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CERTIFICATE

No. U8V 11 10 34962 129

Holder of Certificate: **SynQor Inc.**
155 Swanson Road
Boxborough, MA 01719-1316
USA

Production Facility(ies): 34962

Certification Mark:

Product:
DC converter
DC to DC Converter

Model(s):
InQor Series Reinforced Isolation
IQ1B120QTC21NRSG
(See certificate attachment for model nomenclature)

Parameters:

Rated Input Voltage:	66-160 V DC
Rated Output Voltage:	12 V DC max
Rated Output Current:	21.0 A
Rated Output Wattage:	150 Watts max

(See certificate attachment for additional ratings and license conditions.)

Tested according to:
CAN/CSA-C22.2 No. 60950-1:2007
UL 60950-1:2007
EN 60950-1/A11:2009

The product was voluntarily tested according to the relevant safety requirements and mentioned properties. It can be marked with the certification mark shown above. The certification mark must not be altered in any way. This product certification system operated by TÜV SÜD America Inc. most closely resembles that described by ISO/IEC Guide 67, Conformity assessment - Fundamentals of product certification, System 3. See also notes overleaf.

Test report no.: 090-1106986-100

Date, 2011-10-18

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Attachment to Certificate U8V 11 10 34962 129

Part Number Nomenclature Full Brick

IQ	4H	120	F	T	C	50	NRS	G
I	II	III	IV	V	VI	VII	VIII	IX

I	Product	IQ – InQor Series
II	Input Voltage	4H = 180-425 Vdc, Output 600 Watts, 80 Amps max
III	Output Voltage	3 Numbers denoting output voltage in tenths of a volt 050 = 5.0 Vdc minimum 480 = 48.0 Vdc maximum
IV	Package Size	F = Full Brick
V	Performance level	T = Tera G = Giga M = Mega K = Kilo
VI	Thermal design	Options include but are not limited to: C = Encased D = Non-Threaded Inserts V = Flanged Baseplate
VII	Output Current	Two digits specifying output current (80 Amps max)
VIII	Options	Suffix letters and/or numbers denoting non-safety critical functions such as, but not limited to, positive or negative logic, pin length, etc.
XI	6/6 RoHS	G = 6/6 RoHS Compliance

Custom Part #
CQ0140100 270-330 Vin, 32 Vout, 600W

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MILCOTs 270 Full Brick Part Nomenclature

MCOTS-C	- 270	- 12	- F	T	- N	- M	- xxx
I	II	III	IV	V	VI	VII	VIII

I	Product	MCOTS-C – MILCOTs Converters
II	Input Voltage	270 = 155-425 Vdc, Output 600 Watts 80 Amps max
III	Output Voltage	2 Characters denoting output voltage in volts 05 = 05 Vdc minimum 48 = 48 Vdc maximum
IV	Package Size	F = Full Brick
V	Performance level	K = Kilo M = Mega G = Giga T = Tera
VI	Thermal design Examples but not limited to:	F = Flanged N = Normal
VII	Screening Level	Burn-in duration, etc (Non safety)
VIII	Options	Blank to 3 characters denoting non-safety options such as, but not limited to, positive or negative logic, pin configuration, etc.

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Part Number Nomenclature Quarter Brick

IQ	1B	120	Q	T	C	21	NRS	G
I	II	III	IV	V	VI	VII	VIII	IX

I	Product	IQ – InQor Series
II	Input Voltage	64 = 18-135 Vdc, Output 100 Watts max 68 = 12-150 Vdc, Output 26.5 Watts max 70 = 34-135 Vdc, Output 150 Watts max 72 = 42-110 Vdc, Output 150 Watts max 90 = 34-160 Vdc, Output 120 Watts max 1B = 66-160 Vdc, Output 150 Watts max 4H = 180-425 Vdc, Output 150 Watts max
III	Output Voltage	3 Numbers denoting output voltage in tenths of a volt 018 = 1.8 Vdc minimum 480 = 48.0 Vdc maximum
IV	Package Size	Q = Quarter Brick
V	Performance level	T = Tera G = Giga M = Mega K = Kilo
VI	Thermal design	Options include but are not limited to: C = Encased D = Non-Threaded Inserts V = Flanged Baseplate
VII	Output Current	X = 0 – 4 (40 Amps max) Y = 0 – 9 or A – J (A = .0, B = .1 ... J = .9) Example: 24 = 24 Amps, 03 = 3 Amps, 2F = 2.5 Amps
VIII	Options	Suffix letters and/or numbers denoting non-safety critical functions such as, but not limited to, positive or negative logic, pin length, etc.
XI	6/6 RoHS	G = 6/6 RoHS Compliance

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MILCOTs 270 Quarter Brick Part Nomenclature

MCOTS-C - 270 - 12 - Q T - N - M - xxx
I II III IV V VI VII VIII

I	Product	MCOTS-C – MILCOTs Converters
II	Input Voltage	270 = 155-425 Vdc, Output 150 Watts max
III	Output Voltage	3 Characters denoting output voltage in volts R = Decimal point 1R8 = 1.8 Vdc minimum 9R9 = 9.9 Vdc maximum
IV	Package Size	Q = Quarter Brick (40 Amps max)
V	Performance level	K = Kilo M = Mega G = Giga T = Tera
VI	Thermal design	Options include but not limited to: F = Flanged N = Normal
VII	Screening Level	Burn-in duration, etc (Non safety)
VIII	Options	Blank to 3 characters denoting non-safety options such as, but not limited to, positive or negative logic, pin configuration, etc.

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MILCOTs 270 Quarter Brick Part Nomenclature

MCOTS-C -	270 - 12 -	Q	T -	N -	M	- xxx
I	II III	IV	V	VI	VII	VIII

I	Product	MCOTS-C – MILCOTs Converters
II	Input Voltage	270 = 155-425 Vdc, Output 150 Watts max
III	Output Voltage	2 Characters denoting output voltage in volts 05 = 5 Vdc minimum 48 = 48 Vdc maximum
IV	Package Size	Q = Quarter Brick (30 Amps max)
V	Performance level	K = Kilo M = Mega G = Giga T = Tera
VI	Thermal design	Options include but not limited to: F = Flanged N = Normal
VII	Screening Level	Burn-in duration, etc (Non safety)
VIII	Options	Blank to 3 characters denoting non-safety options such as, but not limited to, positive or negative logic, pin configuration, etc.

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Part Number Nomenclature Quarter Brick

RQ	1B	240	Q	M	C	02	NRS	G
I	II	III	IV	V	VI	VII	VIII	IX

I Product RQ – RailQor Series

II Input Voltage
68 = 12-150 Vdc, Output 50 Watts max, 300 LFM
72 = 42-110 Vdc, Output 50 Watts max, 300 LFM
1B = 66-160 Vdc, Output 50 Watts max, 300 LFM

III Output Voltage 3 Numbers denoting output voltage in tenths of a volt
050 = 5.0 Vdc minimum
240 = 24.0 Vdc maximum

IV Package Size Q = Quarter Brick

V Performance level M = Mega
K = Kilo

VI Thermal design Options include but are not limited to:
C = Encased
V = Flanged Baseplate

VII Output Current 2 Numbers denoting output current in Amps
10 = 10 Amps maximum

VIII Options Suffix letters and/or numbers denoting non-safety critical unctions such as, but not limited to, positive or negative logic, pin length,etc.

XI 6/6 RoHS G = 6/6 RoHS Compliance

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Part Number Nomenclature Half Brick

IQ	1B	120	H	P	C	21	NRS	G
I	II	III	IV	V	VI	VII	VIII	IX

I	Product	IQ – InQor Series
II	Input Voltage	64 = 18-135 Vdc, Output 200 Watts max 68 = 12-150 Vdc, output 53 Watts max 70 = 34-135 Vdc, Output 240 Watts max 72 = 42-110 Vdc, Output 255 Watts max 90 = 34-160 Vdc, Output 228 Watts max 1B = 66-160 Vdc, output 255 Watts max 4H = 180-425 Vdc, Output 300 Watts max
III	Output Voltage	3 Numbers denoting output voltage in tenths of a volt 018 = 1.8 Vdc minimum 480 = 48.0 Vdc maximum
IV	Package Size	H = Half Brick
V	Performance level	P = Peta T = Tera G = Giga M = Mega K = Kilo
VI	Thermal design	Options include but are not limited to: C = Encased D = Non-Threaded Inserts V = Flanged Baseplate
VII	Output Current	X = 0 – 6 (70 Amps max) Y = 0 – 9 or A – J (A = .0, B = .1 ... J = .9) Example: 24 = 24 Amps, 03 = 3 Amps, 2F = 2.5 Amps
VIII	Options	Suffix letters and/or numbers denoting non-safety critical functions such as, but not limited to, positive or negative logic, pin length, etc.
XI	6/6 RoHS	G = 6/6 RoHS Compliance

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MILCOTs 270 Half Brick Part Nomenclature

MCOTS-C - 270 - 12 - H T - N - M - xxx
I II III IV V VI VII VIII

I	Product	MCOTS-C – MILCOTs Converters
II	Input Voltage	270 = 155-425 Vdc, Output 300 Watts max
III	Output Voltage	3 Characters denoting output voltage in volts R = Decimal point 1R8 = 1.8 Vdc minimum 9R9 = 9.9 Vdc maximum
IV	Package Size	H = Half Brick (70 Amps max)
V	Performance level	K = Kilo M = Mega G = Giga T = Tera
VI	Thermal design	Options include but not limited to: F = Flanged N = Normal
VII	Screening Level	Burn-in duration, etc (Non safety)
VIII	Options	Blank to 3 characters denoting non-safety options such as, but not limited to, positive or negative logic, pin configuration, etc.

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MILCOTs 270 Half Brick Part Nomenclature

MCOTS-C -	270 -	12 -	H	T -	N -	M	- xxx
I	II	III	IV	V	VI	VII	VIII

I	Product	MCOTS-C – MILCOTs Converters
II	Input Voltage	270 = 155-425 Vdc, Output 300 Watts max 270N = 240-280 Vdc, Output, 400 Watts max
III	Output Voltage	2 Characters denoting output voltage in volts 05 = 5 Vdc minimum 48 = 48 Vdc maximum
IV	Package Size	H = Half Brick (50 Amps max)
V	Performance level	K = Kilo M = Mega G = Giga T = Tera
VI	Thermal design	Options include but not limited to: F = Flanged N = Normal
VII	Screening Level	Burn-in duration, etc (Non safety)
VIII	Options	Blank to 3 characters denoting non-safety options such as, but not limited to, positive or negative logic, pin configuration, etc.

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License conditions:

1. The abnormal testing was performed with the following external fuse value for Quarter Brick:
   20 A ABC (fast) for 64 V input voltage units
   10 A AGC (fast) for 70 V and 90 V input voltage units.
   7 A AGC (fast) for 72 V input voltage units.
   5 A AGC (Fast) for 110 V input voltage units.
   3 A KLM (Fast) for the 425 V input voltage units
   If higher value fuses are used additional testing may be required.

2. The input circuits are separated for the output circuit and the base plate by reinforced insulation based on 425 V working voltage.

3. The input circuits are separated for the output circuit by reinforced insulation based on 425 V working voltage and input circuits are separated from the base plate by basic insulation based on 425 V for the IQ4H.

4. The abnormal testing was performed with the following external fuse value for Half Brick:
   20 A AGC (fast) for 64 V input voltage units.
   15 A AGC (fast) for 70 V and 72 V input voltage units.
   10 A AGC (fast) for 90 V input voltage units.
   8 A AGC (fast) for 160 V input voltage units.
   5 A KLM (Fast) for the 425 V input voltage units.
   If higher value fuses are used additional testing may be required.

5. The reinforced parts will be finished goods rev C or higher. (The basic insulated parts are currently at rev A or B)
   - The rev on the sample label is at the end of the serial number line, A01 where A is the rev and 01 is the manufacturing location, i.e. Boxborough

6. The reinforced parts for the IQ4H quarter brick only will be finished goods rev A or higher.

7. Model # IQ4H480QTCxx and IQ4H480HTCxx output is considered to be at a hazardous voltage level and not considered to be SELV.

8. The abnormal testing was performed with the following external fuse value for Full Brick:
   5 A KLM (Fast) for the 425 V input voltage units.
   If higher value fuses are used additional testing may be required.

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