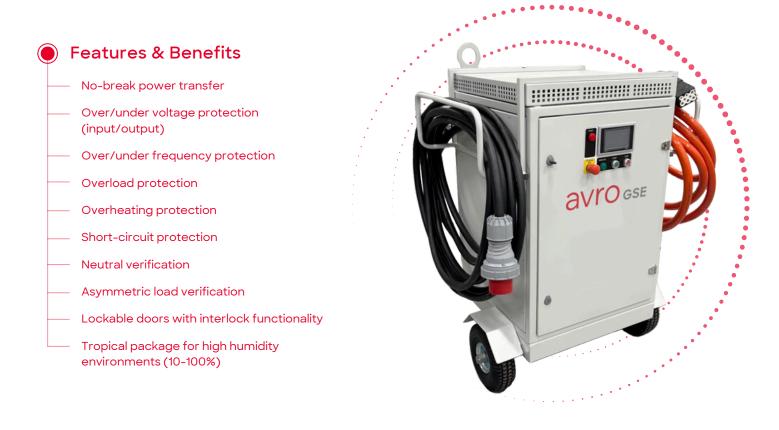


# **Ground Power Unit Electric Frequency Converter**

GP90E GP180E

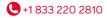


#### WHY AVRO

- 36-month warranty, effective from the date of delivery.
- AAA maintenance program
- Stock locations in the United States and Canada
- Customized business relationship

AIRCRAFT GROUND SUPPORT EQUIPMENT

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## **Electric Frequency Converter**

| Output Parameters                     |                          |
|---------------------------------------|--------------------------|
| Rated output power (at PF=1)          | 90 kVA                   |
| Qty of output                         | 1                        |
| Rated output voltage line/phase       | 3 x 115/200 V            |
| Output voltage adjustment range       | 15%                      |
| Output voltage frequency              | 400 Hz                   |
| Frequency stabilization accuracy      | ± 0.001 Hz               |
| Output voltage regulation accuracy    |                          |
| for balanced load                     | ± 0.5%                   |
| for 40% unbalanced load               | ± 0.5%                   |
| Total harmonic content THDU           |                          |
| line-to-line (neutral) for linear loa | $\Delta Z / 0$           |
| line-to-line (neutral) for non-lined  | ır load ≤ 2%             |
| Maximum single harmonic distortion    |                          |
| linear load                           | ≤ 1.5                    |
| non-linear load                       | ≤ 2                      |
| Voltage modulation                    | ≤ 0.5%                   |
| Phase symmetry, electrical degree     |                          |
| for balanced load                     | 120 ± 1%                 |
| for 30% unbalanced load               | 120 ± 2%                 |
| Power factor                          | From 0.8 to 0.95 leading |
| Range of load change                  | 0 - 100%                 |
| Voltage setting time at 100 % load    | ≤ 2 ms                   |
| connection at output voltage          |                          |
| deviation not more than 8%            |                          |
| Crest factor                          | 1.414 ± 0.04             |
| Permissible overload, %               |                          |
| within 600 s                          | 125                      |
| within 60 s                           | 150                      |
| within 30 s                           | 200                      |
| within 10 s                           | 300                      |
| within 2 s                            | 400                      |

| Input Parameters                                |   |
|---|---|
| Supply main rated voltage                       | 3×400 V, PE                             |
| Supply main voltage permitted deviation         | ± 15% or according<br>to customers spec |
| Supply nominal frequency                        | 50/60 Hz                                |
| Supply main rated frequency                     | ± 8 Hz                                  |
| Overall Efficiency at 30-100 % load             | ≥ 0.95                                  |
| Power factor                                    | > 0.97                                  |
| Line Current Distortion at nominal<br>load THDI | ≤ 5%                                    |
| Power interruption                              | Up to 50 ms                             |
| Miscellaneous                                   |   |
| Ingress protection (converter module)           | IP55                                    |
| Maximum/ Minimal ambient<br>temperature         | plus 50°C/<br>minus 50°C                |
| Audible noise                                   | 55dB at 1 meter<br>Typically, 50 dB     |
| Relative humidity                               | 0 to 100%                               |
| Operational useful life                         | Minimum 25 years                        |
| Mean Time To Repair (MTTR)                      | Maximum 20 minutes                      |
| Performance                                     | Mobile                                  |
| Control panel/Display                           | TFT with touchpad                       |
| Cable IN  | 10 m or as per<br>customer request      |

Cable OUT

10 m or as per customer request

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### **Electric Frequency Converter**

#### **Output Parameters** Rated output power (at PF=1) 180 kVA Qty of output 2 Rated output voltage line/phase 3 x 115/200 V Output voltage adjustment range 15% Output voltage frequency 400 Hz Frequency stabilization accuracy ± 0.001 Hz Output voltage regulation accuracy for balanced load ± 0.5% for 40% unbalanced load ± 0.5% Total harmonic content THDU line-to-line (neutral) for linear load ≤ 2% line-to-line (neutral) for non-linear load **≤ 2%** Maximum single harmonic distortion linear load ≤ 1.5 non-linear load ≤ 2 Voltage modulation ≤ 0.5% Phase symmetry, electrical degree for balanced load 120 ± 1% for 30% unbalanced load 120 ± 2% Power factor From 0.8 to 0.95 leading Range of load change 0 - 100% Voltage setting time at 100 % load ≤ 2 ms connection at output voltage deviation not more than 8% Crest factor $1.414 \pm 0.04$ Permissible overload, % within 600 s 125 within 60 s 150 within 30 s 200 within 10 s 300 within 2 s 400

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| Miscellaneous                                   |                                      |
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| Performance                                     | Mobile                               |
| Control panel/Display                           | TFT with touchpad                    |
| Cable IN  | 10 m or as per                       |
|   | customer request                     |
| Cable OUT                                       | 10 m or as per                       |
|   | customer request                     |

#### GP180E

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