



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

FEATURES & BENEFITS

APPLICATIONS

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

INDOOR/OUTDOOR INSTALLATIONS

- Cabinet Systems
- Rack Systems

- 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 C&D 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-0 with an Oxygen Limiting Index of greater than 28.
- Absorbent Glass Mat (AGM) technology for efficient gas recombination 99% plus.
- UL listed 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.

SPECIFICATIONS

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

Discharge in Hours																		
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	134.2	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

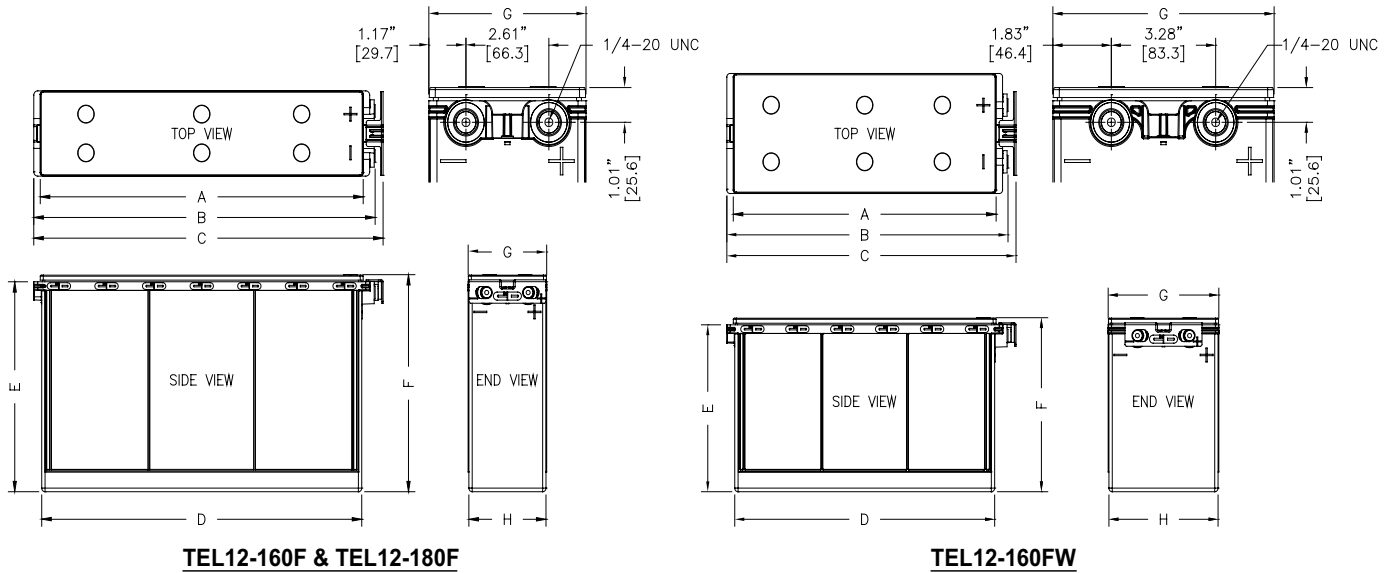
Additional ratings and application information is available in the Battery Selection Program at www.cdstandbypower.net

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	+68 (+20°C) to +80°F (+27°C)		
Recommended Maximum Charging Current Limit	C ₂₀ /5 Amperes (40.1A for TEL12-180F; 34.5A for TEL12-60F; 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 to 1.5% P-P of float charge voltage recommended for best results		
Self Discharge	Battery can be stored up to 6 months at +77°F (+25°C) before a fresh-ending charge is required. Batteries stored at temperature 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 (12.4N-m)		
Telcordia Part Numbers	Battery Part Number	CLEI Code	CPR
	TEL12-160FW	PBMBC10FRA	212312
	TEL12-160F	PBMBB10FRA	212304
	TEL12-180F	PBMBD10FRA	212314

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

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DIMENSIONS



TEL12-160F & TEL12-180F

TEL12-160FW

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	420.6	17.72	450.0	18.22	462.8	16.4	415.9	9.69	246.1	10.10	256.5	6.94	176.33	6.88	174.7
TEL12-160F	20.35	516.9	21.51	546.2	22.01	559.1	20.2	512.2	10.73	272.5	11.14	283.0	4.95	125.73	4.86	123.4
TEL12-180F	20.35	516.9	21.51	546.2	22.01	559.1	20.2	512.2	12.19	309.5	12.60	320.0	4.95	125.73	4.86	123.4

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

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TEL12-160F	Operating Time (hr)																																																																											
	1	2	3	4	5	6	7	8	9	10	12	16	20	24	36	48	72	100																																																										
End Point volts/cell	1.75	1.80	1.85	1.90	107.1	102.7	95.2	83.7	62.2	60.3	56.9	51.2	44.9	43.7	41.6	37.7	35.4	34.5	33.0	30.1	29.3	28.7	27.5	25.2	25.1	24.6	23.6	21.7	22.0	21.6	20.8	19.1	19.7	19.3	18.5	17.1	17.7	17.4	16.7	15.4	16.1	15.9	15.3	14.1	13.7	13.5	13.0	12.0	10.6	10.4	10.0	9.2	8.6	8.5	8.2	7.5	7.3	7.2	6.9	6.3	5.0	4.9	4.7	4.3	3.8	3.7	3.5	3.2	2.5	2.5	2.4	2.1	1.8	1.8	1.7	1.5

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TEL12-180F	Operating Time (hr)																																																																											
	1	2	3	4	5	6	7	8	9	10	12	16	20	24	36	48	72	100																																																										
End Point volts/cell	1.75	1.80	1.85	1.90	123.1	117.3	107.3	107.9	71.7	69.6	65.5	59.1	51.7	50.6	48.0	43.8	40.8	40.0	38.3	35.1	33.8	33.3	31.9	29.4	29.0	28.6	27.4	25.3	25.4	25.0	24.1	22.3	22.6	22.3	21.5	19.9	20.4	20.2	19.4	18.0	18.6	18.4	17.7	16.4	15.9	15.6	15.1	14.0	12.3	12.1	11.6	10.8	10.0	9.8	9.5	8.8	8.5	8.3	8.0	7.4	5.8	5.6	5.4	5.1	4.4	4.3	4.1	3.7	3.0	2.9	2.7	2.5	2.2	2.1	2.0	1.8

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FRONT ACCESS BATTERY RACK SYSTEMS

- TRUE high energy density with TEL12-180F
- Front Access for ease of installation and maintenance
- Pre-wired from the factory
- Integrated grounding hardware and multiple grounding points

- TRUE seismic systems shake table tested
- Tested to GR-63-CORE and GR-1089-CORE
- Cable management system
- Thermal management features ensuring long life

Five Tier Seismic



Five Tier Seismic



Six Tier Seismic



NEBS Level 3 Zone 2

Standard breaker panel
 Optional bus panel
 +24VDC 1800 Ah
 -48VDC 900 Ah
 Height = 82.13 inches [2086 mm]
 Width = 23.5 inches [597 mm]
 Depth = 22.52 inches [572 mm]
 Weight = 300 lbs (136 kgs)
 (without batteries)

NEBS Level 3 Zone 4

Standard breaker panel
 Optional bus panel
 +24VDC 1800 Ah
 -48VDC 900 Ah
 Height = 80.69 inches [2050 mm]
 Width = 24.88 inches [632 mm]
 Depth = 23.63 inches [600 mm]
 Weight = 375 lbs (170 kgs)
 (without batteries)

NEBS Level 3 Zone 4

Standard bus panel
 Optional side breakers
 +24VDC 2160 Ah
 -48VDC 1080 Ah
 Height = 84 inches [2134 mm]
 Width = 24.88 inches [632 mm]
 Depth = 25.25 inches [641 mm]
 Weight = 410 lbs (186 kgs)
 (without batteries)

Five Tier Racks NEBS Zone 2	
System Part Number	Description
110-7050-01	+ 24VDC top common bus
110-7050-02	+ 24VDC top 10x 100A circuit bkr
110-7050-05	- 48VDC top common bus
110-7050-06	- 48VDC 5x 100A circuit bkr

Five Tier Racks NEBS Zone 4	
System Part Number	Description
110-7051-01	+ 24VDC top common bus
110-7051-02	+ 24VDC top 10x 100A circuit bkr
110-7051-05	- 48VDC top common bus
110-7051-06	- 48VDC 5x 100A circuit bkr

Six Tier Racks NEBS Zone 4	
System Part Number	Description
110-7052-01	+ 24VDC top common bus
110-7052-02	+ 48VDC top common bus

Note: Please contact C&D for additional rack options.

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