SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

Phone: +91 7015865225 **Email:** info@scienticoindia.com **Web:** scienticoindia.com **Address:** #71, Industrial Area, Ambala Cantt, Haryana, India

Light Control Training System (Modular Type) | NexuMation 58

Category: Instrumentation Lab Equipment · **Order Code:** NEXUMATION 58 · **Country of Origin:** India

Product Overview

The Light Control Training System (Modular Type) NexuMation 58 is a modular light control training system on a vertical three-level frame with educational panels. This light control training system includes DC power supply with +15V, 0V, -15V outputs, PID controller with adjustable parameters, power amplifier with 30 W output, and light control system with 10 W max. power. P, PI, and PID control strategies using CHR method are supported. Computerized DAQ system via USB with management software is included. Theoretical and practical manual supplied.

View this product online: https://scienticoindia.com/product/light-control-training-system-modular-type-nexumation-58/



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

Technical Specifications

Light Control Training System (Modular Type) NexuMation 58: Technical Specifications

Parameter	Value
Structure	Modular
Frame	Vertical frame with educational panels
Power Supply	DC Power Supply, +15 V; 0 V; -15 V
Power Supply Output Current	2.4 A, 3 A for short period
Controllers	PID controller, continuously adjustable parameters
Proportional Gain	Kp = 0 ... 1000
Integral Action Time	TI = 1ms ... 100s
Derivative Action Time	TD = 0.2ms ... 20s
Power Amplifier Output Voltage	10 V ... +10 V to ground; 0 ... ±20 V symmetrically
Power Amplifier Max. Output Power	30 W
Light Control System Power Supply	+15 V; 0 V; -15 V
Light Control System Max. Power	10 W
Light Control System Output Signal	0 ... 10 V
Data Acquisition	Computerized DAQ system via USB

Parameter	Value
Software	Management software, included
Support Frame	Three-level work frame
Documentation	Theoretical and practical manual, supplied

Technical Data

DC Power Supply

Parameter	Value
Output voltages	+15 V; 0 V; -15 V
Output current	2.4 A, 3 A for short period
Mains switch	with pilot lamp
LED indicators	+15 V; -15 V for nominal voltage indication

Voltage Reference Generator

Parameter	Value
Power supply	+15 V; 0 V; -15 V
Continuous regulation reference signal range	-10 V to +10 V, 0 to +10 V
Step reference signal range	-10 V to +10 V, 0 to +10 V
Selectable ranges	0 / ±10 V and 0 / +10 V
Input options	internal potentiometer or external reference signal

PID Controller

Parameter	Value
Power supply	+15 V; 0 V; -15 V
Input summing node	two reference variables, one controlled variable
Signal voltage range	-10V to +10V
Proportional gain	Kp = 0 ... 1000
Integral action time	TI = 1ms ... 100s
Derivative action time	TD = 0.2ms ... 20s
Output summing node	for adding or subtracting noise variables
Error signal measurement	terminal provided
Output offset adjustment	adjustment screw provided
Over-range indicator	LED "over" when output exceeds ±10 V
Integral controller reset	Input Ioff provided

Power Amplifier

Parameter	Value
Power supply	+15 V; 0 V; -15 V
Input signal voltage range	-10V to +10V
Output voltage	10 V to +10 V to ground; 0 to ±20 V symmetrically
Max. output power	30 W
Short-circuit protection	yes

Light Control System

Parameter	Value
Power supply	+15 V; 0 V; -15 V
Input signal voltage range	0 ... 20 V
Output signal	0 ... 10 V
Maximum power	10 W

Single Pole Pushbutton

Parameter	Value
Type	Plug-in element
Switch load	2 A, 250 V

Single Pole Switch

Parameter	Value
Type	Plug-in element, normally open
Switch load	2 A, 250 V

Key Features

Key Features

- **Structure:** modular design
- **Application:** light control training system for practical training and guided experiments
- **Frame:** vertical frame with three levels
- **Power Supply:** DC power supply with +15 V, 0 V, -15 V outputs, 2.4 A output current
- **Controllers:** PID controller with continuously adjustable parameters
- **Proportional Gain:** Kp = 0 to 1000
- **Integral Action Time:** TI = 1ms to 100s
- **Derivative Action Time:** TD = 0.2ms to 20s
- **Power Amplifier:** 30 W max. output power with short-circuit protection
- **Light Control System:** 10 W max. power with 0 to 10 V output signal
- **Data Acquisition:** computerized DAQ system via USB
- **Software:** management software included
- **Control Methods:** P, PI, and PID using CHR method

Experiments Included

- Measurement system features
- P, PI and PID light controls using the CHR method
- Analysis of light control features

Modules Included

- DC Power Supply
- Voltage Reference Generator
- PID controller
- Power Amplifier
- Light Control System
- Single Pole Pushbutton
- Single Pole Switch
- Computerized DAQ system via USB
- Management software

- Connecting Leads Set
- Three-level work frame

Construction and Design

The Light Control Training System (Modular Type) NexuMation 58 is built on a vertical frame. Educational panels are mounted on the frame in a modular arrangement. This light control training system uses a three-level work frame to organize components.

Industrial type components are educationally adapted for use in this light control training system. The modular panel system permits step-by-step assembly from the simplest circuit to the most complex system.

All modules plug into the frame. Connecting leads are supplied for interconnection. A DC power supply provides +15 V, 0 V, and -15 V outputs with 2.4 A output current. A voltage reference generator allows signal ranges from -10 V to +10 V or 0 to +10 V.

A PID controller with continuously adjustable parameters manages light control. Proportional gain Kp ranges from 0 to 1000. Integral action time TI ranges from 1ms to 100s. Derivative action time TD ranges from 0.2ms to 20s.

A power amplifier with 30 W max. output power and short-circuit protection drives the light control system. The light control system operates at 10 W max. power with 0 to 10 V output signal.

A computerized DAQ system via USB connects to the frame. Management software allows real-time monitoring and control of experiments. Single pole pushbuttons and switches are included for circuit operation.

Software

- Computerized DAQ system via USB
- Management software, included

Scope of Delivery

- DC Power Supply
- Voltage Reference Generator
- PID controller
- Power Amplifier
- Light Control System
- Single Pole Pushbutton
- Single Pole Switch
- Computerized DAQ system via USB
- Management software
- Connecting Leads Set
- Three-level work frame
- Theoretical and practical manual

Q1. What is the Light Control Training System (Modular Type) NexuMation 58 designed for?
It is designed for the study of light control application and practical training based on the performance of guided experiments.

Q2. How is the light control training system structured?
It has a modular structure with educational panels installed on a vertical three-level work frame.

Q3. What control methods are supported?
P, PI, and PID light control strategies using the CHR method are supported by the light control training system.

Q4. What are the PID controller parameter ranges?
Proportional gain Kp ranges from 0 to 1000. Integral action time TI ranges from 1ms to 100s. Derivative action time TD ranges from 0.2ms to 20s.

Q5. How does the light control training system connect to a computer?
A computerized DAQ system via USB is included. Management software allows real-time monitoring and control of experiments.

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

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