



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

## INTRODUCTION

The on-site commissioning procedure aims to check the operation of all Two Position Damper + Actuator to verify their wiring and operation.

For each point, a change of status 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
2. Check that general construction and standard of finish is acceptable
3. Record name point information and compare against the approved specification
4. Confirm no damage to the electric components
5. Check cabling for insulation stripped back satisfactorily, no stray copper strands and terminals are tight with no loose wires
6. Check ductwork and actuator shaft connection prior to energisation
7. Check power supply is isolated, has the correct power source, voltage, cable sizing

### Procedure recommended for testing operation

For each routine the 2 position damper + actuator shall be tested in both manual and automatic modes.

1. Generate the appropriate control command to run the equipment under normal operating conditions
2. If the two position damper + actuator point displays the status and condition for normal operating conditions then this test has been successful and "S" should be recorded in the commissioning schedule/inspection and test plans. If the digital output point does not display the status and condition for normal operating conditions then this test has failed and "F" should be recorded in the commissioning test result sheets.
3. While the two position damper + actuator point is displaying the status and condition for normal operating conditions activate the command from the operator terminal to change the status of the equipment to cease



normal operating conditions.

4. While the digital output point is displaying the status and condition for normal operating conditions simulate a fault condition at the equipment or the FPU. E.g. open circuit a data cable. (This test need only be performed on actuators with feedback wiring)

If the two position damper + actuator point changes state and reports a fault condition and an alarm is generated on the alarm summary then this test has been successful and "S" should be recorded in the commissioning schedule/inspection and test plans. If the digital output point does not change to fault condition or if an alarm is not generated on the alarm summary then this test has failed and "F" should be recorded in the commissioning schedule/inspection and test plans.

5. At the conclusion of the test return the equipment and the BMCS to displaying the status and condition 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 (Status, Fault...)

#### **REFERENCE STANDARDS**

CIBSE Commissioning Code C – Automatic Controls



**CHECKLIST**

<b>Generic Binary Output 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	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	Site Inspection		
4	Confirm no damage to the electric components	Site Inspection		
5	Check cabling for insulation stripped back satisfactorily, no stray copper strands and terminals are tight with no loose wires	Site Inspection		
6	Check ductwork and actuator shaft connection prior to energisation			
7	Check power supply is isolated, has the correct power source, voltage, cable sizing	Site Inspection		
8	Confirm current state of two position damper + actuator	Data / Point Sheet Record		
9	Reverse output and confirm new state of two position damper + actuator	Data / Point Sheet Record		
10	Once the change of states is verified write Normal / Fault OK in the Checkout Notes.	Data / Point Sheet Record		
Certified By Sub Contractor (initial):				
Date:				
Confirmed By (Head Contractor / Client) (initial):				
Date:				