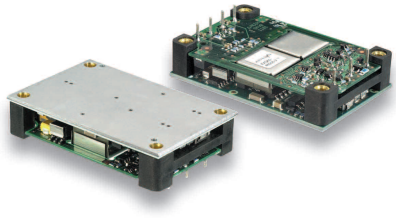
EXQ60D Series

Dual positive output

ARTESYN TECHNOLOGIES

- **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**
- **Available RoHS compliant**



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 V to 75 V and are available in output voltages of 5/3.3 V and 3.3/2.5 V. 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 5/3.3 V and 90% for the 3.3/2.5 V 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.

2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

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

INPUT SPECIFICATIONS

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

EMC CHARACTERISTICS

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	EN61000-4-2	8 kV (NP), 15 kV (RP)
ESD contact	EN61000-4-2	6 kV (NP), 8 kV (RP)
Radiated field enclosure	EN61000-4-3	10 V/m (NP)
Conducted (DC power)	EN61000-4-6	10 V (NP)
Conducted (signal)	EN61000-4-6	10 V (NP)
Input transients	ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS

Efficiency		See table
Operational insulation	Input/output Input/baseplate	1500 Vdc 1500 Vdc
Input fuse		5 A slow blow
Switching frequency	Fixed	400 kHz (5/3.3 V) 325 kHz (3.3/2.5 V)
Approvals and standards (See Notes 2 and 3)		UL/cUL1950, EN60950 TÜV Rheinland
Weight		45 g (1.6 oz)
MTBF	Telcordia SR-332 @ 25 °C, 100% load ground benign	3,080,891 hours

ENVIRONMENTAL SPECIFICATIONS

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

EXQ60D Series

Dual positive output

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

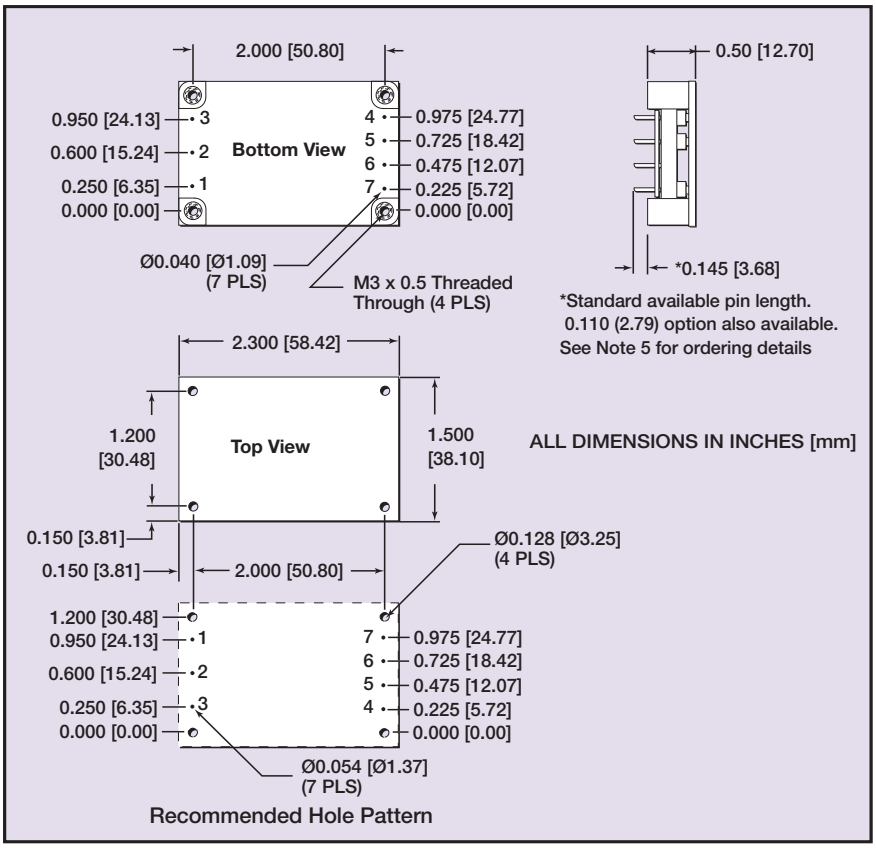
INPUT VOLTAGE	OUTPUT VOLTAGE OP1	OUTPUT VOLTAGE OP2	OUTPUT CURRENT 1	OUTPUT CURRENT 2	OVP 1	OVP 2	TYPICAL EFFICIENCY	MODEL NUMBER (4,5,6)
33-75 Vdc	5 V	3.3 V	12 A	15 A	5.9 V	4.0 V	91.5%	EXQ60-48D05-3V3J
33-75 Vdc	3.3 V	2.5 V	12 A	16 A	4.0 V	3.0 V	90.5%	EXQ60-48D3V3-2V5J

Notes

1. Io1 = 6 A, Io2 = 9 A
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. The EXQ60D features 'Active High' Remote ON/OFF as standard. An 'Active Low' Remote ON/OFF version is also available. To order the 'Active Low' version of the EXQ60-48D05-3V3J please add the suffix '-R' towards the end of the part number, i.e. EXQ60-48D05-3V3-RJ. As our part numbers cannot exceed 18 characters when ordering the 'Active Low' version of the EXQ60-48D3V3-2V5J please add the suffix 'R' towards the end of the part number, i.e. EXQ60-48D3V3-2V5RJ.
5. When ordering 0.110" pin lengths designate with suffix '-K'. If the product is already a '-R' suffix product then the suffix will be '-RK'.
6. The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.

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



International Safety Standard Approvals

UL/cUL : UL1950 File No. E135734

TÜV Rheinland Certificate No. 40013415
File No. 10401-3336-0208
CB Scheme No. DE1-32228

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