

TI5400 400Hz GPU-24 UAV ACDC

NSN: 6130-01-572-4833 (Navy)

NSN: 6130-01-601-1263 (Air Force)



Features:

The Tesla™ TI5400 400Hz GPU-24 UAV ACDC is expertly engineered as a single source of power for the Global Hawk UAV and other UAV systems. Using a 30kVA 3-phase 400 Hz generator, the TI5400 400Hz GPU-24 UAV ACDC provides reliable ground power and filtered 400 Hz power for UAV aircraft. Additionally, a Pure Sine Wave Inverter with a 60 Hz 120 Vac outlet allows you to conveniently plug in laptops, cell phone chargers, and other electronic equipment.

The TI5400 400Hz GPU-24 UAV ACDC is backed by a Tesla™ 2-year warranty, a trained military support team, and an experienced staff of customer service professionals.

Power Anytime, Anywhere

- 3000 peak starting amps
- 30.25 Vdc 400 amps max continuous power
- 10.4 kVA 30 amp 200Y/115 Vac 400 Hz ac filtering produces “clean” power to test avionics and weapons systems
- 1800 watt 15 amp-24 amp Surge ac inverter with 60 Hz 120 Vac dual GFI power outlet
- Meets or exceeds Global Hawk aircraft system requirements
- Non-hazardous, dry-cell technology
- Exceeds MIL-STD-810F/MIL-STD-461



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Features and Benefits

3-phase 400 Hz Power

The TI5400 400Hz GPU-24 UAV ACDC comes equipped with a 3-phase 200Y/115 Vac 400 Hz Input under a weatherproof cover (shown in *Figure 1*). This input receives a 400 Hz cable assembly that will connect to any standard 3-phase 200Y/115 Vac 400 Hz receptacle.

EMC Filter/AC Filter

The 400 Hz 208Y/120 Vac Output (shown in *Figure 2*) provides filtered 400 Hz 208Y/120 Vac at 30 amps for powering aircraft systems. Connected directly to the 400 Hz ac input, the filter eliminates potentially harmful surges and high frequency noise and harmonics.

Pure Sine Wave Inverter with Power Outlet

Another standard feature is the 1,800 Watt ac uninterruptible pure sine wave inverter with 60 Hz 120V power outlet (shown in *Figure 3*). The outlet makes it convenient to plug in laptops, test instruments, cell phone chargers, and other electronic devices without using an alternate power source.

DC Output with “Push to Test” Button and LED Charge Status Meter

The DC Output Receptacle is an aviation battery style receptacle and will provide regulated 28.5 Vdc at up to 400 amps when the unit is plugged into 3-phase power. Up to 3000 peak amps are available from the internal cells. The built-in Charge Status Meter serves as a recharge state indicator for the dc output.

Includes Tesla™ Custom Cables and Connectors

- TI2007-425 25ft. (2/O) DC Aviation Cable Assembly **or** TI2007-415 15ft. (2/O) DC Aviation Cable Assembly
- TI2000-070 25ft. 3 Phase Ext. Cable w/460 P9W
- TI2006-309 25ft. 400Hz Interface Cable
- TI3100A DVAM (Digital Volt/Amp Meter) Box
- TI2006-001 DVAM Interface Line Cord

Digital Volt / Amp Meter (TI3100A DVAM)

The Tesla™ Digital Volt /Amp Meter (shown in *Figure 4*) is a high powered measuring solution. The TI3100A DVAM provides measurements for dc voltage from 12 to 32 V and dc current up to 2000 amps for Aircraft and vehicle. Integrated with the Tesla™ Turbo Start™ GPU power supply, the DVAM is a valuable tool for troubleshooting and conducting systems checks.

Optional Transportation Case and Tow Cart

The Tesla™ TI2000-155 (shown in *Figure 5*) is a custom stainless steel cart designed especially to hold Tesla's™ TI5400 400Hz GPU-24 UAV ACDC Storage Case (TI7000-129). The case can be secured directly to the cart, making the TI2000-155 the safest way to support and transport any TI5400 model out in the field and through hangars and flight lines. You can operate the TI5400 GPU-24 without ever removing it from the cart – simply remove the lid of the Storage Case for access to the entire unit.

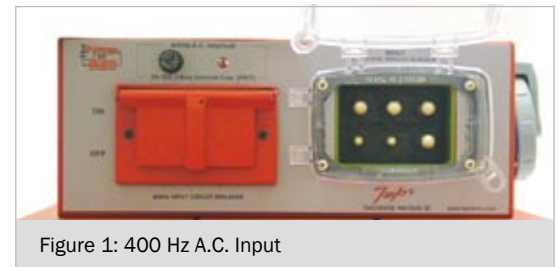


Figure 1: 400 Hz A.C. Input



Figure 2: 400 Hz 208Y/120 Vac Output



Figure 3: Pure Sine Wave Inverter Control with 60 Hz ac power outlet

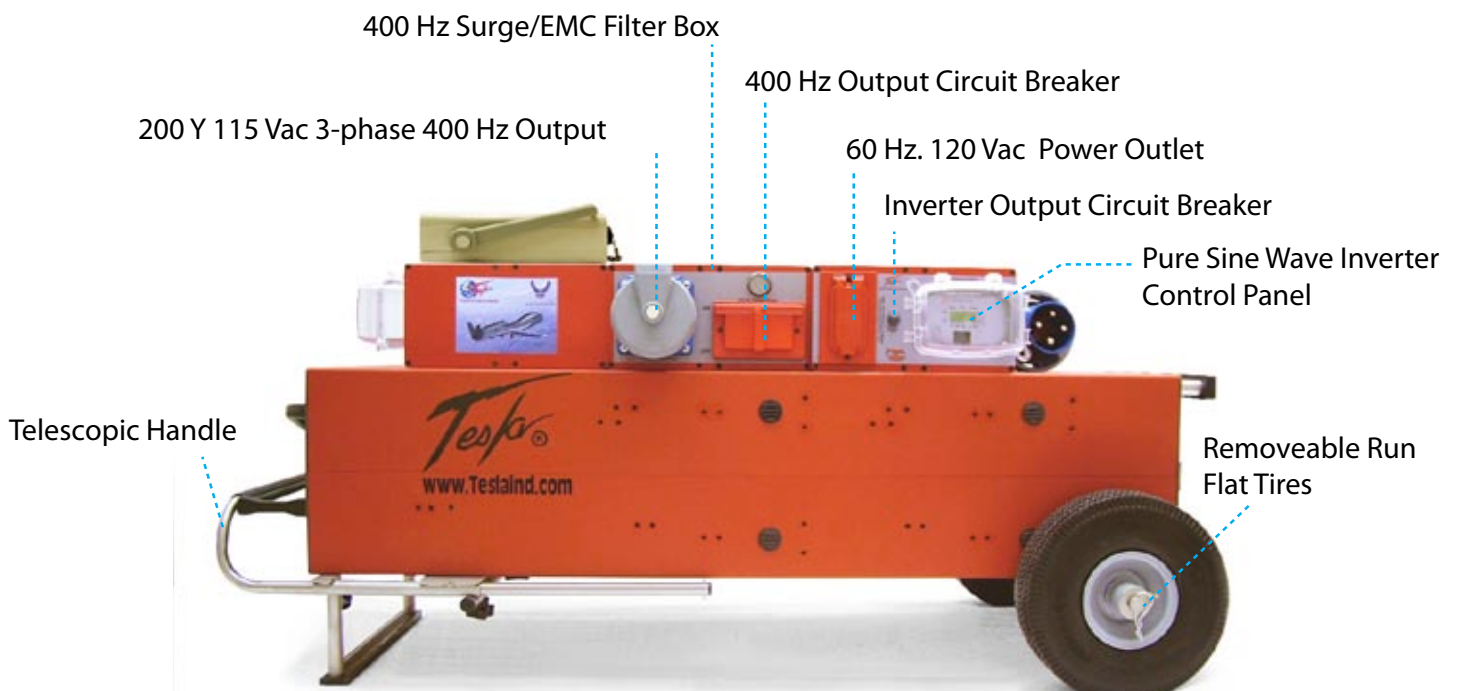
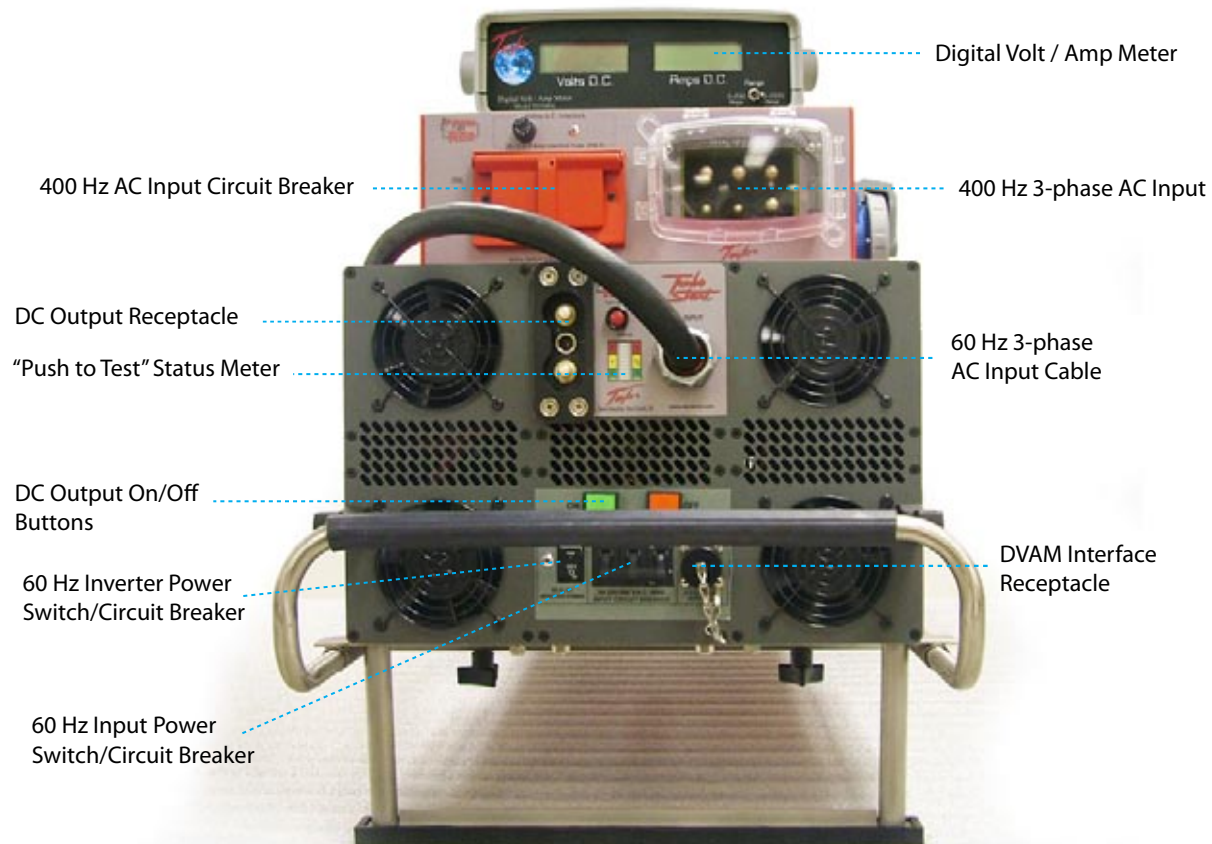


Figure 4: Tesla™ Digital Volt /Amp Meter

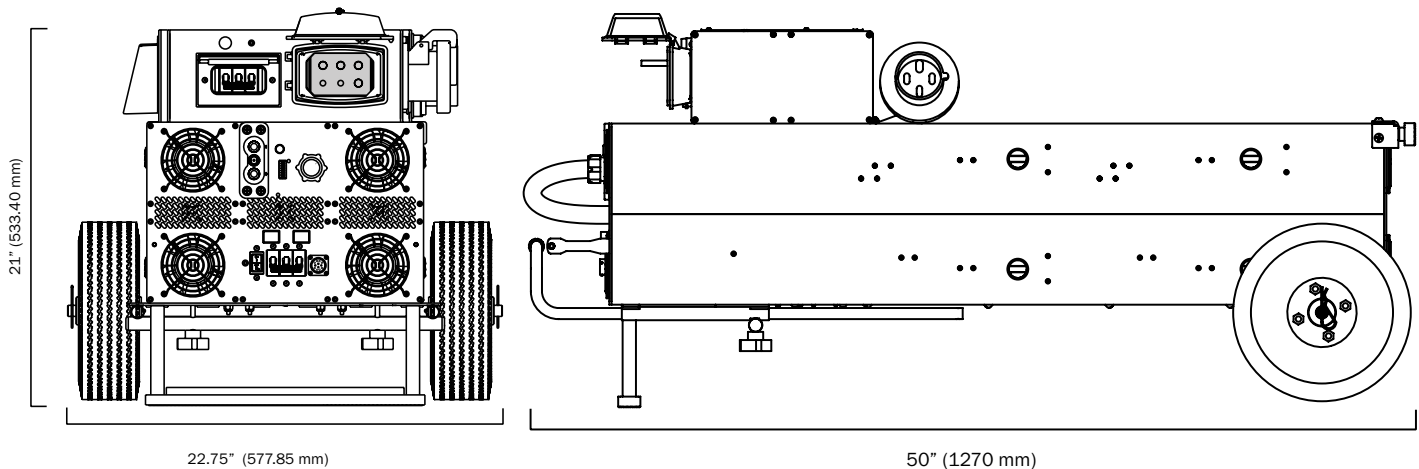


Figure 5: TI2000-155 Tow Cart with TI7000-129 Storage Case attached

Components - Exploded View



Dimensions and Technical Specifications



* All dimensions are in inches [millimeters]

Technical Specifications:

| | |
|------------------------------------|---|
| AC Input | Operates and charges from either three phase 187-260 Vac 50/60 Hz or three phase Wye 115/200 Vac 400 Hz 42 amps @ 208 Vac 60 Hz 75 amps @ 200 Vac 400 Hz Requires 60 amp service for 50/60 Hz (contact Tesla™ for receptacle information) Requires 100 amp service for 400 Hz (contact Tesla™ for receptacle information) |
| AC Aircraft Power | three phase Wye 115/200 Vac 400 Hz 30.0 amps max. |
| AC Inverter | 1800 watts 120 Vac 60 Hz Pure Sine Wave <3% THD 15 amps output Surge 2900 watts Dual GFI receptacle |
| Type of Power Cell | High rate discharge/rechargeable/maintenance-free dry cell |
| DC Output | 30.25 Vdc @ 400 amps continuous power 24.0 Vdc @ 46 amp hours rechargeable power |
| Peak Starting Amps | 3000 A |
| Power Output Rate | 446 amp hours (12,424 watt hrs) with 187-260 Vac power, 3-phase 46 amp hours (1,024 watt hrs) without 187-260 Vac power, 3-phase 1 hour constant power to 20.0 end Vdc |
| Recharging Rate | 12 minutes @ 25 °C from full discharge |
| Vibration | Exceeds MIL-STD-810F |
| Storage Temperature | -65 °C to 105 °C (-85 °F to 221 °F) |
| Operating Temperature w/o AC Power | -40 °C to 60 °C (-40 °F to 140 °F) |
| Operating Temperature w/ AC Power | -40 °C to 55 °C (-40 °F to 131 °F) |
| Weight | 292 lbs (132.4 kg) |
| Warranty | 2 years (3 years optional) |




TI5400 GPU Series

Specifications / Comparison Chart




| Standard Features | TI5400 GPU | TI5400 GPU 400 HZ GPU-24 GHMD | TI5400 GPU 400 HZ GPU-24 UAV ACDC | TI5400A GPU 400 HZ GPU-24 UAV ACDC |
|---|----------------------------|-------------------------------|-----------------------------------|------------------------------------|
| Telescopic handle and foam-filled tires for portability | X | X | X | X |
| 400 Hz Aircraft Power Cable | | | X | X |
| LED charge status meter | X | X | X | X |
| DC Output Contactor with On /Off Buttons | X | X | X | X |
| Powder coated, extruded aluminum casing. Lightweight, strong and corrosion resistant. | X | X | X | X |
| 2,000 Watt AC uninterruptible pure sine wave inverter with convenient power outlet (60Hz 120V) to plug in laptops, test instruments, cell phone chargers, and other electrical devices. | | | X | X |
| 2 Year Limited Warranty | X | X | X | X |
| Digital Volt/Amp Meter | | | X | X |
| Options and Accessories | | | | |
| Rain/Dust Cover | X | X | X | X |
| Shipping Case | X | X | X | X |
| Optional Tow Cart with rear wheel disc brakes | X | X | X | X |
| 3 Year Limited Warranty | X | X | X | X |
| Physical Dimensions | | | | |
| Weight | 251 lbs. | 267 lbs. | 292 lbs. | 292 lbs. |
| Dimensions | 50.23”L x 24.5”W x 16.28”H | 50.23”L x 24.5”W x 21.25”H | 50.23”L x 24.5”W x 22.28”H | 50.23”L x 24.5”W x 22.28”H |


OPTIONAL ACCESSORIES




TI2000-155 Tow Cart for...
TI5400 Series GPUs




TI7000-083 Protective Cover for...
TI5400 400Hz GPU-24 GHMD,
TI5400 400Hz GPU-24 UAV ACDC,
TI5400A 400Hz GPU-24 UAV ACDC




TI7000-084 Protective Cover for...
TI5400 GPU-24



TI7000-129 Shipping Case for...
TI5400 400Hz GPU-24 GHMD,
TI5400 400Hz GPU-24 UAV ACDC,
TI5400A 400Hz GPU-24 UAV ACDC



TI7000-065 Shipping Case for...
TI5400 GPU-24



TI7000-190 Shipping Case for...
TI5400 400Hz GPU-24 UAV ACDC,
TI5400A 400Hz GPU-24 UAV ACDC



TI5400 GPU Series

Specifications / Comparison Chart



| MIL-STD Certification | TI5400 GPU | TI5400 GPU 400 HZ GPU-24 GHMD | TI5400 GPU 400 HZ GPU-24 UAV ACDC | TI5400A GPU 400 HZ GPU-24 UAV ACDC |
|---|------------|-------------------------------|-----------------------------------|------------------------------------|
| Meets or exceeds MIL810F / MIL 461 tests | X | X | X | X |
| Meets or exceeds Global Hawk aircraft system requirements | X | X | X | X |
| Performance Capabilities | | | | |
| Input Requirements | | | | |
| 60Hz - runs/charges from 3-phase 208-240 Vac power 42 amps | X | X | X | X |
| 400Hz - runs/charges from 3-phase 208-240 Vac power 45 amps | | X | | |
| 400Hz - runs/charges from 3-phase 200 Y 115 Vac power 75 amps | | | X | X |
| Power Output | | | | |
| 400 amps @ 28.5 Vdc continuous 446 amps for 1 hour (10,615 watt hours) with 208-240 Vac power, 3-phase 46 amps for 1 hour (1,024 watt hours) without 208-240 Vac power, 3-phase 3000 peak starting amps | X | X | | X |
| 400 amps @ 30.25 Vdc continuous 446 amps for 1 hour (10,615 watt hours) with 208-240 Vac power, 3-phase 46 amps for 1 hour (1,024 watt hours) without 208-240 Vac power, 3-phase 3000 peak starting amps | | | X | |
| 2 kW ac inverter with 60 Hz 120 Vac power outlet | | | X | X |
| 10.8 kVA 30 Amp 200 Y 115 Vac 400 Hz. ac filter functions to purify “dirty” 400 Hz power to produce “clean” power to test avionics and weapon systems. The system instantly detects and suppresses any surges or spikes, safeguarding delicate electronics. | | | X | X |
| Recharge rate - ac to dc | 12 min. | 12 min. | 12 min. | 12 min. |
| Cross Platform Capabilities | | | | |
| Power or start any vehicle/aircraft that utilizes a 24 volt system | X | X | X | X |
| Test delicate avionics and weapon systems | X | X | X | X |
| Provide reliable 400Hz* ground power <small>*requires 400Hz input power</small> | | | X | X |
| Advantages | | | | |
| No Hazmat or disposal issues | X | X | X | X |
| Water resistant | X | X | X | X |
| Maintenance-free design | X | X | X | X |
| Technology upgrades available | X | X | X | X |
| Maintenance-free lead dry-cell power (No MSDS for Battery Acid) | X | X | X | X |
| Multiple starts with back-charge from started engine <small>(applies to track and wheeled vehicles)</small> | X | | | |