Modular Inverter System (MPC)

6KVA to 18KVA - 48v 120/240/208Vac

Overview

The MPC is a ready-made inverter package designed to provide a pure sine wave AC supply as a complement to any existing DC power solution.

Compact, friendly Plug & Play installation, self standing open relay rack ideal for low MTTR applications in power room. It can be used either to piggyback DC power sources or as fully integrated AC power center with built-in in and out protections. Thanks to TSI specifics it provides outstanding power conditioning and high end availability.

Advantages

- Telecom central office, IS data centers, Head-ends, Hubs, and MTSO applications
- Streamlined and Modular system
- Scalable up to 18KVA

GENERAL	
Applicable standards	IEC 61000-4 / FCC part 15 / cULus 1778 Listed / ROhS
MTBF (each module)	240 000 hrs
Efficiency (Typical): Enhanced power conversion / on line	95% / 91%
Dielectric strength DC/AC	4 300 Vdc
True Redundant Systems - compliant	3 disconnection levels on AC out and DC in power ports 4 disconnection levels on AC in port
Vibration	GR63 office vibration 0 to 100 hz-0.1 g / transport vibration 5-100 Hz 0.5 g 100 to 500 hz-1.5g / Drop test
Altitude above sea	< 1 500 m no derating > 1 500 m - 0.8 % derating per 100 m
Ambient / storage temperature / relative humidity	-40 to 70 ° C / -40 ° F to 158 ° F / 95 %, non-condensing
Operating temperature (Ambient & measured @ air inlet)	-20 to 40 °C; -4°F to 104°F for rated power (7) 40 °C to 65°C with 2%/°C derating (1) 104°F to 149°F with 1%/°F derating (1)
Operating ambiance / Ingress Protection	Free from dust and corrosive materials / NEMA 1 [2]
Material (casing)	Coated steel-ALU ZINC

DC INPUT SPECIFICATIONS	
Nominal voltage (DC) / Voltage range	48 V / (40 - 58 V)
Voltage ripple	<2 mV Psopho
Input voltage boundaries	40 V to 57 V user selectable
DC input protections	No. 1 60 Amps MCB per module

AC INPUT SPECIFICATIONS	
Voltage range (AC) (Full power rating)	100 - 140 Vac
Brownout range and behavior	80 - 104 Vac use DC source contribution if need be (can be disabled)
Conformity range	Adjustable from 80 to 138 Vac
Power factor	> 99%
Frequency range (selectable) / synchronization range	50 - 60 Hz / range 47 - 53 Hz / 57 - 63 Hz

ENERGY SOURCE CHANGEOVER	
Total transient voltage duration (max) (as seen from the load)	0 s (and no glitch)
Maintenance Bypass (MBP)	Yes

1 Operation beyond 40°C (104°F) and derating are not UL certified

AC OUTPUT SPECIFICATIONS	
Admissible load power factor	Full VA power rating from 0 inductive to 0 capacitive Limited to W power rating form Pf 0.8to 1
Frequency / frequency accuracy	50 - 60 Hz / 0.03%
Total harmonic distortion (resistive load)	< 1.5 %
Load impact recovery time	0.4 ms
Turn on delay	30 s
Short duration overload capacity	150 % - 15 s
Long duration overload capacity	110 % permanent
Crest factor at nominal power. With short circuit management and protection	3.1
Short circuit clear up capacity [3]	10 x 1_n for 20 ms
Short circuit clear up capacity when AC is not present	1.5 x 1_n for 15 s

SIGNALING & SUPERVISION	
Display	LED w/module status and power bargraph or optional 7" touchscreen + CANDIS Display (2)
Alarms output / supervision	No.3 Dry Contacts (Maj, Min, User adj)
Remote Monitoring	TCP-IP with SNMP V1
Remote on / off	via T2S controller

GENERAL	MPC-1-6-XX-04	MPC-1-12-XX-08	MPC-2-12-XX-08	MPC-3-18-XX-12
Nominal voltage (AC) Input & Output	120 Vac L-N	120 Vac L-N	120 Vac L-N 240 Vac L-L 120 Vac / 208Vac ORQ	120 Vac L-N 208 Vac L-L
Nominal Output Power (VA) / (W) (when fully populated)	6 KVA / 4.8 kW	12 KVA / 9.6 kW	12 KVA / 9.6 kW	18 kVA / 14.4 kW

AC OUTPUT CONNECTIONS	MPC-1-6-XX-04	MPC-1-12-XX-08	MPC-2-12-XX-08	MPC-3-18-XX-12
AC output connection / protection [6]	Terminal block 70 A Branch Circuit Protection	Terminal block 100 A Supplementary Protection	Terminal block 70 A 2pole Branch Circuit Protection	Terminal block 70 A 3pole Branch Circuit Protection
Nominal AC output current. Protected against reverse current	50 A	100 A	50 A per phase	50 A per phase
Short circuit current after clear up capacity	75 A	150 A	75 A per phase	75 A per phase

DC INPUT CONNECTIONS	MPC-1-6-XX-04	MPC-1-12-XX-08	MPC-2-12-XX-08	MPC-3-18-XX-12
DC input connection [6, 8]	Copper plate featured to receive double lug cable shoe Common feed or one feed per row of modules			
Nominal DC current (at floating voltage and 1200W per module output) Common Feed Two Feed Three Feed	 99A N/A N/A	 198 A 99 A per feed N/A	 198 A 99 A per feed N/A	 296 A N/A 99 A per feed
Internal DC input protections	150 A (No1 per row of module)	2 x 150 A (No1 per row of module)	2 x 150 A (No1 per row of module)	3 x 150 A (No1 per row of module)

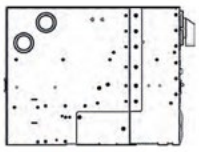
AC INPUT CONNECTIONS	MPC-1-6-XX-04	MPC-1-12-XX-08	MPC-2-12-XX-08	MPC-3-18-XX-12
AC input connection / protection [6]	Terminal block / 70 A Supplementary Protection	Terminal block / 2 x 70 A Supplementary Protection	Terminal block / 2 x 70 A Supplementary Protection	Terminal block / 3 x 70 A Supplementary Protection
Nominal AC input current [5] (at 120Vac and 2000W per module output)	43 A	85 A	43 A per phase	43 A per phase

SELECTABLE OPTIONS
Embeded Manual Bypass
7inch touchscreen

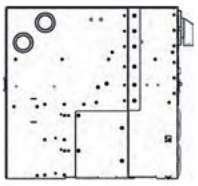
TSI MPC – Datasheet v1.0 Specifications can change without notice. New data will be updated on our Web site: www.cet-power.com.
The present equipment is protected by several international patents, trademarks and copyrights.

[1] Operation beyond 40°C (104°F) and derating are not UL certified
[2] Specific execution can be provided on request
[3] While the boost function is enabled and AC source present
[5] Inverter module current consumption only. Use output current for circuit sizing while MBP is present,
[6] Refer to specific document for NEC compliance for external protections and cable sizing
[7] Internal temperature management and switch off
[8] DC cable size not NEC compliant for infrasctructure connection. Used for system internal wiring only.

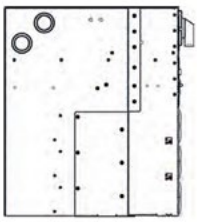
OUTLINE DRAWINGS



MPC-1-6-xx-04
8U



MPC-1-12-xx-08
MPC-2-12-xx-08
10U



MPC-3-18-xx-12
12U

Step 1: Select Inverter System

MPC Inverter System 240/120V Single Phase 2 Pole L, L, N

SYSTEM RATING	DC INPUT	COMCODES	DISPLAY AND IP CONNECTION	AC INPUT	AC OUTPUT	DESCRIPTION
240/120V L,L,N 12KVA	48v 2 x 150A (2 feed)	450049414	Touch Screen display with TCP-IP SNMP and Modbus	Supplemental breaker rated for 70amp, two pole	Branch load breaker rated for 70amp, two pole	12KVA Max, Min 1.5KVA, Cabinet Enclosure, Realy rack mount 19" or 23" with mounting adaptors, Internal maintenance bypass. Surge Arrestors built-in by default (Class II type) * Up to (8) 1.5kva inverter modules
		Note: If inverter is being installed with an external wrap around bypass, then refer to breaker sizes in step 4 of the ordering guide.				

MPC Inverter System 208/120V Phase 3 Pole L, L, L, N

SYSTEM RATING	DC INPUT	COMCODES	DISPLAY AND IP CONNECTION	AC INPUT	AC OUTPUT	DESCRIPTION
208/120V L,L,L,N 18KVA	48v 3 x 150A (3 feed)	450049416	Touch Screen display with TCP-IP SNMP and Modbus	Supplemental breaker rated for 70amp, three pole	Branch load breaker rated for 70amp, three pole	18KVA Max, Min 1.5KVA, Cabinet Enclosure, Realy rack mount 19" or 23" with mounting adaptors, Internal maintenance bypass. Surge Arrestors built-in by default (Class II type) * Up to (12) 1.5kva inverter modules
		Note: If inverter is being installed with an external wrap around bypass, then refer to breaker sizes in step 4 of the ordering guide.				

Step 2: Select Inverter Module

OUTPUT	ORDERING CODE	DESCRIPTION	PHOTO
120V 1.5KA	450043850	TSI-EPC - 48Vdc - 120Vac - Module Media	
	450041033	BLANK BRAVO & MEDIA [PD402_258]	

Step 3: Select Relay Rack

Systems above are configured WITHOUT a mounting frame to facilitate use in cabinets or existing frames. The following frame options are available for the system.

ORDERING CODE	DESCRIPTION
CC848828938	7ft high relay rack for mounting 23" wide equipment
8600091686P	7ft high relay rack for mounting 19" wide equipment

Step 4: Optional External Wrap Around Bypass - Kirk Key SKRU Models

208/240Vac Wall Mount Maintenance Bypass Panels Single Phase 2 Pole Neutral L1, L2, N

KVA	ORDERING CODE	BYPASS BREAKER QTY	UIB	MIB/MBB	VOLTAGE	DIMENSIONS	WEIGHT	AIC
12	450044314	3	70A	70A	208/240 Vac	30"W x 10"D x 36"H	110 Lbs	18K
12	450044315	3	70A	70A	208/240 Vac	30"W x 10"D x 36"H	110 Lbs	65K

208Vac Wall Mount Maintenance Bypass Panels Three Phase

KVA	ORDERING CODE	BYPASS BREAKER QTY	UIB	MIB/MBB	VOLTAGE	DIMENSIONS	WEIGHT	AIC
18	450044305	3	70A	70A	208 Vac	30"W x 10"D x 36"H	110 Lbs	18K
18	450044306	3	70A	70A	208 Vac	30"W x 10"D x 36"H	110 Lbs	65K

Rotary Wall Mount Maintenance Bypass Panels

KVA	ORDERING CODE	DESCRIPTION	VOLTAGE	# PHASE	# POLES	AMPS	DIMENSIONS (IN)	WEIGHT
12	5000097721P	240/120v single phase external Maintenance rotary bypass wall panel, rated for 60amp with make before break transfer and SRU (solenoid interlock) INV BP XSR2-60-2SW-GE 60A 2P RTY W SRU	240/120	1Ph	2P	60A	20x16x9	52 lbs
18	5000097722P	208/120v external maintenance rotary bypass wall panel, rated for 60amp with make before break transfer and SRU (solenoid interlock) INV BP XSR2-60-3SW-GE 60A 3P RTY W SRU	208/120	3PH	3P	60A	20x16x9	57 lbs

Step 4: Optional External Wrap Around Bypass - NON Kirk Key SKRU Models (Cont.)

120Vac Wall Mount Maintenance Bypass Panels Single Phase 1 Pole with Neutral

KVA	ORDERING CODE	BYPASS BREAKER QTY	UIB	MIB/MBB	VOLTAGE	INTERLOCKS	DIMENSIONS	AIC
6	450049518	3	70A	70A	120 Vac	Kirk-key 1-lock	22"W x 9"D x 24"H	10K
12	450049519	3	110A	110A	120 Vac	Kirk-key 1-lock	22"W x 9"D x 24"H	10K

208/240Vac Wall Mount Maintenance Bypass Panels Single Phase 2 Pole with Neutral L1, L2, N

KVA	ORDERING CODE	BYPASS BREAKER QTY	UIB	MIB/MBB	VOLTAGE	INTERLOCKS	DIMENSIONS	AIC
12	450049515	3	70A	70A	120/240 Vac	Kirk-key 1-lock	22"W x 9"D x 24"H	10K

208Vac Wall Mount Maintenance Bypass Panels Three Phase

KVA	ORDERING CODE	BYPASS BREAKER QTY	UIB	MIB/MBB	VOLTAGE	INTERLOCKS	DIMENSIONS	AIC
18	450049511	3	70A	70A	208 Vac	Kirk-key 1-lock	22"W x 9"D x 24"H	10K

Notes: Includes Kirk-Key Locks with 24VAC SKRU
Listed to UL891
Color: Black
Kirk Key Non SKRU Models rated at 10kAIC

Notes