

12-1022



C&D TRUE FRONT ACCESS®

TEL12-160FW
TEL12-160F
TEL12-180F



THE MOMENT OF TRUTH HAS ARRIVED

- TRUE Performance - 100% out of box capacity ratings at installation
- TRUE Front Access Terminals - ensuring reliability & connection versatility
- TRUE High Energy Density - highest true energy density solution in the market
- TRUE Long life design - Telcordia SR-4228 industry leading 13 year service life
- TRUE Seismic System - highest capacity energy storage system seismic NEBS tested
- TRUE Flexibility - multiple models to fit each customers unique power system demands

PRODUCT LINE EXTENSION TO C&D TEL VALVE REGULATED LEAD ACID (VRLA) BATTERY SERIES

APPLICATIONS

- Wireline
- Wireless
- Customer Premise / PBX
- Broadband
- Microwave Repeater
- Fiber Optic Regen Sites

INDOOR/OUTDOOR INSTALLATIONS

- Cabinet Systems
- Rack Systems

FEATURES & BENEFITS

- Long life alloy and design Telcordia certified exceeding 13 years service life.
- Tested and qualified by Telcordia to meet SR-4228 requirements.
- True Front Access threaded copper alloy inserts for reduced maintenance and increased safety.
- Terminal versatility - ease of diagnostic readings with Ohmic Ring®
- Reduced headspace driving higher energy density, in cabinet or rack applications
- Removable handles for ease of installation
- Innovative front terminal design maximizing energy density with direct connect extrusion fusion weld technology.
- Thermally welded case-to-cover bond to ensure a leak-proof seal.
- Flame-retardant polypropylene case and cover compliant with UL94 V-O with an Oxygen Limiting Index of greater than 28.
- Absorbent Glass Mat (AGM) technology for efficient gas recombination 99% plus.
- Flame-arresting, one-way pressure-relief vent for safety and long life.
- Complies with UL1778, 924, 1989 and 94 V-0. BS6290PT4, IEC-896-2.
- UL-recognized component.
- Multicell design for ease of installation and maintenance.
- Not restricted for air transport - Complies with IATA/ICAO Special Provision A67.
- Not restricted for surface transport - classified as non-hazardous material as related to DOT-CFR Title 49 parts 17 1-189.
- Not restricted for water transport - classified as non-hazardous material per Amendment 27.

www.unipowerco.com

NORTH AMERICA CALL: +1-954-346-2442 • LATIN AMERICA CALL: +1-954-905-1078 • EUROPE CALL: +44 1903 768200

SPECIFICATIONS

Ampere Hour Capacity to 1.75 Volts per Cell @ 77°F (25°C)

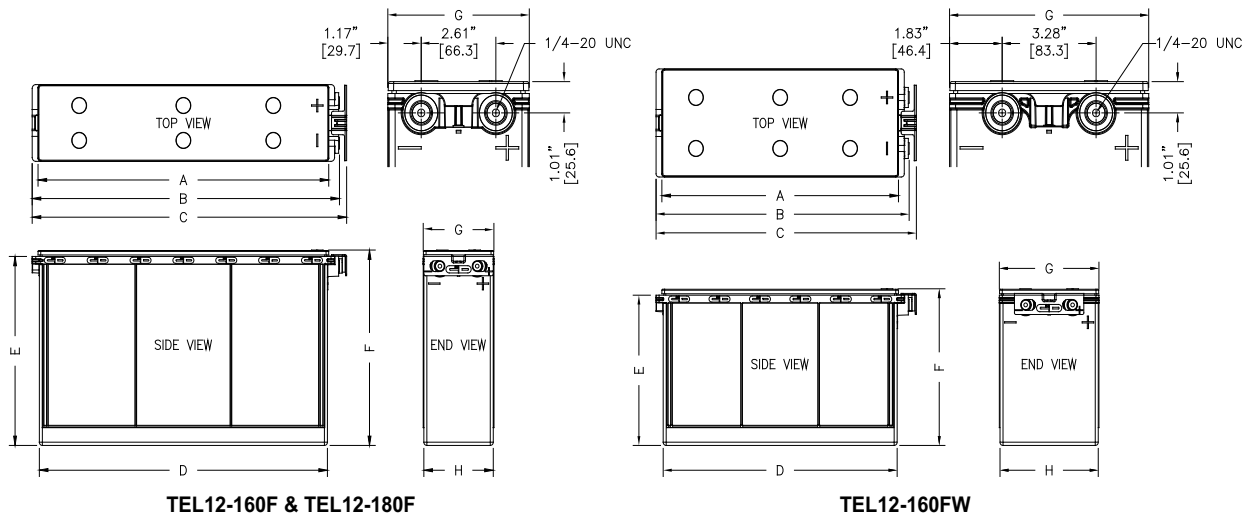
Discharge in Hrs.

| Model | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 16 | 20 | 24 | 36 | 48 | 72 | 100 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| TEL12-160FW | 111.1 | 127.4 | 137.2 | 143.8 | 149.0 | 153.1 | 156.7 | 159.7 | 162.1 | 164.1 | 167.6 | 172.9 | 176.6 | 179.6 | 185.4 | 189.0 | 193.2 | 195.8 |
| TEL12-160F | 107.1 | 124.4 | 134.6 | 141.5 | 146.7 | 150.8 | 154.3 | 157.3 | 159.5 | 161.5 | 164.7 | 169.4 | 172.6 | 174.9 | 179.2 | 181.4 | 183.4 | 183.8 |
| TEL12-180F | 123.1 | 143.5 | 155.2 | 163.2 | 169.2 | 174.0 | 177.9 | 181.2 | 184.0 | 186.4 | 190.4 | 196.3 | 200.3 | 203.3 | 208.9 | 211.9 | 214.6 | 215.5 |

| Operating Temperature Range with temperature compensation | Discharge: -40°F (-40°C) to +160°F (71°C) Charge: -10°F (-23°C) to +140°F (60°C) | | | | | | | | | | | | |
|--|---|---------------------|-----------|-----|-------------|-----------|--------|------------|-----------|--------|------------|------------|--------|
| Nominal Operating Temperature Range | +74°F (23°C) to +80°F (27°C) | | | | | | | | | | | | |
| Recommended Maximum Charging Current Limit | C ₂₀ /5 Amperes (40.1A for TEL12-180F; 34.5A for TEL12-160F; 35.3A for TEL12-160FW) | | | | | | | | | | | | |
| Float Charging Voltage | 13.5 to 13.8 VDC average per 12V unit | | | | | | | | | | | | |
| Maximum AC Ripple (Charger) | 0.5% RMS or 1.5% P-P of float charge voltage recommended for best results. Max voltage allowed = 1.4% RMS (4% P-P) Max current allowed = C ₂₀ /20 | | | | | | | | | | | | |
| Self Discharge | Battery can be stored up to 6 months at 77°F (25°C) before a freshening charge is required. Batteries stored at temperatures greater than 77°F (25°C) will require recharge sooner than batteries stored at lower temperatures. See C&D bulletin 41-7272, Self-Discharge and Inventory Control for details. | | | | | | | | | | | | |
| Equalize charge and cycle service voltage | 14.40 to 14.80 VDC average per 12V unit @ 77°F (25°C) | | | | | | | | | | | | |
| Terminal: Inserted - Inter-unit connector provided | Threaded copper alloy insert terminal to accept 1/4-20 UNC bolt | | | | | | | | | | | | |
| Terminal Hardware Initial Torque: | 110 in.-lbs. (12.4 N-m) | | | | | | | | | | | | |
| Telcordia Part Numbers | <table border="0"> <thead> <tr> <th>Battery Part Number</th> <th>CLEI Code</th> <th>CPR</th> </tr> </thead> <tbody> <tr> <td>TEL12-160FW</td> <td>PBMC10FRA</td> <td>212312</td> </tr> <tr> <td>TEL12-160F</td> <td>PBMB10FRA</td> <td>212304</td> </tr> <tr> <td>TEL12-180F</td> <td>PBMBD10FRA</td> <td>212314</td> </tr> </tbody> </table> | Battery Part Number | CLEI Code | CPR | TEL12-160FW | PBMC10FRA | 212312 | TEL12-160F | PBMB10FRA | 212304 | TEL12-180F | PBMBD10FRA | 212314 |
| Battery Part Number | CLEI Code | CPR | | | | | | | | | | | |
| TEL12-160FW | PBMC10FRA | 212312 | | | | | | | | | | | |
| TEL12-160F | PBMB10FRA | 212304 | | | | | | | | | | | |
| TEL12-180F | PBMBD10FRA | 212314 | | | | | | | | | | | |

| Battery | Voltage Per Unit | Ampere Hour Capacity 8 Hour Rate @ 77°F (25°C) to 1.75 v/c | Ampere Hour Capacity 10 Hour Rate @ 68°F (20°C) to 1.80 v/c | Maximum Discharge Current | Short Circuit Current | Ohms Impedance 60 Hz (Ω) | Battery Weight |
|-------------|------------------|--|---|---------------------------|-----------------------|--------------------------|-----------------|
| TEL12-160FW | 12 V Monobloc | 160 Ah | 153 Ah | 800 Amperes | 5600 Amperes | 0.0027 Ohms | 121 lbs / 55 kg |
| TEL12-160F | 12 V Monobloc | 157 Ah | 151 Ah | 800 Amperes | 4700 Amperes | 0.0031 Ohms | 115 lbs / 53 kg |
| TEL12-180F | 12 V Monobloc | 181 Ah | 174 Ah | 800 Amperes | 4500 Amperes | 0.0037 Ohms | 131 lbs / 60 kg |

DIMENSIONS



| MODEL | A | | B | | C | | D | | E | | F | | G | | H | |
|-------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|------|--------|------|--------|
| | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| TEL12-160FW | 16.56 | 420.57 | 17.72 | 449.99 | 18.22 | 462.79 | 16.37 | 415.90 | 9.69 | 246.05 | 10.10 | 256.54 | 6.94 | 176.33 | 6.88 | 174.70 |
| TEL12-160F | 20.35 | 516.86 | 21.51 | 546.25 | 22.01 | 559.05 | 20.16 | 512.17 | 10.73 | 272.47 | 11.14 | 282.96 | 4.95 | 125.73 | 4.86 | 123.39 |
| TEL12-180F | 20.35 | 516.86 | 21.51 | 546.25 | 22.01 | 559.05 | 20.16 | 512.17 | 12.19 | 309.55 | 12.60 | 320.04 | 4.95 | 125.73 | 4.86 | 123.39 |

* All dimensions in inches and (millimeters). All dimensions are for reference only. Contact a UNIPOWER Representative for complete dimensions information.
 * Note: Batteries to be mounted with 0.5 IN (12.5mm) spacing minimum and free air ventilation.

CONSTANT CURRENT RATINGS - AMPERES @ 77°F (25°C)

TEL12-160FW

| End point volts/cell | Operating Time (hr) | | | | | | | | | | | | | | | | | |
|----------------------|---------------------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 16 | 20 | 24 | 36 | 48 | 72 | 100 |
| 1.75 | 111.1 | 63.7 | 45.7 | 36.0 | 29.8 | 25.5 | 22.4 | 20.0 | 18.0 | 16.4 | 14.0 | 10.8 | 8.8 | 7.5 | 5.2 | 3.9 | 2.7 | 2.0 |
| 1.80 | 107.1 | 62.0 | 44.7 | 35.3 | 29.3 | 25.1 | 22.0 | 19.7 | 17.7 | 16.2 | 13.8 | 10.6 | 8.7 | 7.4 | 5.1 | 3.9 | 2.6 | 1.9 |
| 1.85 | 99.2 | 58.6 | 42.6 | 33.7 | 28.1 | 24.1 | 21.2 | 18.9 | 17.1 | 15.6 | 13.3 | 10.3 | 8.4 | 7.1 | 4.8 | 3.7 | 2.5 | 1.8 |
| 1.90 | 87.0 | 52.7 | 38.8 | 30.9 | 25.8 | 22.2 | 19.6 | 17.5 | 15.8 | 14.4 | 12.3 | 9.5 | 7.7 | 6.5 | 4.4 | 3.3 | 2.2 | 1.6 |

TEL12-160F

| End point volts/cell | Operating Time (hr) | | | | | | | | | | | | | | | | | |
|----------------------|---------------------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 16 | 20 | 24 | 36 | 48 | 72 | 100 |
| 1.75 | 107.1 | 62.2 | 44.9 | 35.4 | 29.3 | 25.1 | 22.0 | 19.7 | 17.7 | 16.1 | 13.7 | 10.6 | 8.6 | 7.3 | 5.0 | 3.8 | 2.5 | 1.8 |
| 1.80 | 102.7 | 60.3 | 43.7 | 34.5 | 28.7 | 24.6 | 21.6 | 19.3 | 17.4 | 15.9 | 13.5 | 10.4 | 8.5 | 7.2 | 4.9 | 3.7 | 2.5 | 1.8 |
| 1.85 | 95.2 | 56.9 | 41.6 | 33.0 | 27.5 | 23.6 | 20.8 | 18.5 | 16.7 | 15.3 | 13.0 | 10.0 | 8.2 | 6.9 | 4.7 | 3.5 | 2.4 | 1.7 |
| 1.90 | 83.7 | 51.2 | 37.7 | 30.1 | 25.2 | 21.7 | 19.1 | 17.1 | 15.4 | 14.1 | 12.0 | 9.2 | 7.5 | 6.3 | 4.3 | 3.2 | 2.1 | 1.5 |

TEL12-180F

| End point volts/cell | Operating Time (hr) | | | | | | | | | | | | | | | | | |
|----------------------|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 16 | 20 | 24 | 36 | 48 | 72 | 100 |
| 1.75 | 123.1 | 71.7 | 51.7 | 40.8 | 33.8 | 29.0 | 25.4 | 22.6 | 20.4 | 18.6 | 15.9 | 12.3 | 10.0 | 8.5 | 5.8 | 4.4 | 3.0 | 2.2 |
| 1.80 | 117.3 | 69.6 | 50.6 | 40.0 | 33.3 | 28.6 | 25.0 | 22.3 | 20.2 | 18.4 | 15.6 | 12.1 | 9.8 | 8.3 | 5.6 | 4.3 | 2.9 | 2.1 |
| 1.85 | 107.9 | 65.5 | 48.0 | 38.3 | 31.9 | 27.4 | 24.1 | 21.5 | 19.4 | 17.7 | 15.1 | 11.6 | 9.5 | 8.0 | 5.4 | 4.1 | 2.7 | 2.0 |
| 1.90 | 95.1 | 59.1 | 43.8 | 35.1 | 29.4 | 25.3 | 22.3 | 19.9 | 18.0 | 16.4 | 14.0 | 10.8 | 8.8 | 7.4 | 5.0 | 3.7 | 2.5 | 1.8 |