

MARATHON[®] FTX

SUPPORTING NETWORK DENSIFICATION



INDUSTRIAL BATTERIES

THE POWERFUL RANGE OF NETWORK POWER

GNB® Industrial Power offers reliable energy storage solutions for critical systems requiring uninterrupted power supply. With a comprehensive product range based on state-of-the-art technologies, GNB delivers the right battery for every application.

The below table is only indicative and depends on the specific customer application. For more information please ask a GNB sales representative.

APPLICATIONS	BATTERY RANGES																		
	Sonnenschein						Marathon			Sprinter		Absolyte	Powerfit	Classic					
	A400/A600	A400 FT	A500	SOLAR	RAIL	Power Cycle	M-FT	FTX	L/XL	P/XP	XP-FT	GP/GX	S100/S100L/S300	OCSM	OPzS	Energy Bloc/OGi	OPzS Solar	EnerSol	rail
UPS Data Centre	●	●	●			●	●	●	●	●	●			●		●			
Industrial UPS	●	●	●			●	●	●	●	●	●			●		●			
Telecom Good grid	●	●				●	●	●		●					●	●			
Telecom Poor & Off-grid				●		●						●		●			●		
Renewable				●		●						●					●	●	
Emergency lighting	●	●	●			●	●	●	●	●	●		●		●	●			
Security	●		●						●	●		●	●	●	●				
Utility	●	●				●	●	●	●			●		●	●	●			
Railways	●	●	●		●	●		●				●		●		●			●

Powerful product brands



- VRLA batteries (Valve Regulated Lead Acid) in which the electrolyte is fixed in an Absorbent Glass Mat (AGM)
- Excellent high current capability
- Very economical
- Maintenance-free (no topping up)

- VRLA batteries (Valve Regulated Lead Acid) in which the electrolyte is fixed in a gel (dryfit® technology)
- Inventor of Gel technology
- Highest reliability, even in non-optimal conditions
- Particularly suitable for cyclic applications
- Maintenance-free (no topping up)

- Conventional lead-acid batteries with liquid electrolyte
- Extreme reliability, proven over decades
- Low maintenance

MARATHON FTX

OPTIMIZED TOTAL COST OF OWNERSHIP AND HIGH-TEMPERATURE RESISTANCE

Designed for durability in Telecommunications and Electric Utility applications, the GNB® Industrial Power Marathon® FTX series provides high performance and reliability in long duration discharge applications and is characterized by its excellent life time at high-temperature operation. Especially in regards to progressive network densification the high-temperature resistance of the Marathon® FTX series enables operators to minimize energy costs for cooling. Outstanding temperature robustness together with a very long design life of over 15 years helps achieving the lowest Total Cost of Ownership. The location of the terminals on the front (vs. the top) of the battery greatly facilitates the installation and maintenance of the product when placed in a cabinet enclosure or on a standard relay rack.

Your benefits:

- Improved Total Cost of Ownership thanks to
 - Very long design life: 15 years
 - Optimized life time at high temperatures – less energy cost for air conditioning
 - Optimal energy density – saving floor space
 - Front terminal design – easy access for faster installation and maintenance
- Wide operating temperature range: -40°C to +55°C
- Durable container material – maintaining structural integrity in higher operating temperatures
- Short recharging time – high availability
- Completely recyclable – low CO₂ footprint



high temperature resistant



Specifications

- Design life: 15 years (until 80% C₁₀ at 20°C and 1.80Vpc)
- EUROBAT 2015 Classification: »>12 years – Very Long Life«
- Extended life time at high-temperature operation: 5 years at 40°C
- Nominal capacity 150 – 175 Ah
- Maintenance-free (no topping up) during the whole service life
- High-Compression Absorbent Glass Mat (AGM) technology
- Central degassing
- Flame retardant casing (UL 94 V-0)
- Grid plates with superior lead low calcium high tin alloy for excellent corrosion resistance
- MICROCAT® Catalyst reduces float current and minimizes water loss
- Very low gassing due to internal gas recombination (99 % efficiency)
- Low self discharge rate, enabling extended storage capability
- Designed in accordance with IEC 60896-21/22
- Approval: Underwriters Laboratories (UL)
- Trouble-free transportation of operational blocks and cells. no restriction for most rail, road, sea and air transportation (IATA, DGR clause A67)
- Manufactured in Europe in our ISO 9001 certified production plants



Design life
15 years



Nominal capacity
150 – 175 Ah



Block
battery



Grid plate



Recyclable



Valve regulated
lead-acid batteries



Maintenance free
(no topping up)

MARATHON FTX

TECHNICAL DATA & DRAWING

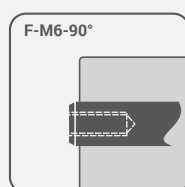
Technical characteristics and data

Type	Part number	Nom. voltage V	Nominal capacity C ₁₀ 1.80 Vpc 20°C Ah	Capacity C ₅ 1.75 Vpc 25°C Ah	Capacity C ₃ 1.70 Vpc 20°C Ah	Capacity C ₁ 1.60 Vpc 20°C Ah	Length (l) max. mm	Width (b/w) max. mm	Height (h) max. mm	Weight approx. kg	Internal resistance mOhm*	Short circuit current A*	Terminal
M12V155FTX	NAMX120155VM0F0	12	150	155	130	105	559	124	283	53.8	3.0	3883	F-M6-90°
M12V180FTX	NAMX120180VM0F0	12	175	180	150	121	559	124	318	60.0	3.0	4147	F-M6-90°

*According to IEC 60896-21/22

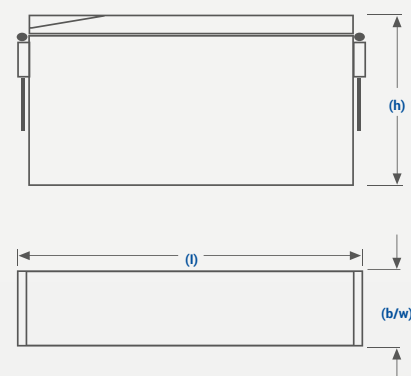
Container, terminal and torque

Container material:
Flame retardant Polypropylene (PP)
according to UL 94 V-0.



11 Nm

M12V155FTX M12V180FTX



Not to scale!



MARATHON FTX / M12V155FTX

Constant Current Discharge in A at 20 °C

Final discharge voltage Vpc	Discharge time								
	30 min	1h	2h	3h	5h	8h	10h	12h	24h
1.94	95.6	74.4	46.0	33.7	22.0	14.5	11.6	9.8	5.0
1.92	109	79.2	48.7	35.3	23.2	15.4	12.5	10.5	5.4
1.90	123	84.4	51.4	37.2	24.3	16.5	13.3	11.2	5.7
1.87	137	90.0	54.0	39.2	25.5	17.2	14.0	11.8	6.1
1.85	143	93.3	55.7	40.4	26.3	17.8	14.5	12.1	6.3
1.83	146	95.8	56.8	41.0	26.8	18.0	14.6	12.3	6.4
1.80	146	99.8	58.1	41.8	27.5	18.4	15.0	12.6	6.5
1.78	146	101	58.6	42.1	27.6	18.5	15.0	12.6	6.5
1.75	146	103	58.8	42.3	27.9	18.8	15.1	12.7	6.6

Constant Power Discharge in W/block at 20°C

Final discharge voltage Vpc	Discharge time								
	30 min	1h	2h	3h	5h	8h	10h	12h	24h
1.94	1300	867	533	387	259	176	144	122	62.9
1.92	1379	921	559	406	271	186	152	129	66.9
1.90	1460	981	582	421	284	196	160	135	70.4
1.87	1552	1048	609	443	297	204	166	141	74.5
1.85	1601	1089	630	457	306	211	171	145	76.2
1.83	1655	1112	641	464	310	214	173	147	77.4
1.80	1691	1148	659	476	316	218	178	150	78.6
1.78	1712	1160	665	480	318	219	178	151	79.2
1.75	1733	1166	670	482	321	221	179	152	79.7

MARATHON FTX / M12V180FTX

Constant Current Discharge in A at 20 °C

Final discharge voltage Vpc	Discharge time								
	30 min	1h	2h	3h	5h	8h	10h	12h	24h
1.94	130	84.4	50.3	37.2	24.8	16.8	13.7	11.5	6.1
1.92	140	92.7	54.5	40.0	26.4	17.9	14.6	12.3	6.5
1.90	146	98.6	58.3	42.5	27.7	18.9	15.3	13.0	6.8
1.87	162	105	61.1	44.4	29.3	20.0	16.2	13.7	7.2
1.85	170	109	63.1	45.7	30.1	20.6	16.7	14.1	7.3
1.83	176	112	64.5	46.6	30.7	21.0	17.1	14.4	7.5
1.80	183	116	66.0	47.6	31.3	21.4	17.5	14.6	7.6
1.78	186	117	66.6	48.0	31.6	21.6	17.6	14.7	7.6
1.75	189	118	67.3	48.4	32.0	21.8	17.7	14.9	7.7

Constant Power Discharge in W/block at 20°C

Final discharge voltage Vpc	Discharge time								
	30 min	1h	2h	3h	5h	8h	10h	12h	24h
1.94	1482	1016	576	417	277	190	159	138	78.0
1.92	1567	1072	616	444	293	200	167	144	82.1
1.90	1678	1123	652	468	308	210	175	150	85.0
1.87	1798	1186	695	496	324	219	182	157	87.3
1.85	1866	1219	716	510	332	224	186	159	88.5
1.83	1925	1247	733	520	338	228	189	162	90.2
1.80	1995	1278	750	531	344	231	191	164	90.8
1.78	2031	1293	758	536	347	232	192	164	90.8
1.75	2071	1314	765	541	349	233	193	165	91.4

BATTERY SERVICE - ENERGY SOLUTIONS KEEPING YOUR BUSINESS ON THE MOVE

GNB® is the Expert

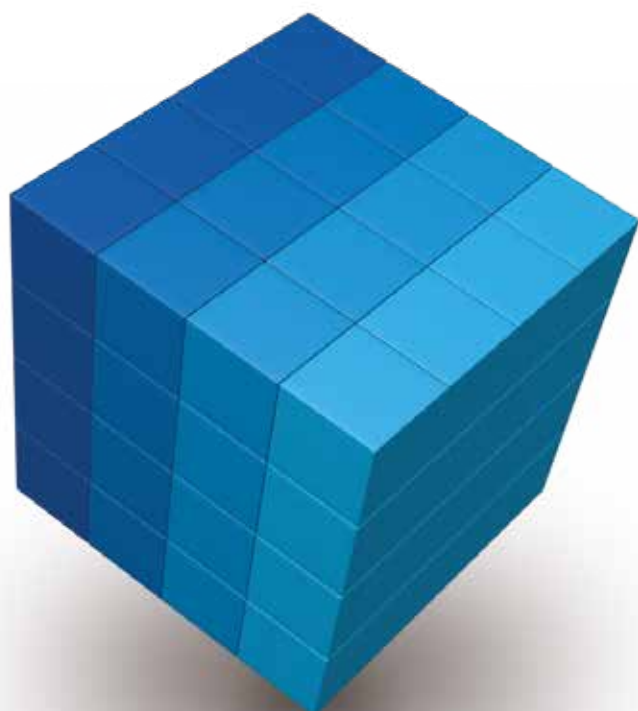
Who could do this job better than the professionals of a company with more than 100 years of experience in battery development, production and application?

Leave the responsibility for the maintenance of your batteries and chargers to the professionals: a GNB service contract provides you with exceptional economic advantages through time savings, cost savings and safety!



Installation of Batteries and Systems for Network Power

- Development of complete turnkey solutions from the design concept to installation and commissioning.
- Installation according to legal and safety regulations including CE certification by approved installation technicians.
- Training and certification of external installation technicians according to CE regulations.



- Inspection Contract
- Maintenance Contract
- Lifetime Warranty Contract
- Full Service Contract

GNB SERVICE
**INDIVIDUALIZED,
PROFESSIONAL AND
ALL OVER EUROPE !**

Exide Technologies, with operations in more than 80 countries and more than 130 years of experience, is one of the world's largest producers and recyclers of lead-acid batteries. The company develops state-of-the-art energy storage solutions for the automotive and industrial market. Leading car, truck and lift truck manufacturers trust in Exide Technologies as an original equipment supplier. Exide also serves the aftermarket through a portfolio of successful and well-known brands.

Exide Transportation manufactures batteries for light and commercial vehicles, as well as agricultural and marine leisure applications. Industrial markets – under the division **GNB Industrial Power** – include efficient energy storage solutions for motive power applications such as lift trucks, cleaning machines and other commercial electrical vehicles, and network power applications such as telecommunications systems, renewables, and uninterruptible power supply (UPS).

Exide's engineers have always been at the forefront of bringing important innovations to the industry. Exide's ISO/TS-certified manufacturing facilities ensure that customers receive products that are produced with maximum efficiency and fulfill the highest quality standards, while minimizing impact on the environment.

Exide's extensive sales and distribution network provides quality service and delivers on time to its customers. Its world-class recycling facilities ensure that batteries will be reused, helping to make a positive contribution to the environment. Exide also provides services, accessories and energy consulting to its clients.

- European headquarters
- Manufacturing plants
- Recycling plants
- Distribution centers
- Main sales offices
- R&D centres

Manufacturing plants ISO 9001 and ISO 14001 certified
Automotive plants IATF 16949 approved



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