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Instruction Sheet 4-030-1 1203

MicroBlock I/O Module
for the Smart Distributed System
INSTALLATION INSTRUCTIONS

Description

The Holjeron MicroBlock I/O Module is designed to handle small amounts of I/O in a limited amount of space. The MicroBlock I/O provides four inputs and four outputs in a compact enclosure.

Each input has three terminals and each output has two terminals to simplify field wiring. Terminal blocks are plug-in type to make field maintenance easier. Each input and output has its own LED indication for immediate verification of I/O states.

Warranty/Remedy

Seller warrants its products to be free from defects in design, material and workmanship under normal use and service. Seller will repair or replace without charge any such products it finds to be so defective on its return to Seller within 18 months after date of shipment by Seller. **The foregoing is in lieu of all other expressed or implied warranties (except title), including those of merchantability and fitness for a particular purpose.** The foregoing is also purchaser's sole remedy and is in lieu of all other guarantees, obligations, or liabilities or any consequences incidental, or punitive damages attributable to negligence or strict liability, all by way of example.

While Holjeron provides application assistance, personally and through our literature, it is up to the customer to determine the suitability of the product in the application.

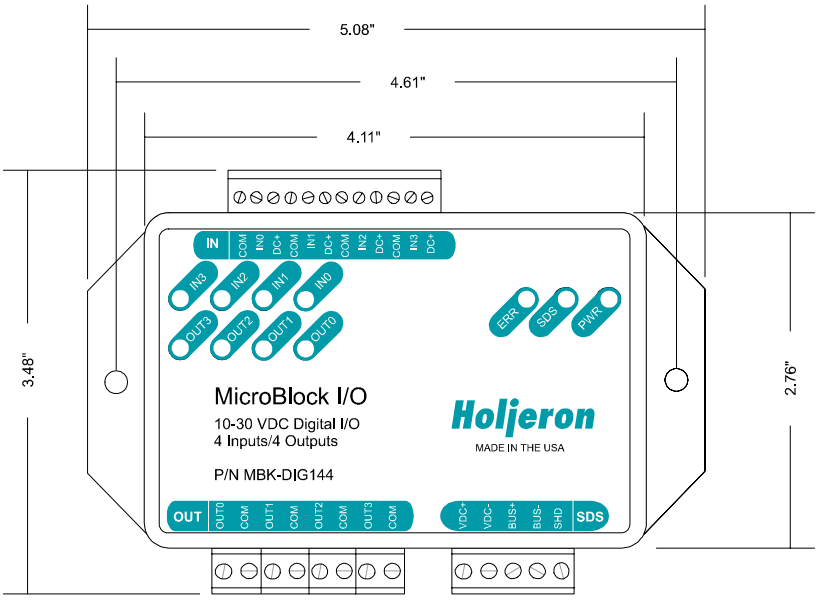
All information contained herein, including illustrations, specifications and dimensions, is believed to be reliable as of the date of publication, but is subject to change without notice.

Specifications

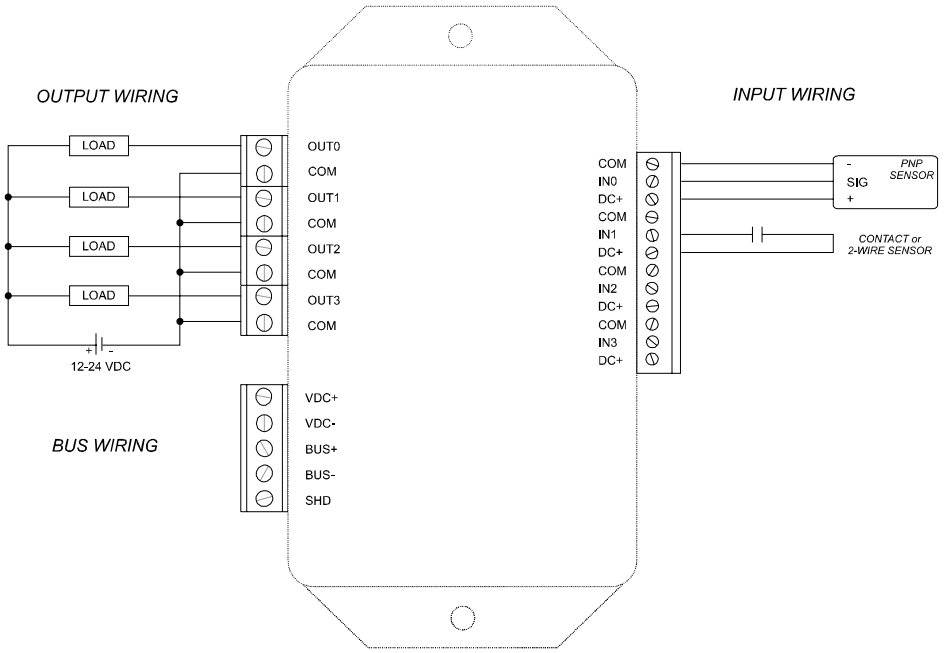
Part Number	MicroBlock I/O Module		MBK-DIG144
Electrical	SDS Voltage Range		11-25 VDC
	Current Consumption		50 mA plus inputs
	Data Rates		125, 250, 500 and 1000 kbps
Inputs	Type		Current Sinking (Sourcing load)
	Number		Four (4)
	Voltage Range		12-24 VDC
	Maximum Current		20 mA per input
Outputs	Type		Current Sinking
	Number		Four (4)
	Voltage Range		10-28 VDC
	Maximum Current		200 mA
Environmental	Temperature	Storage	-30° to 70° C (-22° to 158° F)
		Operating	0° to 60° C (32° to 140° F)
	Humidity		5-95% RH, non-condensing
	Vibration		2G at 10 to 500 Hz
	Shock		10G
Physical	Dimensions		5.08" H x 3.48" W x 1.00" W
	Weight		8 oz
	Color		Black
	Case Material		Polycarbonate
	Mounting		Back panel foot mount
	Terminations	SDS	Plug-in terminal, 5 pos, 5,08 mm
		Inputs	Plug-in terminal, 12 pos, 3,81 mm
		Outputs	Plug-in terminal, 8 pos, 5,08 mm
	Indication	Power	Green
		Error	Red
		SDS	Green
		Inputs (4)	Green
		Outputs (4)	Green

Dimensions

TOP VIEW



Wiring



Configuration

The MicroBlock I/O Module can be configured using several tools. The information below summarizes the configuration tools available and hardware requirements for each tool.

Honeywell hand-held activator

The Honeywell activator does not supply enough power by itself. The SDS bus must have external power applied.

PC Control/Network Manager

Requires a Honeywell PC Interface Card with separate bus power.

Holjeron Device Manager for SDS

Requires an HSIM Portable (RS-232 to CAN converter) that connects to the serial port of a personal computer. The bus OR the HSIM Portable must have power.

The following steps are a guide to help the commissioning process to ensure the product will function as desired. Default values are shown in bold typeface.

1. Set the address of the device. All units are shipped from the factory as **address 126**.

   Note: Set the address before attaching a MicroBlock I/O Module to a complete bus. Otherwise, the entire bus will be configured with devices at address 126.

2. Verify the **Baud Rate (attribute 1)** is configured correctly for the application. In most cases the default value (autobaud) will provide the desired results. The following are the possible values for the baud rate:

Baud Rate (Attribute 1)

Value	Baud Rate
0	**Autobaud**
1	1 megabaud
2	500 kilobaud
3	250 kilobaud
4	125 kilobaud

3. Most systems will require a MicroBlock I/O Module to generate an event whenever one or more inputs change state. This requires the **Unsolicit Mode (attribute 6)** be enabled by setting its value to **1**. Other options are to disable change of value events (Unsolicit Mode = 0) or use the Cyclic Timer (Attribute 10) by setting it to some non-zero value. The Cyclic Timer will transmit the input variable on an interval equal to the value in the Cyclic Timer attribute times 10 milliseconds (0.01 seconds).

4. Another I/O function that might be important is the **Output Watchdog Timer (attribute 50)**. When set to some value other than **0** the Output Watchdog Timer will cause the physical output to be set to a normalized state if there are no SDS messages to the MicroBlock I/O Module in the time allotted (value in Attribute 50 times 10 milliseconds). The normal state is defined by **Default Output (attribute 51)**, where **0** in a bit location represents a default state of off and a value of 1 in a bit location represents a default state of on.
5. **Tag Name (attribute 56)** is a 32-character string that the user can enter to describe the functionality and/or location of the MicroBlock I/O Module.

Operation

Input Variable

Attribute 18 functions as the input attribute for the MicroBlock I/O Module. Whenever an event is generated that reports the state of inputs, the data in attribute 18 will be passed.

Input Variable Bit Definitions

Bit	Name	Description
0	Input 0	State of physical input 0
1	Input 1	State of physical input 1
2	Input 2	State of physical input 2
3	Input 3	State of physical input 3

Output Variable

Attribute 34 contains the information for the outputs.

Input Variable Bit Definitions

Bit	Name	Description
0	Output 0	Controls the state of physical input 0
1	Output 1	Controls the state of physical input 1
2	Output 2	Controls the state of physical input 2
3	Output 3	Controls the state of physical input 3

Diagnostics

The Diagnostics Register (attribute 9) is a single byte and contains only the minimum diagnostics required for the Smart Distributed System.

Diagnostic Register Bit Definitions

Bit	Name	Description
0	CHKSUM	ROM checksum error
1	WDOG	Output watchdog timer expired
2	BUSOFF	Off us communications error
3	DEVERR	Fatal component error
4	NODE	Missing node detected
5	RSVD	Reserved
6	RSVD	Reserved
7	EPRM	EEPROM error detected

Attributes

ID	Description	R/W	Data Type	Size	Count	Default
0	Network Data Descriptor	R	Unsigned	Byte	6	12,01,03,22,81,03 [hex]
1	Baud Rate	R	Unsigned	Byte	1	0 [autobaud]
2	Object Model	R	Unsigned	Byte	4	1, 11, 5, 4
3	Vendor Id	R	Unsigned	Word	1	9 [Holjeron]
4	Logical Address	R	Unsigned	Word	1	125
6	Unsolicit Mode	W	Boolean	Undef	1	1 [enabled]
7	Software Version	R	Character	Undef	12	
8	Diagnostic Counter	R	Unsigned	Byte	1	
9	Diagnostic Register	W	Unsigned	Byte	1	
10	Cyclic Timer	W	Unsigned	Word	1	0 [disabled]
11	Serial Number	R	Unsigned	Long	1	
12	Date Code	R	Character	Undef	4	
13	Catalog Listing	R	Character	Undef	32	MBK-DIG144
14	Vendor	R	Character	Undef	32	Holjeron
15	Description	W	Character	Undef	32	MicroBlock I/O Module
18	Input Variable	R	Boolean	Undef	4	
34	Output Variable	W	Boolean	Undef	4	0000
50	Output Watchdog Timer	W	Unsigned	Word	1	0 [disabled]
51	Default Output	W	Boolean	Undef		0000
56	Tag Name	W	Character	Undef	32	
60	Input NO/NC	W	Boolean	Undef	4	0000 (N.O.)

Actions

ID	Description	Request Data	Response Data
0	NOOP	---	---
1	Change Address	New logical address	
2	Self Test	---	---
6	Clear All Errors	---	---
8	Enroll Logical Device	Address	Serial Number, Vendor Id
10	Change Baud Rate	New baud rate (0…4)	
51	Force State	Input variable value	
52	Unforce States		
53	Read Attribute Descriptor	Attribute Id	
57	Password	Password	
60	Reset Factory Defaults		

Events

ID	Description	Event Data
0	Diagnostic Event	Number of enabled diagnostic bits in attribute 9
3	End-Of-Timer	Attribute, Input variable
6	Change of Value	Attribute, Input variable
7	NOOP	---