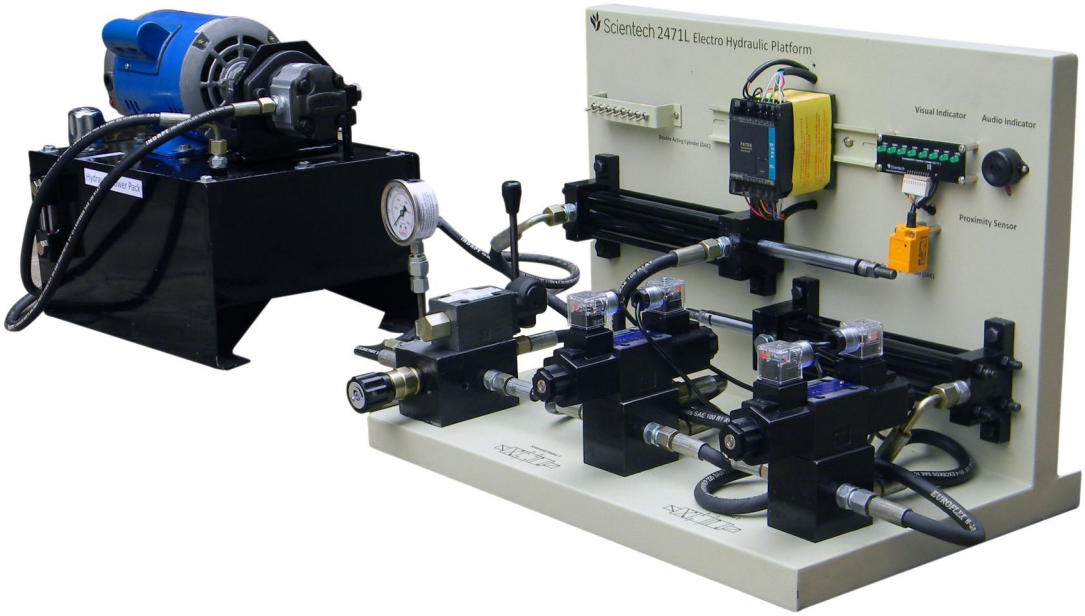
Scientech

Electro Hydraulic Platform

Scientech 2471L



Hydraulic is used for generation control and transmission of fluids in order to produce some mechanical work **Scientech 2471L Electro Hydraulic Platform** is designed to demonstrate the design, construction and application of Hydraulic components and circuits. It integrates PLC technology to build hybrid Industrial automation systems with hydraulic components and modules.

Hydraulic technology is found in numerous areas of engineering. Students investigate the basic “building blocks” of modern Hydraulics and how they are interconnected to form systems. Hydraulic systems provide the power needed to control metal forming machinery, conveyor systems, component test stands, foundries and primary metals plants, presses, including cushions, clutches and brakes, automated assembly systems, packaging systems, pulp and paper industries, material handling, and robotic systems.

PLC provides flexibility to design and build numerous systems using software and I/O interfaces without changes to the hard wired connections.

Features

- PLC operated hydraulic platform
- PLC with 8 digital inputs, 6 digital outputs
- Industrial feel & look
- Toggle switches, LEDs, buzzer, double acting cylinder, solenoid valve, manifold, hand lever valve, single acting cylinder, proximity sensor and power pack
- Function and identification of hydraulic components and their symbols
- DIN rail mounting for PLC
- Powerful instruction sets
- Extremely easy and student friendly software
- Several sample Ladder programs
- Understanding of Industrial Hydraulic components
- Sequential & linear Hydraulic control
- Robust construction
- Mounting panel for Hydraulic components
- High execution speed
- Hydraulic safety awareness

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Scope of Learning

Control of :

- Hydraulic double acting cylinder (DAC) using solenoid valve and PLC
- Hydraulic single acting cylinder (SAC) using solenoid valve and PLC

Counting of :

- Hydraulic double acting cylinder piston forward movement using proximity sensor and PLC

Study and use of :

- Hydraulic System and its application
- Hydraulic power pack
- Sensor and actuator.
- Normally open bit (NO) and normally close bit (NC) instruction by PLC
- Logic gates e.g. NOT, AND, OR, NAND, NOR, XOR, XNOR
- Memory bit
- Set and reset bit
- Timer instruction
- Counter instruction
- PWM instruction
- Compare instruction
- Arithmetic function (addition)
- Move instruction

Application areas:

- Lift
- Jack
- JCB
- Power steering

Technical Specifications

PLC

Make	:FATEK
Digital inputs and outputs	: 8 nos. and 6 nos. respectively
Program size (words)	:2048
Boolean execution speed	:0.33 µs/sequential instruction in average
Interfacing	:USB
Input and output Voltage	:24 V DC

General

Toggle switches	:8 nos.
Visual indicators	:8 nos.
Audio indicator	:1 no.
Power Supply	:110V - 260V AC, 50/60Hz

Hydraulic components

Double acting cylinders	:1no.
Single acting cylinder	:1 no.
Hand lever valve	:1 no.
Manifolds	:3 nos.
Solenoid calves	:2nos.
Proximity sensor	:1 no.
Oil hydraulic power pack	:1 no.

Package contains (1 no each)

Mains cord

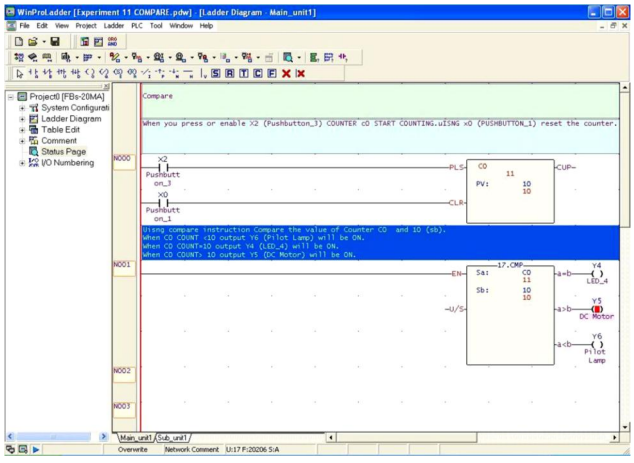
Hydraulic power pack

PLC communication cable

Funnel

Hydraulic oil (15 liter)

Software window



Subject to change - Version 1.0

Designed and Manufactured in India by -

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