

Your Company Name / Logo	HART TRANSMITTER CONFIGURATION SOP	Doc no: SOP INST 015	Rev: 0
Department: Instrumentation	Standard operating procedure	Date:	Page: see footer

1. Purpose

To configure transmitters correctly the first time and keep a record of every setting.

2. Scope

HART pressure, temperature, level and flow transmitters configured in the field or workshop.

3. References

- Instrument data sheet
- Manufacturer manual
- Site HART configuration standard

4. Responsibilities

- Instrument technician: carries out the work and records results.
- Instrument engineer or supervisor: reviews and approves the records.
- Operations: grants the permit, isolates the process and returns the equipment to service.

5. Safety precautions

- Work only under a valid permit to work and follow the site isolation (lockout tagout) procedure.
- Wear the PPE required for the area: safety helmet, glasses, gloves and safety shoes as a minimum.
- In hazardous areas use certified or intrinsically safe test equipment, or obtain a gas free certificate and hot work permit.
- Inform the control room before starting, and before returning the instrument to service.
- Use communicators approved for the hazardous area, or work in a safe area.
- Put the loop in manual before changing configuration; changes can move the output.

6. Tools and equipment

- HART communicator or modem with software
- Loop power supply and 250 Ω resistor for bench work
- mA meter

7. Prerequisites

- Data sheet with the required range, units and alarm direction.

8. Procedure

8.1 Connect

- 8.1.1 Connect the communicator across the transmitter or the loop resistor (at least 250 Ω in the loop).
- 8.1.2 Read device identity and present configuration; save it as found.

8.2 Configure

- 8.2.1 Set tag, descriptor and message.
- 8.2.2 Set units, LRV, URV, transfer function and damping per data sheet.
- 8.2.3 Set failure direction (upscale or downscale) and NAMUR NE43 levels if selectable.
- 8.2.4 Set write protection if required by the site.

8.3 Test

- 8.3.1 Use the loop test function to drive 4, 12 and 20 mA and confirm the DCS readings.
- 8.3.2 Check the process value and units at the DCS.

8.4 Record

8.4.1 Save the as left configuration file and fill the configuration record.

9. Acceptance criteria

- Configuration matches the data sheet.
- Loop test values match at the DCS within tolerance.
- As found and as left configurations saved.

10. Records

- HART transmitter configuration record (free template: instrumentationblog.in/downloads/templates/hart-transmitter-configuration-record/)
- Instrument maintenance log (free template: instrumentationblog.in/downloads/templates/instrument-maintenance-log/)

11. Approval

	Prepared by	Reviewed by	Approved by
Name			
Signature			
Date			

This procedure is a generic template. Adapt it to your site permit system, the manufacturer instructions and your quality system before use.