



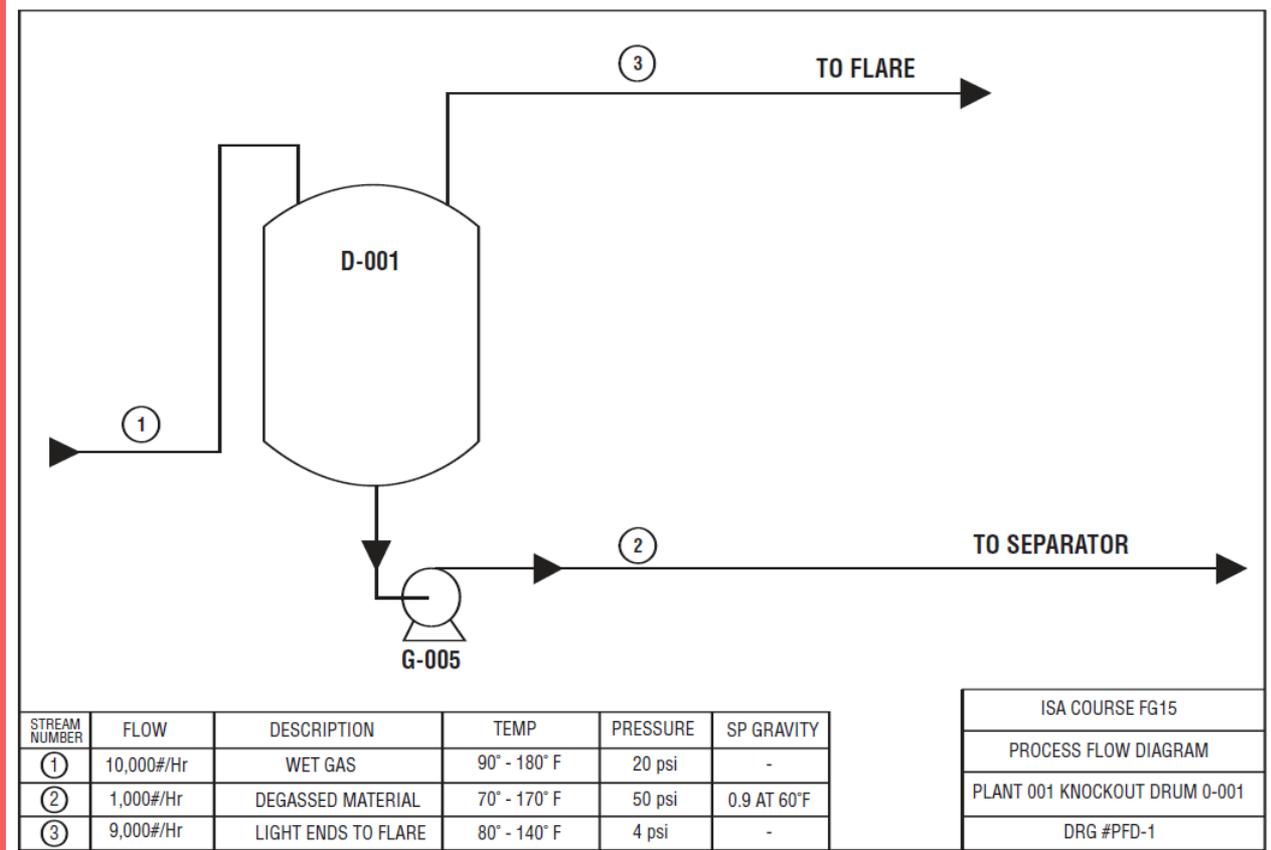
# Qué documentación se necesita en Instrumentación?

Por, Jose Carlos Villajulca

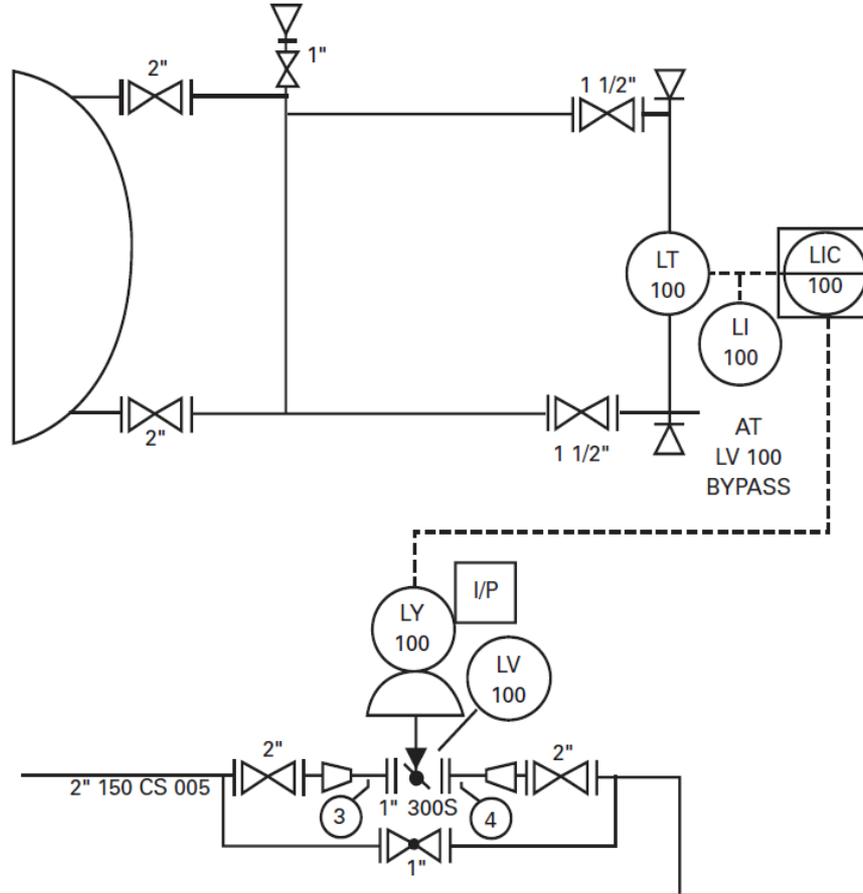
# Listado?

- Diagramas de Flujo de Procesos (Process Flow Diagrams PFD)
- Diagramas de Instrumentacion y Procesos (Process and Instrument diagrams, P&IDs)
- Diagramas de Lazo (Loop diagrams)
- Diagramas Funcionales o Logicos
- Listado de instrumentos (base de datos, IO, etc)
- Datasheets de Instrumentos
- Plano de localización
- Detalle de instalación
- Manual de Instrucciones

# 1. Diagramas de Flujo de Procesos (PFDs)





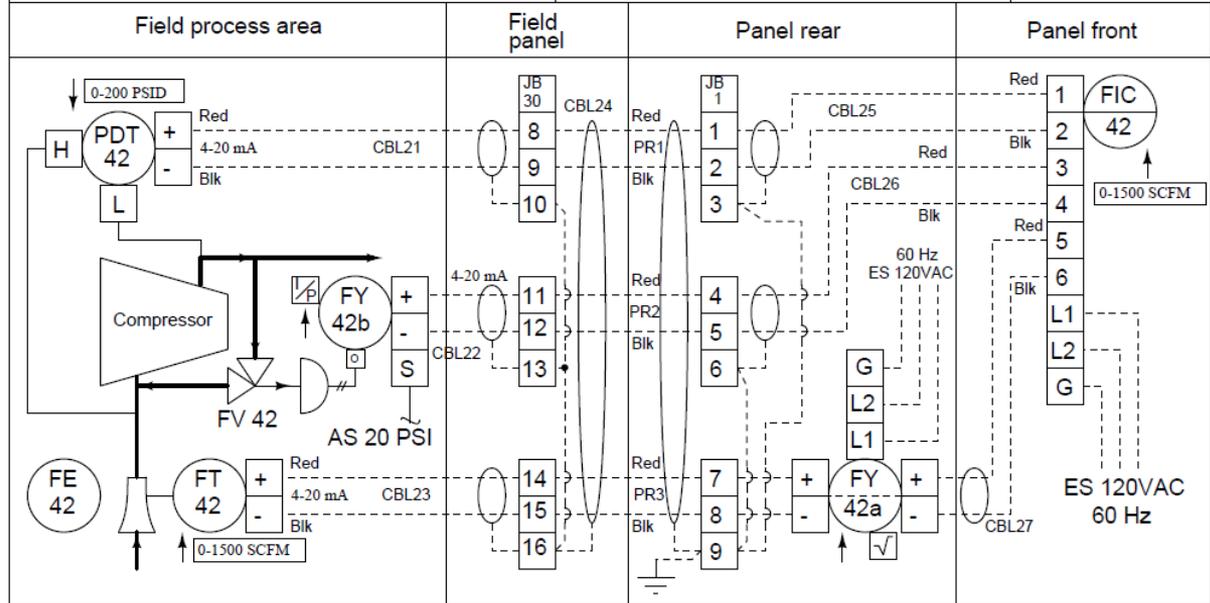


## Diagramas de Instrumentacion y Procesos (P&IDs)

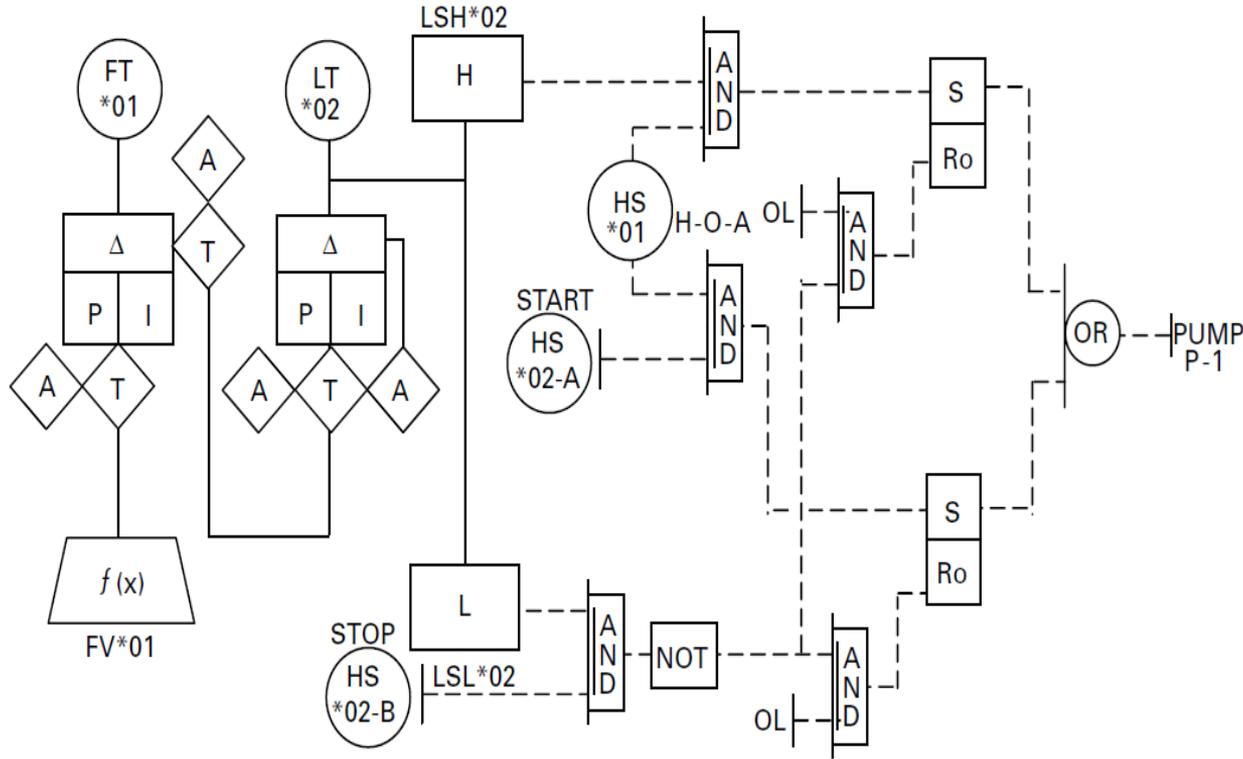
# Diagramas de Lazo (Loop diagrams)

Loop Diagram: Compressor surge control

Date: April 1, 2003



Tag number	Description	Input cal.	Output cal.	Notes
FE 42	Venturi tube	0-1500 SCFM	0-100 "WC	
FT 42	Suction flow transmitter	0-100 "WC	4-20 mA	
FY 42a	Square root extractor	4-20 mA	4-20 mA	
FY 42b	Current-to-pressure converter	4-20 mA	3-15 PSI	
FV 42	Anti-surge control valve	3-15 PSI	100%-0%	Air-to-close
PDT 42	Differential pressure transmitter	0-200 PSI	20-4 mA	Reverse action
FIC 42	Anti-surge controller	4-20 mA	4-20 mA	



## Diagramas Funcionales o Logicos



# Listado de instrumentos (base de datos, IO, etc)

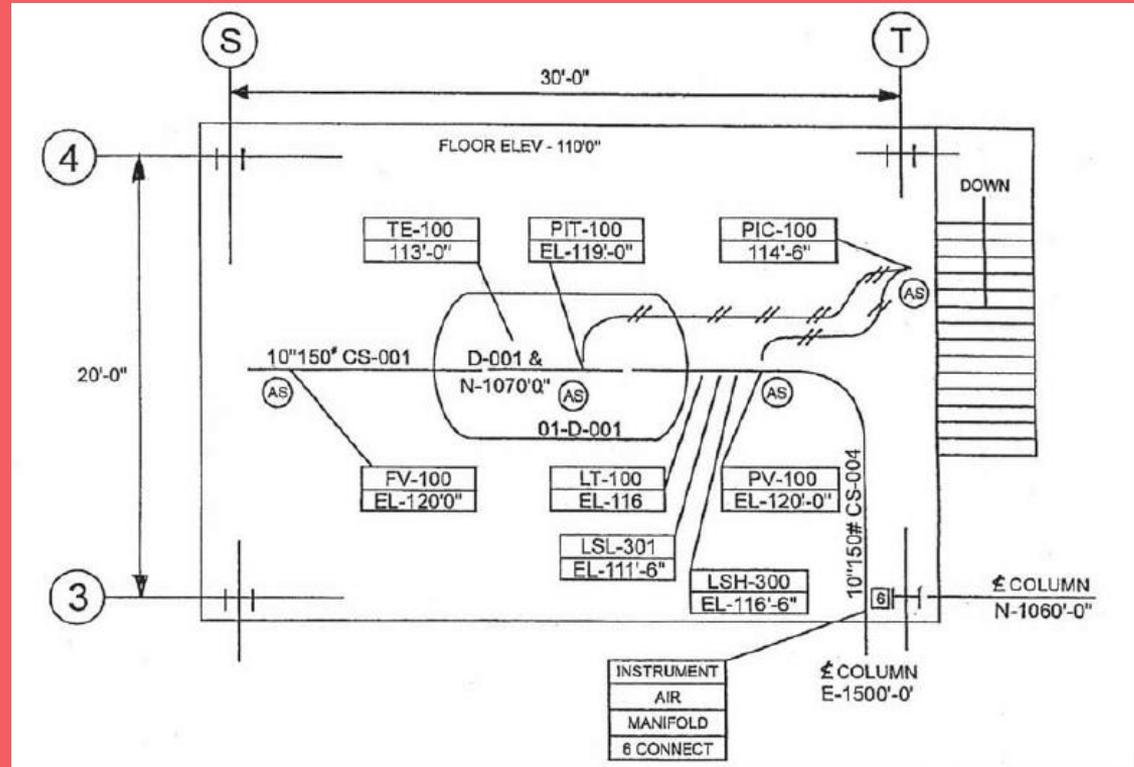
Lazo	Servicio	Tag	P&ID	Datasheet	Plano Localización	Plano Instalación
20-F-105	Flujo de crudo a horno 100	20-FIT-105	220-M6-0310-00018	20-FIT-105-DS	220-U20-0310-0001	220-I20-0310-0001

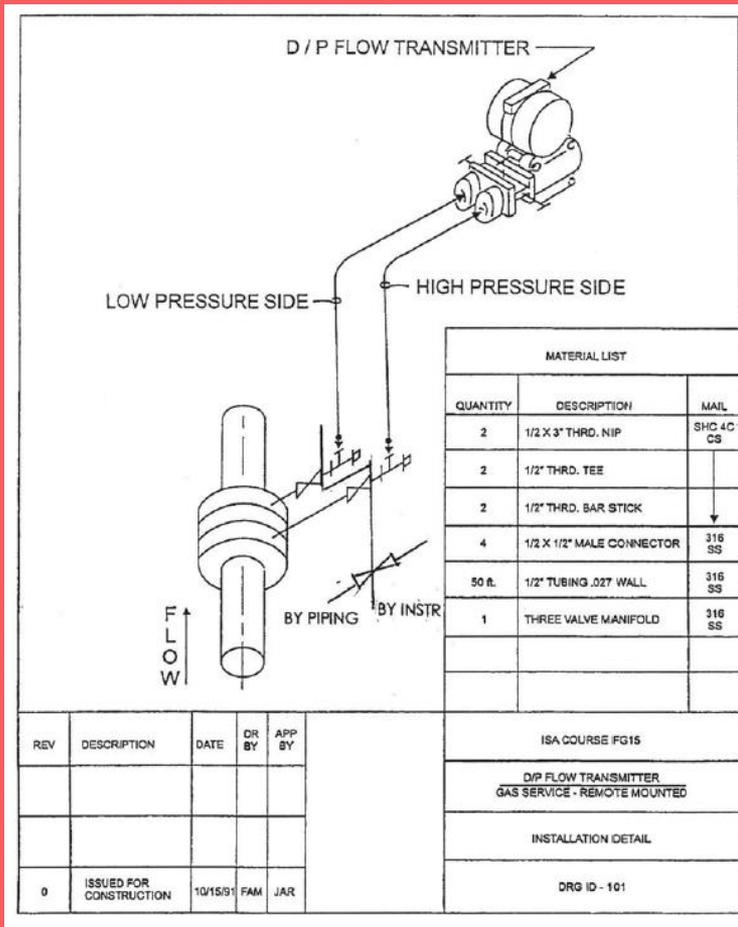


		LEVEL INSTRUMENTS (DISPLACER OR FLOAT)				SHEET		OF	
		NO	BY	DATE	REVISION	SPEC. NO.	REV.	DATE	
		0	FAM	12/15/2003		821	0		
					CONTRACT		DATE		
					1234		1/3/2003		
					REQ. - P.O.				
					J-6 J-12				
		BY		CHK'D		APPR.			
		FAM		CHK CAM		LF			
1	Tag Number	LT-100							
2	Service	K.O. DRUM							
3	Line Number / Vessel Number	01-D-001							
4	Body or Cage Material	C.S.							
	Rating	300 psi							
5	Conn Size & Location Upper	1 1/2" TOP							
	Type	300 psi FLG							
6	Conn Size & Location Lower	1 1/2" BTM							
	Type	300 psi FLG							
7	Case Mounting	SIDE							
	Type								
8	Rotatable Head	NOT REQ							
9									
10	Oteration	LEFT HAND							
11	Cooling Extension	NOT REQ							
12									
13	Dimensions	48"							
14	Insertion Depth								
15	Displacer Extension								
16	Disp. or Float Material	304 S.S.							
17	Displacer Spring/Tube Mtl.	MFG. STD.							
18									
19									
20	Function	TRANSMITTER							
21	Output	4-20 mAdc							
22	Control Modes								
23	Differential								
24	Output Action: Level Rise	INCREASE							
25	Mounting	INTEGRAL							
26	Enclosure Class	NEMA 6							
27	Elec. Power or Air Supply	24Vdc from shared							
28	display								
29	Upper Liquid	WET GAS							
30	Lower Liquid	DEGASSED MTL.							
31	Sp. Gr.: Upper	Sp. Gr.: Lower	.9 @ 60 F						
32	Press. Max.	Normal	50 PSI						
33	Temp. Max.	Normal	400 F						
34		90-150 F							
35									
36	Airset	Supply Gage							
37	Gage Glass Connections								
38	Gage Glass Model No.								
39	Contact: No.	Contact: Form							
40	Contact Rating								
41	Action of Contacts								
42									
43									
44									
45									
46	Manufacturer	LATER							
47	Model Number	LATER							
48									
NOTES:									

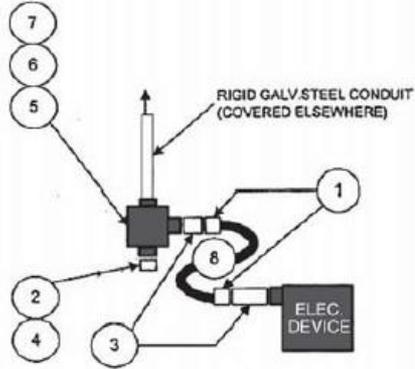
# Datasheets o Hojas de Especificacion

# Planos de Localizacion





## Detalle de instalación y montaje



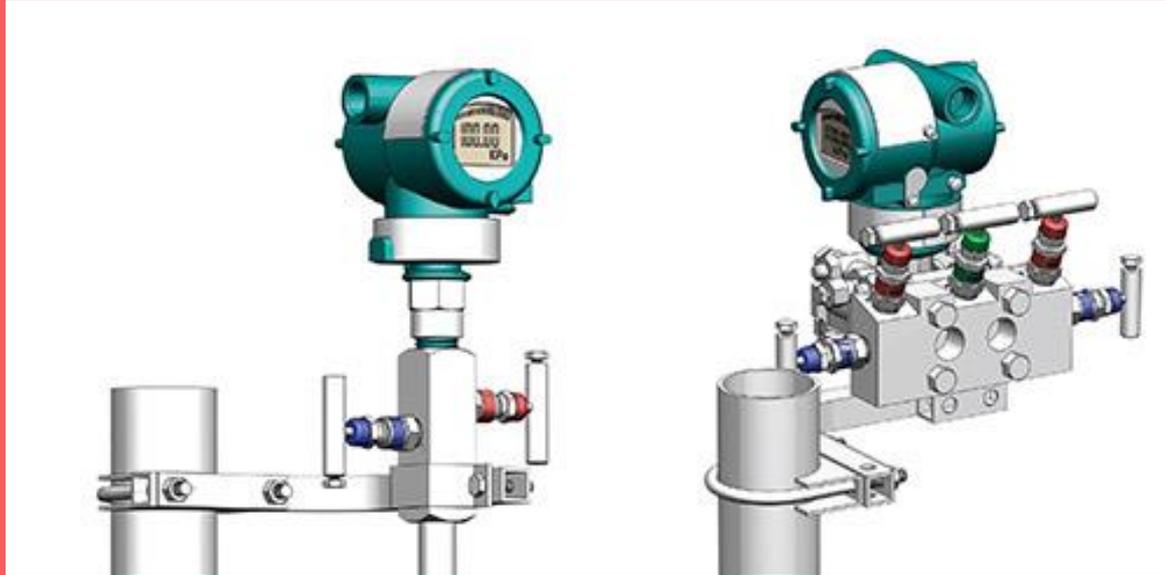
BILL OF MATERIAL				
ITEM	QTY	U/I	DESCRIPTION	PART NO.
1	2	EA	COUPLING, LIQ-TITE, FLEXIBLE	C-H LNM75
2	1	EA	'DRAIN, CONDUIT	C-H ECD15
3	2	EA	NIPPLE, CONDUIT, 3/4" RIGID STL	FAB
4	1	EA	REDUCER, CONDUIT, 3/4" X 1/2"	C-H RE21
5	1	EA	COVER, CONDULET, FORM7	C-H 270
6	1	EA	GASKET, CONDULET, FORM7	C-H GASK572
7	1	EA	CONDULET, TEE, 3/4", FORM7	C-H T27
8	2	FT	FLEX, LIQUIDTITE, 3/4"	VAR
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				

REVISION HISTORY			
REV	DATE	DESCRIPTION	INITIALS
A			

NOTES

TITLE	DETAIL NUMBER	REVISION
INSTRUMENT INSTALLATION DETAIL GEN'L PURPOSE FLEX IBLE CONDUIT TERMINATION DETAIL	ELEC-001	A

## Detalle de instalación y montaje



## Detalle de instalación y montaje

# Manual de Operacion y Mantenimiento

azbil

CM2-GTX100-2005

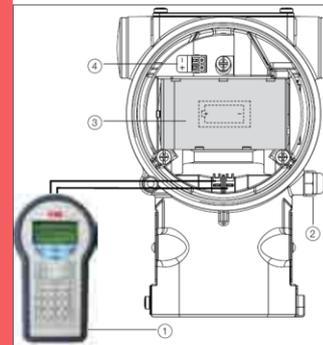
## AT9000 Advanced Transmitter Electronic Differential Pressure/ Pressure Transmitter with DE® and HART® Bilingual Communications

### User's Manual



Yamatake Corporation

#### 6.3 HART



① Handheld communicator | ② External ground termination point | ③ Battery | ④ Fast connection for harvesting unit  
Figure 31: HART transmitter connection scheme

**Important.** HART hand-held communicator may be connected at any termination point in the loop. No need of 250 ohms resistance for communication purposes.

#### 6.4 Supply requirement

Pressure transmitter power supply is granted by a 3.6V size 'D' battery. Standard supplied battery is a Lithium-thionyl chloride cell certified for Hazardous Areas.

#### 6.5 Powering the transmitter on

Follow these steps to power the trans

- Remove the temporary plastic cap from the electrical connection ports located on the upper part of the transmitter housing.
- This connection port has a M20 x 1.5 thread. It has to be fitted to this port to connect the battery.

**Important.** 266 Pressure Transmitter is designed to maintain the IP67 certification rating. Do not remove the dedicated plug.

- Remove the housing cover of the transmitter. See the indication engraved on the cover.
- Remove the battery pull-tab grabber. Make it completely outside from its slot. Do not make contact with the electronic components.

**Note.** 266 WIPressure battery is manufactured by Batteries GmbH (manufacturer code S1600).

- Before installing the housing cover, check the display is working or not. If yes, turn it to seat O-ring into its slot. Continue to hand tighten until the housing metal-to-metal.

#### 6.6 Protective Grounding

Pressure transmitter housing should be grounded in accordance with national and local electrical codes. This connection is mandatory for surge protection in order to ensure proper functioning.

Protective grounding terminals (PE) are located inside the housing of the transmitter. They are electrically connected and it up to the user to use. The most effective transmitter grounding is direct connection to earth ground with a resistance less of 5 ohm.

# Dejate tu comentario

Que te parecio? Que mas podriamos incluir? Que otros problemas tienes en Instrumentacion?

