

# The trailblazer for connections.

Meeting future energy storage needs in  
telecom applications with Marathon  
PowerCycle – irrespective of the grid.



Creating the future – the Exide Technologies way:



Innovation



Reliability



Sustainability







High Performance

**MARATHON**<sup>®</sup>  
POWERCYCLE

**GNB**<sup>®</sup>  
INDUSTRIAL POWER

## The world is changing. That's why we are energizing a new world.

For Exide Technologies, now is the time to release new energies to move even further into the future. Our new claim "Energizing a new world" is designed to convey this aspiration. We want to bring change to life, face challenges together with our partners, and develop solutions for today and tomorrow. **Let's create the future – the Exide Technologies way:**

-  **Innovation** is the engine of technology leadership. That's why we are constantly evolving, remain self-critical, and continue to inspire our customers. We believe that great questions deserve great answers, which is what our innovative R&D is responsible for.
-  **Sustainability** is an important part of our responsibility. That's why we rely on renewable energy and intelligent recycling concepts.
-  **High performance** is the standard we set for our products and services. We want all our solutions to be best in class. This gives our customers the certainty of being optimally equipped for any task.
-  **Reliability** defines our business. This applies to our products as well as our innovative development work, services, and partnerships. We have a responsibility that doesn't stop with our products, but rather starts there.

## Communication and energy are the keys to a better world. That's why we ensure a stable network.

The world is evolving and with it the demands on energy supply. Our partners are also faced with the challenge of keeping operating costs as low as possible and the need for smart and sustainable energy solutions. Together, we can work to leave a future worth living for generations to come.

**Marathon is now even better than before:** Our well-known AGM battery series has always impressed with its reliability and robustness. With its high-purity lead and new advantages, the Marathon PowerCycle range extension is now also gaining importance in use cases with special needs and challenges. The high temperature resistance and high cycling capability make it also a true all-rounder in regions with poor mains or even off-grid environments.

### Get the most out of Marathon PowerCycle.

- 1 Best performance and long life**  
Long service life and high cycling capability – even in uncontrolled areas and with unstable or unavailable power grids.
- 2 Reduced Total Cost of Ownership**  
The high temperature resistance enables outdoor installations and reduces energy costs for cooling in hot climates.
- 3 Simple installation and maintenance**  
Front terminal design facilitates placement in a control cabinet or standard relay rack.



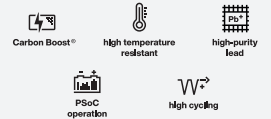
## The future is full of challenges. This makes reliable partners essential.

When our engineers develop products, they think of all eventualities. Marathon PowerCycle is made for today and tomorrow – e.g. supporting the implementation of 5G. With its strong new features, it is also meeting the growing market trend where batteries are evolving from simple back-up functionality into smart energy storage solutions combined with renewable energy sources or connected to distributed energy resource networks (DER).



### Technical features:

- Design life: 20 years at 20°C (until 80% nominal C10)
- Extended life time at high-temperature operation: 10 years at 35°C, 7 years at 40°C
- 1500 cycles at 60% depth of discharge (C10) at 20°C
- Wide operating temperature range: -40°C to +55°C
- Nominal capacity: 100 – 190 Ah
- Maintenance-free (no topping up) during the whole service life
- High-compression AGM technology
- Central degassing
- Very low gassing due to internal gas recombination (99% efficiency)
- Grid plates with high-purity lead, low-calcium, high-tin alloy for excellent corrosion resistance
- Unique Carbon Boost®: for efficient charging
- MICROCAT® Catalyst: reduces float current and minimizes water loss
- Low self-discharge rate: extended storage capacity
- Flame retardant casing according to UL 94 V-0 available



### Standards & certifications:

- EUROBAT 2015 classification: >12 years – very long life
- Designed in accordance with IEC 60896-21/22
- Approval: Underwriters Laboratories (UL)
- Trouble-free transportation without restrictions for most rail, road, sea, and air transport (ATA, DGR clause A67)
- Manufactured in Europe in our ISO 9001 certified production facilities

### Real power to keep the world connected.

Exide Technologies knows how important it is to stay connected. That's why our Marathon PowerCycle batteries are the right partner for all demanding requirements for which one thing is especially important: reliability. Our high-performance AGM batteries are ideal for the following applications:



# A true all-rounder knows no limits. That's why the Marathon PowerCycle runs everywhere.

Perfect fit to meet today's and future trends in areas with stable grids.



Like all Marathon AGM batteries, our new Marathon PowerCycle demonstrates exceptional performance in good grid conditions and reliable backup power in float operations. Their additional powerful features offer even more in these markets. They support challenges such as 5G deployment and ongoing network densification, which require specialized batteries in small packages and longer life with higher temperature resistance. With its enhanced cycle life, the Marathon PowerCycle also addresses new trends such as decentralized energy solutions and the need for more sustainability.



### Long life

Secures and supports telecommunications and utility applications.



### High performance

Guarantees absolute reliability in harsh applications.

### Trend watch

New trends need smart energy storage solutions. With Marathon PowerCycle, we make our customers fit for the future.

#### Trend 1

**5G**  
The rollout of 5G requires a significant enhancement of the telecom cellular networks. Marathon PowerCycle batteries will allow mobile network operators (MNO) to achieve a substantial TCO benefit in this process.

#### Trend 2

**Distributed Energy Resources**  
Batteries in telecom and other stationary applications will increasingly be used to generate revenue, providing Energy-as-a-Service (EaaS) in a virtual power plant (VPP) network. Marathon PowerCycle batteries will allow operators to achieve a substantial TCO benefit in this process.

#### Trend 3

**Sustainability**  
Sustainability will be a top priority in the next decades. Marathon PowerCycle batteries allow MNO's to minimize their eco footprint, because they

- require less cooling
- enable outdoor installations
- allow for hybrid operation with on-site renewable power generation
- are designed for closed loop recycling

The new Marathon PowerCycle series now impresses even in uncontrolled areas with unstable or unavailable grids. With the new series, Exide Technologies is ushering in a new era: The high cycle stability and optimal behavior in partial-state-of-charge (PSoC) operation makes it an ideal storage solution for "hybrid" operation in combination with renewable energy and/or diesel generators.



### High cycle stability

Ensures a long lifetime and thus low TCO when combined with renewable energy sources or used in poor- and off-grid locations.



### High temperature resistance

The best way to minimize energy costs for cooling and thus TCO.



Perfect fit for uncontrolled operation in areas with unstable or unavailable grids.

Pioneers are already planning tomorrow's world today.

Our technology helps them to turn those plans into reality.

Success begins with the first step. But it's more important to be convincing in the marathon.

Marathon PowerCycle technical characteristics and data

Type	Part number	Nom. voltage V	Nominal capacity		Capacity			Length (l)	Width (w)	Height (h)	Weight approx. Kg	Internal resistance mOhm*	Short circuit current A*	Terminal
			C <sub>10</sub> 1.80Vpc 20°C Ah	C <sub>5</sub> 1.75Vpc 25°C Ah	C <sub>1</sub> 1.70Vpc 20°C Ah	C <sub>1</sub> 1.60Vpc 20°C Ah								
M12V100PC	NAMC120100HM0FA	12	100	99	86	72	395	105	287	33.5	5.1	2347	F-M6-90°	
M12V155PC	NAMC120155HM0FA	12	155	152	128	105	559	125	283	53.3	3.9	3158	F-M6-90°	
M12V190PC	NAMC120190HM0FA	12	190	185	161	134	559	125	318	61	3.5	3558	F-M6-90°	

\*According to IEC 60896-21/22

Container material:

Standard polypropylene (PP) according to UL 94 HB or flame-retardant polypropylene (PP) according to UL 94 V-0. Change »H« to »V« in the part number for UL 94 V-0 version.

Great success is often the result of effective cooperation. Our Marathon PowerCycle range convinces users in relevant application areas such as the telecommunications industry, electric utility, or UPS. Trust in us: With our wide product portfolio, we have the perfect battery solution for every project. We provide you with competent advice, project support, and installation service. Our application expertise with best-in-class online tools ensure that every customer can find the perfect battery technology for their requirements. Please get in touch with a sales representative close to you!

Battery ranges & application coverage

Application	Sonnensachate				Marathon			Sprinter		Absolute		Power2			Classic					
	A450/ A600	A450 FT	A500	Solar	Rail	Power Cycle	Power Cycle	FTX	L/LXL	P/XP	XP-FT	GP/IX	S100/ S100L/ S300	OCSM	OP/3	Energy Block/ OG	OP/3 Solar	EnerSol	Rail	
UPS																				
Commercial & Industrial																				
Telecom	Stable grid																			
	Poor/off-grid																			
Electric Utility	Power generation																			
	TSO/DSO																			
	Stable grid BESS																			
Solar-powered equipment	Poor/off-grid BESS																			
	Parking meters/ Marine buoys, etc.																			
Emergency & Security	Alarm systems, CCTV																			
	Emergency lighting																			
Railway	Signaling & Infrastructure																			
	Rolling stock																			

■ best fit / highly recommended ■ good fit / recommended ■ possible / recommended ■ not recommended / still possible

