



- **General Purpose Remote IO Module or Customizable to be a Dedicated Digital Controller**
- **12-Channel Digital Inputs**
- **12-Channel Digital Outputs**
- **Serial Communication with Modbus RTU**
- **Surge/ESD protection**
- **AC/DC Power Input**
- **Industrial Grade Enclosure**

Sunlux is offering **iOTA** Series of modules with digital and analog inputs and outputs which can be either used for remote data acquisition over serial / ethernet based network or can be customized to work as application specific Dedicated Digital Controllers. The modules have been developed for Industrial and Building Automation.

iOTA DIO24-S has up to 12-channels of digital inputs and up to 12-channels of digital outputs with voltage type signals or potential free contacts. By default Modbus RTU protocol on RS485 network is provided for remote connectivity. However customization in terms of number of channels and software is also offered.

SPECIFICATIONS:

DIGITAL INPUT	
Channels	12 Inputs
Type	Voltage Input or Potential Free Contacts (Voltage internally generated)
Logic High Voltage	10VDC to 26VDC
Logic Low Voltage	0VDC to 2VDC
Input Current	20mA max.
Response Time	100ms
Isolation	Opto Isolated up to 1kVAC, 1min for Channel to Ground
Connector	Pluggable Screw Terminals capable of 2.5mm ² core

DIGITAL OUTPUT	
Channels	12 Relay Outputs
Contact Type	4-Channels 1 Form C (SPDT) 8-Channels 1 Form A (SPST-NO)
Nominal Switching Capacity (resistive load)	N.O. side: 10 A 125 V AC, 5 A 250 V AC, 5 A 30 V DC N.C. side: 3 A 125 V AC, 2 A 250 V AC, 1 A 30 V DC
Max. switching power (resistive load)	N.O. side: 150 W, 1,250 VA N.C. side: 30 W, 500 VA
Contact Resistance	Max. 100mΩ
Contact Material	AgNi type
Breakdown Voltage	750Vrms, 1min between open contacts 4000Vrms, 1min between contacts and coil
Insulation resistance	1000MΩ at 500VDC between open contacts
Operation Time	20ms max.
Expected Life	100,000 operations
Safety Standard	UL certified E43028
Connector	Pluggable Screw Terminals capable of 2.5mm ² core

SERIAL COMMUNICATION	
Channel	1-channel RS485 Half Duplex
Receiver Unit Load	1/4 Unit Load enabling upto 128 nodes
Drive Capability	As per EIA485 specifications
Baudrates	Up to 115.2kbps selectable
Protection	Against short circuit on A and B lines Hot plug and play
ESD Protection	±15kV using HBM and Air discharge method
Isolation	Opto-Isolated up to 1kVAC, 1min between Channel and Ground
Protocol	Modbus RTU Slave Digital IOs on Coils and Input Status Facility for single or multiple read and write for coils
Configurations	31 Slave IDs and 5 Baudrates configurable using DIP Switches
Indications	Communication Activity
Connector	Pluggable Screw Terminals

PROCESSOR	
Type	32-Bit ARM Cortex-M0 48MHz Microcontroller with onboard flash
Software Reliability	Watchdog Timer, fail-safe IOs, Simple software architecture with no operating system

POWER SUPPLY	
Input Voltage	9-48VDC or 12-32VAC, 47-63Hz
Power Consumption	3W max.
Protection	Short Circuit, Overvoltage, Undervoltage
Conducted Emissions / Susceptibility	Line filters are used
ESD Protection	±8kV
Connector	Pluggable Screw Terminals

ENVIRONMENTAL	
Operating Temperature	0°C to 65°C
Operating Humidity	20%RH to 90%RH non-condensing
Ingress Protection	IP 40 (all surfaces except rear)

MECHANICAL	
Enclosure	Aluminum with powder coating
Mounting	DIN Rail
Dimensions	168mm x 125mm x 55mm (Without Plugs)
Weight	580gm

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