I/O Modules DO-FA-12 and DO-FA-12-H

12 channel Form A digital output

Introduction

The DO-FA-12 and DO-FA-12-H are digital output 12 channel I/O modules.

The digital outputs support digital Form A point types. The Form A relays are designed for direct load applications.

Function

Modular and scalable system

The modules are part of a modular system that delivers power and communications on a common bus. Connecting modules is a one-step process: just slide the modules together using the built-in connectors.

Patented two-piece design

Each module can be separated from its terminal base to allow the site to be wired prior to the installation of the electronics. The patented locking mechanism serves as handles for removing the module from its base. All critical components have a protective cover that permits convection cooling to occur.
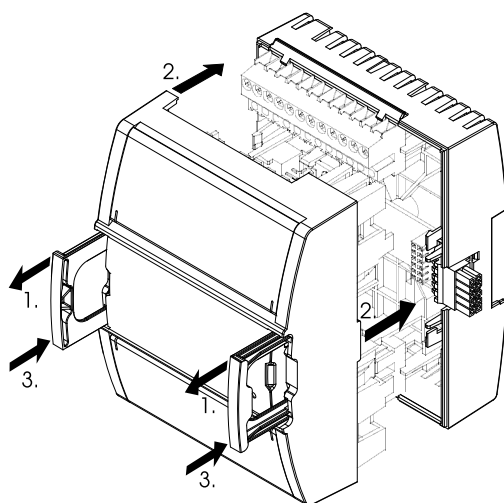
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Figure: Two-piece design

Hot-connect and Hot-swap

Because critical applications require 24-hour operation, Schneider Electric designed the I/O modules for hot-connection of terminal bases and hot-swapping of the modules to their bases. This design ensures continuous power and communication during service operations.

Auto-addressing

The auto-addressing feature eliminates the need for setting DIP switches or pressing commission buttons. With the Automation Server family, each module automatically knows its order in the chain and assigns itself accordingly – significantly reducing engineering and maintenance time.

Simple DIN-rail installation

Fasteners easily snap into a locked position for panel installation. The fastener has a quick-release feature for easy DIN-rail removal.

Efficient terminal management

The I/O module terminals are clearly labelled and protected by transparent covers. The input and output terminals are at the top and bottom of each module and are accessible for maintenance without removing the module. The StruxureWare Building Operation WorkStation software can generate custom as-built labels for each module. Pre-perforated letter and A4 size label sheets are available as an accessory.

Accommodates multiple row panel installations

The Automation Server module family uses built-in connectors for single row connectivity, side by side. If a panel size requires multiple rows, extension cords are available.

LED status indicators

The I/O module has a status indicator that denotes the health and status of the module.

Each digital output channel has a dedicated status indicator using a green LED.

Hand/Off/Auto switches

The front panel of the DO-FA-12-H includes Hand/Off/Auto (HOA) switches to provide override control of the digital outputs.

The position of the HOA switch is readable through user interfaces, such as the StruxureWare Building Operation WorkStation software, enabling more precise monitoring and control.

Specifications

Output channels 12

DC input supply power ....1.8 W

DC input supply voltage ....24 VDC

Environment

Ambient temperature, operating...0 to 50 °C (32 to 122 °F)

Ambient temperature, storage...-20 to +70 °C (-4 to +158 °F)

Maximum humidity..95 % RH non-condensing

Material

Plastic rating...UL94-5VB

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July 2014

Enclosure...Eco Friendly ABS/PC

Enclosure rating...IP 20

Mechanical

Dimensions including terminal base ....90 W x 114 H x 64 D mm (3.6 W x 4.5 H x 2.5 D in.)
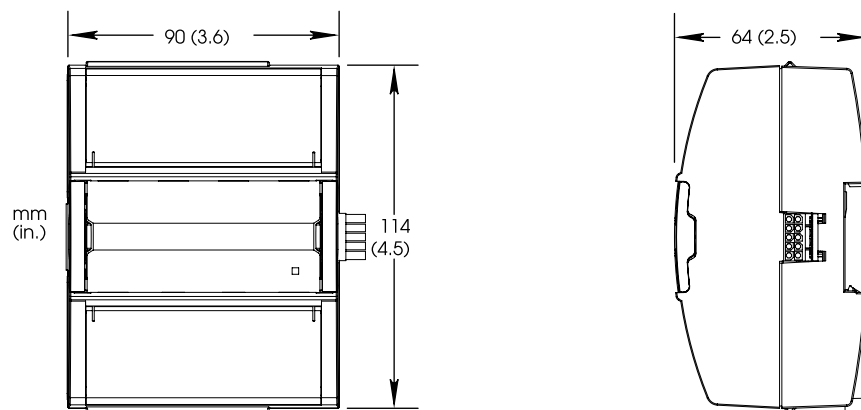
Weight including terminal base ....0.317 kg (0.70 lb)

Weight excluding terminal base ....0.194 kg (0.43 lb)

Terminal base TB-IO-W1

Part numbers

DO-FA-12, I/O module
12 Form A digital outputs SXWDOA12X10001

DO-FA-12-H, I/O module with HOA switches
12 Form A digital outputs with Hand/Off/Auto override switches SXWDOA12H10001

TB-IO-W1, terminal base for I/O module
(Required for each I/O module)..SXWTBIOW110001

Accessory part numbers

DIN-RAIL-CLIP, DIN-rail end clip
package of 25 pieces SXWDINEND10001

PRINTOUT-A4-W1, printout sheets for terminal labels
A4 sheet size, 100 sheets, 18 labels per sheet...SXWTERLBL10011

PRINTOUT-LTR-W1, printout sheets for terminal labels
Letter sheet size, 100 sheets, 16 labels per sheet SXWTERLBL10012

S-CABLE-L, S-cable extension cord for Automation Server I/O bus L shaped connectors
1.5 m..SXWSCABLE10002

S-CABLE-L, S-cable extension cord for Automation Server I/O bus L shaped connectors
0.75 m..SXWSCABLE10003

Digital outputs

The Form A digital outputs of the DO-FA-12 and
DO-FA-12-H I/O modules are closing contacts with
one common terminal (C) and one normally open
terminal (NO). The terminals are isolated from signal
ground.

Terminal base

+24 V
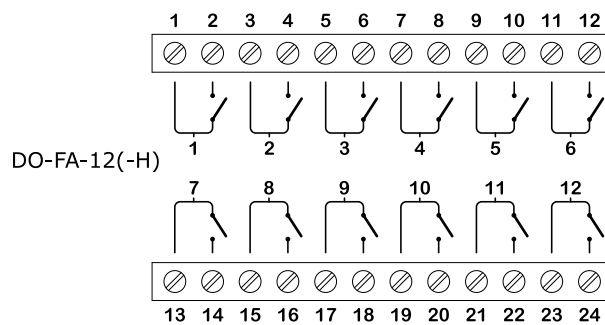
0 V

Address   [+1]

RS-485

I/O module

NO   C
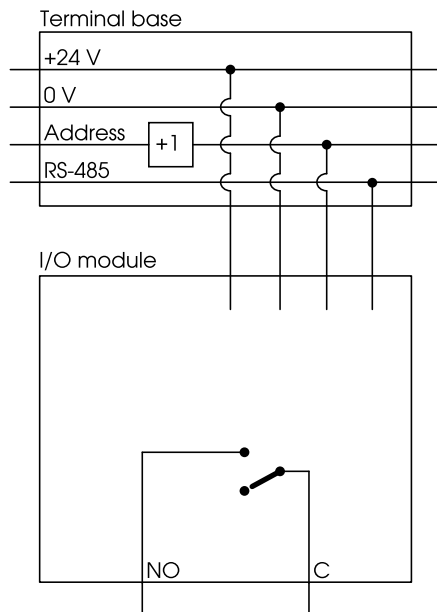
The I/O bus in the terminal base provides the I/O module with power and an address.

The address value in the I/O bus is increased by one for each terminal base. The I/O bus also enables RS-485 communication between the I/O module and the Automation Server.

Figure: Form A digital output internal configuration

Specifications

Digital outputs

DO-FA-12(-H)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| 1 | 2 | 3 | 4 | 5 | 6 |

| 7 | 8 | 9 | 10 | 11 | 12 |

| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

Contact rating ....250 VAC/30 VDC, 2 A

Switch type ....Form A Relay

....Single Pole Single Throw

....Normally Open

Isolation contact to system ground ....3000 VAC

Cycle life ....At least 100,000 cycles

Minimum pulse width ....100 ms

LED polarity energized relay ....On

LED polarity non-energized relay ....Off

LED color ....Green

For protection from excess current that could be produced by field wiring, see Automation Server Family Hardware Guide.

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Regulatory Notices

FC **Federal Communications Commission**

FCC Rules and Regulations CFR 47, Part 15, Class B
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada

ICES-003
This is a Class B digital device that meets all requirements of the Canadian Interference Causing Equipment Regulations.

N1831 **C-Tick (Australian Communications Authority (ACA))**

AS/NZS 3548
This equipment carries the C-Tick label and complies with EMC and radio communications regulations of the Australian Communications Authority (ACA), governing the Australian and New Zealand (AS/NZS) communities.

CE - Compliance to European Union (EU)

2004/108/EC Electromagnetic Compatibility Directive
This equipment complies with the rules, of the Official Journal of the European Union, for governing the Self Declaration of the CE Marking for the European Union as specified in the above directive(s) per the provisions of the following standards: IEC/EN 61326-1 Product Standard, IEC/EN 61010-1 Safety Standard.

WEEE - Directive of the European Union (EU)

This equipment and its packaging carry the waste of electrical and electronic equipment (WEEE) label, in compliance with European Union (EU) Directive 2002/96/EC, governing the disposal and recycling of electrical and electronic equipment in the European community.

UL 916 Listed products for the Unites States and Canada, Open Class Energy Management Equipment.

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