

IOM module summary

Input and output modules for local or remote serial connection to a JACE® controller

Overview

The IOM range of I/O modules are designed for use as local I/O within motor control cabinets or as remote I/O connected via RS485 Modbus. The wide variety of modules enables cost-effective use in a range of applications. LED's plus Hand/Off/Auto switches on some varieties help with commissioning. The IP20 rated modules may be plugged together on standard DIN rail or direct mounting. The cascadable design allows power and 2-wire RS485 Modbus communications to connect through without any extra wiring.

Connectivity

Each module has one 2-wire RS485 port supporting a Modbus communications network connection to the JACE® controller.

Module varieties

The following module varieties are available:

- 10 digital input
- 8 analogue input
- 4 digital relay output
- 4 analogue output & 3 digital relay output
- 6 digital relay output & 12 digital input
- 4 digital triac output & 2 analogue output
- 4 DI, 6 UI, 6 DO, 2 AO multi-function
- Power & connection: CON, CON-R & CON-IP

To simplify wiring and reduce the risk of misconnection the CON, CON-R and CON-IP modules are used in association with the I/O modules.



Features

- 7 different DI, DO, AI and AO module varieties
- Multi-function I/O module varieties available
- Power and communications to each I/O module supplied from communications modules
- DIN rail or direct mounting
- 24v ac or dc power operation
- RS485 2-wire Modbus open communications
- Connection via Modbus IP gateway available



Specifications

Bus data:

- ethernet IEEE 802.3 10BASE-T and 802.3u 100BASE-TX compliant, auto MDI/MDIX
- protocol TCP/IP
- bus protocol / bus interface Modbus RTU / RS485, half duplex, non isolated
- bus topology / max bus length multidrop / 500m
- bus speed 19,200 bps
- bus line termination integrated termination resistor (220Ω); activate via jumper (default: off)
- bus protection built-in transient protection
- bus connector pluggable male & female integrated connectors (modules mounted with zero spacing)
- bus cabling Shielded Twisted Pair (STP)

General data:

- module power supply / module current 20v to 28v ac or dc / module specific between 30ma-310ma ac or 10ma-125ma dc
- operating / storage temperature range 0°C to +50°C / -20°C to +70°C
- CE marking Low voltage directive (LVD) 2006/95/EC according requirements of EN 50178
EMC directive 2004/108/EC according requirements of EN 55011 and EN 61326-1
- conductor cross section / strip length 0.2mm² to 2.5mm² screw clamp connection / 6mm
- mounting / installation position DIN-rail TS35 (35mm x 7.5mm) or direct mounting by M3 fixing / any
- assembly up to 15 in a row with zero spacing
- insulating material / flammability class Housing: Noryl. Terminals: Polyamid 6.6 V0 / UL94-V0
- protection degree (DIN 40050) IP 20
- installation guide for mounting and I/O wiring details; please refer to the IOM Installation guide
- communications guide for Modbus communications details; please refer to the IOM Module Communications guide

I/O module varieties:

I/O type	Order ref	DIP	AI	UI	DO	DO ^{HP}	DOH	DOt	AO	AOH	Comments
4AOH-3DO	IOMADO	-	-	-	3	-	-	-	-	4	3 x change over contacts
8AI	IOMAIP	-	8	-	-	-	-	-	-	-	input selection via hardware configuration
6DOH-12DI-E	IOMDIO	12	-	-	-	-	6	-	-	-	6 x change over contacts
10DI	IOMDIP	10	-	-	-	-	-	-	-	-	bi-colour LED per input
4DO	IOMDOP	-	-	-	-	4	-	-	-	-	4 x change over contacts
4DOt-2AO	IOMDAO	-	-	-	-	-	-	4	2	-	4 x triac outputs
MULTI IO	IOMMUL	4	-	6	4	-	2	-	-	2	mixture module

Key to I/O types:

DIP	24v ac/dc or volt free contact (VFC) which can be used for pulse counting
AI	0-10v or 0-20mA or resistive temperature detector (RTD)
UI	0-10v or 0-20mA or resistive temperature detector (RTD) or 24v dc digital
DO	relay – 250v ac, 8A resistive, max power rating 2,000va
DO ^{HP}	relay – 250v ac, 16A resistive, high inrush current, max power rating 4,000va
DOH	relay – 250v ac, 8A resistive, max power rating 2,000va with hand-off-auto switches
DOt	triac – 24v ac, resistive load 0.5A rated and 1A inrush current
AO	0-10v
AOH	0-10v with hand-auto switch and adjustable setting potentiometer output

Connector module varieties:

Module	Order ref	Comments
CON	IOMCON	power and network connection for "IOMxxx" modules with network protection and termination
CON-R	IOMCNR	power and network connection for additional "IOMxxx" module locations
CON-IP	IOMCIP	power, IP and RS485 connection for for "IOMxxx" modules.



Copyright © 2013 Tridium. All rights reserved ®. Tridium, Niagara, NiagaraFramework, JACE and Security are trademarks or registered trademarks of Tridium. Other marks are the properties of their respective owners. All specifications subject to change without notice or liability to provide changes to prior purchasers. Information and specifications published here are current as of the date of publication of this document. Tridium reserves the right to change or modify specifications without prior notice.