Utilization of Labview in MIMO Control for Multiple Tanks Level Measurement System

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Abstract: The modernisation of the existing device of facts acquisition machine in procedure manage is upgraded to the recent technologies for running the technique station. This paper offers the perspectives on the prevailing 3 tank structures installation is used for controlling the levels of two interacting systems. Liquid degree control has a completely big software domain in enterprise circulate over; the 3 tank system is one of the most broadly used experiments in laboratory & studies institutes. The measurement of business technique level parameter is one of the wonderful importance in manner manage. the extent of liquids may additionally have an effect on each the stress and fee of float in and out of the tank. subsequently, the excellent can be affected. automated manage applications would require control indicators for operation of actuation. stage transmitter is used to measure level of the tank. in this gadget the level in the process tank is sensed the usage of a degree transmitter and the corresponding present day output being measured and managed with the aid of the use of statistics acquisition gadget. [1],[3],[5]

Keywords: Closed loop, Cascade control, LabView, Virtual Instrumentation

I. INTRODUCTION

Industrial control systems are used in equipment or machinery for industrial production control. Two types of control systems are common, open loop control systems and closed loop control systems. There are two common classes of control system, open loop control systems and closed loop control systems. In open circle control framework yield is created dependent on information sources. In shut circle control frameworks current yield is contemplated and rectifications are made dependent on criticism. [2],[4],[6]
A closed loop system is also called a feedback control system. Procedure control is the demonstration of controlling a last controller component to change the controlled variable to keep up the procedure variable at an ideal set point. The controlled variable is a proportion of asset being encouraged into the procedure. Final control element is the device that is used to interface all the analog inputs from the actual time procedure and processed by the controller designed for the stableness of the proposed device and the controller output is given to the very last control element through DAC and the cutting-edge to pressure converter.

This the experimental device used the Closed loop block diagram is shown within the Labview screen advanced according to the proposed system. In cascade there are two loops one the grasp whose set point does now not changes so often whereas the output of the master loop is going to be the set factor of the slave loop consequently the designing of slave loop controller performs a vital position in bringing the 2 tanks to the specified set point.

II. PROPOSED EXPERIMENTAL SYSTEM

This experimental device the Closed loop block diagram is shown within the Labview screen advanced according to the proposed system. In cascade there are two loops one the grasp whose set point does now not changes so often whereas the output of the master loop is going to be the set factor of the slave loop consequently the designing of slave loop controller performs a vital position in bringing the 2 tanks to the specified set point.

Figure 1: Proposed system in real time

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After building the block diagram in LabView the constantly run operation is selected within the record menu. The Cascade connection may be viewed from the Labview window panel as shown in fig 3. [8],[ 10],[12]
The final manage detail is the pneumatic manage valve. This manage valve is managed via the manipulated variable given from the controller through modern-day to strain converter. [13],[15],[17]

III. RESULTS AND CONCLUSIONS
The process data is tabulated using Excel format and the process running window also shows the level of the two tanks virtually also as shown in the figure. [14],[ 16],[18]

Three tank system consists of

REFERENCES


