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Application Note on Entering and Setting a Calibration Program For the Philips XL+ Battery

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ABSTRACT

The Philips XL+ battery (PN# 98903167281) has a SMBus fuel gauge which requires periodic calibration. This application note will provide detailed steps on the setup of the calibration program, on a stand-alone C-Series battery analyzer. Implementation 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 analyzers. 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#).



A. Custom Program

1. On the battery analyzer, navigate to the Custom 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 key. 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 DONE

CYCLE 1, Ready – No Charge

- 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.
- 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 calibration 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
Trickle Charge :
Recondition :
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 import to have both the custom program and C-Code programmed correctly to properly calibrate the XL+ battery. Please contact Cadex at service@cadex.com or at 1-800-565-5228, regarding any questions.

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