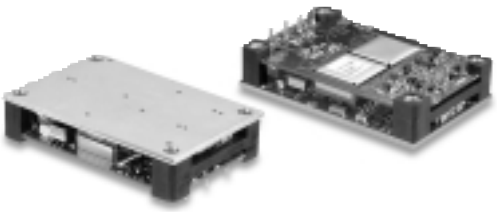
ARTESYN TECHNOLOGIES

EXQ60D SERIES

Dual positive output

NEW Product



- **Two positive outputs**
- **Output voltage tracking**
- **High efficiency**
- **Approved to EN60950 (TÜV Rheinland), UL/cUL1950**
- **Operating baseplate temperature of -40°C to +100°C**
- **Up to 100% load imbalance**
- **Trim function**
- **No minimum load**
- **Complies with ETS 300 019-1-3/2-3**
- **Fully compliant with ETS 300 386-1**

[2 YEAR WARRANTY]

c UL us TÜV

The EXQ60 is a new high efficiency, open frame, isolated 60 Watt converter series in an industry standard quarter-brick footprint. The EXQ60 delivers very high output current at low voltages, and excellent useable power density for today's high end applications. The first two models in the series feature an input voltage range of 33 to 75VDC and are available in output voltages of 5V/3.3V and 3.3V/2.5V. The output voltage on each model is adjustable from 90% to 110% of the nominal value. Typical efficiencies for the models are 91% for the 5V/3.3V and 90% for the 3.3V/2.5V version. The EXQ60 series also has a remote on/off capability. Overcurrent and overvoltage protection features are included as standard. With full international safety approval including EN60950, (TÜV Rheinland) and UL/cUL1950, the EXQ60 reduces compliance costs and time to market.

SPECIFICATION

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Voltage adjustability	Both outputs	±10%
Setpoint accuracy	Both outputs (See Note 1)	±1% max.
Output voltage (over all line and load conditions)	5V/3.3V 3.3V/2.5V	4.75V < Vo1 < 5.23V 3.20V < Vo2 < 3.43V 3.18V < Vo1 < 3.48V 2.39V < Vo2 < 2.60V
Minimum load	Both outputs	0%
Ripple and noise	20MHz bandwidth	60mV pk-pk max., 20mV rms max.
Transient response peak dev. settling time	50% to 75% and back to 1.0%, no external cap.	120mV/80mV 100µs
Short circuit protection		Both outputs
Tracking		Outputs track start-up and shutdown

INPUT SPECIFICATIONS		
Input voltage range	48Vin nominal	33 to 75VDC
Input current	No load Remote OFF	60mA max. 20mA max.
UVLO turn ON voltage UVLO turn OFF voltage		33V (typ) 30V (typ)
Start-up time	Nominal line	8ms (typ)
Active high remote ON/OFF Logic compatibility ON OFF		(See Note 4) Open Collector ref. to -input Open circuit or >4VDC <1.2VDC

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS		
ETS 300 386-1 table 5 Conducted emissions	 EN55022 with external filter EN55022 with external filter	 Level A Level B
Radiated emissions	EN55022	Level B
Immunity: ESD air ESD contact Radiated field enclosure Conducted (DC power) Conducted (signal) Input transients	 EN61000-4-2 8kV (NP), 15kV (RP) EN61000-4-2 6kV (NP), 8kV (RP) EN61000-4-3 10V/m (NP) EN61000-4-6 10V (NP) EN61000-4-6 10V (NP) ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS		
Efficiency		See table
Operational insulation	Input/output	1500VDC
Input fuse		5.0A slow blow
Switching frequency	Fixed	400kHz (5V/3V3) 325kHz (3V3/2V5)
Approvals and standards (See Notes 2,3)		UL/cUL1950, EN60950 TÜV Rheinland
Weight		45g (1.6 oz)
MTBF	MIL-HDBK-217F @ 25°C, 100% load ground benign	>270,000 hours

ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating baseplate temperature	-40°C to +100°C
	Non-operating	-40°C to +125°C

60 Watt
High efficiency DC/DC converters

INPUT VOLTAGE	OUTPUT VOLTAGE		OUTPUT CURRENT		OVP		TYPICAL EFFICIENCY	MODEL NUMBER (4)
	OP1	OP2	1	2	1	2		
33-75VDC	5V	3.3V	12.0A	15.0A	5.9V	4.0V	91.5%	EXQ60-48D05-3V3
33-75VDC	3.3V	2.5V	12.0A	16.0A	4.0V	3.0V	90.5%	EXQ60-48D3V3-2V5

Notes
1 Io1 = 6A, Io2 = 9A
2 User must provide recommended fuses in order to comply with safety approvals.
3 Maximum continuous output power.
60 Watts for D05-3V3 models
40 Watts for D3V3-2V5 models.
4. Active low remoteon/off is available. Standard product is active high. When ordering active low parts, designate with the Suffix '-R', e.g. EXQ60-48D3V3-2V5-R.

CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	+ Vin
2	Remote ON/OFF
3	- Vin
4	OP2
5	Output Return
6	Trim
7	OP1