



Advancing the Power Curve®

# Power Converters & EMI Filters



## Products for the Industrial Market Environment



SynQor Headquarters  
155 Swanson Road  
Boxborough, MA 01719

Toll Free (USA): 888-567-9596  
Phone: 978-849-0600  
Fax: 978-849-0602

E-mail: [power@synqor.com](mailto:power@synqor.com)  
[www.SynQor.com](http://www.SynQor.com)



## Next-Generation, Ruggedized Isolated DC-DC Converters for Industrial Applications

SynQor's ruggedized DC-DC converters and filters are designed for a wide range of industrial applications including those required to withstand harsh environments: railway and transportation systems, industrial motion control, information displays, factory automation and power generation systems. SynQor converters feature a two-stage power topology with synchronous-rectification that greatly improves efficiency and optimizes the power dissipated by the converter.

### Operational Features

- ◆ High efficiency up to 95%
- ◆ Input voltage ranges from 9V to 425V
- ◆ Output power up to 600W
- ◆ Fixed frequency switching, low output noise
- ◆ No minimum load requirement
- ◆ Full Feature option on some models
- ◆ Industry standard pin-out configurations and standard footprints
- ◆ Operating Temperature -40°C to +100°C
- ◆ Output Voltage Set Point  $\pm 1.0\%$
- ◆ Output Voltage Ripple  $< 1\%$  of  $V_{out}$  (typ.) pk-pk
- ◆ Isolation Voltage Up to 4250Vdc

### Protection/Control Features

- ◆ Input under-voltage lockout
- ◆ Output current limit and short circuit protection
- ◆ Active back bias limit prevents damage to converter from external load induced pre-bias
- ◆ Digital output current sharing (Half Brick Zeta only)
- ◆ Output over-voltage protection
- ◆ Thermal shutdown
- ◆ Trimmable output voltages



## DC Filter Modules for DC-DC Converters

SynQor provides EMI filters for InQor DC-DC converters. All EMI filters provide high levels of differential-mode and common-mode attenuation and include stabilizing bulk capacitors and damping resistors.

### Operational Features

- ◆ Low DC resistance
- ◆ Differential-mode attenuation
- ◆ Common-mode attenuation
- ◆ Bulk capacitance provides input system stabilization for downstream power converters
- ◆ No electrolytic capacitors (all ceramic design)
- ◆ High-voltage isolation between chassis and input / output
- ◆ Wide temperature range operation

## AC Line Filter Modules

SynQor provides AC Line filters for the Industrial PFC modules and DC-DC converters. SynQor's high-performance filters are designed to comply with industry EMI standards.

### Operational Features

- ◆ Universal Input voltage range
- ◆ 1kW@115V or 2kW@230V
- ◆ All ceramic capacitor design
- ◆ Complies with industry EMI standards when used with SynQor PFC and DC-DC converter modules
- ◆ Internally damped
- ◆ Wide temperature range operation
- ◆ Low power dissipation
- ◆ High voltage isolation between baseplate and input/output

IQ12		V <sub>OUT</sub>	1.2V	1.5V	1.8V	2.5V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V
<b>12VDC INPUT (9-22VDC INPUT RANGE, TRANSIENT 25V)</b>																
Half Brick	HPC				60A 108W		50A 165W	36A 180W		15A 180W	12A 180W	7.5A 180W	6.5A 182W		4.5A 180W	3.7A 178W
	HTC				50A 90W		40A 132W	28A 140W		12A 144W	9.5A 143W	6A 144W	5A 140W		3.5A 140W	3A 144W
Quarter Brick	QTC				40A 72W		30A 99W	20A 100W	14A 98W	8A 96W	7A 105W	4A 96W			3A 90W	2A 96W
	QGC				30A 54W		20A 66W	15A 75W	10A 70W	6A 72W	5A 75W	3A 72W			2.4A 72W	1.5A 72W
Sixteenth Brick	SMC	25A 30W	25A 38W	25A 45W	20A 50W	15A 50W	10A 50W	7A 49W	4A 48W	3A 45W						
	SKC	20A 24W	16A 24W	14A 25W	10A 25W	8A 26W	5A 25W	3.5A 25W	2A 24W	1.7A 26W						

IQ24		V <sub>OUT</sub>	1.2V	1.5V	1.8V	2.5V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V	50V
<b>24VDC INPUT (18-36VDC INPUT RANGE, TRANSIENT 50V)</b>																	
Half Brick	HZC							60A 300W		42A 504W	34A 510W	21A 504W	18A 504W		12.5A 500W		10A 500W
	HEC												14A 392W				8A 400W
	HPC				60A 108W		50A 165W	40A 200W		18A 216W	15A 225W	9A 216W	7.5A 210W		5.5A 220W	4.5A 216W	
	HTC				50A 90W		40A 132W	30A 150W		13A 156W	10A 150W	6.5A 156W	5.5A 154W		4A 160W	3.3A 158W	
Quarter Brick	QTC				40A 72W		30A 99W	24A 120W	17A 119W	10A 120W	8A 120W	5A 120W			4A 120W		2.5A 120W
	QGC				32A 58W		25A 83W	18A 90W	13A 91W	7.5A 90W	6A 90W	3.7A 89W			3A 90W		1.8A 91W
	QMC													2A 60W		1.2A 58W	
Sixteenth Brick	SMC	25A 30W	25A 38W	25A 45W	20A 50W	15A 50W	10A 50W	7A 49W	4A 48W	3A 45W							
	SKC	20A 24W	16A 21W	14A 25W	10A 25W	8A 26W	5A 25W	3.5A 25W	2A 24W	1.7A 26W							

IQ48		V <sub>OUT</sub>	1.2V	1.5V	1.8V	2.5V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V	50V
<b>48VDC INPUT (34-75VDC INPUT RANGE, TRANSIENT 100V)</b>																	
Half Brick	HZC							60A 300W		50A 600W	40A 600W	25A 600W	21.5A 602W		15A 600W		12A 600W
	HPC				60A 108W		60A 198W	46A 230W		21A 252W	17A 255W	10.5A 252W	9A 252W		6.3A 252W	5.2A 250W	
	HTC				50A 90W		45A 149W	34A 170W		16A 192W	13A 195W	8A 192W	7A 196W		5A 200W	4A 192W	
Quarter Brick	QTC				40A 72W		30A 99W	25A 125W	20A 140W	12A 144W	10A 150W	6A 144W			5A 150W		3A 144W
	QGC				32A 58W		25A 83W	21A 105W	15A 105W	9A 108W	7A 105W	4.5A 108W			3.5A 105W		2.2A 106W
Sixteenth Brick	SMC	25A 30W	25A 38W	25A 45W	20A 50W	15A 50W	10A 50W	7A 48W	4A 48W	3A 45W							
	SKC	20A 24W	16A 21W	14A 25W	10A 25W	8A 26W	5A 25W	3.5A 25W	2A 24W	1.7A 26W							

IQ72		V <sub>OUT</sub>	1.8V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V
<b>72VDC INPUT (42-110VDC INPUT RANGE)</b>													
Half Brick	HPC	60A 108W	60A 198W	46A 230W		21A 252W	17A 255W	10.4A 250W	9A 252W		6.3A 252W	5.2A 250W	
	HTC	50A 90W	45A 149W	34A 170W		16A 192W	13A 195W	8A 192W	7A 196W		5A 200W	4A 192W	
Quarter Brick	QTC	40A 72W	30A 99W	25A 125W	20A 140W	12A 144W	10A 150W	6A 144W			5A 150W		3A 144W
	QGC	32A 58W	25A 83W	20A 100W	15A 105W	9A 108W	7A 105W	4.5A 108W			3.5A 105W		2A 96W



IQ1B		V <sub>OUT</sub>	1.8V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V
<b>110VDC INPUT (66-160VDC INPUT RANGE, TRANSIENT 170V)</b>													
Half Brick	HPC	60A 108W	60A 198W	48A 240W		21A 252W	17A 255W	10A 240W	9A 252W		6.3A 252W	5.2A 250W	
	HTC	50A 90W	45A 149W	34A 170W		16A 192W	13A 195W	8A 192W	7A 196W		5A 200W	4A 192W	
Quarter Brick	QTC	40A 72W	30A 99W	25A 125W	20A 140W	12A 144W	10A 150W	6A 144W			5A 150W		3A 144W
	QGC	32A 58W	23A 76W	18A 90W	15A 105W	9A 108W	7A 105W	4.5A 108W			3.5A 105W		2A 96W

# LISTED BY PACKAGE AND OUTPUT VOLTAGE

2:1 INPUT RATIO

IQ2H		V <sub>OUT</sub>	1.8V	2.5V	3.3V	5V	12V	15V	24V	28V	48V
150V <sub>DC</sub> INPUT (90-210V <sub>DC</sub> INPUT RANGE, TRANSIENT 250V)											
Quarter Brick	QTC					30A 150W				5.35A 150W	3.13A 150W
IQ4H		V <sub>OUT</sub>	1.8V	2.5V	3.3V	5V	12V	15V	24V	28V	48V
385V <sub>DC</sub> INPUT (180-425V <sub>DC</sub> INPUT RANGE, TRANSIENT 475V)											
Full Brick	FTC					80A 400W	50A 600W	40A 600W	25A 600W	21.4A 600W	12.5A 600W
Half Brick	HTC	70A 126W	70A 175W	60A 198W	50A 250W	25A 300W	20A 300W	12.5A 300W	10.7A 300W	6.3A 300W	
Quarter Brick	QTC	30A 54W	30A 75W	30A 99W	30A 150W	13A 156W	10A 150W	6.25A 150W	5.35A 150W	3.13A 150W	



4:1 INPUT RATIO

IQ18		V <sub>OUT</sub>	1.2V	1.5V	1.8V	2.5V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V
18V <sub>DC</sub> INPUT (9-36V <sub>DC</sub> INPUT RANGE, TRANSIENT 40V)																
Half Brick	HPC				60A 108W		50A 165W	36A 180W		15A 180W	12A 180W	7.5A 180W	6.5A 182W		4.5A 180W	3.7A 178W
	HTC				50A 90W		40A 132W	28A 140W		12A 144W	9.5A 143W	6A 144W	5A 140W		3.5A 140W	3A 144W
Quarter Brick	QTC				40A 72W		30A 99W	20A 100W	14A 98W	8A 96W	7A 105W	4A 96W		3A 90W		2A 96W
	QGC				30A 54W		20A 66W	15A 75W	10A 70W	6A 72W	5A 75W	3A 72W		2.4A 72W		1.5A 72W
Sixteenth Brick	SMC	25A 30W	25A 38W	25A 45W	20A 50W	15A 50W	10A 50W	7A 49W	4A 48W	3A 45W						
	SKC	20A 24W	16A 21W	14A 25W	10A 25W	8A 26W	5A 25W	3.5A 25W	2A 24W	1.7A 26W						

IQ36		V <sub>OUT</sub>	1.2V	1.5V	1.8V	2.5V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V
36V <sub>DC</sub> INPUT (18-75V <sub>DC</sub> INPUT RANGE)																
Half Brick	HPC				60A 108W		50A 165W	40A 200W	30A 210W	18A 216W	14A 210W	9A 216W	7.5A 210W		5.5A 220W	4.5A 216W
	HTC				50A 90W		40A 132W	30A 150W	22A 154W	13A 156W	10A 150W	6.5A 156W	5.5A 154W		4A 160W	3.2A 154W
Quarter Brick	QTC				40A 72W		30A 99W	24A 120W	17A 119W	10A 120W	8A 120W	5A 120W		4A 120W		2.5A 120W
	QGC				32A 58W		25A 83W	18A 90W	13A 91W	7.5A 90W	6A 90W	3.7A 89W		3A 90W		1.8A 86W
Sixteenth Brick	SMC	25A 30W	25A 38W	25A 45W	20A 50W	15A 50W	10A 50W	7A 49W	4A 48W	3A 45W						
	SKC	20A 24W	16A 24W	14A 25W	10A 25W	8A 26W	5A 25W	3.5A 25W	2A 24W	1.7A 26W						

IQ70		V <sub>OUT</sub>	1.8V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V
70V <sub>DC</sub> INPUT (34-135V <sub>DC</sub> INPUT RANGE)													
Half Brick	HPC	60A 108W	57A 188W	44A 220W		20A 240W	16A 240W	10A 240W	8.5A 238W		6A 240W	5A 240W	
	HTC	50A 90W	43A 142W	32A 160W		15A 180W	12A 180W	7.5A 180W	6.5A 182W		4.5A 180W	3.8A 182W	
Quarter Brick	QTC	40A 72W	30A 99W	24A 120W	18A 126W	11A 132W	8.6A 129W	5.5A 132W		4.4A 132W		2.7A 130W	
	QGC	32A 58W	23A 76W	17A 85W	12A 84W	7A 84W	5.5A 83W	3.5A 84W		2.8A 84W		1.8A 86W	



IQ90		V <sub>OUT</sub>	1.8V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V
90V <sub>DC</sub> INPUT (34-160V <sub>DC</sub> INPUT RANGE)													
Half Brick	HPC	60A 108W	53A 175W	40A 200W		19A 228W	15A 225W	9.5A 228W	8A 224W		5.7A 228W	4.6A 221W	
	HTC	50A 90W	40A 132W	30A 150W		13A 156W	10A 150W	6.5A 156W	5.7A 160W		4A 160W	3.2A 154W	
Quarter Brick	QTC	40A 72W	30A 99W	24A 120W	17A 119W	10A 120W	8A 120W	5A 120W		4A 120W		2.5A 120W	
	QGC	32A 58W	23A 76W	17A 86W	12A 84W	7A 84W	5.5A 83W	3.5A 84W		2.8A 84W		1.8A 86W	
	QMC	25A 45W	15A 50W	10A 49W	7A 49W	4A 48W	3.3A 50W	2A 48W		1.6A 48W		1A 48W	

# LISTED BY PACKAGE AND OUTPUT VOLTAGE

<b>8:1 INPUT RATIO</b>	<b>IQ32</b>	V <sub>OUT</sub>	1.8V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V	50V	
	<b>32VDC INPUT (9-75VDC INPUT RANGE, TRANSIENT 100V)</b>														
	Half Brick	HZC				50A 250W		21A 252W	17A 255W	10A 240W	9A 252W		6A 240W		5A 250W
		HPC	55A 99W	45A 149W	32A 160W		13A 156W	11A 165W	6.7A 161W	5.8A 162W		4A 160W	3.4A 163W		
		HTC	45A 81W	33A 109W	24A 120W		10A 120W	8A 120W	5A 120W	4.5A 126W		3A 120W	2.5A 120W		
	Quarter Brick	QTC	35A 63W	25A 83W	17A 85W	12A 84W	7A 84W	5.5A 83W	3.5A 84W		2.8A 84W		1.8A 86W		
		QGC	25A 45W	15A 50W	10A 50W	7A 49W	4A 48W	3.3A 50W	2A 48W		1.6A 48W		1A 48W		
	<b>IQ64</b>	V <sub>OUT</sub>	1.8V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V		
	<b>64VDC INPUT (18-135VDC INPUT RANGE)</b>														
	Half Brick	HPC	60A 108W	50A 165W	36A 180W		16A 192W	13A 195W	8A 192W	7A 196W		5A 200W	4A 192W		
HTC		50A 90W	40A 132W	28A 140W		12A 144W	10A 150W	6A 144W	5.5A 154W		3.8A 152W	3A 144W			
Quarter Brick	QTC	36A 65W	27A 89W	20A 100W	14A 98W	8A 96W	6.5A 98W	4A 98W		3.2A 96W		2A 96W			
	QGC	25A 45W	15A 50W	10A 50W	7A 49W	4A 48W	3.3A 50W	2A 48W		1.6A 48W		1A 48W			

<b>12:1 RATIO</b>	<b>IQ68</b>	V <sub>OUT</sub>	1.8V	3.3V	5V	7V	12V	15V	24V	28V	30V	40V	48V	
	<b>68VDC INPUT (12-150VDC INPUT RANGE, TRANSIENT 170V)</b>													
	Half Brick	HGC			10.6A 50W		4.4A 53W		2.2A 53W					1.1A 53W
	Quarter Brick	QMC			5.3A 25W		2.2A 26W		1.1A 26W					0.55A 26W



## INQOR EMI DC & AC FILTERS

MODEL NUMBER	INPUT VOLTAGE		OUTPUT CURRENT	ISOLATION VOLTAGE (TO COMMON-MODE / BASEPLATE)	MAXIMUM DC RESISTANCE @ 100°C	DIFFERENTIAL-MODE ATTENUATION	COMMON-MODE ATTENUATION
	CONTINUOUS	SURGE (<100MS)					
<b>QUARTER BRICK</b>							
IQ040PFQTx30	±40V	±50V	30A	2250V	20mΩ	>80dB @ 250kHz	>36dB @ 250kHz
IQ080PFQTx20	±80V	±100V	20A	2250V	32mΩ	>80dB @ 250kHz	>36dB @ 250kHz
IQ200PFQTx10	±200V	±250V	10A	2250V	70mΩ	>80dB @ 500kHz	>50dB @ 500kHz
IQ500PFQTx04	±500V	±630V	4.0A	2500V	180mΩ	>80dB @ 500kHz	>50dB @ 500kHz

FAMILY	CONT. INPUT VOLTAGE	FILTER TYPE	PACKAGE SIZE	PERFORMANCE SERIES	THERMAL DESIGN	MAX. I <sub>OUT</sub>	OPTIONS DESCRIPTION		
							ENABLE LOGIC	PIN LENGTH	FEATURES
IQ	040: ±40V 080: ±80V 200: ±200V 500: ±500V	PF: Passive Filter	Q: Quarter Brick	T: Tera	C: Encased V: Flanged Baseplate	30: 30A 20: 20A 10: 10A 04: 4A	S: Standard	R: 0.180"	S: Standard

**Part Numbering Example:** IQ080PFQTC20NRS-G For valid part numbers, refer to the website or contact your local sales representative or distributor.

MODEL NUMBER	AC LINE FREQUENCY	AC LINE VOLTAGE	OUTPUT CURRENT	P <sub>OUT</sub> <sup>MAX</sup> (115V / 230V)	DISSIPATION P <sub>OUT</sub> <sup>MAX</sup> (115V / 230V)	ISOLATION VOLTAGE (TO BASEPLATE)
<b>HALF BRICK</b>						
ACLF060HTx230	50/60Hz	85-264V <sub>RMS</sub>	9A <sub>RMS</sub>	1kW/2kW	15.8W	2150V <sub>PK</sub>

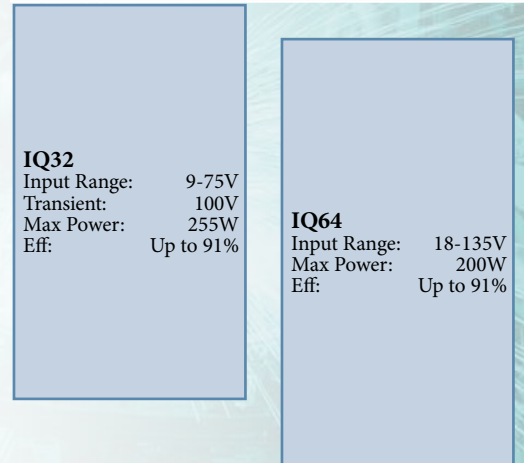
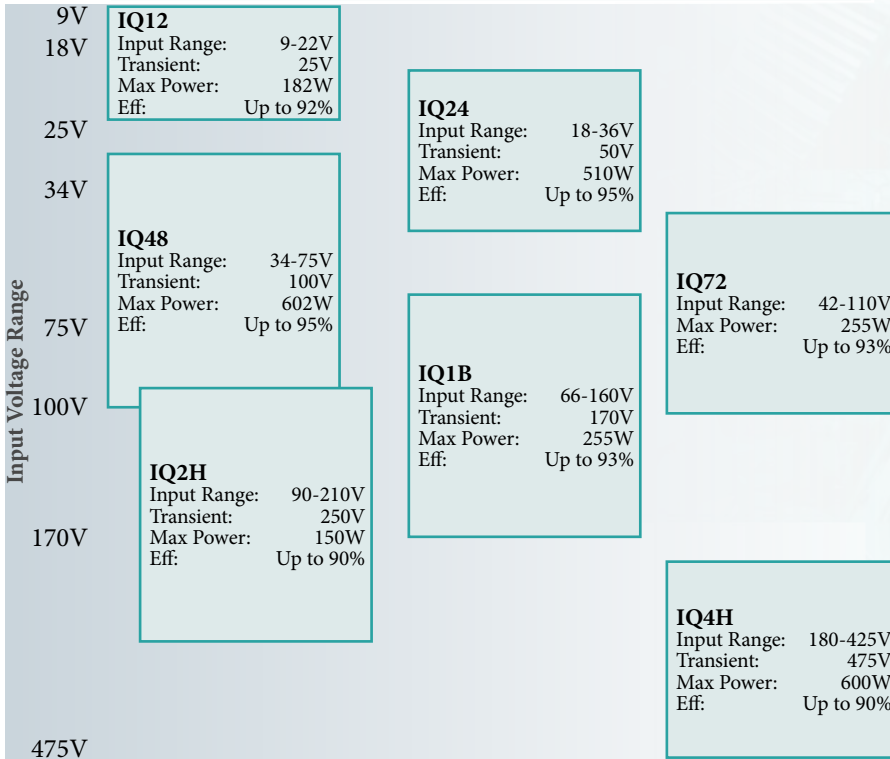
Refer to the website, contact your local sales representative or distributor for valid part numbers. Specifications change without notice.

# PRODUCT FAMILY MATRIX



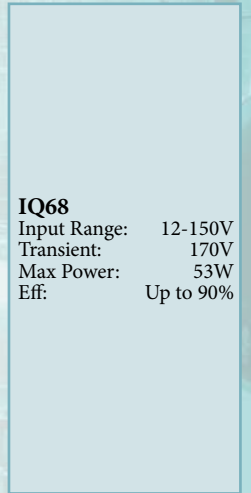
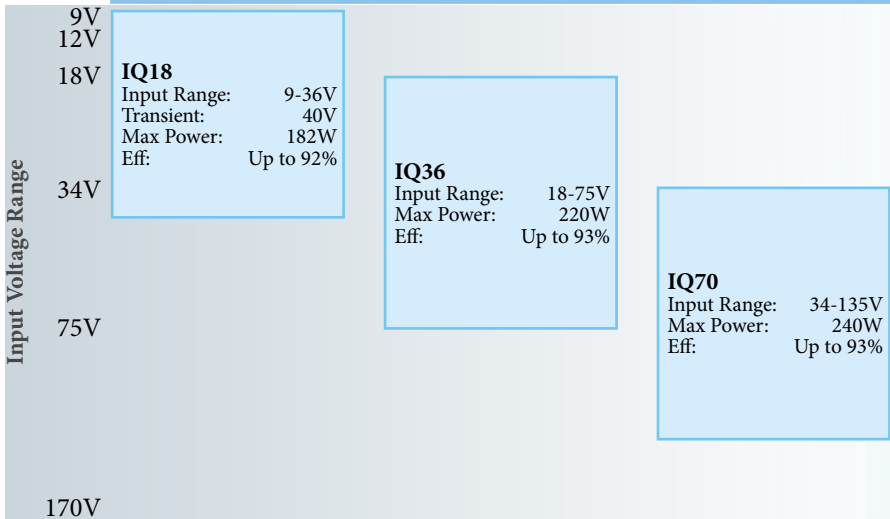
## 2:1 INPUT RATIO

## 8:1 INPUT RATIO



## 4:1 INPUT RATIO

## 12:1 INPUT RATIO



# INQOR ISOLATED DC-DC CONVERTER

FAMILY	CONT. INPUT VOLTAGE	OUTPUT VOLTAGE	PACKAGE SIZE	PERFORMANCE SERIES	THERMAL DESIGN	MAX. IOUT	OPTIONS DESCRIPTION		
							ENABLE LOGIC	PIN LENGTH	FEATURES
IQ	<b>12:</b> 9-22V	<b>012:</b> 1.2V	<b>S:</b> Sixteenth Brick <b>Q:</b> Quarter Brick <b>H:</b> Half Brick <b>F:</b> Full Brick	<b>K:</b> Kilo <b>M:</b> Mega <b>G:</b> Giga <b>T:</b> Tera <b>P:</b> Peta <b>E:</b> Exa <b>Z:</b> Zeta	<b>C:</b> Encased <b>D:</b> Encased, Non-threaded Baseplate <b>V:</b> Encased, Flanged Baseplate	<b>60:</b> 60A <b>50:</b> 50A <b>30:</b> 30A <b>10:</b> 10A <b>06:</b> 6A <b>02:</b> 2A (not all shown)	<b>N:</b> Negative	<b>R:</b> 0.180"	<b>S:</b> Standard <b>F:</b> Full Feature
	<b>18:</b> 9-36V	<b>015:</b> 1.5V							
	<b>24:</b> 18-36V	<b>018:</b> 1.8V							
	<b>32:</b> 9-75V	<b>025:</b> 2.5V							
	<b>36:</b> 18-75V	<b>033:</b> 3.3V							
	<b>48:</b> 34-75V	<b>050:</b> 5V							
	<b>64:</b> 18-135V	<b>070:</b> 7V							
	<b>68:</b> 12-150V	<b>120:</b> 12V							
	<b>70:</b> 34-135V	<b>150:</b> 15V							
	<b>72:</b> 42-110V	<b>240:</b> 24V							
	<b>90:</b> 34-160V	<b>280:</b> 28V							
	<b>1B:</b> 66-160V	<b>300:</b> 30V							
	<b>2H:</b> 90-210V	<b>400:</b> 40V							
	<b>4H:</b> 180-425V	<b>480:</b> 48V							
		<b>500:</b> 50V							

**Part Numbering Example:** IQ1B480QTC03NRS-G For valid part numbers, refer to the website or contact your local sales representative or distributor.



## High-Voltage Non-isolated Converters

### High Voltage, Non-isolated DC-DC Converters for Industrial Applications

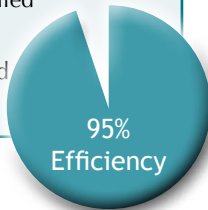
The high input voltage NiQor family of DC-DC converters offers unique solutions for converting high-powered, variable voltages to a wide range of output voltages. The converter is a non-isolated buck-boost regulator, which employs synchronous rectification to achieve extremely high conversion efficiency. These products are suitable for use in IBA, or to provide a regulated output voltage from a variable voltage source such as a battery. They can be configured to 'buck' the input voltage down or 'boost' the input voltage up using a single external resistor.

#### 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

#### Operational Features

- ◆ Ultra-high efficiency up to 96%
- ◆ Wide input voltage ranges:
- ◆ 9-20V (NQ20); 9-40V (NQ40); 9-60V (NQ60); 9-90V (NQ90)
- ◆ Buck or Buck/Boost Mode available
- ◆ Maximum input/output currents up to 55A
- ◆ Suitable for use in Intermediate Bus Architectures
- ◆ On-board input and output filtering
- ◆ No minimum load requirement
- ◆ Remote sense and wide output voltage trim



#### Protection/Control Features

- ◆ Input under-voltage lockout (UVLO)
- ◆ Output current limit (OCP) and short circuit protection
- ◆ Output over-voltage protection (OVP)
- ◆ Thermal shutdown (OTP)
- ◆ Output voltage trim

NQ20		SERIES	0-20V
9-20VDC INPUT RANGE			
Quarter Brick	QG		40A
Eighth Brick	ET		20A
	EG		10A

NQ40		SERIES	0-40V
9-40VDC INPUT RANGE			
Half Brick	HG		55A
Quarter Brick	QT		35A
	QG		30A
Eighth Brick	EP		20A
	ET		15A
	EG		8A

NQ60		SERIES	0-60V
9-60VDC INPUT RANGE			
Half Brick	HG		40A
Quarter Brick	QT		25A
	QG		20A
Eighth Brick	EP		15A
	ET		10A
	EG		5A

NQ90		SERIES	0-90V
9-100VDC INPUT RANGE			
Half Brick	HG		26A
Quarter Brick	QT		18A
Eighth Brick	EP		10A

FAMILY	INPUT VOLTAGE	MODE	OUTPUT VOLTAGE	PACKAGE SIZE	SERIES	THERMAL DESIGN	MAXIMUM CURRENT	OPTIONS DESCRIPTION:		
								ENABLE LOGIC	PIN LENGTH	FEATURE SET
NQ	20: 9-20V 40: 9-40V 60: 9-60V 90: 9-90V	T: Buck (1/8 & 1/4) W: Buck/Boost	20: 0-20V 40: 0-40V 60: 0-60V 90: 0-90V	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: 5A 08: 8A 10: 10A 15: 15A 20: 20A 26: 26A 30: 30A 40: 40A	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: NQ20W20ETC20NRS-G For valid part numbers, refer to the website or contact your local sales representative or distributor.

# PFCQor<sup>®</sup>

**Power Factor Correction**



## Power Factor Correction Modules

The PFCQor Power Factor Correction module is an essential building block of an AC-DC power supply. Used in conjunction with a hold-up capacitor, SynQor's high efficiency DC-DC converters and SynQor's AC line filter, the PFCQor will draw a nearly perfect sinusoidal current (PF>0.99) from a single phase AC input. Up to three PFCQor modules can be paralleled to achieve higher power. The module is supplied completely encased to provide protection from the harsh environments seen in many industrial and transportation environments.

### Operational Features

- ◆ Universal input voltage range: 85-264Vrms
- ◆ Universal input frequency range: 45 - 65Hz / 360 - 800Hz
- ◆ Up to 700W output power
- ◆  $\geq 0.99$  Power Factor
- ◆ High efficiency: >96% (230Vrms), >94% (115Vrms)
- ◆ Internal inrush current limit
- ◆ Auxiliary 10V bias supply
- ◆ 100°C max baseplate temperature at full power
- ◆ Up to three modules can be paralleled with current sharing (HB only)
- ◆ Compatible with SynQor IQ4H Converters and AC line filters

### Protection/Control Features

- ◆ PFC Enable
- ◆ Load Enable (also: Power Out Good signal)
- ◆ AC Power Good Signal (HB only)
- ◆ Clock synchronization (HB only)
- ◆ Output current monitor / active current sharing (HB only)
- ◆ Input current limit along with auto-recovery short circuit protection
- ◆ Auto-recovery input under / over-voltage protection
- ◆ Auto-recovery output over-voltage protection
- ◆ Auto-recovery thermal shutdown

Model Number	Input Voltage	Output Voltage	Max Output Power
PFCU390HPx07SRS	85-264Vrms	390Vdc	700W
PFCU390QPx04SRS	85-264Vrms	390Vdc	350W

## PFCQOR POWER FACTOR CORRECTION

Family	Vin Range	Vout	Package Size	Performance Level	Thermal Design	Output Power	Input Phases	Pin Style	Feature Set
PFC	U: 85-264 Vrms	390: 390V	Q: Quarter-brick H: Half-brick	P: Peta	C: Encased D: Encased, Non-threaded Baseplate V: Encased, Flanged Baseplate	04: 350W 07: 700W	S: Single-Phase	R: 0.180"	S: Standard (Parallel Capability HB Only)

**Part Numbering Example:** PFCU390HPC07SRS-G For valid part numbers, refer to the website or contact your local sales representative or distributor.

\* The label shows a narrower input voltage range to be consistent with labeling requirements of IEC60950-1, Section 1.7