



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: (Smart Energy Meter)

The on-site commissioning procedure aims to check the operation of a Smart Energy Meter 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 Smart Energy Meter has been commissioned by the relevant contractor
5. Check that the network between the Meter and the BMCS is complete
6. Check the BMCS Modbus gateway's baud rate, parity and stop bits rate are set as per the Smart Energy Meter HLI
7. Check that the Modbus address has been set in the Smart Energy Meter HLI
8. Check communications has been established to the HLI using the BMCS
9. Check values are reading correctly for function testing
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 Smart Energy Meter 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 Smart Energy Meter 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 Smart Energy Meter displays the desired value, generate an alarm (where applicable).

If the Smart Energy Meter 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)

ACCURACY:

With your Smart Energy Meter take a reading and compare to what is reading on the BMCS. Calibrate accordingly. Once the calibration is verified write Reading xx Actual xx Adjust +/- xx % in the Checkout Notes.

Measured Variable	Reported Accuracy
Electrical (A, V, W, Power factor)	2% of reading

REFERENCE STANDARDS

CIBSE Commissioning Code C – Automatic Controls



CHECKLIST

Smart Energy Meter HLI Testing				
BMCS Drawing Number				
	ITEM	VERIFICATION METHOD	RESULT	RESULT
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 Smart Energy Meter has been commissioned by the relevant contractor	Data / Point Sheet Record		
5	Check that the network between the Meter and the BMCS 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 Smart Energy Meter HLI	Data / Point Sheet Record		
7	Check that the Modbus address has been set in the Smart Energy Meter HLI	Data / Point Sheet Record		
8	Check communications has been established to the HLI using the BMCS	Data / Point Sheet Record		
9	Check values are reading correctly for function testing	Data / Point Sheet Record		
Certified By Sub Contractor (initial):				
Date:				
Confirmed By (Head Contractor / Client) (initial):				
Date:				