



TRYSTAR®

PCS EP40

HAND OUT

**40kVA Power
Conversion System
Environmentally
Protected Series**

120/208V | 230/400V | 277/480V

3-phase



Distributed energy storage system design just got easier. With a compact, wall-mount form factor, the transformerless PCS-EP40 installs outdoors to Li-ion battery enclosures or building walls. Bottom-side terminations simplify interconnect, and the fully parallelable, 40kW architecture permits easy system expansion.

Offering wide 208-480 VAC and 330-820 VDC operating ranges, grid-tie and grid-forming operating modes, advanced “smart inverter” features, and design and certification for energy storage applications, system design doesn’t get any easier.

Flexible

- Grid-tie operation
- Grid-forming operation
- 330–820 VDC input
- Three and four wire transformerless grid interface

Scalable

- Designed to be paralleled for high power applications
- Compact NEMA 3X wall mount
- Bottom-side terminations for easy cable routing
- 96.4% CEC efficiency

Integrated

- Black start bias supply
- AC circuit breaker and contactor
- DC contactors
- Pre-charge circuitry
- Variable speed forced air cooling

PCS-EP40 SPECIFICATIONS

DC CONNECTION	
Operating Voltage Range	330 - 820 VDC
Full Power Voltage Range	550 - 820 VDC
Max DC Current	+/- 75 A
Max DC Power	40 kW
Wiring Configuration	Two wire

AC CONNECTION	
Max AC Power	40kVA @ 480Vrms
Max AC Current	50Arms
AC Line Voltage	208 - 480Vrms
AC Line Frequency	50 / 60 Hz
Supported Grid Connections	Three and four wire, grounded neutral
Power Factor	-1 to +1
Current Harmonics	IEEE 1547 Compliant, <3%THD
Peak Efficiency	97%

ENVIRONMENTAL	
Operating Temperature	-20°C to 45°C continuous 60°C max
Cooling	Forced air by internal variable speed fans
Max Elevation	1,000m no derating 1,000m - 3,000m derated
Enclosure	800 x 550 x 165 mm wall mount
Weight	49kg / 110 Lbs
Ingress Protection	NEMA 3X, IP54
Designed to Comply with	UL1741 SB, CA Rule 21 phases 2 & 3, CSA C22.2#17, IEEE 1547-2018, SunSpec Cert # 032001, California Energy Commission, SGIP, IEEE 519, IPC9592

USER INTERFACE	
Isolated Communication Link	Modbus RS-485
Register Mapping	SunSpec PCS
Isolated Digital Inputs	Emergency Shutoff Bias Enable
Isolated Digital Outputs	User Configurable 1 and 2
Indicator LEDs	Fault Operating Standby Power On Service
Warranty	5 years Standard
	5 year Warranty Extension Available

REDUCE TIME TO MARKET

- Supports grid-tie and grid -forming applications
- Easy paralleling allows for quick product scaling
- NEMA 3X outdoor-rated wall-mount design

FEATURES

- Seamless transfer
- UL1741-SB smart inverter functions
- Three and four wire transformerless grid interface
- Integrated data logging

WORLDWIDE APPLICATION

- Wide AC voltage range
 - 208-480 VAC
 - 50/60 Hz
- Wide DC voltage range
 - 330-820 VDC

INDUSTRY STANDARD INTERFACE

- SunSpec certified
- Modbus RS-485

