

**Operating the Network Control Module (NCM)
Battery Charger/Tester**

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Operating the Network Control Module (NCM) Battery Charger/Tester

Introduction

The NCM Battery Charger/Tester assists field technicians to determine the status of batteries installed in control modules in the NCM300 Series.

This document describes how to:

- operate the NCM Battery Charger/Tester
- order the NCM Battery Charger/Tester

Key Concepts

Cable Extenders

To provide convenient access, the tester includes field-replaceable cable extenders for each of the existing NCM battery cables. The extenders also alleviate wear on the connectors.

Connectors

The tester has two connectors. One attaches to the charger cable, and the other connects to the battery cable.

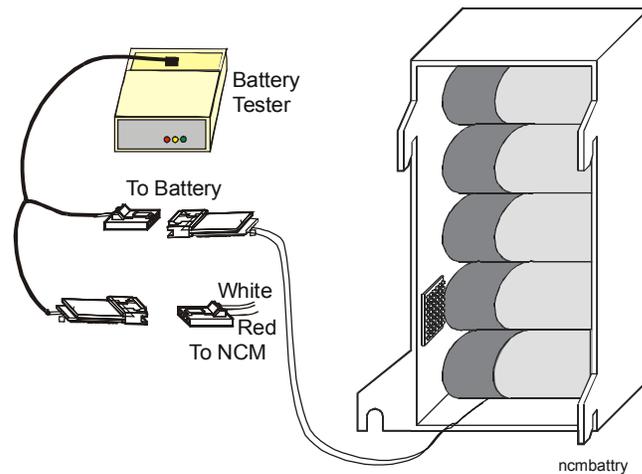


Figure 1: Attaching Tester to NCM

Light-Emitting Diodes (LEDs)

The tester has three LEDs to indicate battery and charger functionality:

- The Green LED remains lit when the tester is connected to the charger cable and the charger voltage remains between 6.0 VDC and 8.0 VDC.
- The Yellow LED remains lit for 30 minutes during battery discharge and then turns off.
- The Red LED remains lit when battery voltage drops below 5.5 VDC.

The green and red LEDs continue to show the final status of both test results until the operator disconnects the tester.

Detailed Procedures

Operating the NCM Battery Charger/Tester

Preparing the NCM for Testing

To prepare the NCM:

1. Apply line power to the NCM before testing.
2. Access the NCM and remove the battery case.
3. Inspect the battery and cables for damage.
4. Disconnect battery cables.

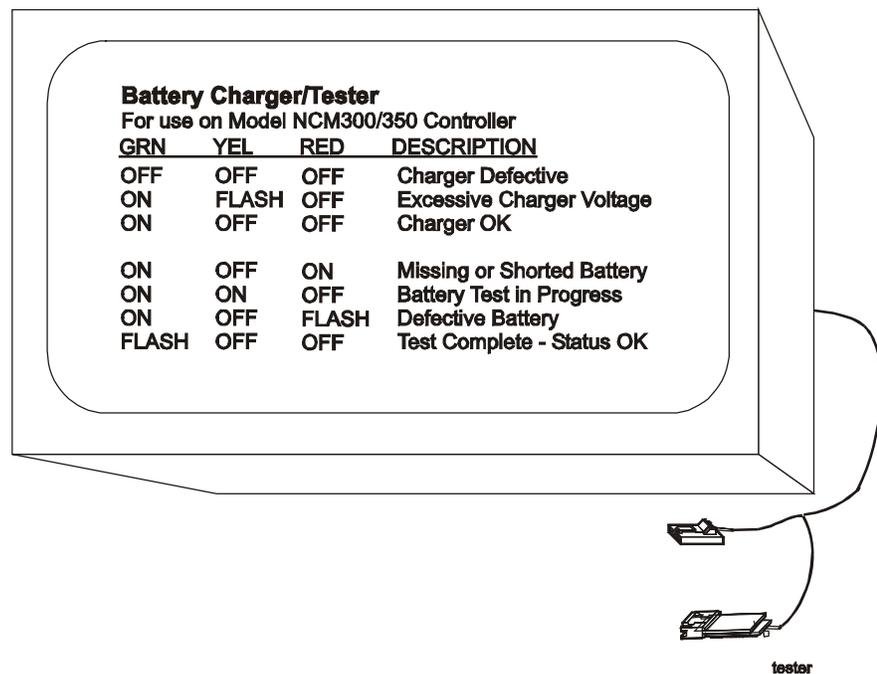


Figure 2: Top View of Tester

Testing the Charger

To test the charger:

1. Remove the cable extenders from the compartment on the back of the tester.
2. Insert the jack end of the cable into the tester.
3. Connect the tester to the charger cable.

Note: The tester obtains power from the charger, and it illuminates all LEDs briefly to verify condition.

4. Check LEDs and follow steps listed in Table 1.

Table 1: LED Indications for Charger

LED Color	LED State	Indicates	Follow These Steps:
Green	solid	Charger is within specifications.	Continue with testing.
Yellow	flashing	Charger voltage is high.	Replace NCM.
All	not lit	Charger is defective.	Replace NCM.

Testing the Battery

To test the battery:

1. Connect the battery to the remaining connector.
2. Check LEDs and follow steps listed in Table 2.

Table 2: LED Indications for Battery

Green	Yellow	Red	Indicates	Follow These Steps:
On	Off	On	Battery is missing or shorted.	Replace battery.
On	On	Off	Battery load tests are in progress.*	Allow tests to proceed.
On	Off	Flashing	Battery failed tests.	Replace battery.
Flashing	Off	Off	Battery passed tests.	Proceed to <i>Completing NCM Testing</i> .

* Battery load test lasts for 30 minutes or until the battery voltage goes below 5.5 V.

Note: You do not need to witness the battery load tests. The LEDs remain in the last state, indicating that the battery passed or failed the tests, until you disconnect the tester.

Completing NCM Testing

To complete the testing sequence:

1. Disconnect the battery when the tests are completed.
2. Disconnect the NCM.
3. Reconnect the battery to the NCM.
4. Replace the battery case.
5. Store the cable extender in the compartment on the back of the tester.

Ordering the NCM Battery Charger/Tester

To check price, availability, and to place an order for an NCM Battery Charger/Tester, please contact:

Applied Control Concepts, Inc.
8865 North 55th Street
Brown Deer, WI 53223

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