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PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Programmable Logic Control Trainer (Fatek Based) | NexuMation-53

Category: Automation and Control Technology · **Order Code:** NEXUMATION-53 · **Country of Origin:** India

Product Overview

The Programmable Logic Control Trainer (Fatek Based) NexuMation-53 is an advanced PLC training platform for engineering laboratories, built around the Fatek CPU FBs-40MAR with 24 digital inputs, 16 digital outputs, 4 analog inputs, 2 analog outputs, and 20K words of program memory. This programmable logic control trainer supports Ladder programming, with built-in digital input simulators (8 toggle, 8 momentary), an analog input simulator, USB to DIN PC interface, and fixed DC power supplies at 24 V, +12 V, -12 V, and 5 V. Two 40-pin IDC expansion connectors enable simultaneous dual optional module connection, and optional control modules extend the platform to traffic light, water level, temperature, conveyor, and elevator control applications.

View this product online: https://scienticoindia.com/product/programmable-logic-control-trainer-fatek-based-nexumation-53/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Technical Specifications

Parameter	Detail
Model Reference	NexuMation-53
PLC Model	Fatek CPU FBs-40MAR
Digital Inputs	24 x 24 V DC (Source/Sink)
Digital Outputs	16 x 24 V DC (Source/Sink)
Analog Inputs	4 x Voltage/Current Type
Analog Outputs	2 x Voltage/Current Type
Program Memory	20K Words
Programming Language	Ladder
Digital Input Simulator	8 x Toggle Inputs, 8 x Momentary Inputs
Analog Input Simulator	Installed
Analog Voltage Source	2 x +10 V
Fixed DC Supply	24 V, +12 V, -12 V, 5 V
PC Interface	USB to DIN Connector Cable
Optional Module Interface	2 x 40-pin IDC Connectors

Technical Data

PLC Core

Parameter	Value
PLC Model	Fatek CPU FBs-40MAR
Digital Inputs	24 x 24 V DC (Source/Sink)
Digital Outputs	16 x 24 V DC (Source/Sink)
Analog Inputs	4 x Voltage/Current Type
Analog Outputs	2 x Voltage/Current Type
Program Memory	20K Words
Programming Language	Ladder

Input Simulators

Parameter	Value
Toggle Inputs	8
Momentary Inputs	8
Analog Input Simulator	Installed

Power Supplies

Rail	Value
Fixed DC Supply 1	24 V
Fixed DC Supply 2	+12 V
Fixed DC Supply 3	-12 V
Fixed DC Supply 4	5 V
Analog Voltage Source	2 x +10 V

Interfaces

Parameter	Value
PC Interface	USB to DIN Connector Cable
Optional Module Interface	2 x 40-pin IDC Connectors

Key Features

Key Features

- PLC Core: Fatek CPU FBs-40MAR with 20K words program memory
- Digital I/O: 24 x 24 V DC digital inputs (source/sink), 16 x 24 V DC digital outputs (source/sink)
- Analog I/O: 4 x voltage/current analog inputs, 2 x voltage/current analog outputs on this programmable logic control trainer
- Programming Language: Ladder logic supported
- Digital Input Simulators: 8 toggle inputs and 8 momentary inputs installed
- Analog Input Simulator: installed for signal simulation without external sources
- Analog Voltage Source: 2 x +10 V
- Fixed Power Supplies: 24 V, +12 V, -12 V, and 5 V DC rails installed
- PC Interface: USB to DIN connector cable for programming and monitoring
- Dual Expansion Interface: 2 x 40-pin IDC connectors for simultaneous dual optional module connection
- Optional Modules: traffic light, water level, temperature, conveyor, and elevator control modules available

Experiments

- Implementation of Logic Gates
- Implementation of Timers
- Implementation of 4-bit Digital to Analog Converter
- Implementation of UP/DOWN Counter
- Implementation of 4-bit Analog to Digital Converter

Construction and Design

The Programmable Logic Control Trainer (Fatek Based) NexuMation-53 is built around the Fatek CPU FBs-40MAR PLC module integrated within a self-contained training panel. All power supplies are installed internally, providing 24 V, +12 V, -12 V, and 5 V DC fixed rails alongside two analog voltage sources at +10 V each. Digital input simulation is handled by 8 toggle switches and 8 momentary pushbuttons installed on the panel, with an analog input simulator for voltage and current signal generation. A USB to DIN connector cable provides PC connectivity for programming and monitoring. Two 40-pin IDC headers are mounted on the panel, allowing simultaneous connection of two optional expansion modules, distinguishing the NexuMation-53 from single-interface Fatek PLC trainers. This programmable logic control trainer supports Ladder programming language for the Fatek FBs series platform. The unit ships ready for use with all accessories and experiment manual included. Optional control modules extend the platform to cover a range of industrial automation scenarios.

Optional Modules

- Traffic Light Control by PLC
- Water Level Control by PLC
- Temperature Control by PLC
- Conveyor Control by PLC
- Elevator Control by PLC

Scope of Delivery

- 1 experimental unit
- 2 mm patch cords
- Power cord
- Experiment manual
- IDC cable
- PLC programming cable
- Software CD

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q1: Which PLC model is used in the Programmable Logic Control Trainer (Fatek Based) NexuMation-53?
The unit is built around the Fatek CPU FBs-40MAR, configured with 24 digital inputs, 16 digital outputs, 4 analog inputs, 2 analog outputs, and 20K words of program memory.

Q2: How does the NexuMation-53 differ from the NexuMation-49 in terms of I/O and expansion capacity?
The NexuMation-53 provides 24 digital inputs and 16 digital outputs compared to 14 inputs and 10 outputs on the NexuMation-49. It also features 4 analog inputs instead of 2, and two 40-pin IDC expansion connectors instead of one, allowing simultaneous connection of two optional control modules.

Q3: What programming language does this programmable logic control trainer support?
The NexuMation-53 supports Ladder programming language, standard for the Fatek FBs series PLC platform.

Q4: Are input simulators included, or must external signal sources be connected?
Both digital and analog input simulators are installed on the panel. Digital simulation uses 8 toggle inputs and 8 momentary inputs. An analog input simulator is also built in, enabling all experiments without external signal sources.

Q5: How is the NexuMation-53 connected to a PC for programming?
PC connectivity is provided via a USB to DIN connector cable, included in the scope of delivery.

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