

CV MITRA HASANAH TEKNIK

Report Title : Assessment of Instrument Device 2022				continued Recommendation: - To procure suitable transmitter for replacement . - To change material code in SAP with suitable transmitter for future use. - To perform calibration and rerange existing transmitter. - The existing transmitter specification is; STR93D-21B-1C0BDABA-507K-MB-CM-CC-TG-F1-TP-E1D9 - Recommended transmitter for replacement is; STR12D-21B-1B0BDABA-507K-MB-CC-TG-F1-TP-E1D9 - The similar issue for LT 4084 Attachment; 1. Data sheet LT4003. 2. Instuction manual mention different minimum SPAN between type STRD93D and type STR12D. 3. Vessel H-401 dimension drawing. https://www.jasaservis.net/IBR-LT4003.pdf Assessor: Mohamad Yani/ Riswanto Date: 7-4-2022 Customer Comment
End User Name	PT INDO BARAT RAYON	Location	CIKAMPEK	
Tag no.	LT4003	Description	Level Transmitter for H-401	
Manufacturer	HONEYWELL	Device	Level Transmitter DP Cell Type	
Reference	Data sheet, Manual	ACCEPTED / NOT ACCEPTED		
Method Method of assessment is mentioned here below; - Visit site for inspection equipment. - Check and verify equipment specification - Review equipment performance through operation report Activities/ Observation With refer to tank H-401 dimension and process data, the existing transmitter installed is not suitable for this application, existing transmitter has minimum SPAN 670 mBar, but maximum SPAN generated at transmitter tapping point only 350 mBar				

**PT. AKZO NOBEL SATINDO
SATINDO PROJECT**

DATA SHEET NO. : 23456-A-J-806 B

MR NO. : 23456-MR-J-011

JOB NO. : 23456.200

LEVEL TRANSMITTER - D.P. CELL TYPE

PAGE

2 of 6

REV	DATE	DESCRIPTION	BY	CHK	APP
A	10/10/97	ISSUED FOR QUOTATION	HR	JM	
0	23/12-97	ISSUED FOR PURCHASE	JM		

GENERAL

1 TAG NUMBER	LT-3030	LT-3101	LT-3128	LT-4003
2 SERVICE	ABSORBER	LEAN OIL TANK	STRIPPER	STAB. REBOILER
3 P&ID NUMBER	302	304	305	401
4 VESSEL NUMBER	C-320	T-350	C-340	H-401

SERVICE

5 FLUID	RICH OIL	LEAN OIL	LEAN OIL	CS2
6 NORMAL TEMPERATURE	60 °C	37 °C	185 °C	101 °C
7 MAX. TEMPERATURE	75 °C	40 °C	224 °C	150 °C
8 CALIB. dP RANGE	0 - 94 mBar	0 - 163 mBar	0 - 155 mBar	0 - 67 mBar
9 ADJUST. dP RANGE	0 - 62.2 TO 0 - 7000 mBar	0 - 62.2 TO 0 - 7000 mBar	0 - 62.2 TO 0 - 7000 mBar	0 - 62.2 TO 0 - 7000 mBar
10 OPERATING S.G.	0.773	0.755	0.7	1.1
11 DENSITY	773 KG/M3	755 KG/M3	700 KG/M3	1140 KG/M3

BODY AND ELEMENT

13 TRANSMITTER TYPE	ELECTRONIC	ELECTRONIC	ELECTRONIC	ELECTRONIC
14 MOUNTING	OUTDOOR	OUTDOOR	OUTDOOR	OUTDOOR
15 ELEMENT TYPE	FLANGED DIAPHRAGM	FLANGED DIAPHRAGM	FLANGED DIAPHRAGM	FLANGED DIAPHRAGM
16 BODY MATERIAL	C.STEEL	C.STEEL	C.STEEL	C.STEEL
17 ELEMENT MATERIAL	316 SS	316 SS	316 SS	316 SS
18 PROCESS CONNECTION	2"-150# ANSI RF FLG	2"-150# ANSI RF FLG	2"-150# RF FLG	2"-150# ANSI RF FLG
19 DRAIN/VENT VALVE MT'L	N/A	N/A	N/A	N/A

TRANSMITTER / CONTROLLER

20 ELECT. AREA CLASS.	CL. I DIV. 2 GRP. C, T3	CL. I DIV. 2 GRP. C, T3	CL. I DIV. 2 GRP. C, T3	CL. I DIV. 2 GRP. C, T3
21 ENCLOSURE TYPE	STD/NEMA 4X	STD/NEMA 4X	STD/NEMA 4X	STD/NEMA 4X
22 INTRINSIC SAFE	EEExia IIC T5	EEExia IIC T5	EEExia IIC T5	EEExia IIC T5
23 ELECT. CONNECTION SIZE	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT
24 POWER SUPPLY	24 VDC LOOP PWRD	24 VDC LOOP PWRD	24 VDC LOOP PWRD	24 VDC LOOP PWRD
25 OUTPUT SIGNAL	4 - 20 mA / DE	4 - 20 mA / DE	4 - 20 mA / DE	4 - 20 mA / DE
26 ACCURACY	± 0.5% OF SPAN	± 0.5% OF SPAN	± 0.5% OF SPAN	± 0.5% OF SPAN
27 MOUNTING	2" PIPE SUPPORT	2" PIPE SUPPORT	2" PIPE SUPPORT	2" PIPE SUPPORT

AIR

28 AIR SUPPLY				
29 AIR CONNECTION				

OPTIONS

30 DIAPHRAGM SEAL	YES (NOTE 3)	YES (NOTE 3)	YES (NOTE 3)	YES (NOTE 3)
31 CAPILLARY MATERIAL	316 SS	316 SS	316 SS	316 SS
32 CAPILLARY LENGTH	4.5 M	4.5 M	4.5 M	4.5 M
33 ALLOY MATERIAL	316 SS	316 SS	316 SS	316 SS
34 FILL FLUID	SILICONE	SILICONE	SILICONE	SILICONE
35 MANIFOLD				

OTHERS

36 MANUFACTURER	HONEYWELL	HONEYWELL	HONEYWELL	HONEYWELL
37 MODEL NO.	STR93D-21B-1C0BDABA	STR93D-21B-1C0BDABA	STR93D-21B-1C0BDABA	STR93D-21B-1C0BDABA
38	507K-MB,SM,CC,TG,FI,TP,	507K-MB,SM,CC,TG,FI,TP,	507K-MB,SM,CC,TG,FI,TP,	507K-MB,SM,CC,TG,FI,TP,
39	EID9	EID9	EID9	EID9
40 h = HEIGHT BETWEEN NOZZLES	h = 1240 MM	h = 2476 MM	h = 2285 MM	h = HOLD

NOTES:

- VENDOR TO TAG WITH A PERMANENTLY ATTACHED 316SS NAMEPLATE SHOWING TAG NO.
- TRANSMITTER SHALL COME C/W 2" PIPE MOUNTING BRACKET
- VENDOR SHALL PROVIDE 2 SET OF FLANGED REMOTE SEAL ASSEMBLIES, EACH CONSISTING OF 316 SS DIAPHRAGM AND A 2" FLANGED PROCESS CONNECTION.
THE SEAL ASSEMBLIES SHALL ALSO INCLUDE CAPILLARY LINES.

AS PER 350 mm

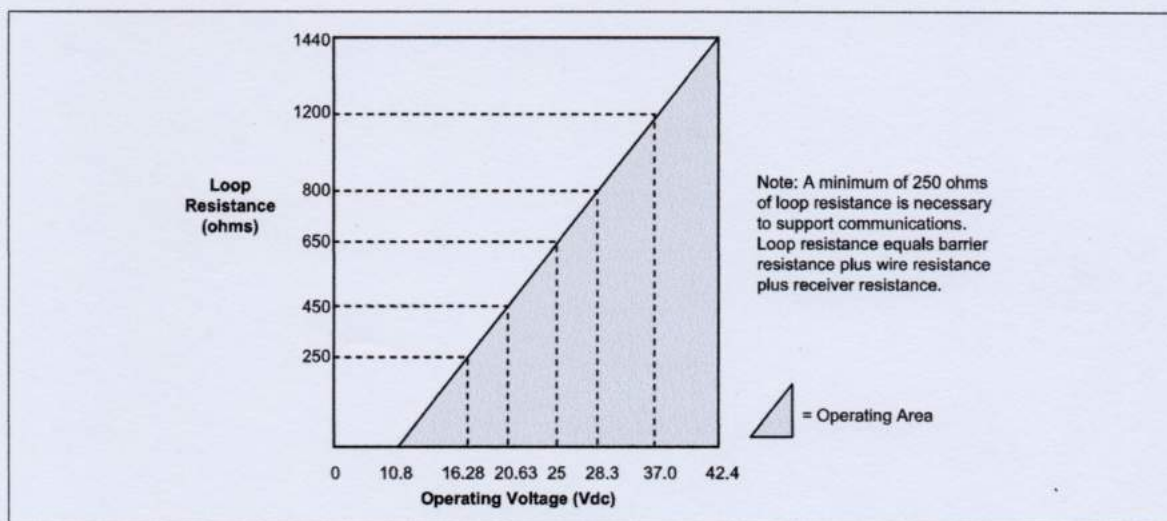


Figure 14—Supply voltage and loop resistance chart

Performance Under Rated Conditions * - Model STR93D (0 to 100 psi/7 bar)

Parameter	Description
Upper Range Limit psi bar	100 (Transmitter URL or maximum seal pressure rating, whichever is lower.) 7
Minimum Span psi bar	0.9 0.063
Turndown Ratio	110 to 1
Zero Elevation and Suppression	No limit except minimum span within $\pm 100\%$ URL.
Accuracy (Reference – Includes combined effects of linearity, hysteresis, and repeatability) • Accuracy includes residual error after averaging successive readings. • For FOUNDATION Fieldbus use Digital Mode specifications. For HART use Analog Mode specifications.	In Analog Mode: $\pm 0.20\%$ of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (50 inH ₂ O), accuracy equals: $\pm 0.10 + 0.10 \left(\frac{50 \text{ inH}_2\text{O}}{\text{span inH}_2\text{O}} \right) \text{ or } \pm 0.10 + 0.10 \left(\frac{125 \text{ mbar}}{\text{span mbar}} \right) \text{ in } \% \text{ of span}$ In Digital Mode: $\pm 0.175\%$ of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (50 inH ₂ O), accuracy equals: $\pm 0.075 + 0.10 \left(\frac{50 \text{ inH}_2\text{O}}{\text{span inH}_2\text{O}} \right) \text{ or } \pm 0.075 + 0.10 \left(\frac{125 \text{ mbar}}{\text{span mbar}} \right) \text{ in } \% \text{ of span}$
Combined Zero and Span Temperature Effect per 28°C (50°F) **	In Analog Mode: $\pm 1.5\%$ of span. For URV below reference point (200 inH ₂ O), effect equals: $\pm 0.30 + 1.2 \left(\frac{200 \text{ in H}_2\text{O}}{\text{span in H}_2\text{O}} \right) \text{ or } \pm 0.30 + 1.2 \left(\frac{500 \text{ mbar}}{\text{span mbar}} \right) \text{ in } \% \text{ span}$ In Digital Mode: $\pm 1.475\%$ of span. For URV below reference point (200 inH ₂ O), effect equals: $\pm 0.275 + 1.2 \left(\frac{200 \text{ in H}_2\text{O}}{\text{span in H}_2\text{O}} \right) \text{ or } \pm 0.275 + 1.2 \left(\frac{500 \text{ mbar}}{\text{span mbar}} \right) \text{ in } \% \text{ span}$

* Performance specifications are based on reference conditions of 25°C (77°F), zero (0) static pressure, 10 to 55% RH, and 316L Stainless Steel barrier diaphragm.

** Specification applies to transmitters with 2 seals only. Apply 1.5 times factor to temperature effect for capillary lengths greater than 10 feet or for 2-inch sanitary seals.

Performance Under Rated Conditions * - Model STR12D (0-10 to 0-400 inH₂O)

Parameter	Description
Upper Range Limit ** inH ₂ O mbar	400 (39.2°F/4°C is standard reference temperature for inH ₂ O range.) 1000
Minimum Span inH ₂ O mbar	10 Note: Recommended minimum span in square root mode is 20 inH ₂ O (50 mbar). 25
Turndown Ratio	40 to 1
Zero Elevation and Suppression	No limit except minimum span within ±100% URL.
Accuracy (Reference – Includes combined effects of linearity, hysteresis, and repeatability) • Accuracy includes residual error after averaging successive readings. • For FOUNDATION Fieldbus use Digital Mode specifications. For HART use Analog Mode specifications.	In Analog Mode: ±0.2% of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (50 inH ₂ O), accuracy equals: $\pm 0.1 + 0.1 \left(\frac{50 \text{ inH}_2\text{O}}{\text{span inH}_2\text{O}} \right) \text{ or } \pm 0.1 + 0.1 \left(\frac{125 \text{ mbar}}{\text{span mbar}} \right) \text{ in \% of span}$ In Digital Mode: ±0.175% of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (50 inH ₂ O), accuracy equals: $\pm 0.075 + 0.10 \left(\frac{50 \text{ inH}_2\text{O}}{\text{span inH}_2\text{O}} \right) \text{ or } \pm 0.075 + 0.10 \left(\frac{125 \text{ mbar}}{\text{span mbar}} \right) \text{ in \% of span}$
Combined Zero and Span Temperature Effect per 28°C (50°F) ***	In Analog Mode: ±1.2% of span. For URV below reference point (200 inH ₂ O), effect equals: $\pm 0.2 + 1.0 \left(\frac{200 \text{ in H}_2\text{O}}{\text{span in H}_2\text{O}} \right) \text{ or } \pm 0.2 + 1.0 \left(\frac{500 \text{ mbar}}{\text{span mbar}} \right) \text{ in \% span}$ In Digital Mode: ±1.175% of span. For URV below reference point (200 inH ₂ O), effect equals: $\pm 0.175 + 1.0 \left(\frac{200 \text{ in H}_2\text{O}}{\text{span in H}_2\text{O}} \right) \text{ or } \pm 0.175 + 1.0 \left(\frac{500 \text{ mbar}}{\text{span mbar}} \right) \text{ in \% span}$

* Performance specifications are based on reference conditions of 25°C (77°F), zero (0) static pressure, 10 to 55% RH, and 316L Stainless Steel barrier diaphragm.

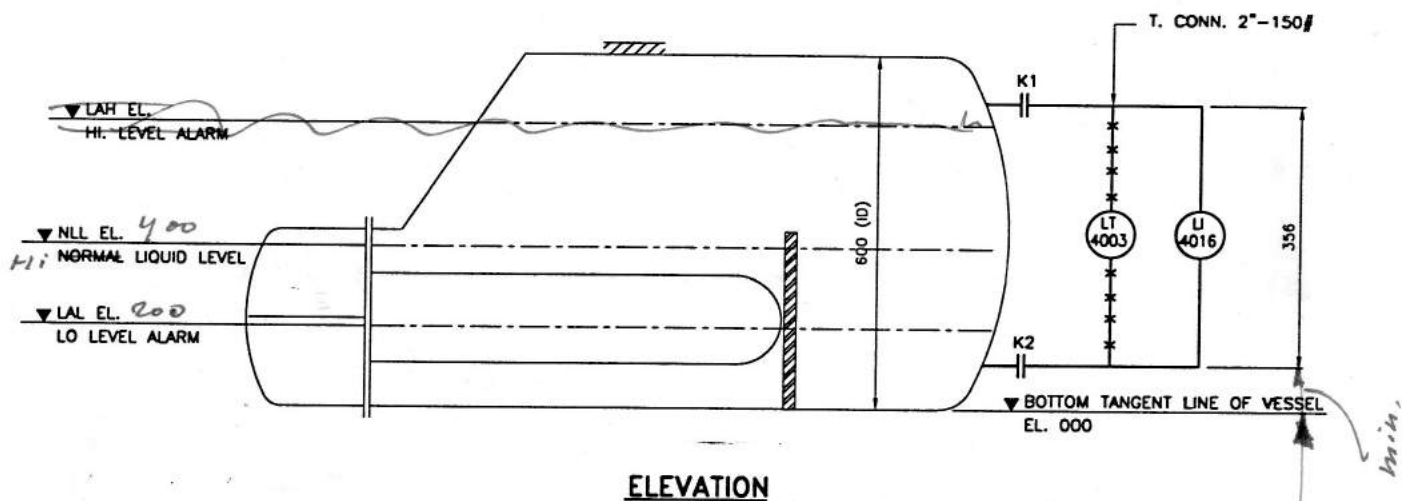
** Transmitter URL limit or maximum seal pressure rating, whichever is lower.

*** Specification applies to transmitters with 2 seals only. Apply 1.5 times factor to temperature effect for capillary lengths greater than 10 feet.

INSTRUMENT LEVEL SETTING DIAGRAM

RANGE AND ELEVATION DRAWING

REV.	DATE	DESCRIPTION	BY	CHK	PE	PM	CLIENT
	09 OCT '97	ISSUED FOR APPROVAL	TH	SM			
		ISSUED FOR CONSTRUCTION	TH	MYD			



REFERENCE DRAWING

DRAWING NO.	REV	DESCRIPTION
23456.200-401	2	STABILIZER REBOILER
B0317/6-A	0	SETTING PLAN STABILIZER REBOILER H-401

INSTR. TAG NO.	INSTRUMENT CONN. TYPE	VESSEL NOZZLE	INSTR. CONN. SIZE & RATING	INSTR. TYPE
LI-4016	S/S (NOTE 2)	K1	2" 150# WN. RF.	MAGNETIC GAUGE & DP CELL C/W SEALS
LT-4003	S/S (NOTE 2)	K2	2" 150# WN. RF.	

NOTES

1. ALL DIMENSIONS ARE SHOWN IN MILLIMETER UNLESS OTHERWISE NOTED
2. S/B. : SIDE / BOTTOM
T/B. : TOP / BOTTOM
S/S. : SIDE / SIDE