



# LONG DURATION SERIES

## TEL SERIES

Valve Regulated Lead Acid (VRLA) Battery Series  
Designed for Telecom Power Applications



### APPLICATIONS

- Customer Premise
- Broadband
- Wireless
- PBX
- Repeaters
- Fixed Wireline

### FEATURES & BENEFITS

- Telecordia certified life exceeding 10 years.
- Telecordia tested and qualified to meet all SR-4228 requirements.
- Flame-arresting, one-way pressure-relief vent for safety and long life.
- 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.
- Complies with UL1778, 924, 1989 and 94 V-0.
- UL-recognized component.
- Can be used in any orientation. Upright, side or end mounting recommended.
- Low-profile terminals with threaded copper alloy inserts for reduced height, reduced maintenance and increased safety.
- Front Access threaded copper alloy inserts on TEL12-105FS.
- Multicell design for ease of installation and maintenance.
- Not restricted for air transport - Classified as non-hazardous material, complies with IATA/ICAO Special Provision A67.
- Not restricted for surface transport - Classified as non-hazardous material, complies with DOT-CFR Title 49 parts 171-189.
- Not restricted for water transport - Classified as non-hazardous material, complies with IMDG exception 238.

### TECHNICAL DATA

Model	#Cells/Voltage	Ampere Hour Capacity @ 77°F (25°C)													Weight lbs	Weight kg	
		Operating Time (in hours) to 1.75 Volts Per Cell															
		1	2	3	4	5	6	7	8	10	12	20	24	72			100
TEL12-30 (*SLC)	6 Cells / 12 Volts	22.1	25.9	27.6	28.6	29.1	29.5	29.9	30.4	31.1	31.8	33.0	33.2	33.8	34.0	27.3	12.4
TEL12-45 (*SLC)	6 Cells / 12 Volts	31.5	37.0	39.6	41.0	42.3	43.4	44.4	45.5	46.9	47.8	50.0	50.4	51.8	52.0	40.6	18.4
TEL12-70	6 Cells / 12 Volts	46.8	55.0	59.5	62.2	64.3	66.0	67.5	69.1	71.0	72.1	75.0	75.6	77.8	78.0	55.8	25.3
TEL12-80 (*SLC)	6 Cells / 12 Volts	53.8	63.0	67.8	70.0	72.5	75.0	77.0	79.0	81.4	83.0	88.0	88.3	91.0	92.0	66.6	30.2
TEL12-90	6 Cells / 12 Volts	60.0	69.6	75.0	79.0	81.0	83.7	85.8	87.6	90.8	93.5	100.0	101.0	103.5	104.0	74.5	33.8
TEL12-105FS**	6 Cells / 12 Volts	66.3	77.6	84.6	89.2	92.5	95.4	98.0	100.0	102.0	104.2	109.0	110.4	118.0	119.0	84.9	38.5
TEL12-125	6 Cells / 12 Volts	87.5	98.0	108.0	113.6	118.0	121.2	123.5	126.0	128.0	130.0	134.8	136.3	144.7	146.0	102.3	46.4
TEL6-180	3 Cells / 6 Volts	120.0	137.0	150.0	156.8	162.0	168.0	172.2	175.5	181.0	186.5	200.0	20.1	207.4	208.0	74.5	33.8

\*(SLC) battery includes cable assembly

\*\*TEL12-105 FS replaces TEL12-105 F. The TEL 12-105 FS is 0.56 inches (14.33 mm) shorter than the TEL12-105 F.

## SPECIFICATIONS

<b>Operating Temperature Range with temperature compensation</b>	Discharge: -40°F (-40°C) to +160°F (71°C) Charge: -10°F (-23°C) to +140°F (60°C)
<b>Nominal Operating Temperature Range</b>	+74°F (23°C) to +80°F (27°C)
<b>Recommended Maximum Charging Current Limit</b>	C/5 amperes @ 20 Hr rate @ 77°F (25°C)
<b>Float Charging Voltage</b>	13.5 to 13.8 average per 12V unit (6.75 to 6.90 per 6V unit) @ 77°F (25°C)
<b>Maximum AC Ripple (Charger)</b>	AC Ripple Voltage - 0.5% RMS or 1.5% P-P of float charge voltage recommended for best results. AC Ripple Current - Max current allowed = C/20 AMPS RMS (5 AMPS RMS Per 100Ah)
<b>Self Discharge</b>	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.
<b>Equalize charge and cycle service voltage</b>	14.40 to 14.80 VDC average per 12V unit @ 77°F (25°C); 7.20 to 7.40 VDC per 6V unit
<b>Terminal: Inserted</b>	Threaded copper alloy insert terminal to accept: 10-32 UNF ¾ inch long screws for: TEL12-30, TEL12-30SLC, TEL12-45 & TEL12-45SLC) 1/4-20 UNC ¾ inch long screws for: TEL12-70, TEL12-80, TEL12-80SLC, TEL12-90, TEL12-105FS, TEL12-125 & TEL6-180.
<b>Inserted Copper Alloy Terminal Hardware Initial Torque</b>	30 in.-lbs. (3.4 N-m) for 10-32 hardware 110 in.-lbs. (12.4 N-m) for ¼-20 hardware
<b>Inter-unit connector</b>	Included with the TEL12-105FS
<b>Terminal Protectors:</b>	UL94 V0 Terminal protectors available

## DIMENSIONS

							Battery Termination			
							TEL12-30(SLC)	TEL12-45(SLC)	TEL12-70	TEL12-80(SLC)
Model	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	F Inches (mm)	TEL12-90	TEL12-105FS	TEL12-125	TEL6-180
TEL12-30 (*SLC)	7.77 (197.4)	7.54 (191.4)	5.19 (131.9)	5.02 (127.6)	6.52 (165.7)	6.80 (172.7)				
TEL12-45 (*SLC)	8.99 (228.3)	8.86 (225.1)	5.48 (139.2)	5.31 (134.8)	7.89 (200.3)	8.07 (205.1)				
TEL12-70	10.26 (260.5)	10.17 (258.4)	6.83 (173.4)	6.65 (168.9)	7.89 (200.3)	8.01 (203.5)				
TEL12-80 (*SLC)	12.51 (317.8)	11.95 (303.5)	6.83 (173.4)	6.65 (168.9)	7.94 (201.6)	8.06 (204.8)				
TEL12-90	13.42 (340.9)	12.75 (323.7)	6.80 (172.7)	6.54 (166.0)	8.40 (213.2)	8.52 (216.4)				
TEL12-105FS**	21.95 (557.50)	20.81 (528.5)	4.94 (125.5)	4.83 (122.7)	7.29 (185.2)	9.0 (228.6)				
TEL12-125	13.57 (344.7)	12.74 (323.6)	6.80 (172.7)	6.63 (168.4)	10.81 (274.5)	10.93 (277.7)				
TEL6-180	12.63 (320.8)	12.51 (317.8)	6.97 (177.0)	6.83 (173.4)	8.82 (224.0)	8.94 (227.2)				

**Note:** All dimensions are for reference only. Lug & hardware dimensions not included. Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum allowing free air ventilation. Contact a C&D Representative for additional dimension information. \*(SLC) battery includes cable assembly. \*\* TEL12-105FS is a Front Access Battery and includes rope handles.

## TEL12-70 SPECIFICATIONS

Battery Capacity	Battery Capacity	Maximum Discharge Current	Short Circuit Current	Ohms Impedance 60 Hz (Ω)
69 Ah @ 8 hour rate to 1.75 v/c @ 77°F (25°C)	IEC Rating: 67.2 Ah @ 10 hour rate to 1.80 v/c @ 68°F (20°C)	800 Amperes	3100 Amperes @ 0.1 Second	0.0050

## TEL12-70 RATINGS

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @77°F(25°C)													
	Operating Time to End Point Voltage (in hours)													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.75	46.80	27.50	19.83	15.55	12.86	11.00	9.64	8.64	7.10	6.01	3.75	3.15	1.08	0.78
1.80	44.50	26.80	19.20	14.95	12.30	10.58	9.29	8.38	6.92	5.86	3.66	3.08	1.06	0.77
1.85	41.80	25.50	18.30	14.25	11.90	10.20	9.00	8.05	6.60	5.59	3.53	2.98	1.03	0.75
1.90	39.50	24.20	17.30	13.63	11.30	9.70	8.57	7.73	6.40	5.42	3.43	2.88	0.98	0.71

**Note:** Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum allowing free air ventilation. Specifications subject to change without notification. The above ratings do not include connector voltage drops.

## TEL12-80 (\*SLC) SPECIFICATIONS

\* TEL12-80 SLC CABLE CONNECTORS ARE RATED FOR ONLY 30 AMPS DISCHARGE

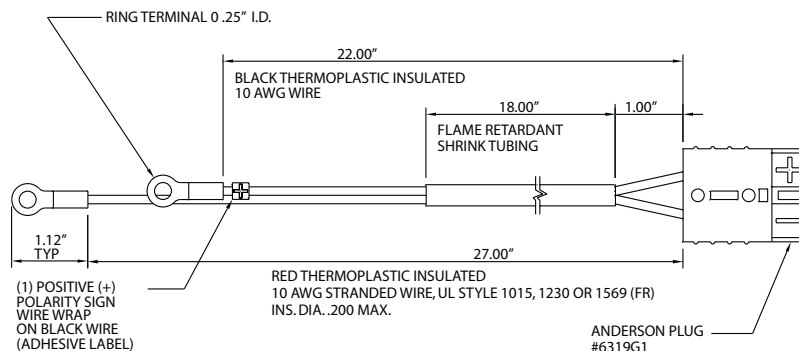
Battery Capacity	Battery Capacity	Maximum Discharge Current	Short Circuit Current	Ohms Impedance 60 Hz (Ω)
79 Ah @ 8 hour rate to 1.75 v/c @ 77°F (25°C)	IEC Rating: 77.5 Ah @ 10 hour rate to 1.80 v/c @ 68°F (20°C)	800 Amperes (*SLC-30 Amps)	3300 Amperes @ 0.1 Second	0.0040

## TEL12-80 & TEL12-80SLC RATINGS

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @77°F (25°C)													
	Operating Time to End Point Voltage (in hours)													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.75	53.80	31.50	22.60	17.50	14.50	12.50	11.00	9.88	8.14	6.92	4.40	3.68	1.26	0.92
1.80	51.10	29.80	21.60	16.95	14.00	12.15	10.69	9.56	7.85	6.70	4.28	3.59	1.24	0.90
1.85	47.00	27.50	20.30	16.13	13.40	11.58	10.26	9.13	7.50	6.35	4.11	3.45	1.19	0.87
1.90	43.00	25.40	18.50	15.00	12.50	10.80	9.50	8.50	6.95	5.93	3.88	3.29	1.14	0.83

**Note:** Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum allowing free air ventilation. Specifications subject to change without notification. The above ratings do not include connector voltage drops.

### TEL12-80SLC Cable



PART NO. 150-15942 (32640)

## TEL12-90 SPECIFICATIONS

Battery Capacity	Battery Capacity	Maximum Discharge Current	Short Circuit Current	Ohms Impedance 60 Hz ( Ω )
88 Ah @ 8 hour rate to 1.75 v/c @ 77°F (25°C)	IEC Rating: 85.5Ah @ 10 hour rate to 1.80 v/c @ 68°F (20°C)	800 Amperes	3600 Amperes @ 0.1 Second	0.0035

## TEL12-90 RATINGS

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @77°F (25°C)													
	Operating Time to End Point Voltage (in hours)													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.75	60.00	34.80	25.00	19.75	16.20	13.95	12.26	10.95	9.08	7.79	5.00	4.21	1.44	1.04
1.80	57.00	33.00	24.00	19.00	15.60	13.42	11.86	10.56	8.80	7.58	4.89	4.13	1.42	1.03
1.85	53.30	31.40	22.80	18.00	15.00	12.77	11.30	10.10	8.44	7.23	4.67	3.96	1.37	0.99
1.90	49.50	29.85	21.67	17.13	14.20	12.13	10.64	9.50	7.90	6.73	4.34	3.69	1.26	0.92

Note: Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum allowing free air ventilation. Specifications subject to change without notification. The above ratings do not include connector voltage drops.

## TEL12-105FS SPECIFICATIONS

Battery Capacity	Battery Capacity	Maximum Discharge Current	Short Circuit Current	Ohms Impedance 60 Hz ( Ω )
100 Ah @ 8 hour rate to 1.75 v/c @ 77°F (25°C)	IEC Rating: 98.1 Ah @ 10 hour rate to 1.80 v/c @ 68°F (20°C)	800 Amperes	4000 Amperes @ 0.1 Second	0.0034

## TEL12-105FS RATINGS

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @77°F (25°C)													
	Operating Time to End Point Voltage (in hours)													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.75	66.30	38.80	28.20	22.30	18.50	15.90	14.00	12.48	10.20	8.68	5.45	4.60	1.64	1.19
1.80	64.70	38.10	27.80	21.90	18.20	15.65	13.77	12.30	10.00	8.54	5.36	4.53	1.60	1.16
1.85	61.30	36.60	26.80	21.20	17.60	15.20	13.30	11.88	9.75	8.26	5.18	4.37	1.54	1.12
1.90	55.10	33.30	24.50	19.40	16.20	13.90	12.20	10.91	9.00	7.67	4.80	4.04	1.42	1.03

Note: Batteries to be mounted with 0.3 in. (7.5 mm) spacing minimum allowing free air ventilation. Specifications subject to change without notification. The above ratings do not include connector voltage drops.

## TEL12-125 SPECIFICATIONS

Battery Capacity	Battery Capacity	Maximum Discharge Current	Short Circuit Current	Ohms Impedance 60 Hz ( Ω )
127 Ah @ 8 hour rate to 1.75 v/c @ 77°F (25°C)	IEC Rating: 123 Ah @ 10 hour rate to 1.80 v/c @ 68°F (20°C)	800 Amperes	5000 Amperes @ 0.1 Second	0.0023

## TEL12-125 RATINGS

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @77°F (25°C)													
	Operating Time to End Point Voltage (in hours)													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.75	87.50	49.00	36.00	28.40	23.60	20.20	17.64	15.75	12.80	10.83	6.74	5.68	2.01	1.46
1.80	82.50	47.25	34.67	27.50	22.70	19.50	17.00	15.19	12.40	10.58	6.60	5.58	1.97	1.43
1.85	77.00	44.00	32.50	26.25	21.80	18.67	16.29	14.50	11.90	10.08	6.39	5.40	1.92	1.40
1.90	71.00	41.50	30.67	24.30	20.20	17.20	15.10	13.40	11.03	9.42	6.00	5.08	1.82	1.32

Note: Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum allowing free air ventilation. Specifications subject to change without notification. The above ratings do not include connector voltage drops.

## TEL12-30 (\*SLC) SPECIFICATIONS

\* TEL12-30 SLC CABLE CONNECTORS ARE RATED FOR ONLY 11 AMPS DISCHARGE

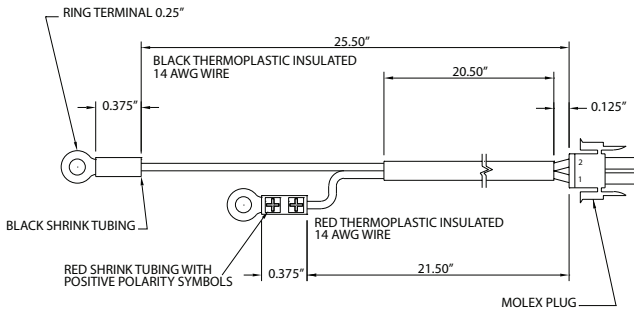
Battery Capacity	Battery Capacity	Maximum Discharge Current	Short Circuit Current	Ohms Impedance 60 Hz (Ω)
30.5 Ah @ 8 hour rate to 1.75 v/c @ 77°F (25°C)	IEC Rating: 29.1 Ah @ 10 hour rate to 1.80 v/c @ 68°F (20°C)	500 Amperes (*SLC-11 Amps)	2150 Amperes @ 0.1 Second	0.0100

## TEL12-30 & TEL12-30SLC RATINGS

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @77°F (25°C)													
	Operating Time to End Point Voltage (in hours)													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.75	22.10	12.95	9.20	7.15	5.82	4.92	4.27	3.80	3.11	2.65	1.65	1.38	0.47	0.34
1.80	21.00	12.40	8.80	6.90	5.62	4.74	4.12	3.68	3.02	2.58	1.61	1.35	0.46	0.33
1.85	19.60	11.60	8.40	6.63	5.40	4.56	3.96	3.53	2.92	2.50	1.55	1.30	0.44	0.32
1.90	18.50	11.05	8.03	6.35	5.22	4.41	3.84	3.41	2.82	2.41	1.50	1.25	0.42	0.31

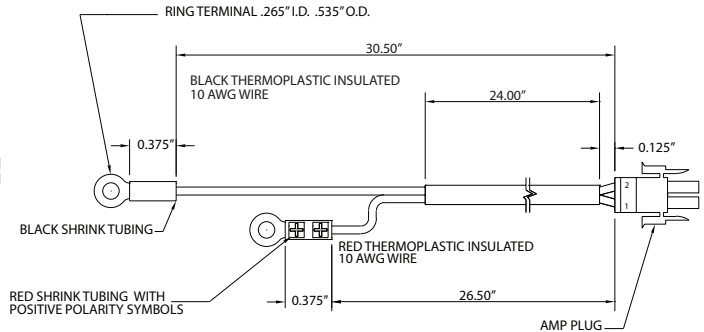
**Note:** Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum allowing free air ventilation. Specifications subject to change without notification. The above ratings do not include connector voltage drops.

### TEL12-30SLC Cable



**PART NO. 150-15884 (32564)** BLACK SHRINK TUBING  
**150-15959 (32647)** GREY SHRINK TUBING

### TEL12-45SLC Cable



**PART NO. 150-15942 (32640)**

## TEL12-45 (\*SLC) SPECIFICATIONS

\* TEL12-45 SLC CABLE CONNECTORS ARE RATED FOR ONLY 11 AMPS DISCHARGE

Battery Capacity	Battery Capacity	Maximum Discharge Current	Short Circuit Current	Ohms Impedance 60 Hz (Ω)
46.0 Ah @ 8 hour rate to 1.75 v/c @ 77°F (25°C)	IEC Rating: 44.4 Ah @ 10 hour rate to 1.80 v/c @ 68°F (20°C)	600 Amperes (*SLC-11 Amps)	2500 Amperes @ 0.1 Second	0.0060

## TEL12-45 & TEL12-45SLC RATINGS

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @77°F(25°C)													
	Operating Time to End Point Voltage (in hours)													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.75	31.50	18.50	13.20	10.25	8.45	7.23	6.34	5.69	4.69	3.98	2.50	2.10	0.72	0.52
1.80	30.00	18.00	13.00	10.00	8.23	7.08	6.19	5.53	4.57	3.88	2.45	2.06	0.71	0.51
1.85	28.00	17.40	12.70	9.88	8.05	6.90	6.00	5.35	4.43	3.75	2.33	1.97	0.69	0.50
1.90	26.20	16.50	12.17	9.50	7.83	6.70	5.86	5.20	4.27	3.60	2.23	1.88	0.66	0.49

**Note:** Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum allowing free air ventilation. Specifications subject to change without notification. The above ratings do not include connector voltage drops.

## TEL6-180 SPECIFICATIONS

Battery Capacity	Battery Capacity	Maximum Discharge Current	Short Circuit Current	Ohms Impedance 60 Hz ( Ω )
176 Ah @ 8 hour rate to 1.75 v/c @ 77°F (25°C)	IEC Rating: 171 Ah @ 10 hour rate to 1.80 v/c @ 68°F (20°C)	800 Amperes	4350 Amperes @ 0.1 Second	0.0012

## TEL6-180 RATINGS

End Point Volts/Cell	Constant Current Discharge Ratings - Amperes @77°F (25°C)													
	Operating Time to End Point Voltage (in hours)													
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	20.00	24.00	72.00	100.00
1.75	120.00	68.50	50.00	39.20	32.40	28.00	24.60	21.94	18.10	15.54	10.00	8.42	2.88	2.08
1.80	113.00	66.00	48.00	38.00	31.36	27.00	23.70	21.20	17.60	15.08	9.70	8.17	2.80	2.03
1.85	106.00	62.00	45.50	36.00	30.00	25.80	22.70	20.30	16.90	14.50	9.30	7.83	2.73	1.98
1.90	94.00	57.25	42.00	33.50	27.90	24.00	21.10	19.00	15.80	13.70	8.90	7.56	2.65	1.92

**Note:** Batteries to be mounted with 0.5 in. (12.5 mm) spacing minimum allowing free air ventilation. Specifications subject to change without notification. The above ratings do not include connector voltage drops.

Part Number	CLEI Number	CPR Number
TEL 12-30	PWCYALS1AA	560308
TEL 12-30/SLC	SLPQ0DU8AA	983219
TEL 12-30/CCD	PBMB800FRA	211778
TEL 12-45	PWCYALU1AA	560310
TEL 12-45SLC	PWCYALV1AA	560311
TEL 12-70	PWCYALW1AA	560312
TEL 12-80	PWCYAMM1AA	127524
TEL 12-80SLC	PWCYAMN1AA	127525
TEL 12-90	PWCYALX1AA	560313
TEL 12-105FS	PWCYAUFBAA	136703
TEL 12-125	PWCYALY1AA	560314
TEL 6-180	PWCYALZ1AA	560315



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