Trident® TRN Series

Three-Phase Central Lighting Inverter System, 30 to 130 kVA

Catalog Number	
Comments	Type

FEATURES

Application

The Trident TRN Series' offers quiet reliable operation for commercial office applications yet is rugged enough for manufacturing environments. The ability to support three-phase AC power improves load efficiency, allows output load balancing and easy building electrical system integration. Precisely controlled system output is suitable for any lighting or critical life safety load up to the full rated output capacity. Technical support is available from a nationwide network of factory-trained technicians.

Operation

AC output provides full lumen output for emergency lighting loads in commercial or industrial applications. Uninterruptible "no break" transfer provides seamless switching from normal to emergency AC power. "Double conversion" design completely isolates the line from the load, eliminating the impact of line disturbances and providing more precise output load regulation.

Construction

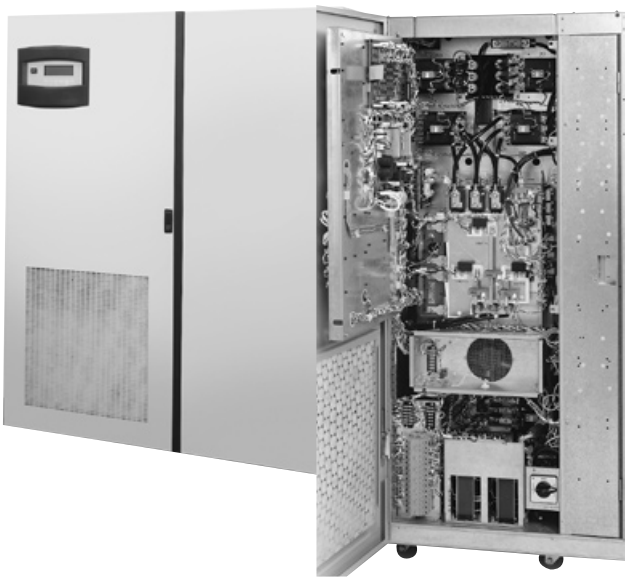
Electronics and battery cabinets constructed of heavy duty steel, with a medium gray (PMS 877) painted finish. All bolt-on cabinets are equipped with casters and leveling feet. All necessary power cables and control wiring harness are included. Front access battery trays provided for easy maintenance. Top and bottom cable entry provided.

Compliances

UL Listed to Standard 924 (Emergency Lighting)
NFPA 101 (Life Safety Code)
NFPA 70 (National Electrical Code)

Warranty

Unit: 1 Year
Batteries: 10 Years (1 year full, 9 year pro-rata)



User Interface Panel

Factory start-up supplied standard with all TRN series inverters.

ORDERING GUIDE

TRN – 208 – 4 – 20 – 208 – RSP

Series	Input Voltage	Input Conductor	Capacity	Output Voltage[1]	Options
	208 208VAC **480** 480VAC	**3** 3 Wire **4** 4 Wire	**30** 30KVA/24KW **40** 40KVA/32KW **50** 50KVA/40KW **65** 65KVA/52KW **80** 80KVA/64KW **100** 100KVA/80KW **130** 130KVA/104KW	**208** 208VAC **480** 480VAC	**PRB** Programmable Relay Board **NIC** Network Interface Card **RSP** Remote Status Panel **ICI** Input Contact Isolator Board **DGF** DC Ground Fault Alarm **SFK** Seismic Floor Kit **DNC**[2] Device Net Cable **EXP** Export Package **FWT** Factory Witness Testing **FTR** Certified Factory Test Report **MBS** External Maintenance Bypass Switch **CB**[3] I/O Circuit Breaker

[1] Output voltage must equal input voltage. Consult factory for different input and output voltages.
[2] Only available with RSP on TRN Series; must specify length in ft.
[3] Must be ordered with MBS option

Hubbell Lighting, Inc.

Trident® TRN Series

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SPECIFICATIONS

Input

Voltage: 208 or 480VAC, 3- or 4-Wire[1]

Voltage Range: +10%, -15% (no battery discharge at -20%)

Frequency Range: 60Hz., ± 5

Current Distortion: 10% maximum reflected THD at full load with optional input filter. 30% THD without filter.

Current Limit: 115% of full load input current

Walk-In: 20 seconds to full load

Power Factor Range: 0.80 lagging minimum at full load. Up to 0.96 lagging with optional input filter.

Protective Circuitry: Transient surge (ANSI C62.41-1980, IEEE 587), LVD, short circuit, current limiting, overload and brown-out

Output

Voltage: 120/208, 208/208, 277/480, 480/480VAC, 3- or 4-Wire[1]

Voltage Adjustment Range: ±5%

Voltage Regulation: ±0.5% for balanced load, ±1.0% for 100% unbalanced load

Dynamic Regulation: ±2.5% deviation for 100% load step; ±1% for loss or return of AC input

Transient Response Time: Recover to ±1% of steady state within 1 cycle

Voltage Distortion: For linear loads, 1% THD. Less than 2.5% THD for 100% nonlinear loads without kVA/kW derating

Phasing Balance: 120° ±0.5° for balanced load; 120° ±1° for 100% unbalanced load

Frequency Regulation: ±0.1%

Load Power Factor Range: 1.0 to 0.70 lagging without derating

Overload: 125% of full load for 10 minutes; 150% for one minute, with true sinusoidal waveform

General

Operating Temperature Range:

Electrical Cabinet: 0°C to 40°C (32°F to 104°F)

Battery Cabinet: 20°C to 30°C (68°F to 86°F)

Relative Humidity: 0-95% non-condensing

Operating Altitude: Up to 6,600 ft. (2,000m) without derating

Acoustical Noise: Less than 65 dBA typical, measured 3.3 ft. (1m) from the unit

[1]Consult factory for 480VAC application

SITE PLANNING DATA

System Rating		AC Voltage		AC Input Current			Battery			AC Output Current		Mechanical Data			
kVA	kW	Input	Output	Nom.	Max.	OCPD	Nom. VDC	Battery kW	Max. Discharge	Nom.	OCPD	No. Of Cabinets	Dimensions - WxDxH inches (mm)	Weight lbs. (kg)	Heat Dis BTU/hr (kWH)
30	24	208	208	80	92	150	480	26	66A	83	125	2	80.7x32.5x71 (2,050x826x1,803)	7,550 (3,425)	8,500 (2.49)
30	24	480	480	33	38	60	480	26	66A	36	50	2	80.7x32.5x71 (2,050x826x1,803)	7,300 (3,312)	11,000 (3.22)
40	32	208	208	106	122	175	480	34	88A	111	150	3	130x32.5x71 (3,294x826x1,803)	9,920 (4,500)	11,000 (3.22)
40	32	480	480	44	51	80	480	34	88A	48	60	3	130x32.5x71 (3,294x826x1,803)	9,620 (4,364)	10,000 (2.93)
50	40	208	208	133	153	225	480	43	109A	139	175	3	130x32.5x71 (3,294x826x1,803)	10,680 (4,845)	14,000 (4.10)
50	40	480	480	55	63	90	480	43	109A	60	80	3	130x32.5x71 (3,294x826x1,803)	10,380 (4,709)	12,000 (3.51)
65	52	208	208	171	196	300	480	55	141A	180	25	3	137.4x32.5x71 (3,490x826x1,803)	13,400 (6,079)	18,000 (5.27)
65	52	480	480	70	81	125	480	55	141A	78	100	3	137.4x32.5x71 (3,490x826x1,803)	13,050 (5,920)	15,000 (4.39)
80	64	208	208	210	241	350	480	68	174A	222	300	5	187x32.5x71 (3,541x826x1,803)	18,850 (8,550)	22,000 (6.44)
80	64	480	480	87	100	150	480	68	174A	96	125	5	187x32.5x71 (3,541x826x1,803)	18,500 (8,392)	18,000 (5.27)
100	80	208	208	261	300	500	480	85	218A	278	350	4	196.2x32.5x71 (3,713x826x1,803)	19,700 (8,936)	26,000 (7.61)
100	80	480	480	108	124	200	480	85	218A	120	150	4	196.2x32.5x71 (3,713x826x1,803)	19,150 (8,687)	21,000 (6.14)
130	104	208	208	339	390	600	480	111	283A	361	450	5	245.2x32.5x71 (6,228x826x1,803)	25,150 (11,408)	33,000 (9.66)
130	104	480	480	140	161	250	480	111	283A	156	200	5	245.2x32.5x71 (6,228x826x1,803)	24,600 (11,159)	27,000 (7.90)
See Notes Below				--	1,3,7	--	--	--	1,3,7	1,3,7	--	--	--	--	--

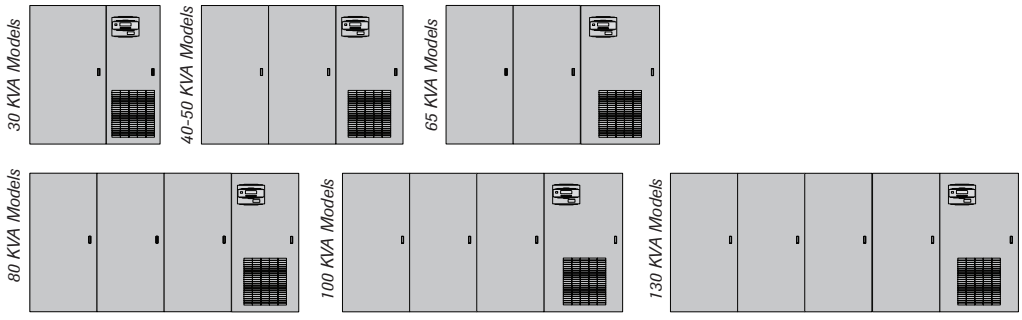
NOTES FOR SITE PLANNING DATA:

1. Input and bypass cables must be run in separate conduit from output cables.
2. Minimum-sized grounding conductors to be per NEC 250-122. Parity-sized ground conductors are recommended. Neutral conductors to be sized for full capacity per NEC 310-15(B)(4). References are per NEC 2008.
3. Wiring requirements:
   AC Input: 3-phase, 3-wire plus ground or 3-phase, 4-wire plus ground
   AC Output: 3-phase, 4-wire plus ground
4. All wiring is to be in accordance with national and local electrical codes.
5. Minimum cabinet access clearance: 3 ft. (0.9m) front, 12" (343mm) overhead.
6. Top or bottom cable entry through removable access plates. Punch plate to suit conduit size then replace.
7. Control wiring and power wiring must be run in separate conduit.

ADDITIONAL NOTES:

- If site configuration includes a back-up emergency generator, it is recommended that the engine generator set be properly sized and equipped for a UPS application. Generator options would typically include an isochronous governor (generator frequency regulation) and a UPS compatible regulator (generator voltage regulation). Consult generator manufacturer for required generator options and sizing.
- If site configuration includes an automatic transfer switch, refer to the Power Line titled "Criteria for Application of Automatic Transfer Switches (ATS) with Uninterruptible Power Supply (UPS) Systems" publication 91K-PLT-48-02. It is also recommended that the transfer switch be equipped with auxiliary contacts for the unit's "on generator" current limit. Consult transfer switch manufacturer for required transfer switch options and sizing.
- If site configuration requires an external isolated maintenance bypass circuit, it should be noted that utility AC input may not be in phase with the the unit's AC output. Consult local sales representative or applications engineer.

Cabinet Configurations



Maintenance Bypass Cabinets

Model	Dimensions (In.) (WxDxH)	Weight (lb) 15-50 kVA	Weight (lb) 65-80 kVA	Weight (lb) 100-130 kVA
L	25 x 32.5 x 71	660	750	800
N	25 x 32.5 x 71	660	750	800
P	31.7 x 32.5 x 71	1,210	1,320	1,540
Q	31.7 x 32.5 x 71	1,210	1,320	1,540

Slim-Line Distribution Cabinet

kVA	Dimensions (In.) (WxDxH)	Weight (lb)
All	10 x 32.5 x 71	250

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