### marathon®

## ATEX Zone 2 & IECEx Zone 2 Generator Installation, Operation and Maintenance Manual

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**A WARNING** indicates a hazard which, if not avoided, could result in serious injury or death.

# GENERAL SAFETY INSTRUCTIONS AWARNING

- · Read and follow all instructions carefully.
- Disconnect and lock out power before installation and maintenance. Working on or near energized equipment can result in severe injury.
- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.
- Read and understand the information in this section and in this manual completely before installing, operating or maintaining this equipment. Failure to follow this instruction could result in severe injury or death.
- Do not open or remove protective guarding if energy is supplied to any part of the Modsort Heavy Duty Module. Follow the lockout/ tagout procedure according to safety procedures at the facility where the Modsort Heavy Duty Module is installed. Failure to follow this instruction could result in severe injury or death.

INSTALLER: Please leave this supplementary manual and the standard manual (SB0333E) for the owner's use.

**OWNER**: Read and save these instructions.

#### 1.0 INTRODUCTION

This ATEX®\* Zone 2 & IECEx Zone 2 Installation, Operation and Maintenance Manual is to be utilized in conjunction with the standard Generator Installation, Operation and Maintenance Manual (SB0333E). Where information between this supplement and the standard Generator Installation, Operation and Maintenance Manual (SB0333E) differ, the information contained in this document shall take precedence.

#### 2.0 DECLARATION OF CONFORMITY

All generators with the (x) mark on the nameplate are certified by CSA Group Netherlands B.V. (Certificate 15ATEX4026X) and comply with the ATEX Directive 2014/34/EU and the following Zone 2 / standards:

- 2.1.1 BS EN IEC 60079-0:2018 "Explosive Atmospheres Part 0: Equipment General Requirements"
- 2.1.2 BS EN IEC 60079-7:2015+A1:2018 "Explosive Atmospheres Part 7: Equipment Protection by increased safety "e"

Prior to conducting operations involving installation, maintenance, trouble shooting, or repairs, ensure that the area is well ventilated, and that no explosive concentrations of flammable gases, flammable liquid-produced vapors, or combustible liquid-produced vapors are present.

Temperature Rise - All ratings and frame sizes are based on NEMA®\* and CSA Class B temperature rise on both stator and rotor windings. Under no circumstances shall the generator's output exceed the kilowatt rating(s) provided on the nameplate.

#### 4.0 NAMEPLATE

Nameplate markings (Table 1) to comply with ATEX Zone 2, per 2014/34/EU, according to Standards listed above; (Table 2) to comply with the IEC standards listed above. The generator must be selected such that the marked rating is compatible with all aspects of the application. Generator electrical output ratings and maximum surface temperatures are defined on the nameplate.

**Table 1: Nameplate Markings** 

Line 1	SIRA®*	15	ATEX	4026X						
	1	2	3	4						
1	European Notified Body									
2	Year of Original Certificate Issuance									
3	European Directive									
4	Certificate Number									

Line 2	<b>(€</b>	⟨£x⟩	<del>II</del>	3	G	С	Ex	ес	nC	T3 (200°C)	Gc	
and 3	1	2	3	4	5	6	7	8	9	10	11	
1	CE®* N	1arking										
2	Explosion Protection Marking											
3	Equipment Group (II = non-mining)											
4	Category (3 = Zone 2)											
5	Explosive Atmosphere (G = gas)											
6	Equipment Protection Level (c = "enhanced" level of protection - not a source of ignition in normal operation											
7	Marking showing compliance with specific protection type											
8	Specific Protection Type (ec = increased safety)											
9	Specific Protection Type (nC = sealed relay); included only when Marathon® voltage regulator Model DVR2000E+ or PM500 is provided with generator.											
10	Temperature Class (T3 = 200°C)											
11	Equipment for explosive gas atmospheres having an "enhanced" level of protection, which is not a source of ignition in normal operation.											

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#### **5.0 LOCATION**

#### **5.1 AMBIENT TEMPERATURE RANGE**

Standard generator ambient temperature range: -20°C to +40°C

#### **6.0 ENVIRONMENTAL CONSIDERATIONS**

Dirt, moisture, heat, and vibration are enemies of electrical equipment. Excessive exposure to the elements will shorten the life of the generator. The ambient temperature should not exceed the value shown on the generator nameplate. The MAGNAMAX® DVR® is built in a NEMA®\* open type enclosure. Generators for outdoor application should be protected from the elements by housings with proper openings for ventilation. This protection should be designed to prevent the direct contact of wind driven rain, snow, or dust with the generator. In moist or humid areas, such as the tropics and marine service, additional protection is recommended. Although the standard windings are humidity and moisture resistant, special insulations and accessories such as space heaters can increase generator life significantly. In extremely dirty and dusty environments, a means of providing filtered cooling air to the generator is recommended.

#### **7.0 INSTALLATION**

#### 7.1 ELECTRICAL CONNECTIONS

**7.1.1 Voltage Regulators:** Only Marathon voltage regulators, models DVR2000E+ and PM500 can be located within the main terminal (conduit) box of the generator. All other voltage regulators shall be ATEX®\* & IECEx®\* certified for use in Zone 2 locations or be installed in a location outside of the hazardous area.

**7.1.2 Other Components:** All additional components not provided with the generator such as relays, circuit breakers, etc., must be certified for use in ATEX & IECEx Zone 2 locations.

**7.1.3 MainTerminal (Conduit) Box:** Cable gland(s) [provided by installer] must be ATEX & IECEx certified and assembled per cable gland manufacturer's instructions. All cable gland connections made to terminal boxes must maintain a minimum rating of IP54.

#### 7.1.4 Earthing Connections:

**Internal:** A stainless steel or brass terminal is provided in the main terminal (conduit) box to provide earthing connection by qualified electrical service personnel.

External: A tapped hole in the generator foot is provided for connection by qualified electrical service personnel.

#### **8.0 OPERATION**

#### **8.1 DUTY**

Generators are rated for continuous duty.

#### 9.0 MAINTENANCE

#### 9.1 FASTENERS

Generators utilize English unit fasteners (hardware), unless otherwise specified.

#### 9.2 TOOLING

Fasteners must be secured using the appropriate tool. Sockets or enclosed wrenches must be used on all hex fasteners. Heavy rotors require a tool which balances the rotor during assembly / disassembly to prevent damage to the winding.

**WARNING!** The rectifier assembly components (diodes, heat sinks, connections, etc.) have been completely covered with a conformal coating resulting in all electrically live parts being fully insulated. If any components or the entire assembly needs repair or replacement, the affected areas must be treated with a conformal coating such that all electrically live parts are fully insulated. The conformal coating shall have a minimum dielectric strength of 1200v/mil (wet) and 1800 v/mil (dry).

#### Instructions for languages other than English:

Contact importer or manufacturer for translation of these instructions for languages other than English.



Reliable power... for the long run

#### **Marathon Electric LLC**

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