#### **PRODUCT CATALOG**



# aspilsan°



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 98.32% 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-lon 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 ASPILSAN 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



Lithium Ion Rechargeable Cell Product Catalogue

#### **ASPİLSAN INR18650A28** Lithium Ion Rechargeable Cell

NSN Code: 6140270720730

**Physical Characteristics** 





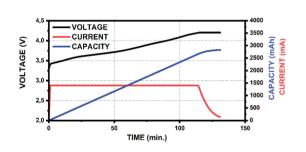
Physical Characteristics	Diameter	18.30 +0.10 / - 0.2	0 mm
	Height	65 ± 0.20 mm	
≤65.2mm ≤18.4mm	Weight	44.5 ± 0.7 g	
	Nominal	2800mAh	
Discharge Capacity	Minimum	2700mAh	
Nominal Voltage	3.65V		
Energy Density (Gravimetric – Volumetric)	230 Wh/kg - 605 Wh/L		
	Standard Charge Current		1400mA
Charge	Max. Charge Current		4000mA (10°C - 50°C)
	End of Charge Voltage		4.2V
	Cut-off Current		140mA
	Standard Discharge Current		560mA
	Max. Continuous Discharge (	Current	14000mA
Discharge	Max. Continuous Discharge (SOC > 70% Cut-off temperate		25000mA
	End Voltage		2.50V

Lithium Ion Rechargeable Cell Product Catalogue

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** 

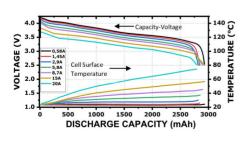
Charge: 0.5C CC-CV at 25°C (4.2V, cut-off 140mA)



C-rate Dependency of Discharge Performance

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

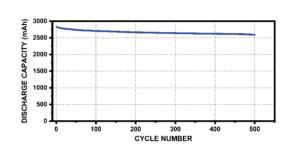
Discharge: CC at 25°C (2.5V)



Cycle Life

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

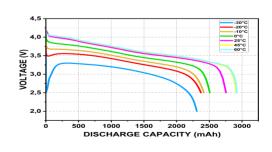
Discharge: 1C CC at 25°C (2.5V)



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



Weapon System Batteries Product Catalogue

#### **OMTAS**

In this product ASPILSAN 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	
	Charge	16,8V / 3,3A with charging current
Cycle Life	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 – 1x 40,8 V
Nominal Capacity	1,7 Ah

# **TOW Battery**



Product Information			
Place of Use	Anti-tank Missile System		
Stock Number	152-0001-0056	152-0001-0056	
Battery Output Voltage	(1-2) 24,0V - (3-4)	(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) 10	(1-2) 30A - (3-4) 10A - (5,6) 10A	
Charge (20±5°C)	Current	400 mA - 130 mA	
a.i.i.g. (2022 c)	Time	15 hours - 8 hours	
Cycle Life	Up to 1000 cycles	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		
	Charge	-20 °C to +50°C	
Operating Temprature Range	Discharge		
	Recommended	0 °C to +30°C	

## System Batteries



#### **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	i
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.	
	Power Connector	BB-2590 Female Connector
Output Contects	Data (SMBus VI.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 Tomperature Paner	Charge	10°C - + 45°C
Operating Temperature Range	Discharge	-20°C - + 60°C

#### **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 10 V	
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)	

#### **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-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	<b>5A (20 °C ±5 °C'de)</b> / (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-lon 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 TermianI	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	lh-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**



<b>Product Information</b>		
Cell Chemistry		Lithium Manganese Dioxide (Li-mNO <sub>2</sub> )
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
Continuous	Continuous	1500mA
Max Discharge Current	Pulsed	3500mA
	Nominal 3 (1)	(100 ohm with continuous discharge)
	Nominal 3 (2)	(150mA constant current and continuous discharge)
Capacity	Nominal ā (3)	4000 Pulsed (3/27 second pulses with 900 mA)
	Nominal 3 (4)	2740 Pulsed (3/27 second pulses with 1200 mA)
	Width	37,8
Dimensions(mm) (±0,50)	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 Curren	t	5A
Continuous Discharge Curre	ent	
Width x Length x Height		9,80mm x 175,65mm x 29,80mm
Weight		620 ± 30gr
Operating Temperature Ran	Charge	0 °C / 45 °C
Operating reinperature Rain	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)
	Width	93,6
Dimensions(mm (±0,50)	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 53,5 x 21,3 ± 0,5mm	39,5 x 53,5 x 21,3 ± 0,5mm
Weight	80±5 g (approx)	80±5 g (approx)
Max Discharge Current	2 A	1,62 A

#### Mini Thermal Weapon Scope 3250 mAh

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 0.2	CA in the temperature range of 0°C to + 40°C)
Max Discharge Current	1,62 A	
Charge (20±5°C)	8.4V / 1.625A until the chargin	ng current drops to 65mA (max. 4h)
Protection	The battery is protected against overcharge, overdischarge, overcurrent and short circuit. At 20°C±5°C,	
Cycle Life	<ul> <li>Charging: 8.4V / 1.625A until the charging current drops to 65mA,</li> <li>Discharge: 1.625A up to 5V,</li> </ul>	
Case Material	ABS - Black	
Width	39,5 mm	
Length	71 mm	
Height	21,3 ± 1 mm	
Weight	110 ± 5 g (approx)	
Operating Temperature Range	Charge	10°C to + 45°C
Operating reinperature italige	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
Туре		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
Deşaij Akılılı		<b>Max</b> 2300mA
Operating	Charge	Between 0°C and +45°C
Temperature Range	Discharge	Between -20°C and +50°C (%95 relative humidity)
Sharan Tananahan	Recomended	Between 0°C and +30°C
Storage Temperature	Permitted	Between -20°C and +30°C
Colour		Black
Lifetime		<b>500</b> cyles
Width		39,5 ± 0,5mm
Length		64,0 ± 0,5mm
Height		153,0 ± 0,5mm
Weight		<b>290</b> gr (approx)
Body Material		ABS plastic

#### **BB-4400 LI-ION** 2000 mAh 7.5V AU



Product Information	4400 Li-Ion Battery	
Туре	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	
	Charge +10° C to + 45 °C	
Operating Temperature Range	Discharge -20 °C to + 60 °C	
	Storage < 35 °C	

# **BB-4400 LI-ION 2500 mAh**



Product Information	BB-4400 Li-ion 2500 mAh
Туре	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	3~5A
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
	Charge 0°C to + 45°C
Operating Temperature Range	Discharge -20°C to + 60°C
	Storage < 35 °C

#### **BB-4400 LI-ION** 3250 mAh 7.5V



Product Information	4400 Li-Ion Battery	
Туре	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	
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.)	
	Charge +10° C to + 45°C	
Operating Temperature Range	Discharge -20 °C to +60 °C	
	Storage < 35 °C	

#### **BB-4400 LI-ION** 2500 mAh



Product Information	BB-4400 Li-ion 2500 mAh
Туре	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	3~5A
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** 2800 mAh



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

Product Information	4400 Li-Ion Battery	
Туре	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	
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)	
	Charge 0° C ile + 45 °C	
Operating Temperature Range	Discharge -20 °C ile + 60 °C	
	Storage < 35 °C	

# Chargers

Chargers Product Catalogue

### **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

Chargers Product Catalogue

#### **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.)

Chargers Product Catalogue

#### **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

Chargers Product Catalogue

# 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



Nickel Cadmium Battery Cells Product Catalogue

#### FP8H1C

#### Usage Platform:

SIKORSKY BLACKHAWK



Product Information	FP8H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Туре	FP8HIC
Stock Number	151-0021-0001
Nato Stock Number	6140 27 005 8070
Nominal Voltage	1.2 Volt
Nominal Capacity	1CA/7Ah
Width	27.0 mm
Lenght	60 mm
Height	108 mm
Weight	400 gr
Operating Temperature Range	-40°C to 71°C
Charge 1 Conditions (+15°C/+25°C)	Charge with 7 A constant current until battery voltage reaches 1,55 V, then additional charge with 1.4 A for 2 hours.
(+13 C/ +23 C) 2	Charge with 1.4 A constant current for 7 hours

Nickel Cadmium Battery Cells Product Catalogue

#### **FP 15H1C**

#### Usage Platform:

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



FP15H1C NICKEL CADMIUM AIRCRAFT BATTERY CELL
FP 15HIC
152-0021-0003
6140 27 005 8062 6008 60 20150 (past stock number)
1.2 Volt
1 CA / 15 Ah
28.0 mm
59.0 mm
171.5 mm
650 gr
-40°C to 71°C
Charge with 15 A constant current until battery voltage reaches 1,55 V, then additional charge with 3 A for 2 hours  Charge with 3 A constant current for 7 hours

Nickel Cadmium Battery Cells Product Catalogue

### **FP 17H1C**

#### **Usage Platform**

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



Product Information	FP17H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Туре	FP 17HIC
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	<b>690</b> gr
Operating Temperature Range	-40°C to 71°C
Charge 1 Conditions	Charge with 22 A constant current until battery voltage reaches 1,55 V, then additional charge with 3.4 A for 2 hours.
(+15°C / + 25°C) <sub>2</sub>	Charge with 2.4 A constant current for 7 hours

Nickel Cadmium Battery Cells Product Catalogue

### **FP 22H1C**

### **Usage Platform**



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

Nickel Cadmium Battery Cells Product Catalogue

### **FP 25H1C**

**Usage Platform** *CASA C-212* 



Product Information	FP25H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Туре	FP 25HIC
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 1 Conditions (+15°C/+25°C) 2	Charge with 25 A constant current until battery voltage reaches 1,55 V, then additional charge with 5 A for 2 hours  Charge with 5 A constant current for 7 hours

Nickel Cadmium Battery Cells Product Catalogue

### **FP 27H1C**

#### **Usage Platform**

CIVIL AVIATION C-130 MI-17 MI-8



Product Information	FP27H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Туре	FP 27HIC
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 1 Conditions (+15°C/+25°C) 2	Charge with 27 A constant current until battery voltage reaches 1,55 V, then additional charge with 5.4 A for 2 hours.  Charge with 5.4 A constant current for 7 hours

Nickel Cadmium Battery Cells Product Catalogue

### **FP 40H1C**

### **Usage Platform**

KT-1T T-37 C-130 (Hercule) UH-1H CIT-7 MA-32A

C-160 Cessna Challenger CASA CN-235 GIV-4

B-212



Product Information	FP40H1C NICKEL - CADMIUM AIRCRAFT BATTERY CELL
Туре	FP 40HIC
Stock Number	152-0021-0009 (6009000006)
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 1 Conditions (+15°C/+25°C)	Charge with 40 A constant current until cell voltage reaches 1.55 V, then additional charge with 8 A for 2 hours.
(+I3 C/ + 23 C) 2	Charge with 8 A constant current for 7 hours

# **Aviation Batteries**



# F20/27H1CM

### **Usage Platform**

MI-17 MI-8



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

# **F20/25H1CTF**

**Usage Platform** SF-260D CASA C-212



Product Information		F 20/25H1CTF NICKEL - CADMIUM AIRCRAFT BATTERY
Туре		F 20/25HICTF
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		ASPF20/27HIC NICKEL - CADMIUM AIRCRAFT BATTERY
Туре		ASPF20/27HIC
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
Туре		F20/40HICTF
Stock Number		152-0003-0010 (60061300400)
Nato Stock Number		6140 27 005 8058
Nominal Voltage		24 Volt
Nominal Capacity		1CA / 40 Ah
Width		247 mm
Lenght		253 mm
Height		262 mm
Weight		36.5 kg
Operating Temperature Rang	je	-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.

# F20/27H1CT

**Usage Platform** C-130



Product Information		F20/27 HICT NICKEL - CADMIUM AIRCRAFT BATTERY
Туре		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		F20/22HIC NICKEL - CADMIUM AIRCRAFT BATTERY
Туре		F20/22HICT
Stock Number		1152-0003-0004
Nato Stock Number	•	
Nominal Voltage		24 Volt
Nominal Capacity		1CA / 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
Туре		F20/40H1CT-2 KT-1T
Stock Number		152-0003-0032
Nato Stock Number		
Nominal Voltage		24 Volt
Nominal Capacity		1CA / 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.

# F20/7H1CT4

### Usage Platform:

SIKORSKY UH-60



Product Information	F 20/7HICT4 NICKEL - CADMIUM AIRCRAFT BATTERY	
Туре	F 20/7H1CT4	
Stock Number	152-0003-0009 (60061300070)	
Nato Stock Number	6140 27 005 8064	
Nominal Voltage	24 Volt	
Nominal Capacity	1CA / 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 1 Conditions	Charge with 8 A constant current until battery voltage reaches 31 V, then additional charge with 1.6 A for 7 hours.	
(+15°C/+25°C) 2	Charge with 1.6 A constant current for 7 hours.	

## F20/12H1CT4

#### Usage Platform:

F-16 (BLOCK 30)



Product Information		F 20/12H1CT4 NICKEL - CADMIUM AIRCRAFT BATTERY
Туре		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 Ran	nge	-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.

# F20/15H1C

### Usage Platform:

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



Product Information	F 20/15HIC NICKEL - CADMIUM AIRCRAFT BATTERY	
Туре	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 1 Conditions	Charge with 15 A constant current until battery voltage reaches 31 V, then additional charge with 3 A for 2 hours.	
(+15°C / + 25°C) 2	Charge with 3 A constant current for 7 hours.	

# F20/17H1CT

### Usage Platform:

F-16 (BLOCK 40-50)



Product Information		F 20/17H1CT NICKEL - CADMIUM AIRCRAFT BATTERY	
Туре		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 Ran	nge	-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.	

# F20/17H1C-2

### Usage Platform:

AB -206



Product Information		F 20/17H1C-2 NICKEL - CADMIUM AIRCRAFT BATTERY	
Туре		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 Temperat	ure Range	-40°C to 70°C	
Charge Conditions	1	Charge with 17 A constant current until battery voltage reaches 31 V, then additional charge with 3.4 A for 2 hours.	
(+15°C / + 25°C)	2	Charge with 3.4 A constant current for 7 hours.	

# F20/22H1C

**Usage Platform** *ANKA / AKSUNGUR UAV* 



Product Information		F20/22HIC NICKEL - CADMIUM AIRCRAFT BATTERY	
Туре		F20/22HIC	
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 Rai	nge	-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 Informati	on	F20/40H1CE1WT (H) NICKEL - CADMIUM AIRCRAFT BATTERY	
Туре		F20/40HICEIWT (H)	
Stock Number		152-0003-0005	
Nato Stock Number	•	6140 27 005 8059	
Nominal Voltage		24 Volt	
Nominal Capacity		1CA / 40 Ah	
Width		210 mm	
Lenght		420 mm	
Height		267 mm	
Weight		38 kg	
Operating Temperat	cure Range	-40°C to 71°C	
Charge Conditions (+15°C/+25°C) 2	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.	

# F19/40H1C

### **Usage Platform**

HERCULES



Product Information		F19/40H1C NICKEL - CADMIUM AIRCRAFT BATTERY	
Туре		F 19/40H1C	
Stock Number		152-0003-0012 (60061400400)	
Nato Stock Number		6140 27 007 0699	
Nominal Voltage		22,5 Volt	
Nominal Capacity		1CA / 40 Ah	
Width		247 mm	
Lenght		253 mm	
Height		262 mm	
Weight		35 kg	
Operating Temperature Rai	nge	-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.	

# F20/40H1C

### Usage Platform:

KT-1T

C-160

GIV-4

B-212

T-37

CIT-7

UH-1H

MA-32A

CESSNA



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

# Marine Battery Systems



Marine Battery Systems Product Catalogue

## **Barbaros Frigate Battery** (4X5 KRX 145P)



Туре		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
	Width	645 mm
Dimensions(mm)	Lenght	170 mm
	Height	373 mm
Weight (kg)		56

Marine Battery Systems Product Catalogue

## **Barbaros Frigate Battery** (F20/40 H1CT-D2)



Туре		F20/40 HICT-D2
Standard and Specification		VG 95238-T2
Cell Type		FP40HIC-D
Nominal Voltage		24 Volt
Nominal Capacity		40 Ah
Maximum Power (kW)		22.5
	Width	554 mm
Dimensions(mm)	Lenght	123 mm
	Height	245 mm
Weight (kg)		37.5

Marine Battery Systems Product Catalogue

## Milgem-5 Battery (F20/40 H1CT-D1)



Туре		F20/40 H1CT-D1
Standard and Specification		VG 95238-T2
Cell Type		FP40HIC-D
Nominal Voltage		24 Volt
Nominal Capacity		40 Ah
Maximum Power (kW)		22.5
	Width	432 mm
Dimensions(mm)	Lenght	244 mm
	Height	166 mm
Weight (kg)		37.5

# Rail System Batteries



Rail System Batteries Product Catalogue

## Rail System Battery



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"           Charge         "0°C/+40 °C"           Discharge         "-20 °C / +50 °C"	Product Information		
Nominal Voltage  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  PTI00  Max. Discharge Current  75A  Cycle Life  3000  Dimensions  462 mm x 487 mm x 332 mm  Weight  Storage Temperature Range  "+10 °C / +35 °C"  Charge  "0°C/+40 °C"	Standards and Qualifications		
Max. Voltage  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  Storage Temperature Range  "+10 °C / +35 °C"  Charge  "0°C / +40 °C"	Stock Number	152-0008-0002	
Operating Voltage Range  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  Storage Temperature Range  "10°C/+35°C"  Charge  "0°C/+40°C"	Nominal Voltage	24V DC	
Nominal Capacity  Continous Discharge Current  Battery Type  Fiber Ni-Cd  Temperature Sensor Type  PTI00  Max. Discharge Current  75A  Cycle Life  Dimensions  462 mm x 487 mm x 332 mm  Weight  Storage Temperature Range  "+10 °C / +35 °C"  Charge  "0°C/+40 °C"	Max. Voltage	32-35V DC (Charge)	
Continous Discharge Current  Battery Type  Fiber Ni-Cd  Temperature Sensor Type  PTI00  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"  Charge  "0°C/+40 °C"	Operating Voltage Range	18-28V DC	
Battery Type Fiber Ni-Cd  Temperature Sensor Type PTI00  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"  Charge "0°C/+40 °C"	Nominal Capacity	75Ah	
Temperature Sensor Type  Max. Discharge Current  Cycle Life  3000  Dimensions  462 mm x 487 mm x 332 mm  Weight  97 kg  Storage Temperature Range  "+10 °C / +35 °C"  Charge  "0°C/+40 °C"	Continous Discharge Current	15A	
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       "0°C/+40 °C"	Battery Type	Fiber Ni-Cd	
Cycle Life         3000           Dimensions         462 mm x 487 mm x 332 mm           Weight         97 kg           Storage Temperature Range         "+10 °C / +35 °C"           Charge         "0°C/+40 °C"	Temperature Sensor Type	РП00	
Dimensions         462 mm x 487 mm x 332 mm           Weight         97 kg           Storage Temperature Range         "+10 °C / +35 °C"           Charge         "0°C/+40 °C"	Max. Discharge Current	75A	
Weight 97 kg  Storage Temperature Range "+10 °C / +35 °C"  Charge "0°C/+40 °C"	Cycle Life	3000	
Storage Temperature Range "+10 °C / +35 °C"  Charge "0°C/+40 °C"	Dimensions	462 mm x 487 mm x 332 mm	
Charge "0°C/+40°C"  Operating Temperature Range	Weight	97 kg	
Operating Temperature Range	Storage Temperature Range	"+10 °C / +35 °C"	
Discharge Discharge "-20 °C / +50 °C"	Operating Temperature Range	Charge	"0°C/+40 °C"
		Discharge	"-20 °C / +50 °C"

Rail System Batteries Product Catalogue

### **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

Rail System Batteries Product Catalogue

### **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

Rail System Batteries Product Catalogue

### **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

Rail System Batteries Product Catalogue

### **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

Rail System Batteries Product Catalogue

### **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







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