

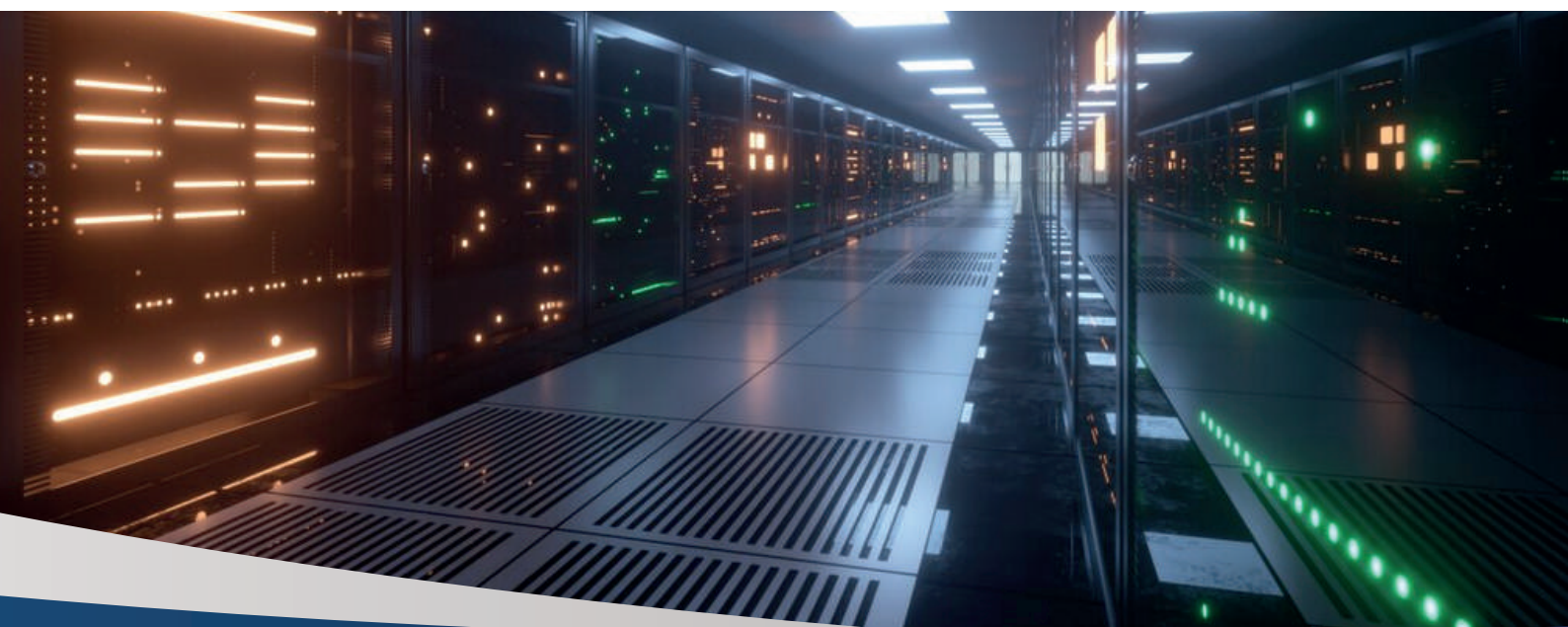


## افرا / Afra

### TEC 9000 Pro

1 KVA ~ 3KVA  
PF 0.9

- High frequency on-line double conversion technology
- DSP (Digital signal processors) control technology
- Active power factor correction (APFC), input power factor up to 0.99
- output power factor 0.9
- wide input voltage range (110 V ~ 300 Vac) and frequency range (40 ~ 70 Hz)
- Auto sensing frequency
- 50 / 60 Hz frequency conversion
- cold start
- Rear ventilation design and variable speed fan
- Effective software and hardware protection
- Quick and stable charging, 90% capacity restored in 4h (standard model USP)
- Linear derating in low voltage input reducing battery discharging times
- Settable delayed start when power is restored
- Hot-swappable battery
- Advanced battery management (ABM)
- Multiple functions settable via LCD: output voltage, EOD, auto-start, bypass mode, ECO mode and frequency conversion mode
- Multi-platform communications: RS232 (standard), USB / RS485 / SNMP / dry contacts (optional)
- Optional USB, RS485 card, AS400 dry contacts, SNMP card, SMS alarms, EPO function, MBS (External maintenance bypass switch)



| MODEL                                 | TEC9001                                                                                                                                                                                          |                 | TEC9002              |                 | TEC9003              |                 | مدل                                 |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|-----------------|----------------------|-----------------|-------------------------------------|
| Capacity                              | 1KVA / 900W                                                                                                                                                                                      |                 | 2KVA / 1800W         |                 | 3KVA / 2700W         |                 | ظرفیت                               |
| INPUT                                 |                                                                                                                                                                                                  |                 |                      |                 |                      |                 |                                     |
| Rated voltage                         | 208 / 220 / 230 / 240 Vac                                                                                                                                                                        |                 |                      |                 |                      |                 | ولتاژ نامی                          |
| Voltage range                         | 110 ~ 176 Vac ( linear derating between 50% and 100% load ):<br>176 ~ 280 Vac (no derating) :280 ~ 300 Vac (derating 50%)                                                                        |                 |                      |                 |                      |                 | محدوده ولتاژ                        |
| Frequency                             | 40 ~ 70 Hz (auto - sensing)                                                                                                                                                                      |                 |                      |                 |                      |                 | فرکانس                              |
| Power factor                          | ≥ 0.99                                                                                                                                                                                           |                 |                      |                 |                      |                 | ضریب قدرت                           |
| Bypass voltage range                  | - 25% ~ + 15% (settable)                                                                                                                                                                         |                 |                      |                 |                      |                 | محدوده ولتاژ بای پس                 |
| Total harmonic distortion             | ≤ 6%                                                                                                                                                                                             |                 |                      |                 |                      |                 | مجموع اعوجاج هارمونیک               |
| OUTPUT                                |                                                                                                                                                                                                  |                 |                      |                 |                      |                 |                                     |
| Voltage                               | 208 / 220 / 230 / 240 Vac (settable via LCD)                                                                                                                                                     |                 |                      |                 |                      |                 | ولتاژ                               |
| Voltage regulation                    | ±1%                                                                                                                                                                                              |                 |                      |                 |                      |                 | تنظیم ولتاژ                         |
| Frequency                             | 45 ~ 55 Hz or 55 ~ 65 Hz ( synchronized range ) ; 50 / 60 Hz ± 0.1 Hz (battery mode)                                                                                                             |                 |                      |                 |                      |                 | فرکانس                              |
| Waveform                              | Sinusoidal                                                                                                                                                                                       |                 |                      |                 |                      |                 | شکل موج                             |
| Power factor                          | 0.9                                                                                                                                                                                              |                 |                      |                 |                      |                 | ضریب قدرت                           |
| Total harmonic distortion(THD v)      | ≤ 2% (linear load): ≤ 5% (non-linear load)                                                                                                                                                       |                 |                      |                 |                      |                 | مجموع اعوجاج هارمونیک (THD v)       |
| Crest factor                          | 3:1                                                                                                                                                                                              |                 |                      |                 |                      |                 | فاکتور قله                          |
| Overload                              | 105% ~ 125% for 1 min , 125% ~ 150% for 30s , >150% for 300 ms                                                                                                                                   |                 |                      |                 |                      |                 | اضافه بار                           |
| BATTERIES                             |                                                                                                                                                                                                  |                 |                      |                 |                      |                 |                                     |
| DC voltage                            | 36 V (S)                                                                                                                                                                                         | 36 V (L)        | 48 V (S)             | 48 V (L)        | 72 V (S)             | 72 V (L)        | ولتاژ DC                            |
| Inbuilt battery                       | 3×9 AH                                                                                                                                                                                           | /               | 4×9 AH               | /               | 6×9 AH               | /               | باتری داخلی                         |
| Charging current (max.)               | 1 A                                                                                                                                                                                              | 6 A             | 1 A                  | 6 A             | 1 A                  | 6 A             | جریان شارژ (حداکثر)                 |
| Recharger time                        | Standard model: 90% capacity restored in 3 hours ;<br>Long time model: depend on the capacity of battery                                                                                         |                 |                      |                 |                      |                 | زمان شارژ مجدد                      |
| SYSTEM                                |                                                                                                                                                                                                  |                 |                      |                 |                      |                 |                                     |
| Efficiency                            | ≥ 90% (Mains mode)                                                                                                                                                                               |                 | ≥ 91% (Mains mode)   |                 | ≥ 92% (Mains mode)   |                 | بهره وری                            |
|                                       | ≥ 85% (Battery mode)                                                                                                                                                                             |                 | ≥ 86% (Battery mode) |                 | ≥ 87% (Battery mode) |                 |                                     |
|                                       | ≥ 95% (ECO mode)                                                                                                                                                                                 |                 | ≥ 96% (ECO mode)     |                 | ≥ 97% (ECO mode)     |                 |                                     |
| Transfer time                         | Mains mode to battery mode: 0 ms<br>Inverter mode to bypass mode: 4 ms (typical)                                                                                                                 |                 |                      |                 |                      |                 | زمان انتقال                         |
| Protections                           | Short-circuit , overload , overtemperature , battery discharge protection and fan tesling protection                                                                                             |                 |                      |                 |                      |                 | حفاظت ها                            |
| Communications                        | RS232 (standard), USB / RS485 / dry contacts / SNMP (optional)                                                                                                                                   |                 |                      |                 |                      |                 | ارتباطات                            |
| Display                               | LCD + LED                                                                                                                                                                                        |                 |                      |                 |                      |                 | نمایش                               |
| Standards                             | EN 62040-1, EN 62040-2, EN 61000-3-2,EN61000-3-3, IEC 61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC 61000-4-5, IEC61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2, IEC 62040-2, IEC 62040-1 |                 |                      |                 |                      |                 | استانداردها                         |
| OTHERS                                |                                                                                                                                                                                                  |                 |                      |                 |                      |                 |                                     |
| Operating temperature                 | 0°C ~ 40°C                                                                                                                                                                                       |                 |                      |                 |                      |                 | دمای عملیاتی                        |
| Storage temperature                   | -25°C ~ 55°C (without batteries)                                                                                                                                                                 |                 |                      |                 |                      |                 | دمای ذخیره سازی                     |
| Relative humidity                     | 0 ~ 95% (non-condensing)                                                                                                                                                                         |                 |                      |                 |                      |                 | رطوبت نسبی                          |
| Altitude                              | ≤ 1000 m, derating 1% for each additional 100 m                                                                                                                                                  |                 |                      |                 |                      |                 | ارتفاع                              |
| IP rating                             | IP 20                                                                                                                                                                                            |                 |                      |                 |                      |                 | رتبه بندی IP                        |
| Noise level at 1m                     | ≤ 50 dB                                                                                                                                                                                          |                 |                      |                 |                      |                 | سطح سر و صدا در ۱ متر               |
| Dimensions<br>(W×D×H) (mm)            | 337×145<br>×215                                                                                                                                                                                  | 330×145<br>×215 | 144×417<br>×216      | 191×418<br>×335 | 191×419<br>×335      | 191×418<br>×335 | ابعاد<br>(W×D×H) (mm)               |
| Packaged dimensions<br>(W× D× H) (mm) | 427×230<br>×325                                                                                                                                                                                  | 420×230<br>×325 | 230×506<br>×315      | 277×533<br>×471 | 277×500<br>×435      | 277×500<br>×435 | ابعاد بسته بندی شده<br>(W×D×H) (mm) |
| Net weight (kg)                       | 10.6                                                                                                                                                                                             | 7.6             | 18.7                 | 9.7             | 26.8                 | 10.1            | وزن خالص (kg)                       |
| Gross weight (kg)                     | 11.3                                                                                                                                                                                             | 11.1            | 21.8                 | 13.2            | 29.7                 | 13.6            | وزن ناخالص (kg)                     |

- Derate capacity to 70% in CUCF mode and to 90% when the output voltage is adjusted to 208 Vac.
- S means standard model , L means long time model.

- All specifications are subject to change without notice.
- Custom-made specification are acceptable.