



TRYSTAR®

Front Access
Power Conditioning Voltage Regulator



Series 700F Power Processor
10 kVA — 150 kVA THREE PHASE

APPLICATIONS:

- Pharmaceuticals / Labs
- Government / Commercial Buildings
- Broadcast Communications
- Telecommunications
- Concert Halls / Theaters
- Wastewater Treatment Plants
- Refineries / PetroChem
- Aerospace
- Printing Presses
- Industrial Lasers
- Pulp / Paper Mills
- Food Processing Plants
- UPS Bypass & Power Distribution

FEATURES & SPECIFICATIONS

Trystar engineers and manufactures the industry's highest quality **power conditioners and voltage regulators**, capitalizing on many years of expertise. We have an enviable reputation for quality, which is reflected in the design, workmanship, and performance of our products.

Subjecting commercial and industrial electrical systems to a harsh, "polluted" electrical environment increases downtime, maintenance costs, and lost productivity. Maintaining steady, spike-free voltage and keeping ground noise away from the controls, increases the reliability of electronic equipment, contributes to the overall integrity of data, and enhances workflow and productivity.

Trystar's front access **Series 700F Power Processor** is a solid-state, automatic voltage regulator which guards against both high and low voltage conditions. The **Series 700F** easily corrects wide input voltage deviations to well within the safe operating limits for information technology equipment as recommended by CBEMA and ITIC. The power protection that the **Series 700F** delivers, meets the IEEE and ANSI standards that define power anomalies, occurrences, and their impact on operations.

FEATURES & BENEFITS

- Front access only! All installation, operation, maintenance, and testing can occur from the front of the unit — no side or rear access required.
- 7-tap, microprocessor-controlled for tight voltage regulation, accuracy, and stability.
- Precisely maintains correct voltage to $\pm 3\%$ within one cycle, and

maintains regulation during extended brownouts.

- Low output impedance transformer minimizes voltage distortion and sags commonly associated with high surge currents.
- Triple-shielded isolation transformer provides a noise-free ground, attenuates voltage spikes and transients, and re-establishes the N-G bond.
- Internal manual bypass option maintains system isolation, voltage transformation, and power conditioning.
- Superior compatibility with dynamic loads.
- Increased surge capability, without the need for automatic bypassing, provides full-time power conditioning.
- High-efficiency design results in lower operating cost.

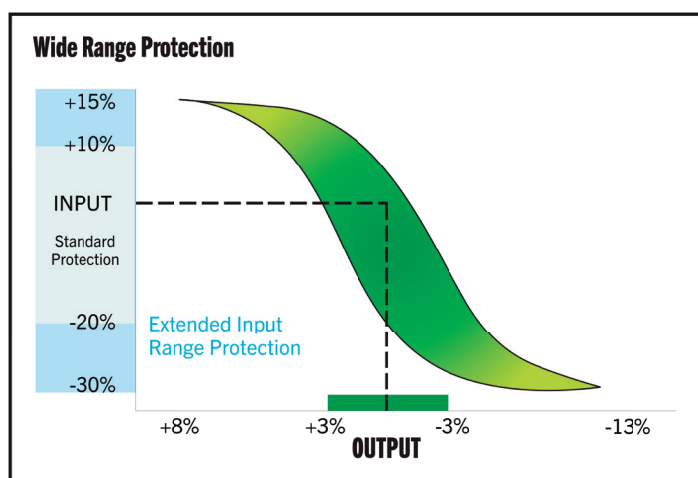
PRODUCT SPECIFICATIONS

- Input Operating Voltage Range: +10%, - 20% from nominal (Extended regulation range options available.)
- Input Frequency: 60 Hz, ± 3 Hz
- Input Power Factor: > .99 PF with resistive load
- Reflected Harmonics: Triplen harmonics are not reflected to the utility under non-linear loads
- Output Line Voltage Regulation: $\pm 3\%$ from nominal
- Response Time: < 1/2 cycle
- Correction Time: 1 cycle
- Load Regulation: 2.5% typical, no load to full load
- Overload Rating: 200% for 10 seconds; 1000% for 1 cycle
- Noise Attenuation:
 - Common Mode: 146 dB
 - Transverse Mode: 3 dB down at 1 kHz; 40 dB down per decade to below 50 dB with a resistive load
- Transient Voltage Suppression: Meets ANSI C62.41 Category B-3
- Efficiency: 96% - 97% typical, model and load dependant

Line Voltage Regulation

Input Line Voltage: +10%, - 20%

Output Line Voltage: $\pm 3\%$ typical

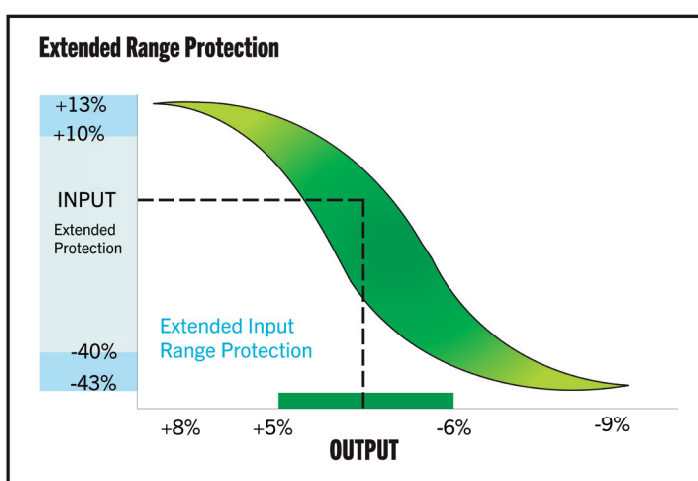


Extended Line Voltage Regulation

Optional Extended Range for Intermittent Duty only:

Input Line Voltage: +10%, - 40%

Output Line Voltage: + 5%, - 6% typical



PRODUCT OPTIONS & FRONT ACCESS ADVANTAGES

Product Options

Any of the following options can be included in the **Series 700F Power Processor**.

Extended Regulator Range

Input Range From Nominal: (+10%, - 40%) (+15%, - 25%) (+20%, - 30%)

Output Line Voltage Regulation: +5%, - 6% typical

Note: *Extended range for intermittent duty only.*

Input Out-of-Range Indicators

Red LED's (one per phase) indicating if the source voltage exceeds the specified input range of the regulator.

Output Under / Over Voltage Shutoff

If the output voltage exceeds adjustable limits, the unit electronically shuts off. The system must be reset by cycling the input breaker.

Output Under / Over Voltage And Loss Of Power Trip

If the output voltage exceeds adjustable limits or a loss of power is detected, the unit's main input CB is shunt tripped. A manual restart is required.

Regulator Bypass Switch

Bypasses the regulator electronics, leaving the main shielded isolation transformer in the power circuit. System isolation, voltage transformation, and power conditioning are maintained.

Main Output Circuit Breakers

Up to two (2) output circuit breakers are available on models 10kVA – 50kVA, and up to four (4) on models 75kVA – 150kVA. (See additional data on the Back Cover of this brochure.)

Casters

Heavy-duty lockable casters for ease of installation. Seismic floor mount brackets included.

Remote Emergency Power Off (REPO)

Three (3) remote emergency power shutdown options are offered. All options trip the unit's main input CB:

- Guarded REPO pushbutton station supplied on a 50-foot cable for remote installation.
- Main input CB with a 24 VDC or 120 VAC under voltage trip relay.
- Main input CB with a 24 VDC or 120 VAC shunt trip coil solenoid.

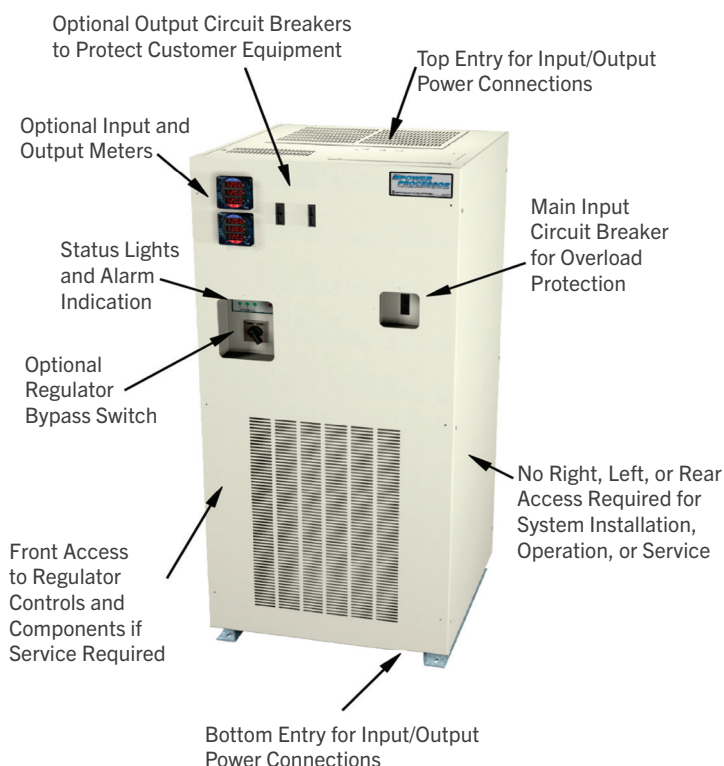
Seismic-Rated Models Available

Seismic-rated units with an input nominal voltage of 208VAC, 240VAC, or 480VAC are designed and tested in accordance with applicable portions of the following standards:

- OSHPD Special Seismic Certification Preapproval (OSP)
- ICC – AC156: “Acceptance Criteria for Seismic Certification by Shake-Table Testing of Nonstructural Components and Systems”
- California Building Code – CBC 2013
- International Building Code – IBC 2015

Seismic unit provided on floor mounting channels. Unit weight and dimensions are the same as the standard unit.

Advantages Of The Front Access Series700F*



* 150 kVA model shown with options

Shark100V4 Digital Meter

Flush-mounted input and/or output meter digitally displays voltage, current, units of power, power factor, frequency, and % THD. Includes a % load bar, programmable limits exceeded alarm, and RS485 communications using MODBUS or DNP 3.0 protocols.

Shark200V4 Digital Meter

Same features as **100V4** model, plus data-logging with timestamp and programmable limit alarms on all measured parameters. Features a waveform scope to view the real-time waveform for voltage and current. Optional communications include Ethernet TCP/IP and MODBUS TCP, Form C Alarm Relay Contacts and 4 Channel 4-20mA outputs assignable to any parameter.



Shark200V6 Digital Meter With Power Quality Monitoring

Same features as the **200V4** model, plus power quality monitoring with event logging, advanced harmonic analysis, and a 512 samples-per-cycle waveform recorder to capture waveform events.

PRODUCT SELECTION GUIDE

MODEL NUMBER GUIDE

PHASE

8 = Three

INPUT VOLTAGE

B = 208V
C = 240V
D = 480V
E = 600V

OUTPUT VOLTAGE

L = 208V / 120V
N = 480V / 277V

FREQ

X = 60Hz

OUTPUT kVA

10K
15K
25K
30K
50K
75K
100K
125K
150K

SERIES

7F

Add –BYP suffix to above model number if the Regulator Bypass Switch option is provided.

Add –C suffix as the final placeholder to above model number for units to be installed in Canada (C-UL Listed).

MODEL NUMBER EXAMPLES: 8BLX-30K-7F
8DNX-75K-7F-BYP
8ELX-100K-7F-C
8ELX-100K-7F-BYP-C

SERIES 700F MODEL NUMBERS				
MODEL NUMBER	OUTPUT KVA RATING	WEIGHT (LBS.) ¹	BTU'S / HOUR ²	DIMENSIONS
8**X–10K–7F	10	610	1705	29" W x 24" D x 59" H
8**X–15K–7F	15	690	2558	29" W x 24" D x 59" H
8**X–25K–7F	25	870	4263	29" W x 24" D x 59" H
8**X–30K–7F	30	890	4808	29" W x 24" D x 59" H
8**X–50K–7F	50	1176	7332	29" W x 36" D x 66" H
8**X–75K–7F	75	1575	9514	34.5" W x 36" D x 76" H
8**X–100K–7F	100	2014	11,833	34.5" W x 36" D x 76" H
8**X–125K–7F	125	2137	14,748	34.5" W x 36" D x 76" H
8**X–150K–7F	150	2240	17,698	34.5" W x 36" D x 76" H

¹ Packaging and shipping materials will add approximately 80 lbs. to the product weights stated above.

² BTU's/Hour are maximum at full-rated load.

** Refer to Model Number Guide above for available input and output voltage configurations. Consult factory for other nominal voltages and 50 Hz models.

Main Output Circuit Breakers

Up to two (2) output circuit breakers (CBs) can be selected on models 10kVA – 50kVA, and up to four (4) on models 75kVA – 150kVA. Available output CBs range from 15 amps to the maximum CB amperage rating for each kVA size.

The chart to the right indicates either the maximum or recommended output CB rating. If only one (1) output CB is selected at 208 VAC on the units rated 75 kVA and above, the higher amperage rating shown may be selected.

Note: Breaker AIC ratings: 18 kAIC at 480V / 25 kAIC at 208V.

Warranty: Trystar guarantees the unit to be free from defects in material and workman ship for a period of one (1) year following shipment from the factory. Unit start-up and extended warranty plans are available. Consult factory for details.

“Start-Up Plus”: If new equipment is purchased with a factory authorized start-up, the warranty coverage is automatically upgraded to include first year onsite labor at no charge. This coverage applies to U.S. and Canadian installations.

RECOMMENDED MAIN OUTPUT CB RATINGS				
	KVA	480V	208V	208V ³
Select up to two (2) CBs	10	15A	35A	
	15	25A	60A	
	25	40A	90A	
	30	45A	110A	
	50	80A	175A	
	75	125A	250A	300A
Select up to four (4) CBs	100	150A	250A	350A
	125	200A	250A	450A
	150	225A	250A	600A

³If only one (1) output circuit breaker is selected.

Note: Other breaker ratings available. Consult factory.

