



Client:	Project Name:	Project No:	
Area:	Drawing No's:	Date:	Sheet: 1 of 3
Check Conducted By:	Signature:	Check Approved By:	Signature:

## INTRODUCTION

### HLI – High Level Input: (Uninterruptable Power Supply)

The on-site commissioning procedure aims to check the operation of a UPS HLI to verify their wiring and operation.

For each point, a change of flow of the equipment should be simulated or produced, and the monitoring function of the Systems is be verified on the software online tool. For each control point, the corresponding equipment's should be controlled by the software online tool to manually command outputs to be driven to the desired value. The following procedures describe the best practice steps to commissioning each device to verify its correct operation.

It is expected that the point's lists are used to record the results of the point to point commissioning.

### Procedure recommended general checks

1. Visibly check installation against approved shop drawings (size, type, model etc.)
2. Check that general construction and standard of finish is acceptable
3. Record name point information and compare against the approved specification
4. Check the UPS has been commissioned by the manufacturer
5. Check that the network between the HLI and the BMCS is complete
6. Check the BMS Modbus gateway's baud rate, parity and stop bits rate are set as per the UPS HLI
7. Check that the Modbus address has been set in the UPS HLI
8. Check communications has been established to the HLI using the BMCS
9. Check point descriptions are in line with the mapping table provided by the manufacturer
10. Sign off on **Point to Point Sign Off Sheet**

### Procedure recommended for testing operation

Each test should be performed in both manual and automatic modes.

1. Control the equipment being monitored to run under normal operating conditions by generating the appropriate control command. Verify the value of the UPS HLI point against the control criteria and verify the operational performance of the equipment.

If the BMCS displays the desired value then the test has been successful and "S" should be recorded in the



commissioning schedule/inspection and test plans. If the UPS does not display the desired value then the test has failed and "F" should be recorded in the commissioning schedule/inspection and test plans.

2. While the UPS displays the desired value, generate an alarm (where applicable).

If the UPS changes state from normal operating conditions to alarm condition then this test has been successful and "S" should be recorded in the commissioning schedule/inspection and test plans. If the point does not change state to alarm condition then this test has failed and "F" should be recorded in the commissioning schedule/inspection and test plans.

3. At the conclusion of the test return the equipment and the BMCS to displaying the status, condition and desired values for normal operating conditions.

When a point is commissioned tick the Checked Out box which will indicate the user, time and date checked out, then add comments in the Checkout Notes box (Actual, Recorded, and Offset)

#### **REFERENCE STANDARDS**

CIBSE Commissioning Code C – Automatic Controls



**CHECKLIST**

<b>UPS HLI Testing</b>				
BMCS Drawing Number				
	<b>ITEM</b>	<b>VERIFICATION METHOD</b>	<b>RESULT</b>	<b>RESULT</b>
1	Check installation against approved shop drawings (Size, type, model etc.)	Site Inspection		
2	Check that general construction and standard of finish is acceptable	Site Inspection		
3	Record name point information and compare against the approved specification	Data / Point Sheet Record		
4	Check the UPS has been commissioned by the manufacturer	Data / Point Sheet Record		
5	Check that the LAN between the HLI and the BMS is complete	Data / Point Sheet Record		
6	Check the BMCS Modbus gateway's baud rate, parity and stop bits rate are set as per the UPS HLI	Data / Point Sheet Record		
7	Check that the Modbus address has been set in the UPS HLI	Data / Point Sheet Record		
8	Check communications has been established to the HLI using the BMCS	Data / Point Sheet Record		
9	Check point descriptions are in line with the mapping table provided by the manufacturer	Data / Point Sheet Record		
Certified By Sub Contractor (initial):				
Date:				
Confirmed By (Head Contractor / Client) (initial):				
Date:				