



HVNQ
Non-Isolated
DC-DC Converters

High Voltage, Non-Isolated DC-DC Converter

9 - 20 V, 9 - 40 V, 9 - 60 V, 9 - 90 V Input Voltage	0 - 20 V, 0 - 40 V, 0 - 60 V, 0 - 90 V Output Voltage	120 W - 2000 W Output Power	5 A - 55 A Output Current	Up to 96% Full Load Efficiency
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Industrial Operating Temperature: -40°C to +100°C / Military Operating Temperature: -55°C to +100°C

NiQor



Designed and manufactured in the USA

Key Features

- Ultra-high efficiency up to 95%
- Wide input voltage ranges: 9-20 V (NQ20); 9-40 V (NQ40); 9-60 V (NQ60/MCOTS-N-28V); 9-90 V (NQ90/MCOTS-N-28VE)
- Non-isolated
- Buck or Buck/Boost topologies available
- Maximum input/output currents up to 55 A
- On-board input and output filtering
- No minimum load requirement
- Remote sense and wide output voltage trim
- Input under-voltage lockout (UVLO)
- Output current limit (OCP) and short circuit protection
- Output over-voltage protection (OVP)
- Thermal shutdown (OTP)
- Output voltage trim
- No maximum external output capacitance
- Active current sharing for higher power applications (half-brick only)

Battery Charging

- Provides the power conversion platform for battery charging
- Output current limit is externally controlled for constant-current charging
- Current can be set with an external resistor or an active circuit
- Current analog signal provided for instrumentation and control functions
- Ideal diode output stage with zero back-drive currents prevents discharge of battery when not charging
- Output voltage set-point is independently controlled through trim pin
- Unit will smoothly transition between current and voltage modes as charging cycle needs charge

Part Number Scheme

Datasheet Link: High Voltage NiQor

Family	Input Voltage	Mode	Output Voltage	Package Size	Series	Thermal Design	Maximum Current	Options Description:		
								Enable Logic	Pin Length	Feature Set
NQ	20: 9-20 V 40: 9-40 V 60: 9-60 V 90: 9-90 V	T: Buck (1/8 & 1/4) W: Buck/Boost	20: 0-20 V 40: 0-40 V 60: 0-60 V 90: 0-90 V	E: Eighth Brick Q: Quarter Brick H: Half Brick	G: Giga T: Tera P: Peta	C: Encased D: Encased, Non-threaded Baseplate V: Encased, Flanged Baseplate	05: 5 A 08: 8 A 10: 10 A 15: 15 A 20: 20 A 26: 26 A 30: 30 A 40: 40 A 55: 55 A	N: Neg.	K: 0.110" N: 0.145" R: 0.180" Y: 0.250"	S: Standard (1/8 & 1/4 only) C: Current monitor output/trimmable current limit (1/8 & 1/4 only) F: Current share/ trimmable current limit (half brick only)

Part Numbering Example: NQ40W40QT35NRS-G

Part Number Scheme

Datasheet Link: MCOTS High Voltage

Family	Product	Vin Range	Vout	Package Size	Thermal Design	Screening Level
MCOTS	N: Non-isolated Converter	28 V: 9-60 V 28 VE: 9-90 V	60: 0-60 V 90: 0-90 V	EP: Eighth-brick Peta QT: Quarter-brick Tera HG: Half-brick Giga	N: Encased, Threaded Baseplate D: Encased, Non-threaded Baseplate F: Encased, Flanged Baseplate	S: S-Grade M: M-Grade

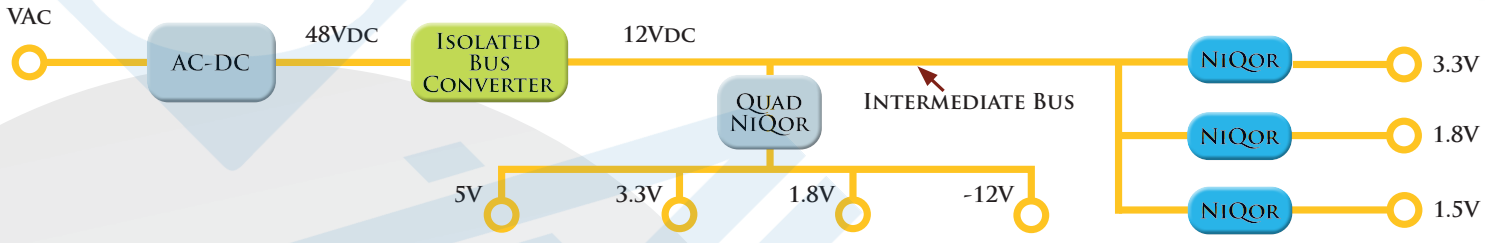
Part Numbering Example: MCOTS-N-28V-60-HG-N-M



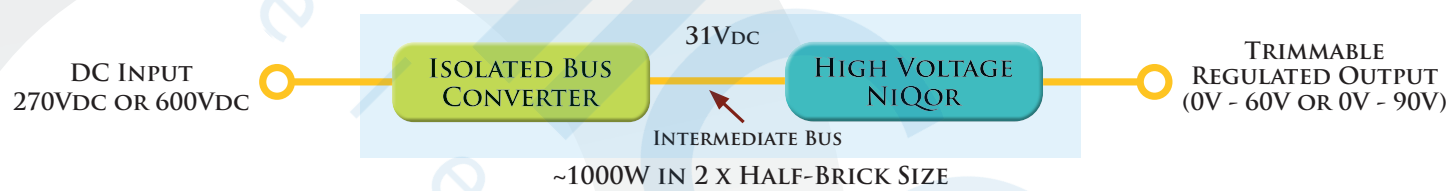
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NiQor[®] APPLICATIONS

INTERMEDIATE BUS ARCHITECTURE



HIGH INPUT VOLTAGE / HIGH POWER / ADJUSTABLE OUTPUT

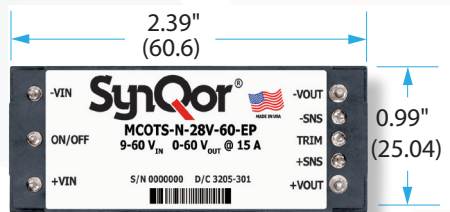


BATTERY CHARGING

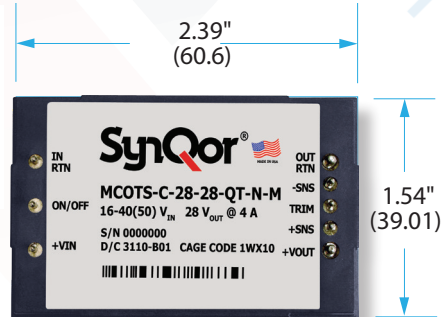


- Constant Current Charging (Trimmable)
- Trimmable Float Voltage
- Zero Back-drive Current Prevents Energizing a Disconnected Input Bus
- Applicable to All Batteries and Fuel Cells

Eighth Brick



Quarter Brick



Half Brick

