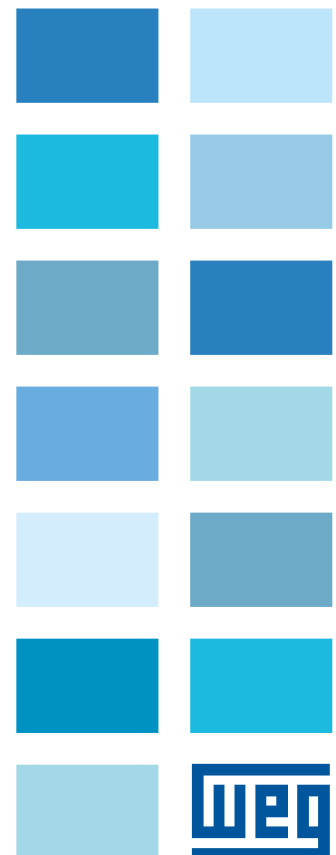


WEGscan

New WEGscan 100

Battery Technical Note





Battery Technical Note

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SUMMARY OF REVIEWS

The information below describes the revisions made to this Technical Note.

Version	Revision	Description
V1.00	R00	First edition

CONTENTS

1 INTRODUCTION	1-1
2 STORAGE	2-1
2.1 BATTERIES	2-1
2.2 SENSORS	2-1
2.3 DE-PASSIVATION PROCEDURE	2-1
3 REFERENCES	3-1



1 INTRODUCTION

The WEGscan 100 condition monitoring sensor **exclusively uses 3.6 V non-rechargeable Lithium Thionyl Chloride (Li-SOCL₂) batteries**. These batteries have unique properties that require careful storage and handling procedures. The sensor allows the use of batteries from different manufacturers, but it is always necessary to follow the manufacturer's recommendations.

2 STORAGE

2.1 BATTERIES

Lithium Thionyl Chloride (Li-SOCL₂) batteries offer excellent shelf-life conditions, with a nominal **lifespan of 10 years when stored** in a clean, dry, adequately ventilated environment with temperatures between 20 °C and 30 °C (68 °F and 86 °F). However, these batteries undergo a chemical process known as passivation, which increases internal resistance during long-term storage. This process helps prevent self-discharge, with manufacturers indicating a **1-2% self-discharge rate per year**. **After more than one year** of storage, batteries require a **de-passivation** procedure.

2.2 SENSORS

For WEGscan 100 sensors stored with batteries, it is recommended to store them in a clean, dry, adequately ventilated environment at temperatures between 20 °C and 30 °C (68 °F and 86°F). The storage period is one year; beyond this, the sensor's lifespan may be reduced, and a de-passivation procedure for the batteries becomes necessary.

2.3 DE-PASSIVATION PROCEDURE

The de-passivation process involves draining a properly calculated current for a specified duration. For batteries used in the WEGscan 100, it is recommended to connect the battery to a 100 Ω resistor for one minute, as illustrated in Figure 2.1 on page 2-1.

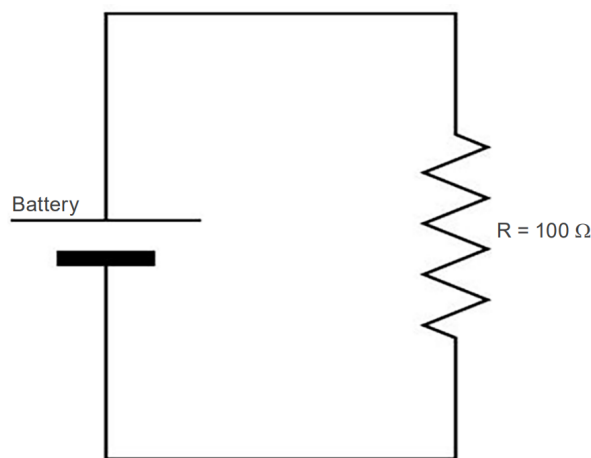


Figure 2.1: Schematic of the de-passivation process

3 REFERENCES

This technical note is based on information provided by battery manufacturers. Some references are listed below:

XenoEnergy Co., Ltd. Battery Storage & Depassivation Instructions. Available at: <https://www.tme.eu/Document/f23efc4652bdc1769351aec986fc62a9/Battery-Storage-epassivation.pdf>. Accessed March 19, 2024.

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Tadiran Batteries GmbH. Technical Brochure LTC-Batteries. Available at: <https://tadiranbatteries.de/wp-content/uploads/2021/05/Technical-Brochure-LTC-Batteries.pdf>. Accessed March 19, 2024



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