



Touchstone® Li-ion Battery Packs Quick Information Guide

Setting the Standard for Battery Backup Solutions

ARRIS launched Lithium-Ion (Li-Ion) battery technology into DOCSIS® compliant Touchstone® Embedded Multimedia Terminal Adapters (E-MTAs) as a pioneer in 2003. ARRIS battery back-up solutions optimize E-MTA performance for lifeline telephony, reduce risk through multiple protection mechanisms, and maximize battery life with proprietary low power designs. ARRIS superior battery technology ensures that all Touchstone battery-backed E-MTA products provide unsurpassed quality, safety, and value within the industry.

Lithium-Ion Technology Leadership

ARRIS battery packs come in 2, 4, 6, and 8-cell configurations. ARRIS maintains a comprehensive cell and pack qualification process, which includes safety qualification testing, electrical performance analysis, and rigorous manufacturing standards. With ARRIS batteries, Cable Operators can count on hours of dependable voice service during a local power outage.

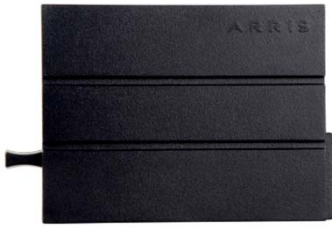
Environmentally Friendly ARRIS "Green"

ARRIS is pleased to provide products that meet the Restriction of Hazardous Substances (RoHS) directive. Beyond the present directive to remove lead and other heavy metals, ARRIS has increased our focus by removing other environmentally impacting materials from the packaging, cables, and other accessories. Please contact your sales representative for more information.

Technical Specification

Touchstone® Li-Ion Battery Visual / Dimension Specifications

Visual / Dimension Specifications (photos are not to scale when document is printed)



Model BPA022A
ARRIS Part # 710476

Dimensions (H x W x D) in. : 2.4 x 3.6 x 0.82
cm: (6.1 x 9.3 x 2.1)



Model BPB022S
ARRIS Part # 718003

Dimensions (H x W x D) in. : 1.2 x 3.1 x 1.8
cm: (3.1 x 7.9 x 4.7)



Model BPB024S
ARRIS Part # 721944

Dimensions (H x W x D) in. : 1.2 x 3.1 x 1.8
cm: (3.1 x 7.9 x 4.7)



Model BPB026S
ARRIS Part # 789699

Dimensions (H x W x D) in. : 1.2 x 3.1 x 1.8
cm: (3.1 x 7.9 x 4.7)



Model BPB044S
ARRIS Part # 718005

Dimensions (H x W x D) in. : 1.2 x 5.7 x 1.8
cm: (3.1 x 14.5 x 4.7)



Model BPB044H
ARRIS Part # 722841

Dimensions (H x W x D) in. : 1.2 x 5.7 x 1.8
cm: (3.1 x 14.5 x 4.7)

Touchstone® Li-Ion Battery Visual / Dimension Specifications



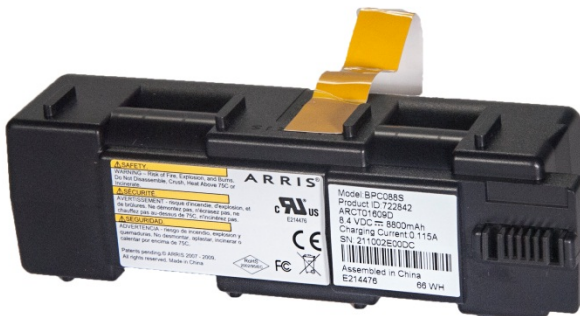
Model BPD066H
ARRIS Part # 785170
Dimensions (H x W x D) in. : 6.3 x 2.0 x 2.1
cm: (16.0 x 5.1 x 5.3)



Model BPD088H
ARRIS Part # 785171
Dimensions (H x W x D) in. : 6.3 x 2.0 x 2.1
cm: (16.0 x 5.1 x 5.3)



Model BPB088S
ARRIS Part # 721192
Dimensions (H x W x D) in. : 2.0 x 6.9 x 2.0
cm: (5.1 x 17.6 x 5.1)



Model BPC088S
ARRIS Part # 722842
Dimensions (H x W x D) in. : 2.0 x 2.0 x 6.9
cm: (5.0 x 4.7 x 14.4)

Touchstone® Li-Ion Battery Specifications

Specifications

Physical

Operating Temperature °F (°C)	32 to 122 (0 to 50)
Operating Relative Humidity(Min.-Max.)	5-95% (Non condensing)
Storage Temperature °F (°C)	-4 to 140 (-20 to 60) Note: Storage above 77°F (25°C) will reduce life of the battery and is not recommended.
Operating and Storage Altitude ft (m)	-200 to 12,000 (-61 to 3,658)
Battery Shelf Life (without recharge, 25°C)	16 months
Battery Life Expectancy (with 2 discharge cycles per year, 25°C)	6 to 10 years
Color	BPA022A, BPB022S, BPB044S, BPD066H, BPB088S, BPC088S, BPD088H: Black BPB024S, BPB044H: Light Gray BPB026S: Green
Dimensions (H x W x D) in. (cm)	BPA022A: 2.4 x 3.6 x 0.82 (6.1 x 9.3 x 2.1) BPB022S, BPB024S, BPB026S: 1.2 x 3.1 x 1.8 (3.1 x 7.9 x 4.7) BPB044S, BPB044H: 1.2 x 5.7 x 1.8 (3.1 x 14.5 x 4.7) BPD066H, BPD088H: 6.3 x 2.0 x 2.1 (16.0 x 5.1 x 5.3) BPB088S: 2.0 x 6.9 x 2.0 (5.1 x 17.6 x 5.1) BPC088S: 2.0 x 2.0 x 6.9 (5.0 x 4.7 x 14.4)
Weight oz (g)	BPA022A: ~6.1 (172-176) BPB022S, BPB024S, BPB026S: ~ 4.1(111-117) BPB044S, BPB044H: ~ 7.8 (214-222) BPD066H, BPD066H: ~ 12.8 (360-365) BPB088S, BPD088H: ~ 16 (455-457) BPC088S: ~ 14.5 (410-411)

Electrical

Connector Type	5-Pin, 2.0 mm
Output Voltage Range	+6.0 to +8.4 V DC
Output Current (Maximum)	1.6 A DC
Output Power (Max Continuous)	16.8W at 45C
Over Voltage Protection (No Damage)	+18.0 V
Cell Type	Lithium-Ion 18650 battery
Number of Cells	BPB022S, BPB024S, BPB026S: 2 BPB044S, BPB044H: 4 BPD066H: 6 BPB088S, BPC088S, BPD088H: 8
Pack Capacity (mAmp Hour)	BPB022S: 2200 BPB024S, BPB026S: 2600 BPB044S, BPB044H: 4400 BPD066H: 6600 BPB088S, BPC088S, BPD088H: 8800
Charge Current (Maximum, mAmp)	BPB022S, BPB024S, BPB026S, BPB044S, BPB088S, BPC088S: 115 BPB044H, BPD066H, BPD088H: 500

Standards

Hazardous Materials Regulations and Procedures CFR Title 49, Section 173, Subsection 185 EN 300386	FCC Part 15, Subpart B UL 60950 EN 60950 EC 60950	ISA AS/NZS 60950 RoHS Compliant 2002/95/EC
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Touchstone® Li-Ion Battery Specifications

Specifications (Continued)

Typical Hold-Up Hours

Model #	BPB022S	BPB024S	BPB026S	BPB044S	BPB044H	BPD066H	BPB088S	BPC088S	BPD088H	BPA022A
Part #	718003	721944	789699	718005	722841	785170	721192	722842	785171	710476
AH	2.2	2.6	2.6	4.4	4.4	6.6	8.8	8.8	8.8	2.2
TM402G										
<i>Idle</i>	-	-	-	-	-	-	-	-	-	5
<i>1-line off-hook</i>	-	-	-	-	-	-	-	-	-	3
<i>2-lines off-hook</i>	-	-	-	-	-	-	-	-	-	-
TM402P Phase 1 (can have one or two batteries installed. Double the listed times when two batteries are installed).										
<i>Idle</i>	-	-	-	-	-	-	-	-	-	10
<i>1-line off-hook</i>	-	-	-	-	-	-	-	-	-	6
TM402P Phase 2 (can have one or two batteries installed. Double the listed times when two batteries are installed).										
<i>Idle</i>	-	-	-	-	-	-	-	-	-	8
<i>1-line off-hook</i>	-	-	-	-	-	-	-	-	-	4
TM502										
<i>Idle</i>	5	5	5	10	10	-	-	-	-	-
<i>1-line off-hook</i>	3	3	3	6	6	-	-	-	-	-
<i>2-lines off-hook</i>	2	2	2	4	4	-	-	-	-	-
TM504										
<i>Idle</i>	4	4	4	8	-	-	16	-	-	-
<i>1-line off-hook</i>	3	3	3	6	-	-	12	-	-	-
<i>2-lines off-hook</i>	2	2	2	4	-	-	8	-	-	-
<i>3-lines off-hook</i>	1.75	1.75	1.75	3.5	-	-	7.5	-	-	-
<i>4-lines off-hook</i>	1.5	1.5	1.5	3	-	-	7	-	-	-
WTM552										
<i>Idle</i>	5	5	5	10	-	-	-	-	-	-
<i>1-line off-hook</i>	3	3	3	6	-	-	-	-	-	-
<i>2-lines off-hook</i>	2	2	2	4	-	-	-	-	-	-
TM602v2										
<i>Idle</i>	8	8	8	12	12	-	24	-	-	-
<i>1-line off-hook</i>	5	5	5	8	8	-	16	-	-	-
<i>2-lines off-hook</i>	4	4	4	6	6	-	13	-	-	-
DTM602										
<i>Idle</i>	4	5	5	8	8	-	-	-	-	-
<i>1-line off-hook</i>	2.5	3	3	5	5	-	-	-	-	-
<i>2-lines off-hook</i>	1.5	2	2	4	4	-	-	-	-	-
TM604										
<i>Idle</i>	6	7	7	12	12	-	24	-	-	-
<i>1-line off-hook</i>	4	5	5	8	8	-	16	-	-	-
<i>2-lines off-hook</i>	3.5	4.25	4.25	7	7	-	14	-	-	-
<i>3-lines off-hook</i>	3	3.5	3.5	6	6	-	12	-	-	-
<i>4-lines off-hook</i>	2.5	3	3	5	5	-	10	-	-	-
WTM652										
<i>Idle</i>	6	8	8	12	12	-	24	-	-	-
<i>1-line off-hook</i>	3.75	5	5	7.75	7.75	-	15.25	-	-	-
<i>2-lines off-hook</i>	3	4	4	6	6	-	12	-	-	-
TM608										
<i>Idle</i>	-	-	-	8	8	-	-	16	-	-
<i>1-line off-hook</i>	-	-	-	6	6	-	-	12	-	-
<i>2-lines off-hook</i>	-	-	-	4	4	-	-	8	-	-
<i>3-lines off-hook</i>	-	-	-	3.25	3.5	-	-	7	-	-
<i>4-lines off-hook</i>	-	-	-	2.75	3	-	-	5.5	-	-

Specifications (Continued)

Typical Hold-Up Hours (Continued)

Model #	BPB022S	BPB024S	BPB026S	BPB044S	BPB044H	BPD066H	BPB088S	BPC088S	BPD088H	BPA022A
Part #	718003	721944	789699	718005	722841	785170	721192	722842	785171	710476
AH	2.2	2.6	2.6	4.4	4.4	6.6	8.8	8.8	8.8	2.2
TM722										
<i>Idle</i>	4	4	4	8 ¹	8 ²	12	-	-	16	-
<i>1-line off-hook</i>	3.25	3.5	3.5	6.5	6.5	9.75	-	-	13	-
<i>2-lines off-hook</i>	2.75	3	3	5.5	5.5	8.25	-	-	11	-
TM802										
<i>Idle</i>	6	8	8	12	12	18	-	-	24	-
<i>1-line off-hook</i>	4	6	6	8	8	12	-	-	16	-
<i>2-lines off-hook</i>	3	4	4	6	6	10	-	-	14	-
TM822										
<i>Idle</i>	6	8	8	12	12	18	-	-	24	-
<i>1-line off-hook</i>	4	6	6	8	8	12	-	-	16	-
<i>2-lines off-hook</i>	3	4	4	6	6	10	-	-	14	-
TM822										
<i>Idle</i>	6	8	8	12	12	18	-	-	24	-
<i>1-line off-hook</i>	4	6	6	8	8	12	-	-	16	-
<i>2-lines off-hook</i>	3.5	3.5	3.5	7	7	10	-	-	14	-
<i>3-lines off-hook</i>	3	3	3	6	6	8	-	-	12	-
<i>4-lines off-hook</i>	2.5	2.5	2.5	5	5	6	-	-	10	-
TG852										
<i>Idle</i>	6	8	8	12	12	18	-	-	-	-
<i>1-line off-hook</i>	4	6	6	8	8	12	-	-	-	-
<i>2-lines off-hook</i>	3	4	4	6	6	10	-	-	-	-
TG862										
<i>Idle</i>	6	8	8	12	12	-	-	-	-	-
<i>1-line off-hook</i>	4	6	6	8	8	-	-	-	-	-
<i>2-lines off-hook</i>	3	4	4	6	6	-	-	-	-	-

Notes:

1. 718005 will function in TM722 but will only charge at the standard rate.
2. 722841 is high charge 4-cell pack intended for TM722; charges standard rate in other models.
3. On loss of AC power, E-MTA units shut down data services (configurable; default 15 minutes).
4. "-" indicates battery not applicable or supported on this E-MTA model.

Touchstone® Li-Ion Battery Specifications

Ordering Information

Model Number	Part Number	Description
BPA022A	710476	Touchstone Li-Ion Battery Pack, 3-Cell, 12.6V, 2200 mAH, Standard Charge, Order in Multiples of 10
BPB022S	718003	Touchstone Li-Ion Battery Pack, 2-Cell, 8.4V, 2200 mAH, Standard Charge, Order in Multiples of 10
BPB024S	721944	Touchstone Li-Ion Battery Pack, 2-Cell, 8.4V, 2600 mAH, Standard Charge, Order in Multiples of 10
BPB026S	789699	Touchstone Li-ion Battery Pack, 2-Cell, 8.4 V, 2600 mAH, Standard Charge, Order in Multiples of 10
BPB044S	718005	Touchstone Li-Ion Battery Pack, 4-Cell, 8.4V, 4400 mAH, Standard Charge, Order in Multiples of 10
BPB044H	722841	Touchstone Li-Ion Battery Pack, 4-Cell, 8.4V, 4400 mAH, High Charge, Order in Multiples of 10
BPD066H	785170	Touchstone Li-Ion Battery Pack, 6-Cell, 8.4V, 6600 mAH, High Charge, Order in Multiples of 10
BPB088S	721192	Touchstone Li-Ion Battery Pack, 8-Cell, 8.4V, 8800 mAH, Standard Charge, Order in Multiples of 10
BPC088S	722842	Touchstone Li-Ion Battery Pack, 8-Cell, 8.4V, 8800 mAH, Standard Charge, Order in Multiples of 10
BPD088H	785171	Touchstone Li-Ion Battery Pack, 8-Cell, 8.4V, 8800 mAH, High Charge, Order in Multiples of 10

Specifications are subject to change without notice.

The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice. ARRIS, the ARRIS logo, Auspice®, BigBand Networks®, BigBand Networks and Design®, BME®, BME 50®, BMR®, BMR100®, BMR1200®, C3™, C4®, C4c™, C-COR®, CHP Max5000®, ConvergeMedia™, Cornerstone®, CORWave™, CXM™, D5®, Digicon®, E6000™, ENCORE®, EventAssure™, Flex Max®, FTMax™, HEMI®, MONARCH®, MOXI®, n5®, nABLE®, nVision®, OpsLogic®, OpsLogic® Service Visibility Portal™, Opti Max™, PLEXIS®, PowerSense™, QUARTET®, Rateshaping®, Regal®, ServAssure™, Service Visibility Portal™, TeleWire Supply®, TLX®, Touchstone®, Trans Max™, VIPr™, VSM™, and WorkAssure™ are all trademarks of ARRIS Group, Inc. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and the names of their products. ARRIS disclaims proprietary interest in the marks and names of others. © Copyright 2013 ARRIS Group, Inc. All rights reserved. Reproduction in any manner whatsoever without the express written permission of ARRIS Group, Inc. is strictly forbidden. For more information, contact ARRIS.



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