Checksheets

Instrument Loop Check - Transmitter Calibration & DCS Integration

Doc: IN-LT-001
Rev: 1.0
Date: 22/01/2026

Project Name: Checksheets.com	Project Code: CHKSHEETS1
Equipment Tag: _____	System: _____
Discipline: Instrumentation	Location: _____
Contractor: _____	Date: 22/01/2026

1. Loop Information & Documentation

Basic loop information and documentation verification

#	Activity / Check Item	Response
1	Confirm loop details against I/O schedule and instrument database *Verify tag numbers, ranges, and signal types match documentation* Ref: Loop diagrams, P&ID, I/O schedule	☐ Pass ☐ N/A ☐ Fail
2	Verify transmitter data sheet information matches installed device *Check manufacturer, model, serial number, range, and output type* Ref: Instrument data sheet	☐ Pass ☐ N/A ☐ Fail
3	Confirm DCS graphics configuration matches current database *Verify tag name, description, ranges, alarm limits, and engineering units* Ref: DCS configuration database	☐ Pass ☐ N/A ☐ Fail

2. Pre-Energisation Checks

Safety and installation verification prior to loop energisation

#	Activity / Check Item	Response
4	Check instrument cleanliness and remove any mechanical stops *Remove transit plugs, check for damage/corrosion, confirm silica gel bags installed*	☐ Pass ☐ N/A ☐ Fail
5	Verify cable continuity - core to core and core to earth *Use certified multimeter for continuity checks* Ref: Loop diagram	☐ Pass ☐ N/A ☐ Fail
6	Confirm all loop hardware installation per loop drawing and P&ID *Verify all components are correctly installed and connected* Ref: Loop diagram, P&ID	☐ Pass ☐ N/A ☐ Fail
7	Check loop power supply voltage within manufacturer specifications *Record supply voltage*	☐ Pass ☐ N/A ☐ Fail
8	Verify I.S. barrier installation and earthing (if applicable) *For intrinsically safe circuits only* Ref: I003B checksheet	☐ Pass ☐ N/A ☐ Fail

3. Transmitter Calibration

Detailed calibration of field transmitter

#	Activity / Check Item	Response
9	Record transmitter calibration details *Document calibration points: 0%, 25%, 50%, 75%, 100% (rising and falling)*	
10	Calibrate transmitter as per data sheet specifications *Record input and output values for all test points* Ref: Instrument data sheet	☐ Pass ☐ N/A ☐ Fail
11	Verify transmitter accuracy within acceptable tolerance *Check against data sheet accuracy specifications*	☐ Pass ☐ N/A ☐ Fail
12	Test transmitter repeatability (if specified) *Multiple readings at same input to verify consistency*	☐ Pass ☐ N/A ☐ Fail

4. Signal Verification & DCS Integration

Verification of signal transmission and DCS system integration

#	Activity / Check Item	Response
13	Verify signal transmission from transmitter to DCS *Apply known input, verify correct output at DCS*	☐ Pass ☐ N/A ☐ Fail
14	Check DCS graphics display correct process value *Compare DCS display with actual applied input*	☐ Pass ☐ N/A ☐ Fail
15	Test alarm functionality at configured setpoints *Test Low-Low, Low, High, High-High alarms as applicable* Ref: Alarm & trip schedule	☐ Pass ☐ N/A ☐ Fail
16	Verify alarm acknowledgment and reset capability *Test from DCS operator interface*	☐ Pass ☐ N/A ☐ Fail
17	Check signal quality and stability (no drift or noise) *Monitor signal for minimum 5 minutes at mid-range*	☐ Pass ☐ N/A ☐ Fail
18	Test HART communication (if applicable) *Verify HART protocol communication and device parameters*	☐ Pass ☐ N/A ☐ Fail

5. Loop Function Test

Complete loop function testing and integration verification

#	Activity / Check Item	Response
19	Function test complete loop per loop diagram *Test all loop components and interfaces* Ref: Loop diagram, P&ID	☐ Pass ☐ N/A ☐ Fail
20	Verify all loop interfaces (DCS, SSDS, ESD, local panels) *Check signal reaches all required destinations*	☐ Pass ☐ N/A ☐ Fail
21	Test loop response time (if specified) *Measure time from input change to DCS display update* Ref: Data sheet requirements	☐ Pass ☐ N/A ☐ Fail
22	Record test equipment used *Document type, serial number, and calibration expiry date*	

6. Completion & Sign-off

Final verification and documentation

#	Activity / Check Item	Response
23	Remove all test forces, jumpers, and inhibits *Ensure loop is in normal operating configuration*	☐ Pass ☐ N/A ☐ Fail
24	Leave instrumentation online and ready for use *Controllers in manual mode, all isolation valves open*	☐ Pass ☐ N/A ☐ Fail
25	Document any deviations or outstanding items *Record any issues requiring follow-up action*	
26	Technician completion signature and date	
27	Supervisor/Engineer approval signature and date	

Prepared By:

Date: _____ Sign: _____

Reviewed By:

Date: _____ Sign: _____

Approved By:

Date: _____ Sign: _____