

PROCESS INSTRUMENTATION

Name: Vivek Chandrashekhar Rugale

GR No.: 11810369

Div.: TY-C

Roll No.: 24 (Batch B1)

LAB 2:

Aim - Characterize the given P to I convertor On Virtual Lab

1. Introduction –

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Calibration and Control System Questions

Select Application

Test Submitted Successfully
Correct Answers Are 6

OK

Question No : 1

What will be the input and output of a P/I converter?

- ☐ Non-standard input and Non-standard output
- ☐ Non-standard input and standard output
- ☐ Standard input and Non-standard output
- ☒ Standard input standard output

Question No : 2

What is standard output of any P/I converter

- ☒ 4~20 mA
- ☐ 0~20 mA
- ☐ 0.2 ~1.0 kg/cm²
- ☐ 0~1.4 kg/cm²

Question No : 3

What is the standard voltage of a power supply used in commonly used

2. Configuration –

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Select Application

Configuration is successful.
Please click next level to make Pneumatic/Electrical Wiring Connections of LY 100

OK

Configuration

In this level configure the LY 100

Select Type: Direct Acting

Select Input: 0.2 to 1 kg/cm²

Air Supply: 1.4 kg/cm²

Output: 4~20 mA

Supply Voltage: 24 VDC

Loop Impedance: 165 Ohm

Check Configuration Next Level

3. Connection –

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Check Connection Delete Next Level

Library

Common Symbols

Power Supply

Analog IN

Analog OUT

Configurator

250 ohm

FFT Card

Transmitter Symbols

2-Wire Transmitter

3-Wire Transmitter

LT 100

supply (LT 100) signal

Pneumatic Transmitter

LT 100

P/E Converter

LY 100

Analog IN

4. Characterization –

Verification Link For AICTE Intern... Virtual Labs Virtual Labs AICTE Internship Enterprise Port...

Not secure | vlabs.iitb.ac.in/vlabs-dev/labs/process-loop-components-coep/labs/pneumatic-current-converter-coep/simulation.html

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LY Characterisation

In this level characterize the LY 100

LT 100 Output (Input 0.2-1 kg/cm²)

Value: 1

Submit Check Graph Next Level

Excel PDF

Reading No.	Input (in kg/cm²)	Output (in mA)
1	0.2	6.56
2	0.4	10.54
3	0.6	14.71
4	0.8	13.80
5	1	17.95

Showing 1 to 5 of 5 entries

Previous 1 Next

5. Calibration –

Verification Link For AICTE Intern... Virtual Labs Virtual Labs AICTE Internship Enterprise Port...

Not secure | vlabs.iitb.ac.in/vlabs-dev/labs/process-loop-components-coep/labs/pneumatic-current-converter-coep/simulation.html

LY Characterisation

In this level characterize the LY 100

Excel PDF

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Showing 1 to 5 of 5 entries

Previous 1 Next

Level Control System (LY 100)

LY Calibration

In this level calibrate the LY 100

Zero Error: 2.56 ✓

Span Error: -2.05 ✓

Linearity: 0.950 ✓

Average Accuracy (%): 14.24 ✓

Please calibrate the LY 100 Yes

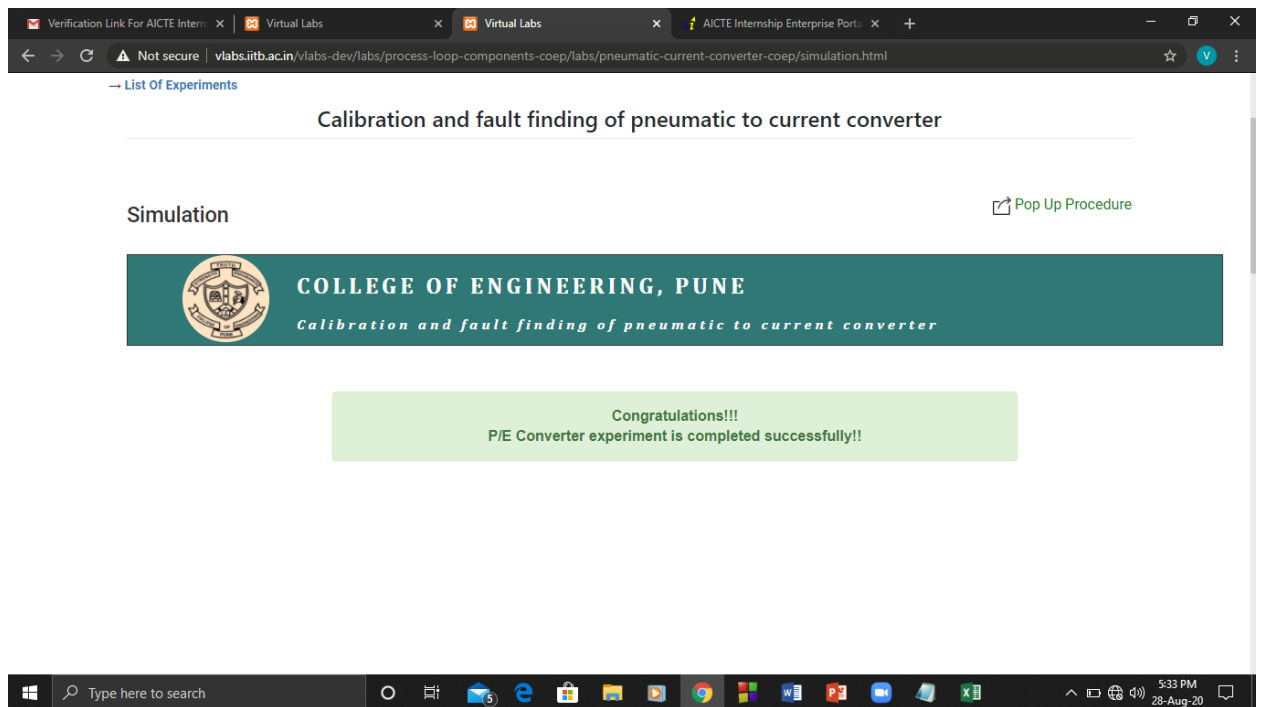
Zero, Span & Linearity Adjusted successfully!!!

Excel PDF

Reading No.	Input (in kg/cm²)	Output (in mA)
1	0.2	4
2	0.4	8.04
3	0.6	12.01
4	0.8	16
5	1	20

Showing 1 to 5 of 5 entries

6. Fault Detection -



Conclusion: Experiment was performed on virtual labs platform. Output current readings taken through simulation. Calibrated the P to I converter and removed errors to get linear output.