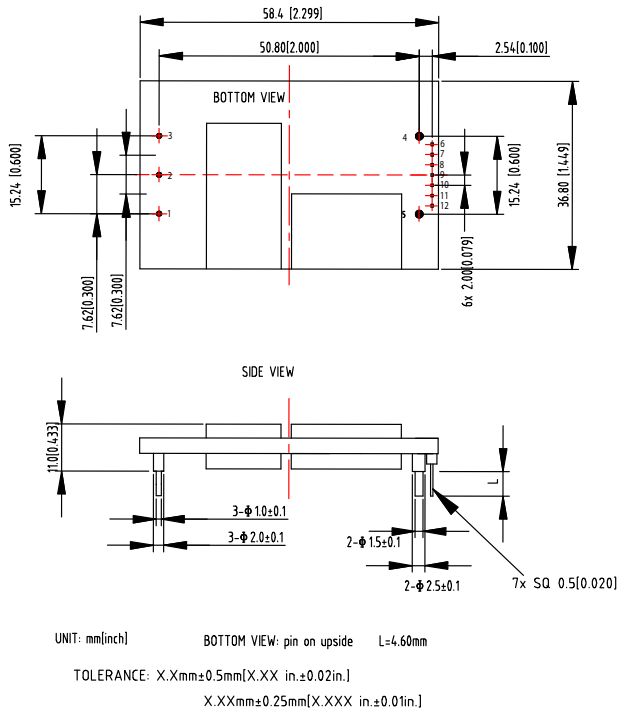
Device code suffix	L
-4	4.6 mm ± 0.25 mm
-6	3.8 mm ± 0.25 mm
-8	2.8 mm ± 0.25 mm
None	5.8 mm ± 0.25 mm

Pin Designations

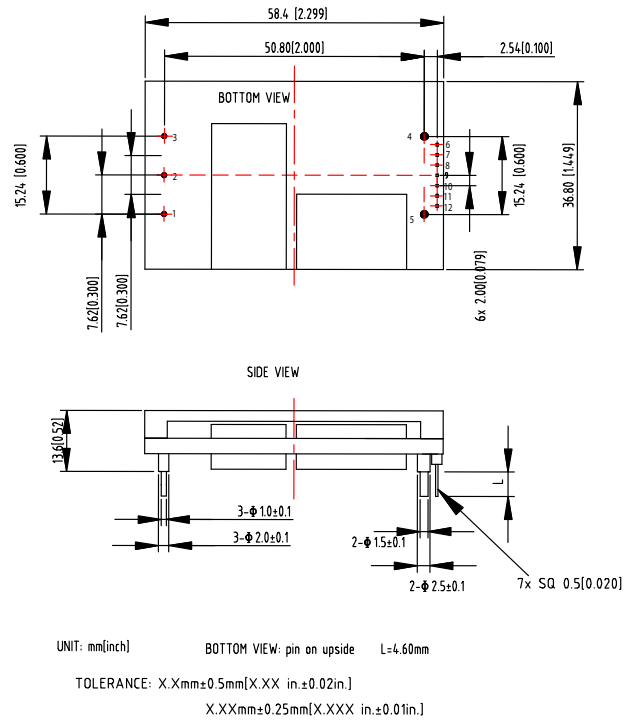
Pin	Function	Function
1	Vin+	Positive input voltage
2	Remote On/Off	Remote control
3	Vin-	Negative input voltage
4	Vo-	Negative output voltage
8	Vo+	Positive output voltage
9	C2	Digital
10	Sig_Gnd	Digital
11	Data	Digital
12	SMBAAlert	Digital
13	Clock	Digital
14	Addr1	Digital
15	Addr0	Digital

Mechanical Drawing

Open Frame Module



Baseplate Module



WORLDWIDE OFFICES

Americas

2900 S.Diablo Way
 Tempe, AZ 85282
 USA
 +1 888 412 7832

Europe (UK)

Waterfront Business Park
 Merry Hill, Dudley
 West Midlands, DY5 1LX
 United Kingdom
 +44 (0) 1384 842 211

Asia (HK)

14/F, Lu Plaza
 2 Wing Yip Street
 Kwun Tong, Kowloon
 Hong Kong
 +852 2176 3333



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 For support: productsupport.ep@artesyn.com