

# POWERGUARD 400/115 VAC AC-AC MILITARY INVERTER

ADVANCED TECHNOLOGY FOR CONTINUOUS AND DEPENDABLE ENERGY SOLUTIONS





## PowerGuard

# 400/115 VAC AC-AC isolation transformer

The PowerGuard Military 120 VAC 50 Hz Static Converter, developed by TEDEG Savunma, is designed to provide reliable power conversion required in modern defense and industrial applications. With its innovative architecture, superior performance, and full compliance with military standards, the system offers significant advantages over both local and global competitors. Its high energy efficiency and environmental robustness enable it to operate reliably even under the most demanding operational conditions.

PowerGuard accepts a 3-phase 400 VAC 50–60 Hz input voltage (KN1) and is capable of generating multiple outputs at equivalent power levels. The system provides output options of 115 VAC 3-phase (KN2: 3.6 kVA and KN3: 2.4 kVA) and 115 VAC 2-phase (KN4: 2 kVA and KN5: 2 kVA). All input/output connections are implemented using MIL-DTL-38999 and MIL-DTL-5015 series military connectors. Additionally, the system supports an Ethernet interface via KN6, enabling remote monitoring and on/off control of the device.

Designed for outdoor use, PowerGuard has successfully passed MIL-STD-810G environmental tests. It is resistant to dust, humidity, rain, vibration, and shock, ensuring reliable power conversion in field operations, mobile mission systems, and forward operating bases.

### Application Areas

- **Industrial Applications**
  - Test and Calibration Laboratories: Provides excellent energy conversion for test devices requiring precise energy.
  - Heavy Industry and Automation: Serves as an energy source in large industrial motors and control systems.
- **Critical Systems**
  - Data Centers: Meets the continuous energy needs of servers and storage units.
  - Emergency Management: Acts as a portable energy source in disaster areas.
- **Mobile and Portable Power Solutions**
  - Field Operations: Offers fast energy conversion and reliability in mobile operations.
  - Military Camps: Serves as an energy source in forward posts and temporary military bases.
  - Special Motors and Devices
  - Special Military Motors: Provides a power source for motors used in defense and aviation applications.

**Power-Intensive Devices:** Used in devices with high energy requirements for critical missions.

### Advanced Features

#### Voltage and Frequency Conversion:

Input (KN1): 3-phase, 400 VAC, 50–60 Hz

Outputs:

KN2: 115 VAC - 50 Hz 3-phase, 3.6 kVA

KN3: 115 VAC - 50 Hz 3-phase, 2.4 kVA

KN4: 115 VAC - 50 Hz 2-phase, 2 kVA

KN5: 115 VAC - 50 Hz 2-phase, 2 kVA

#### Military Standard Compliance:

MIL-STD-1399B: Technical standard compliance

MIL-STD-810G: Environmental durability

MIL-STD-461G: EMI/EMC compliance

#### Advanced Protection Features:

Protection against overload, short circuit and over-temperature

Ability to read and control output voltages and currents

#### Integrated Test and Monitoring:

Built-in Test (BIT) for status monitoring

Remote monitoring and on/off control via Ethernet interface (KN6)

Real-time reading of input and output values

#### Physical and Environmental Durability:

Operating temperature: -30°C to +50°C

Design suitable for indoor and outdoor use

Dust, vibration, humidity, rain and shock resistance compliant with MIL-STD-810G

#### Ease of Use:

OLED status and error display

Color-coded buttons for each output

User-friendly interface

Feature	Details
Input Voltage and Frequency	3 phase, 400 VAC Frequency: 50 Hz / 60 Hz
Output Voltage, Frequency, Capacitance, and Interface	3-phase, 115 VAC Frequency: 50 Hz Power Capacity: 10 kVA Outputs: <ul style="list-style-type: none"><li>KN2: 115 VAC three-phase, 3.6 kVA</li><li>KN3: 115 VAC three-phase, 2.4 kVA</li><li>KN4: 115 VAC, two-phase, 2 kVA</li><li>KN5: 115 VAC, 2-phase, 2 kVA</li></ul>
Overload	10 kVA @ 0.8 PF continuous: 125% for 5 minutes, 200% for 5 seconds, 250% for 1 second
Productivity	That's %85
Exit Isolation	High-voltage isolation utilizing an isolated output transformer.
Protection Mechanisms	Overload, short-circuit, and overtemperature protection.
Operating Temperature	-30 °C to +50 °C
Workplace Environment	Indoor and Outdoor Environments
Electrical Interface	MIL-DTL-38999 and MIL-DTL-5015 Military Connectors

## Desktop Remote Control and Monitoring Ethernet Application

### Trafo Ethernet Test ve İzleme

Müşteri Teslimi - Modern İzleme / Kontrol Arayüzü

Bağlantı: Kapalı Son Paket: -

#### Bağlantı

Cihaz IP:Port 192.168.1.10:10001

Bağlan

Bağlantıyı Kes

Otomatik Reconnect  Heartbeat  Reconnect: -

Not: Tarayıcıdan ham TCP açılmaz. Bu GUI, Ethernet testleri için bir WebSocket köprüsüne bağlanacak şekilde hazırlanmıştır.

#### Komut Gönder (0x02)

Unit 1 DY Unit 2 DY

Unit 3 DY Unit 4 DY

Emergency

Komutu Gönder Hex Kopyala

AA 02 02 00 00 FF

#### Ölçüm Değerleri

Giris Faz Ölçümleri

Giris R Gerilimi (V)	Giris S Gerilimi (V)	Giris T Gerilimi (V)	Giris L1 Akımı (A)	Giris L2 Akımı (A)	Giris L3 Akımı (A)
-	-	-	-	-	-

Çıkış 1 ve Çıkış 2 Ölçümleri

1. Satır - Gerilimler

Çıkış 1-2 L1 Gerilimi (V)	Çıkış 1-2 L2 Gerilimi (V)	Çıkış 1-2 L3 Gerilimi (V)
-	-	-

2. Satır - Çıkış 1 Akımları

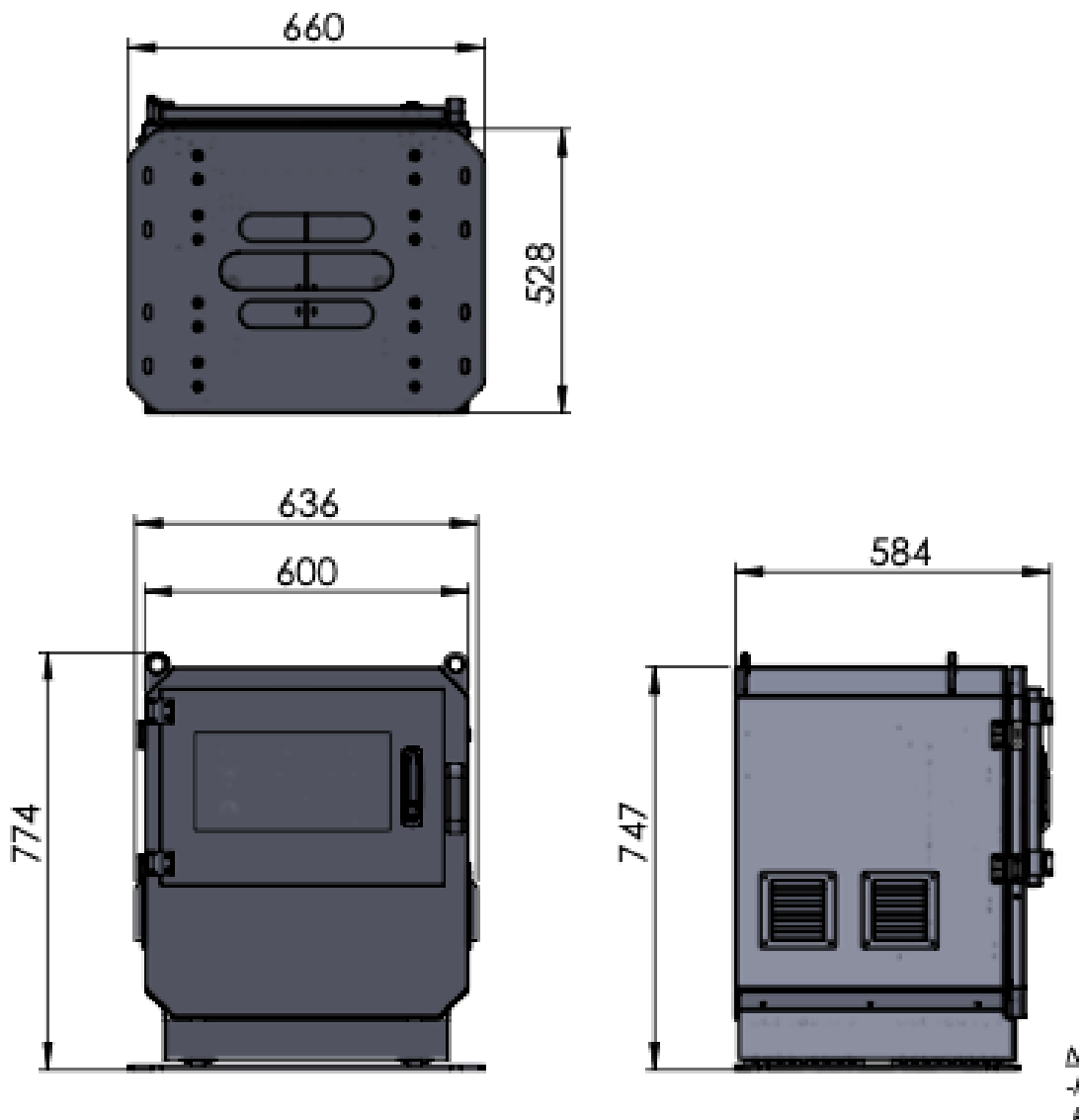
Çıkış 1 L1 Akımı (A)	Çıkış 1 L2 Akımı (A)	Çıkış 1 L3 Akımı (A)
-	-	-

3. Satır - Çıkış 2 Akımları

Çıkış 2 L1 Akımı (A)	Çıkış 2 L2 Akımı (A)	Çıkış 2 L3 Akımı (A)
-	-	-

Feature	Details
Durability Standards	- MIL-STG-1399B
	- MIL-STD-810G
	- MIL-STD-416G
Oversight and Regulation	- CIT (In-Device Evaluation)
	<ul style="list-style-type: none"> <li>• Monitoring and remote on/off control through Ethernet interface (KN6)</li> <li>• OLED display,</li> </ul>
Physical Stamina	Dust, vibration, moisture, rain, and shock resilience.
Weight	160+- 5 Kg

## Mechanical Specifications



# Electrical Interface

Power Input			115V 3-Phase Output-1 (3.6 kVA)			115V 3-Phase Output-2 (2.4 kVA)		
NOT: 50A per pin / 70A designated connector			NOT: 18.1A per pin / 23A designated connector			NOT: 12.4 A per pin / 23 A selected connector		
CA3102E22-22PB (70 Amperes)		<b>KN1</b>	24WE6SN		<b>KN2</b>	24WE6SA		<b>KN3</b>
A	10 AWG	R	A	12 AWG	R	A	12 AWG	R
B	10 AWG	S	B	12 AWG	S	B	12 AWG	S
C	10 AWG	T	C	12 AWG	T	C	12 AWG	T
D	10 AWG	Neutral	D	12 AWG	ON	D	12 AWG	ON
			AND	12 AWG	SPARE	AND	12 AWG	SPARE
<b>Body Bolt</b>			F	12 AWG	SPARE	F	12 AWG	SPARE

115V 2-Phase (2 kVA)			115V 2-Phase Output (2 kVA)		
NOT: 17.3A per pin / 13A designated connector			NOT: 17.3A per pin / 13A designated connector		
24WD5SN		<b>KN4</b>	24WD5SA		<b>KN5</b>
A	16 AWG	L	A	16 AWG	L
B	16 AWG	N	B	16 AWG	N
C	16 AWG	L	C	16 AWG	L
D	16 AWG	N	D	16 AWG	N
AND	16 AWG	ON	AND	16 AWG	ON

Communication		
24WC35SN		<b>KN6</b>
1	22AWG	White/Orange (Tx+)
2	22AWG	Orange (Tx-)
3	22AWG	White/Green (Rx+)
4	22AWG	Blue (BI_DC+)
5	22AWG	White/Blue (BI_DC-)
6	22AWG	Green (Rx-)
7	22AWG	White/Brown (BI_DD+)
8	22AWG	Brown (BI_DD-)