PRODUCT CATALOG

aspilsan®


aspilsan®

Türkiye and Europe

FIRST 18650 CYLINDRICAL LI-ION BATTERY

PRODUCTION FACILITY

Safe Energy

aspilsan®
Energy of Technology

ASPİLSAN Enerji Sanayi ve Ticaret A.Ş. was founded in Kayseri Organized Industrial Zone in 1981.
ASPİLSAN Enerji; like ASELSAN, ROKETSAN, Turkish Aerospace, HAVELSAN and İŞBİR Elektrik, is a company of Turkish Armed Forces Foundation (TAFF) and 98.52% of its shares are owned by TAFF.
ASPİLSAN Enerji started the production of radio batteries in 1985, and the production of aircraft and helicopter batteries in Ni-Cd chemistry in 1993. Until 1996, ASPİLSAN Enerji produced Ni-Cd rechargable cells with Varta license.
The main activities and solutions of ASPİLSAN Enerji are;

- INR18650 Lithium-Ion Rechargeable Cylindrical Battery Production
- Different Chemistry Cells' Sale
- Radio and Weapon Battery Systems
- Telecommunication Batteries
- Medical Battery Systems
- Mini ESS and Energy Storage Systems
- Aviation Battery Systems and Battery Batteries (Lithium-Ion and Nickel Cadmium)
- Marine Battery Systems
- Railway Battery Systems
- Robotics and Autonomous Battery Systems
- Engineering and Test Services
- Card Typesetting Service

ASPİLSAN Enerji, the first and only company in Türkiye to produce aircraft/helicopter battery systems in Ni-Cd chemistry, is also the largest battery manufacturer in the country.
The four R&D centers are located in Kayseri, Ankara, and Istanbul. Battery Systems R&D Center in Kayseri; Electronic R&D Center in Ankara; Cell Design and Development R&D Center in Ankara; and Fuel Cells and Hydrogen R&D Center in Istanbul R&D Center.
ASPİLSAN Enerji offers all our solutions and services with the following quality management certifications;

- IRIS ISO 22163: International Railway Industry Standard
- AQAP 2110: NATO Quality Assurance Requirement for Design, Development, and Production
- ISO 9001:2015: International Organization for Standardization's 9001 Standard for Quality Management Systems
- ISO 14001: Environmental Management Systems
- ISO 45001: Occupational Health and Safety Management

ASPİLSAN Enerji has started mass production of its Li-Ion Rechargable Cylindrical Cell ASPİLSAN INR18650A28 in June 2022 and it is the first company in Europe to conduct mass production of li-ion 18650 cells. The design, development and production of the cell is completely domestic and national. All intellectual and industrial property rights of the cell belong to ASPİLSAN Enerji.
The chemistry and composition of ASPİLSAN INR18650A28 is nickel-rich lithium-nickel-manganese-cobalt oxide. Its dimension is 18650; its capacity is 2800 mAh and its voltage is 3.65V. Compared to similar capacity cells of well-known certified brands, ASPİLSAN Enerji's lithium-ion 18650 cell has proved to have a higher discharge rate and the ability to function at lower temperatures.

The annual production capacity of the lithium-ion cell production plant is 220 MWh. The production line is capable of producing 21,600,000 cells per year. The plant infrastructure and production line are not designed and constructed solely to produce cells in NMC chemistry but also 18650 and 21700 lithium ion cells in NCA, LFP, LCO, LMO and LTO chemistries. The safety and performance certifications received for ASPİLSAN INR18650A28 cell are as follows;

- Undot38.3: Standard Containing Safety Test for International Air Transport
- IEC 62133-2: Standard Containing User Electronics Safety Testing
- IEC 61960-3: Standard Containing User Electronics Performance Testing
- UL 1642: Standard for User Electronics Safety Testing (US Market)

The lithium-ion cells produced by ASPİLSAN Enerji can be used in radio systems, jammers, robotic and weapon systems, power tools, medical batteries, hybrid vehicles, smart textile product batteries, electronic bikes and scooters, forklifts, UPS systems, and energy storage systems. In addition to the existing product portfolio, ASPİLSAN Enerji designs and develops project-based products to meet customers' needs.

Lithium Ion Rechargeable Cell

ASPİLSAN INR18650A28 Lithium Ion Rechargeable Cell

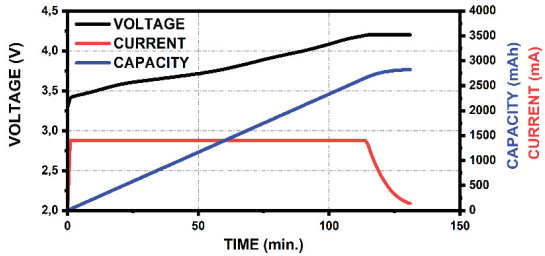
NSN Code: 6140270720730

Physical Characteristics 	**Diameter**	18.30 +0.10 / - 0.20 mm
	Height	65 ± 0.20 mm
	Weight	44.5 ± 0.7 g
Discharge Capacity	**Nominal**	2800mAh
	Minimum	2700mAh
Nominal Voltage	3.65V	
Energy Density (Gravimetric – Volumetric)	230 Wh/kg - 605 Wh/L	
Charge	**Standard Charge Current**	1400mA
	Max. Charge Current	4000mA (10˚C - 50˚C)
	End of Charge Voltage	4.2V
	Cut–off Current	140mA
Discharge	**Standard Discharge Current**	560mA
	Max. Continuous Discharge Current	14000mA
	Max. Continuous Discharge Current (SOC > 70% Cut-off temperature 80˚C)	25000mA
	End Voltage	2.50V

Initial AC Impedance (ACIR)		*≤ 20mΩ*
Operating Temperature (Cut-off tempature 80˚C)	**Charge**	0˚C / 60˚C
	Discharge	-30˚C / 60˚C
Storage Temperature Shipping State 30% SOC	**Within 1 Month**	-30˚C / 60˚C
	1-3 Month	-30˚C / 45˚C
	3-12 Month	-30˚C / 25˚C

Charge Characterisitcs

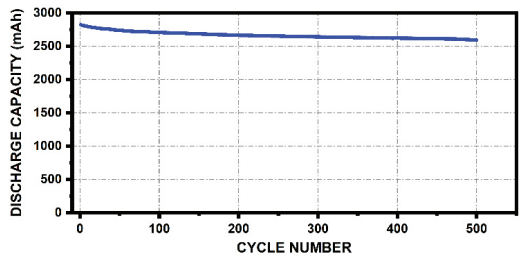
Charge: 0.5C CC-CV at 25˚C (4.2V, cut-off 140mA)



Cycle Life

Charge: 0.5C CC-CV at 25˚C (4.2V, cut-off 140mA)

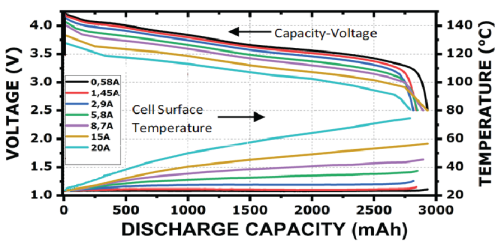
Discharge: 1C CC at 25˚C (2.5V)



C-rate Dependency of Discharge Performance

Charge: 0.5C CC-CV at 25˚C (4.2V, cut-off 140mA)

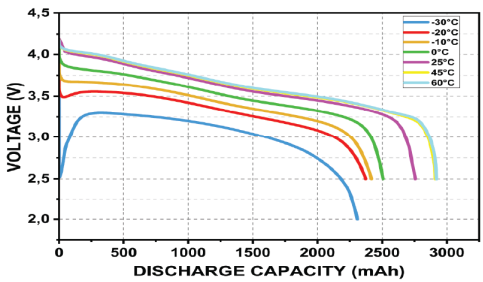
Discharge: CC at 25˚C (2.5V)



Temperature Dependency of Discharge Performance

Charge: 0.5C CC-CV at 25˚C (4.2V, cut-off 140mA)

Discharge: CC 0.2C for each temp. except -30˚C (1C)



Weapon System Batteries

OMTAS

In this product ASPİLSAN INR18650A28 lithium ion rechargeable battery has been used.

Product Information		
Place of Use	Medium-Range Anti-Tank Missile System (OMTAS)	
Stock Number	*152-0001-0187*	
Nominal Voltage	2 x 14,4 V	
Nominal Capacity	2 x 16,5 Ah	
Cycle Life	Charge	16,8V / 3,3A with charging current
	Discharge	>300 cycles at 16.5 A up to 10V

Stinger Battery

Product Information	
Place of Use	STINGER Low Level Air Defense System
Stock Number	152-0001-0038
Nominal Voltage	2x 20,4 V – 1 x 40,8 V
Nominal Capacity	1,7 Ah

TOW Battery

Product Information		
Place of Use	Anti-tank Missile System	
Stock Number	152-0001-0056	
Battery Output Voltage	(1-2) 24,0V - (3-4)50,4V- (5,6) 50,4V	
Nominal Capacity	(1-2) 4Ah - (3-4) 1,3Ah - (5,6) 1,3Ah	
Max Discharge Current	(1-2) 30A - (3-4) 10A - (5,6) 10A	
Charge (20±5˚C)	Current	400 mA - 130 mA
	Time	15 hours - 8 hours
Cycle Life	Up to 1000 cycles	
Nominal Voltage	V- 2 x 50,4 V	
Capacity	Ah – 1,2 Ah	
Typical	4,6 Ah – 1,5 Ah	
Weight	9,8± 0,3 kg	
Width	393 mm	
Heigth	122 mm	
Length	181 mm	
Operating Temprature Range	Charge	-20 ˚C to +50˚C
	Discharge	
	Recommended	0 ˚C to +30˚C

System Batteries

BB-1923

Usage Platform

- Military Systems
- Communication
- Robotics
- Sensors
- Jammer Systems

Product Information	BB-1923 Li-Ion Battery	
Stock Number	152-0001-0267	
Nominal Voltage	28.8V	
Battery Output Voltage	20V-33.6V	
Nominal Capacity	42 Ah Discharge 8.4A until 20V at 25˚C 1209Wh	
Max Discharge Current	26A (25˚C)	
Max Continuous Discharge Current	26A (25˚C)	
Charge(20±5˚C)	33,6V / 8A until charge current falls below 750mA. (Max. 6 Hours)	
Cycle Life	≥500cycle (0,2C discharge until %80 capacity) In case of battery is used within the recommended temperature ranges and maintenance charge is applied	
Connector (Power)	AMPHENOL RTS712N8S03	
Connector Diagram	+(ABCD)/-(JHGF)/SMBus Data (M)/SMBus Clock (L)	
Case Material	ABS	
Width	108.3 mm (± 0,5mm)	
Length	233 mm (± 0,8mm)	
Height	183 mm (± 0,5mm)	
Weight	6250 gr (± 100)	
Operating Temperature Range	Charge	0˚C ile + 45˚C
	Discharge	-30˚C ile + 50˚C
Storage Temperature Range	0˚C to 20˚C (1 Year) - -5˚C to 25˚C (1 and 3 Mont) In case of maintenance charging in 6-month periods	

BB-1920

Usage Platform

- Military Systems
- Communication
- Robotics
- Sensors
- Jammer Systems

Product Information	BB-1920 Li-Ion Battery	
Stock Number	152-0001-0266	
Nominal Voltage	28.8V	
Battery Output Voltage	20V-33.6V	
Nominal Capacity	23,8 Ah (Discharge 4.7A until 20V at 25˚C) 593,28Wh	
Max Discharge Current	22A (25˚C)	
Max Continuous Discharge Current	22A (25˚C)	
Charge(20±5˚C)	33,6V / 8A until charge current falls below 350mA. (Max. 4 Hours)	
Cycle Life	≥500cycle (0,2C discharge until %80 capacity) In case of battery is used within the recommended temperature ranges and maintenance charge is applied	
Connector (Power)	AMPHENOL RTS712N8S03	
Connector Diagram	+(ABD)/-(JHG)/SMBus Data (M)/SMBus Clock (L)	
Case Material	ABS	
Width	67 mm (± 0,5mm)	
Length	227 mm (± 0,8mm)	
Height	158,5 mm (± 0,5mm)	
Weight	3160 gr (± 40)	
Operating Temperature Range	Charge	0˚C ile + 45˚C
	Discharge	-30˚C ile + 50˚C
Storage Temperature Range	0˚C to 20˚C (1 Year) - -5˚C to 25˚C (1 and 3 Mont) In case of maintenance charging in 6-month periods	

BB1919(2B)

Usage Platform

- Military Systems
- Communication
- Robotics
- Sensors
- Jammer Systems

Product Information	
Stock Number	152-0001-0057
Nato Stock Number	NA
Electrical Features	
Nominal Voltage	28,8V
Nominal Capacity	2 x 10,3 Ah
Max Discharge Current	2 x 9A
Standard Discharge Current	2 x 2,040A
Instant Discharge Current	18A (5 sec)
Mechanical Features	
Weight (g)	Maks. 2700
Dimensions (mm)	226 x 126 x 62 (± 3)
Colour	Tan
Material	ABS
Environmental Features	
Charge Temperature	0˚C / +45˚C
Discharge Temperature	-30˚C / +60˚C
Storage Temperature	20˚C (1 year) , -5 - 25˚C (1 and 3 month)

BB-2590

Usage Platform
- Military Systems
- Communication
- Robotics
- Sensors
- JJammer Systems
- Air and Marine Systems

(AUV, UUV), ECM, ESM etc.

In this product ASPİLSAN INR18650A28 lithium ion rechargeable battery has been used.

Product Information	BB-2590 Li-ion Battery
Stock Number	152-0001-0006
Nato Stock Number	
Electrical Features	
Nominal Voltage	2 x 14,4V
Nominal Capacity	2 x 6,4Ah 2 x 92,16Wh
Max Discharge Current	6A
End Discharge Voltage	2 x 10V
Pulsed Discharge Current Dimensions	20A (about 13ms)
Mechanical Features	
Weight (g)	1460 ± 20
Dimensions (mm)	62 x 111 x 127 ± 2
Colour	Black
Material	ABS
Environmental Features	
Charge Temperature	0°C / +45°C
Discharge Temperature	-20°C / +60°C
Storage Temperature	20°C (1 year)

BB-2590-U

Product Information	BB-2590 V2.0 Li-Ion Battery (Rev. A)
Type No	**BB-2590**
Stock Number	152-0001-0004
Nato Stock Number	6140-27-065-7485
Electrical Features	
Nominal Voltage	2 x 14,4V
Nominal Capacity	2 x 10,3 Ah 2 x 148,32Wh
Max Discharge Current	10A
End of Discharge Voltage	2 x 10V
Pulsed Discharge Current Dimensions (mm)	18A (5 second)
Mechanical Features	
Weight	Max. 1380
Dimensions	62 x 111 x 127 ± 2
Colour	Tan
Material	ABS
Environmental Features	
Charge Temperature	0˚C - +45˚C
Discharge Temperature	-20˚C - +60˚C
Storage Temperature	20˚C (1 year)

BB-2590

Product Information	BB-2590 V2.0 Li-Ion Battery Pack	
Stock Number	152-0001-0005	
NATO Stock No	6140-27-065-7485	
Nominal Voltage	2 x 14,4V	
Nominal Capacity	2 x 10,3Ah 2 x 148,32Wh	
Casing Material	Polycarbonate-ABS	
Casing Color	Tan	
Standard Discharge Current	2,040A	
Max Discharge Current	10A	
Pulse Discharge Current	18A (5 Second)	
Standard Charge (20˚C ±5˚C)	For each pack charge with 16,8V / 5,1A until charge current fall below at 150mA (Max. 4h)	
Charge Indicator	5 segment LCD display	
Dimesions (mm)	62 x 111 x 127 ± 2	
Weight (g)	Max. 1380	
Protection	The battery is protected against over-charge, over-discharge, over-temperature and short-circuit.	
Output Contects	Power Connector	BB-2590 Female Connector
	Data (SMBus V1.1)	4 pcs gold-plated surface contacts (2 pcs for BAT.A and 2 pcs for BAT.B)
Self Discharge	Max. 15mAh/day	
Cycle Life	≥500 cycle (until %80 capacity)	
Storage Temperature	<20˚C (1 year)	
Operating Temperature Range	Charge	10˚C - + 45˚C
	Discharge	-20˚C - + 60˚C

BB-2847/U

Technical Features	BB 2847 Li-Ion 7.2V 10.3Ah
Model Number	BBL-042
Stock Number	152-0001-0010
Electrical Features	
Nominal Voltage	7,2V
Nominal Capacity	10.3Ah
Standard Discharge Voltage	2,06A
Max Discharge Voltage	5A (20 ˚C ±5 ˚C'de) / *(at 20 ˚C ±5 ˚C)*
Standard Charge (at 20 ˚C ±5 ˚C)	Until the charging current drops to 150mA at 8.4V/2.7A. (Max. 5h)
Charge Indicator	LCD bar display with five stages (20 percent intervals). (The first bar on the indicator will flash to warn the user if the capacity number is less than 5%.)
Mechanical Features	
Dimensions	38,60 x 65,35 x 95,20 ± 0,30mm
Weight	330 ±10gr (approx)
Protection	Overcharge, discharge, high current, temperature, and short circuit protection are all built into the battery.
Output Terminal	MIL-B-18E. Flat contact and socket. Metal parts gold plated
Environmental Features	
Charge	Between +10˚C and +45˚C
Discharge	Between -20˚C and +60˚C
Charge Temperature	3h with 8,4V±0,05V/ 5000mA
Standby	1h - 4h
Discharge Temperature	Discharge with 2060mA until 5,0V 500 Cycle
Storage Temperature	Recommended , 21˚C Permitted , 60˚C (28 days maximum)
Capacity Loss	
Body Material	ABS
Body Colour	Khaki Green
Label Information	Name of the manufacturer, location of the manufacturer, polarity, serial number, charging information, warning/ warning information and indications, capacity indicator information, nominal capacity, and voltage information are all provided by the manufacturer.

BB-2847/U

Technical Features	BB 2847 Li-Ion 7.2V 7.5Ah
Model Number	BBL-067
Stock Number	152-0001-0119
Electrical Features	
Nominal Voltage	7,2V
Nominal Capacity	7,5Ah
Standard Discharge Voltage	1,5A
Max Discharge Voltage	7A (20 ˚C ±5 ˚C'de)
Standard Charge (at 20 ˚C ±5 ˚C)	Until the charging current drops to 150mA at 8.4V/2.7A. (Max. 5h)
Charge Indicator	LCD bar display with five stages (20 percent intervals). (The first bar on the indicator will flash to warn the user if the capacity number is less than 5%.)
Mechanical Features	
Dimensions	38,60 x 65,35 x 95,20 ± 0,30mm
Weight	330 ±10gr (approx)
Protection	Overcharge, discharge, high current, temperature, and short circuit protection are all built into the battery.
Output Termianl	MIL-B-18E. Flat contact and socket. Metal parts gold plated
Environmental Features	
Charge	Between +10˚C and +45˚C
Discharge	Between -20˚C and +60˚C
Charge Temperature	3h with 8,4V±0,05V/ 3700mA
Standby	1h-4h
Discharge Temperature	Discharge with 1500mA until 5,5V 500 Cycle
Storage Temperature	Recommended , 21˚C Permitted , 60˚C (28 days maximum)
Capacity Loss	
Body Material	ABS
Body Colour	Khaki Green
Label Information	Name of the manufacturer, location of the manufacturer, polarity, serial number, charging information, warning/warning information and indications, capacity indicator information, nominal capacity, and voltage information are all provided by the manufacturer.

BT-6434
Li-mNO_2

Product Information		
Cell Chemistry		Lithium Manganese Dioxide (Li-mNO_2)
Place of Use		Military and Civilian Handheld Radios, Remote Sensing Devices, Control Devices, Remote Control Devices, Emergency Radio PRC-434G
Stock Number		152 -0001-0058
Nominal Voltage		12 Volt
Max Discharge Current	**Continuous**	1500mA
	Pulsed	3500mA
Capacity	**Nominal ā (1)**	(100 ohm with continuous discharge)
	Nominal ā (2)	(150mA constant current and continuous discharge)
	Nominal ā (3)	4000 Pulsed (3/27 second pulses with 900 mA)
	Nominal ā (4)	2740 Pulsed (3/27 second pulses with 1200 mA)
Dimensions(mm) (±0,50)	**Width**	37,8
	Length	73.8
	Height	42
Weight (g)		163±2 (approx)

Cenker

Product Information		
Stock No		152-0001-0077
Nominal Voltage		14,4V
Operating Voltage Range		
Norminal Capacity		6,8Ah / 97,9Wh
Maximum Discharge Current		5A
Continuous Discharge Current		
Width x Length x Height		9,80mm x 175,65mm x 29,80mm
Weight		620 ± 30gr
Operating Temperature Range	Charge	0 ˚C / 45 ˚C
	Discharge	-20 ˚C / 60 ˚C
Standard Charge (23 ±2˚C)		16.8V/3.4A, charging current
State of Charge Indicator		5 steps, 20%/ step
Protection		Overcharge, overdischarge, overcurrent, short circuit, high temperature, low temperature
Cycle Life		≥ 400 Cycles (Capacity ≥ 80%)
Case Material		PC (Polycarbonate)
Dimensions(mm (±0,50)	Width	93,6
	Lenght	181,5
	Height	35,8

Mini Thermal Weapon Scope

Product Name	Mini Thermal Weapon Scope Battery V3.0	Mini Thermal Weapon Scope Battery V2.0
Place of Use	Mini Thermal Weapon Scope	Mini Thermal Weapon Scope
Stock Number	152-0001-0050	152-0001-0049
Nominal Voltage	7,2 V	7,2 V
Nominal Capacity	2 Ah	1,62 Ah
Dimensions Width x Length x Height	39,5 x 21,3 x 53,5 ± 0,30mm	39,5 x 21,3 x 53,5 ± 0,30mm
Weight	80±5 (approx)	80±5 (approx)
Max Discharge Voltage	2 A	1,62 A

Mini Thermal Weapon Scope 3250mAh

Product Information	Mini Thermal Handheld Binoculars 3250mAh	
Type No	BBL-014A	
Stock Number	152-0001-0052	
Cell Quantity	2	
Nominal Voltage	7,4V	
Nominal Capacity	3250mAh (discharge with 0.2CA in the temperature range of 0˚C to + 40˚C)	
Max Discharge Current	1,625A	
Charge (20±5˚C)	8.4V / 1.625A until the charging current drops to 65mA (max. 4h)	
Protection	The battery is protected against overcharge, overdischarge, overcurrent and short circuit.	
Cycle Life	At 20˚C±5˚C, - Charging: *8.4V / 1.625A until the charging current drops to 65mA,* - Discharge: *1.625A up to 5V,*	
Case Material	ABS - Black	
Width	39,5 mm	
Length	71 mm	
Height	21,3 ± 1 mm	
Weight	110 ± 5gr (approx)	
Operating Temperature Range	Charge	10˚C to + 45˚C
	Discharge	-20˚C to + 60˚C
Storage Temperature Range	-20˚C to + 50˚C	

Radio Batteries

BB-4011 NI-MH ASP

Usage Platform

4011 - 4014 Series Handheld Radio

Product Information		4011 - 4014 Type Fast Charging Nickel-Metal Hydride Battery
Type		BB 4011 NI-MH ASP
Stock Number		152-0001-0013
Nato Stock Number		6140 27 005 8481
Nominal Voltage		7.2V
Nominal Capacity		2300mAh
Charging Current and Period		230mA / 15 Hours or 460mA / 8 Hours or 1200mA / 95 Minutes
Deşarj Akımı		**Standard -** 460mA
		Max. - 2300mA
Operating Temperature Range	Charge	Between 0˚C and +45˚C
	Discharge	Between -20˚C and +50˚C (%95 relative humidity)
Storage Temperature	Recomended	Between 0˚C and +30˚C
	Permitted	Between -20˚C and +30˚C
Colour		Black
Lifetime		500 cyles
Width		39,5 ± 0,5mm
Length		64,0 ± 0,5mm
Height		153,0 ± 0,5mm
Weight		290gr (approx)
Body Material		ABS plastic

BB-4400 LI-ION 2000MAH 7.5V AU

Product Information	4400 Li-Ion Battery	
Type	BB 4400 LI-ION 2000MAH 7.5V AU	
Stock Number	152-0001-0015	
Nominal Voltage	7.5V	
Operating Voltage	5V-8,4V	
Nominal Capacity	2Ah	
Max. Discharge	3,25A	
Charge(20±5)	8,4V-1,4Ah	
Protection	(Over-charge, over-discharge, over-current and short-circuit)	
Cycle Life	(Charge with 8,4V – 1,4A, until the charging current and discharge with 3,25A until the battery voltage decreases to 5V) (20±5˚C)	Minimum 300 cycles in accordance with the charge-discharge profile given below. (Capacity ≥ %60)
Case Material	ABS	
Operating Temperature Range	Charge +10˚ C to + 45 ˚C	
	Discharge -20 ˚C to + 60 ˚C	
	Storage < 35 ˚C	

BB-4400 LI-ION 2500MAH

Product Information	BB-4400 Li-ion 2500 mAh
Type	BB-4725
Stock Number	152-0001-0017
Nominal Voltage	7.5V
Nominal Capacity	2500 mAh
Minimum Capacity	2650mAh
Dimensions	22.8 x 52.3 x 112.8mm (Without clip)
Weight (gr)	138 ±10 (Without clip)
Standard Charge	3 hours with 8.4V / 1.855 A (Constant Voltage, Constant Current)
Discharge Protection Current	3 ~5 A
End of Discharge Voltage	5.5 V
Protection	Against battery overcharge, overdischarge, overcurrent and short circuit must be preserved. There will be a battery and cell protection structure.
Cycle Life	In accordance with the charge-discharge profile given below, the battery is 60% Minimum 500 cycles until it reaches capacity. (Charging up to 50mA with 8.4V/1.855A, discharging up to 5.5V with 2.65A at 20±5˚C)
Case Material	LEXAN EXL-9330 / BLACK
Operating Temperature Range	**Charge 0˚C to + 45˚C** **Discharge -20˚C to + 60˚C** **Storage < 35 ˚C**

BB-4400 LI-ION 3250MAH 7.5V

Product Information	4400 Li-Ion Battery	
Type	BB-029C	
Stock Number	152-0001-0023	
Nominal Voltage	7.5V	
Operating Voltage	6V-8,4V	
Nominal Capacity	3250mAh ±50mAh Cutoff voltage≤6V	
Max. Discharge	3,25A	
Şarj(20±5˚C) / *Charge(20±5)*	8,4V-1,625A	
Charge cut off current	50mA	
Protection	Over-charge, overdischarge, over-current and short-circuit	
Cycle Life	(Charge with 8,4V – 1,625A, until the charging current and discharge with 3,25A until the battery voltage decreases to 6V) (20±5˚C)	Minimum 300 cycles in accordance with the charge-discharge profile given below. (Capacity ≥ %60)
Case Material	LEXAN EXL-9339 / Black	
Width	23,4mm	
Length	53,35mm	
Height	112,1mm	
Weight	138 ±10 g (approx.)	
Operating Temperature Range	Charge +10˚ C to + 45 ˚C Discharge -20 ˚C to + 60 ˚C Storage < 35 ˚C	

BB-4400 LI-ION 2500MAH

Product Information	BB-4400 Li-ion 2500 mAh
Type	BB-4725
Stock Number	152-0001-0017
Nominal Voltage	7.5V
Nominal Capacity Minimum Capacity	2500 mAh 2650mAh
Dimensions	22.8 x 52.3 x 112.8mm (Without clip)
Weight (gr)	138 ±10 (Without clip)
Standard Charge	3 hours with 8.4V / 1.855 A (Constant Voltage, Constant Current)
Discharge Protection Current	3 ~5 A
End of Discharge Voltage	5.5 V
Protection	Against battery overcharge, overdischarge, overcurrent and short circuit must be preserved. There will be a battery and cell protection structure.
Cycle Life	In accordance with the charge-discharge profile given below, the battery is 60% Minimum 500 cycles until it reaches capacity. (Charging up to 50mA with 8.4V/1.855A, discharging up to 5.5V with 2.65A at 20±5˚C)
Case Material	LEXAN EXL-9330 / BLACK
Operating Temperature Range	Charge 0˚C ile + 45˚C Discharge -20˚C ile + 60˚C Storage < 35 ˚C

BB-4400 LI-ION 2800MAH

In this product ASPİLSAN INR18650A28 lithium ion rechargeable battery has been used.

Product Information	4400 Li-Ion Battery	
Type	BB-029C	
Stock Number	152-0001-0196 (Without clip)	
Nominal Voltage	7.5V	
Operating Voltage	6V-8,4V	
Nominal Capacity	2,65Ah	
Max. Discharge	3,25A	
Şarj(20±5˚C) / *Charge(20±5)*	8,4V-1,4Ah	
Protection	(Over-charge, overdischarge, over-current and short-circuit)	
Cycle Life	(Charge with 8,4V – 1,85A, until the charging current and discharge with 3,25A until the battery voltage	Minimum 300 cycles in accordance with the charge-discharge profile given below. (Capacity ≥ %60)
Case Material	LEXAN EXL-9339 / Black	
Width	23,4mm	
Length	53,35mm	
Height	112,1mm	
Weight	136 ±10 g (approx)	
Operating Temperature Range	Charge 0˚ C ile + 45 ˚C	
	Discharge -20 ˚C ile + 60 ˚C	
	Storage < 35 ˚C	

Chargers

BB-2590 Dual Charger

Product Information	
Product Name	BB-2590 Dual Charger
Model Number	ASP LISC 016
Stock Number	152-0002-0029
Inout Voltage	220V AC ±%10 50Hz ±%10
Output Voltage	4 x 16.8V
Max Output Current	4 x 1,7A
Charging Method	CC-CV
Dimensions	210x170x90mm
Protection Features	Reverse Connection and Short Circuit Protection
Operating Temperature Range	0˚C / 40˚C
Storage Temperature Range	-40˚C / 85˚C
Charge Status Indicator	Red in charging mode with constant current until the voltage reaches 16.8V, constant voltage after reaching 16.8V LED status indicator in yellow for about 4 hours in mode and green after the charge is completed.
Body Material	ABS
Weight	1000±15 gr

BB-2590 Single Charger

Product Name	BB-2590 CH_EN 2x 16,8V / 1,7A Charger
Stock Number	152-0002-0006
Rechargeable Battery Type	Lithium Ion
Input Voltage	220 ± 20V AC 50Hz
Output Voltage	2 x 16,8VDC
Max Output Current	2 x 1,7A
Dimensions (mm) Width x Length x Height	80 ± 1 x 134 ± 1 x 45 ± 1
Weight (g)	540 (Approx.)

BB-2847 Charger

Product Name	BB-2847 Li Ion Battery Charger
Stock Number	152-0002-0004
Input Voltage	220V ± 20V AC 50 Hz
Output Voltage	8.4V DC
Max Output Current	2.7A
Dimensions (mm) Width x Length x Height	67 x 108 x 48.2
Weight (g)	225 (approx.)

Mini Thermal Binocular Battery Charger – Dual

Product Name	Mini Thermal Binocular Battery Charger - Dual
Place of use	BBL014 type Li Ion
Stock Number	152-0002-0011
Input Voltage	220 ± 20VAC 50Hz
Output Voltage	2 x 8,4 Volt DC
Maximum Output Current	2 x 1,65A
Dimensions (mm)	70,7

KANGURU Charging Unit

The KANGURU smart battery storage and charging cabinet, developed for our defense industry through the efforts of ASPİLSAN Enerji engineers, has been awarded a Utility Model Certificate by the Turkish Patent and Trademark Office. KANGURU has the ability to charge military batteries multiple times as required.

Nickel Cadmium Battery Cells

FP 8H1C

Usage Platform:
SIKORSKY
BLACKHAWK

Product Information		FP8H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Type		FP8H1C
Stock Number		151-0021-0001
Nato Stock Number		6140 27 005 8070
Nominal Voltage		1.2 Volt
Nominal Capacity		1 CA / 7 Ah
Width		27.0 mm
Lenght		60 mm
Height		108 mm
Weight		400 gr
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 7 A constant current until battery voltage reaches 1,55 V, then additional charge with 1.4 A for 2 hours.
	2	Charge with 1.4 A constant current for 7 hours

FP 15H1C

Usage Platform:

F-4
RF-5
T-38
AB-206
CESSNA 210/310

Product Information		FP15H1C NICKEL CADMIUM AIRCRAFT BATTERY CELL
Type		FP 15H1C
Stock Number		152-0021-0003
Nato Stock Number		6140 27 005 8062 6008 60 20150 (past stock number)
Nominal Voltage		1.2 Volt
Nominal Capacity		1 CA / 15 Ah
Width		28.0 mm
Lenght		59.0 mm
Height		171.5 mm
Weight		650 gr
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 15 A constant current until battery voltage reaches 1,55 V, then additional charge with 3 A for 2 hours
	2	Charge with 3 A constant current for 7 hours

FP 17H1C

Usage Platform

F 16	*T-38*
BLOCK 40/50	*AB-206*
Sikorsky UH-60	*NF-5*
F-4	*RF-5*

Product Information		FP17H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Type		FP 17H1C
Stock Number		151-0021-0005
Nato Stock Number		6140 27 007 9953
Nominal Voltage		1.2 Volt
Nominal Capacity		1 CA / 17 Ah
Width		28.5 mm
Lenght		80 mm
Height		143.5 mm
Weight		690 gr
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 22 A constant current until battery voltage reaches 1,55 V, then additional charge with 3.4 A for 2 hours.
	2	Charge with 2.4 A constant current for 7 hours

FP 22H1C

Usage Platform

Product Information		FP22H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Type		FP 22H1C
Stock Number		152-0021-0006
Nato Stock Number		
Nominal Voltage		1.2 Volt
Nominal Capacity		1 CA / 22 Ah
Width		27 mm
Lenght		80 mm
Height		164.5 mm
Weight		860 gr
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 22 A constant current until battery voltage reaches 1,55 V, then additional charge with 4.4 A for 2 hours.
	2	Charge with 4.4 A constant current for 7 hours

FP 25H1C

Usage Platform
CASA C-212

Product Information		FP25H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Type		FP 25H1C
Stock Number		151-0021-0007
Nato Stock Number		6140 27 005 8067
Nominal Voltage		1.2 Volt
Nominal Capacity		1 CA / 25 Ah
Width		27 mm
Lenght		80.1 mm
Height		208.5 mm
Weight		1100 gr (Approx.)
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 25 A constant current until battery voltage reaches 1,55 V, then additional charge with 5 A for 2 hours
	2	Charge with 5 A constant current for 7 hours

FP 27H1C

Usage Platform
CIVIL AVIATION
C-130
MI-17
MI-8

Product Information		FP27H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Type		FP 27H1C
Stock Number		151-0021-0008
Nato Stock Number		6140 27 005 8066
Nominal Voltage		1.2 Volt
Nominal Kapasite / Nominal Capacity		1 CA / 27 Ah
Width		35.5 mm
Lenght		80 mm
Height		180 mm
Weight		1200 gr
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 27 A constant current until battery voltage reaches 1,55 V, then additional charge with 5.4 A for 2 hours.
	2	Charge with 5.4 A constant current for 7 hours

FP 40H1C

Usage Platform

KT-1T
C-130 (Hercule)
CIT-7
C-160
GIV-4
B-212
T-37
UH-1H
MA-32A
Cessna Challenger
CASA CN-235

Product Information		FP40H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Type		FP 40H1C
Stock Number		152-0021-0009 (60090000006)
Nato Stock Number		6140 27 005 8065
Nominal Voltage		1.2 Volt
Nominal Capacity		1 CA / 40 Ah
Width		35 mm
Lenght		79.1 mm
Height		239 mm
Ağırlık / Weight		1550 gr
Operating Temperature Range		-40˚C to 70˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 40 A constant current until cell voltage reaches 1.55 V, then additional charge with 8 A for 2 hours.
	2	Charge with 8 A constant current for 7 hours

Aviation Batteries

F 20/27H1CM

Usage Platform

MI-17
MI-8

Product Information		F 20/27H1CM NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/27H1CM
Stock Number		152-0003-0003
Nato Stock Number		6140 27 005 8060
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 27 Ah
Width		169 mm
Lenght		480 mm
Height		236 mm
Weight		29 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 27 A constant current until battery voltage reaches 31 V, then additional charge with 5.4 A for 2 hours.
	2	Charge with 5.4 A constant current for 7 hours.

F 20/25H1CTF

Usage Platform

SF-260D
CASA C-212

Product Information		F 20/25H1CTF NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/25H1CTF
Stock Number		152-0003-0008 (60061300250)
Nato Stock Number		6140 27 005 8061
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 25 Ah
Width		197 mm
Lenght		254 mm
Height		224 mm
Weight		24.6 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 25 A constant current until battery voltage reaches 31 V, then additional charge with 5 A for 2 hours.
	2	Charge with 5 A constant current for 7 hours.

ASPF20/27H1C

Usage Platform
Civil Aviation

Product Information		ASPF20/27H1C NICKEL – CADMIUM AIRCRAFT BATTERY
Type		ASPF20/27H1C
Stock Number		152-0003-0015 (60061200275)
Nato Stock Number		
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 27 Ah
Width		247 mm
Lenght		255 mm
Height		201 mm
Ağırlık / Weight		28 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 27 A constant current until battery voltage reaches 31 V, then additional charge with 5.4 A for 7 hours.
	2	Charge with 5.4 A constant current for 7 hours.

F20/40H1CTF

Usage Platform
CASA CN-235

Product Information		F20/40H1CTF NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F20/40H1CTF
Stock Number		152-0003-0010 (60061300400)
Nato Stock Number		6140 27 005 8058
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 40 Ah
Width		247 mm
Lenght		253 mm
Height		262 mm
Weight		36.5 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 40 A constant current until battery voltage reaches 31 V, then additional charge with 8 A for 2 hours.
	2	Charge with 8 A constant current for 7 hours.

F 20/27H1CT

Usage Platform
C-130

Product Information		F20/27 H1CT NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/27H1CT
Stock Number		152-0003-0028
Nato Stock Number		
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 27 Ah
Width		247 mm
Lenght		257 mm
Height		201 mm
Weight		29 kg
Operating Temperature Range		-40˚C ile 71˚C / -40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 27 A constant current until battery voltage reaches 31 V, then additional charge with 5.4 A for 2 hours.
	2	Charge with 5.4 A constant current for 7 hours.

F20/22H1CT

Usage Platform

ANKA / AKSUNGUR UAV

Product Information		F20/22H1C NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F20/22H1CT
Stock Number		1152-0003-0004
Nato Stock Number		
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 22 Ah
Width		165 mm
Lenght		309 mm
Height		180 mm
Weight		21 kg
Operating Temperature Range		-40°C to 71°C
Charge Conditions (+15°C / + 25°C)	1	Charge with 22 A constant current until battery voltage reaches 31 V, then additional charge with 4.4 A for 2 hours.
	2	Charge with 4.4 A constant current for 7 hours.

F20/40H1CT-2 KT-1T

Usage Platform
C-130

Product Information		F20/40H1CT-2 KT-1T NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F20/40H1CT-2 KT-1T
Stock Number		152-0003-0032
Nato Stock Number		
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 40 Ah
Width		247 mm
Lenght		253 mm
Height		262 mm
Weight		36.5 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 40 A constant current until battery voltage reaches 31 V, then additional charge with 8 A for 2 hours.
	2	Charge with 8 A constant current for 7 hours.

F 20/7H1CT4

Usage Platform:
SIKORSKY UH-60

Product Information		F 20/7H1CT4 NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/7H1CT4
Stock Number		152-0003-0009 (60061300070)
Nato Stock Number		6140 27 005 8064
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 7 Ah
Width		142 mm
Lenght		318.5 mm
Height		123.5 mm
Weight		10.5 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 8 A constant current until battery voltage reaches 31 V, then additional charge with 1.6 A for 7 hours.
	2	Charge with 1.6 A constant current for 7 hours.

F 20/12H1CT4

Usage Platform:
F-16 (BLOCK 30)

Product Information		F 20/12H1CT4 NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/12H1CT4
Stock Number		
Nato Stock Number		*
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 12 Ah
Width		211 mm
Lenght		230 mm
Height		162 mm
Weight		13 kg
Operating Temperature Range		-40˚C to 70˚C
Charge Conditions (+15˚C / + 25˚C)	1	Chcurrent until battery voltage reaches 31 V, then additional charge whith 2.4 Afor 2 hours.
	2	Charge with 2.4 A constant current for 7 hours.

F 20/15H1C

Usage Platform:

F-4
T-38
AB-206
NF-5
RF-5

Product Information		F 20/15H1C NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/15H1C
Stock Number		152-0003-0007 (60061200150)
Nato Stock Number		6140 27 005 8062
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 15 Ah
Width		198 mm
Lenght		195 mm
Height		196 mm
Weight		16.3 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 15 A constant current until battery voltage reaches 31 V, then additional charge with 3 A for 2 hours.
	2	Charge with 3 A constant current for 7 hours.

F 20/17H1CT

Usage Platform:
F-16 (BLOCK 40-50)

Product Information		F 20/17H1CT NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/17H1CT
Stock Number		152-0003-0014
Nato Stock Number		-
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 17 Ah
Width		227 mm
Lenght		264 mm
Height		162 mm
Weight		19 kg
Operating Temperature Range		-40˚C to 70˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 17 A constant current until battery voltage reaches 31 V, then additional charge with 3.4 A for 2 hours.
	2	Charge with 3.4 A constant current for 7 hours.

F 20/17H1C-2

Usage Platform:
AB -206

Product Information		F 20/17H1C-2 NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/17H1C-2
Stock Number		152-0003-0016 (60061200171)
Nato Stock Number		-
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 17 Ah
Width		209 mm
Lenght		270 mm
Height		146 mm
Weight		16.7 kg
Operating Temperature Range		-40°C to 70°C
Charge Conditions (+15°C / + 25°C)	1	Charge with 17 A constant current until battery voltage reaches 31 V, then additional charge with 3.4 A for 2 hours.
	2	Charge with 3.4 A constant current for 7 hours.

F20/22H1C

Usage Platform

ANKA / AKSUNGUR UAV

Product Information		F20/22H1C NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F20/22H1C
Stock Number		152-0003-0004
Nato Stock Number		*
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 22 Ah
Width		165 mm
Lenght		309 mm
Height		180 mm
Weight		21 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 22 A constant current until battery voltage reaches 31 V, then additional charge with 4.4 A for 2 hours.
	2	Charge with 4.4 A constant current for 7 hours.

F20/40H1CE1WT (H)

Usage Platform:
COUGAR AS-532
SUPER PUMA

Product Information		F20/40H1CE1WT (H) NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F20/40H1CE1WT (H)
Stock Number		152-0003-0005
Nato Stock Number		6140 27 005 8059
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 40 Ah
Width		210 mm
Lenght		420 mm
Height		267 mm
Weight		38 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 40 A constant current until battery voltage reaches 31 V, then additional charge with 8 A for 2 hours.
	2	Charge with 8 A constant current for 7 hours.

F 19/40H1C

Usage Platform
C130
HERCULES

Product Information		F19/40H1C NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 19/40H1C
Stock Number		152-0003-0012 (60061400400)
Nato Stock Number		6140 27 007 0699
Nominal Voltage		22,5 Volt
Nominal Capacity		1 CA / 40 Ah
Width		247 mm
Lenght		253 mm
Height		262 mm
Weight		35 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 40A constant current until battery voltage reaches 31 V, then additional charge with 8 A for 2 hours.
	2	Charge with 8 A constant current for 7 hours.

F 20/40H1C

Usage Platform:

KT-1T
C-160
GIV-4
B-212
T-37
CIT-7
UH-1H
MA-32A
CESSNA

Product Information		F20/40H1C NICKEL – CADMIUM AIRCRAFT BATTERY
Type		F 20/40H1C
Stock Number		152-0003-0032 (60061200400)
Nato Stock Number		6140 27 005 3805
Nominal Voltage		24 Volt
Nominal Capacity		1 CA / 40 Ah
Width		247 mm
Lenght		253 mm
Height		262 mm
Weight		36.5 kg
Operating Temperature Range		-40˚C to 71˚C
Charge Conditions (+15˚C / + 25˚C)	1	Charge with 40 A constant current until battery voltage reaches 31 V, then additional charge with 8 A for 2 hours.
	2	Charge with 8 A constant current for 7 hours.

Marine Battery Systems

Barbaros Firkateyni Battery (4X5 KRX 145P)

Type		4X5 KRX 145P
Standard and Specification		VG 95238-T39
Cell Type		FIBRE PLATE CELL (KRX 145P)
Nominal Voltage		24 Volt
Nominal Capacity		145 Ah
Maximum Power (kW)		22.5
Dimensions(mm)	**Width**	645 mm
	Lenght	170 mm
	Height	373 mm
Weight (kg)		56

Barbaros Firkateyni Battery (F20/40 H1CT-D2)

Type		F20/40 H1CT-D2
Standard and Specification		VG 95238-T2
Cell Type		FP40H1C-D
Nominal Voltage		24 Volt
Nominal Capacity		40 Ah
Maximum Power (kW)		22.5
Dimensions(mm)	**Width**	554 mm
	Lenght	123 mm
	Height	245 mm
Weight (kg)		37.5

Milgem-S Battery (F20/40 H1CT-D1)

Type		F20/40 H1CT-D1
Standard and Specification		VG 95238-T2
Cell Type		FP40H1C-D
Nominal Voltage		24 Volt
Nominal Capacity		40 Ah
Maximum Power (kW)		22.5
Dimensions(mm)	**Width**	432 mm
	Lenght	244 mm
	Height	166 mm
Weight (kg)		37.5

Rail System Batteries

Rail System Battery

Product Information		
Standards and Qualifications	EN 60077-1:2002, IEC 60623:2001, EN 45545-2:2015, IEC 61373:2010, IEEE 1568:2003, UIC 854-R 1st Edition:1-7-71	
Stock Number	152-0008-0002	
Nominal Voltage	24V DC	
Max. Voltage	32-35V DC (Charge)	
Operating Voltage Range	18-28V DC	
Nominal Capacity	75Ah	
Continous Discharge Current	15A	
Battery Type	Fiber Ni-Cd	
Temperature Sensor Type	PT100	
Max. Discharge Current	75A	
Cycle Life	3000	
Dimensions	462 mm x 487 mm x 332 mm	
Weight	97 kg	
Storage Temperature Range	"+10 °C / +35 °C"	
Operating Temperature Range	Charge	"0°C/+40 °C"
	Discharge	"-20 °C / +50 °C"

KFM 56P

Product Inormation	
Cell Type	KFM 56 P
Nominal Voltage	1.2 V
Nominal Capacity	56 Ah
Dimensions	86 mm x 86 mm x 276 mm
Weight	3.0 kg (Approx.)
Charge Voltage (Float)	1.40 to 1.45 V/Cell
Charge Voltage (Boost)	1.50 to 1.55 V/Cell

KFM 75P

Product Information	
Cell Type	KFH 75 P
Nominal Voltage	1.2 V
Nominal Capacity	75 Ah
Dimensions	86 mm x 86 mm x 312 mm
Weight	3.8 kg (Approx.)
Charge Voltage (Float)	1.40 to 1.45 V/Cell
Charge Voltage (Boost)	1.50 to 1.55 V/Cell

KFM 80P

Product Information	
Cell Type	KFM 80 P
Nominal Voltage	1.2 V
Nominal Capacity	80 Ah
Dimensions	86 mm x 86 mm x 312 mm
Weight	3.5 kg (Approx.)
Charge Voltage (Float)	1.40 to 1.45 V/Cell
Charge Voltage (Boost)	1.50 to 1.55 V/Cell

KFM 105P

Product Information	
Cell Type	KFM 105 P
Nominal Voltage	1.2 V
Nominal Capacity	105 Ah
Dimensions	92 mm x 122 mm x 267 mm
Weight	5.0 kg (Approx.)
Charge Voltage (Float)	1.40 to 1.45 V/Cell
Charge Voltage (Boost)	1.50 to 1.55 V/Cell

KFM 160P

Product Information	
Cell Type	KFM 160 P
Nominal Voltage	1.2 V
Nominal Capacity	160 Ah
Dimensions	87 mm x 166 mm x 339 mm
Weight	7.2 kg (Approx.)
Charge Voltage (Float)	1.40 to 1.45 V/Cell
Charge Voltage (Boost)	1.50 to 1.55 V/Cell

Product Catalog

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