Battery Maintenance Solutions

Calibration Program for the Philips XL+ Battery adapter (PN# 07-111-5811)

ABSTRACT

The Philips XL+ battery (PN# 98903167281) has a SMBus fuel gauge which requires periodic calibration. This instruction sheet will provide detailed steps on the setup of the calibration program, on a stand-alone C-series battery analyzer. Implantation of the program will be done via Cadex adapter PN# 07-111-5811.

Users with BatteryShop, can download and import the custom program from our website www.cadex.com. Calibration can only be done on the C-series analyzer. Older version analyzers will not be compatible. Identification of a C-series analyzer can be done via the serial number (the first four characters will start with C72C0#, C74C0#, C7EC0#).

Prerequisites:
- This document assumes that the user is familiar with the operation of the Cadex C7x00-C and/or BatteryShop™ software.
- Adapter PN# 07-111-5811

A. Custom Program
1. On the battery analyzer, navigate to the Cutom Programs option (Menu > Program Settings > Custom Programs).
2. Select one of the four custom programmable slots (by default the system will show the first slot "Custom1").
3. Each custom program is divided into 6 phases, with the 6th phase being the DONE phase. Using the right and left arrow keys, navigate between the different categories. You can adjust the value/settings by using the up and down keys. Adjust the settings to the following:

> Phase 1
>> CYCLE 1, Charge for 0h, 0m, 0s, @ 91%
>> CYCLE 2, Rest for 2h, 5m, 0s
>> TEST Skip Test
>> TRUE THEN goto Next Phase
>> FLASE ELSE goto Next Phase

> Phase 2
>> CYCLE 1, Discharge for 0h, 0m, 0s, @ 100%
>> CYCLE 2, Rest for 5h, 5m, 0s
>> TEST Skip Test

TRUE THEN goto Next Phase
FLASE ELSE goto Next Phase

Phase 3
CYCLE 1, Charge for 0h, 0m, 0s, @ 91%
CYCLE 2, Rest for 2h, 5m, 0s
TEST Skip Test
TRUE THEN goto Next Phase
FLASE ELSE goto Next Phase

Phase 4
CYCLE 1, Discharge for 0h, 0m, 0s, @ 100%
CYCLE 2, Rest for 5h, 5m, 0s
TEST Skip Test
TRUE THEN goto Next Phase
FLASE ELSE goto Next Phase

Phase 5
CYCLE 1, Charge for 0h, 0m, 0s, @ 100%
CYCLE 2, Skip Cycle
TEST IF Target Capacity Not Met
TRUE THEN FAIL
FLASE ELSE goto Next Phase

Phase 6
Cycle 1, Ready – No Charge

4. Once programming is done, press Enter. The system will ask for a custom program name. Adjust the values to show "XLp Cal" and press Enter.
5. The saved custom program will now be listed under the Advanced tests.

B. Programming the XL+ Adapter (PN# 07-111-5811)

The XL+ adapter (PN# 07-111-5811) comes pre-programmed with C1 set to Charge. To set C2 to calibrate the XL+ battery, enter in the following program and C-Code:

Test Program (Pgm):	XLp Cal
Chemistry:	Li
Cell:	4 (14.40V)
mAh:	6600
Charge:	0.17C
Discharge:	0.09C
Cap. Offset:	0%
Temp. Sensor:	5°C - 45°C
End of Discharge:	3.10V/Cell
End of Charge:	0.01C
Max. Charge:	4.20V/Cell
Max. Standby:	4.05V/Cell
C-Code Name:	XL PLUS

It is important to have both the custom program and C-Code programmed correctly to properly calibration the XL+battery. Please contact Cadex at service@cadex.com or at 1-800-565-5228, regarding any questions.