



The Brad Harrison® SLICE IN A BOX™ I/O block provides design and installation flexibility previously unavailable. It allows any combination of inputs and outputs in a single I/O block that mounts directly to the machine frame. One part number can eliminate the need for up to 12 devices! Think of all of the training that can be eliminated! Think of your simplified machine bill of materials or your simplified spare part requirements ▲

SLICE IN A BOX™ DeviceNet I/O

Combining the best of both worlds—Point I/O and Block I/O in one device.



Benefits

- Robust design allows you to mount the I/O block right on the machine
- iButton® memory chip stores MAC ID and device parameters for fast, easy replacement of I/O block
- Reduced parts inventory—one part number for all digital I/O configurations
- Ample connector spacing allows quick disconnect of I/O, network and power
- Visible diagnostics through status LEDs
- Visible rotary switches for fast MAC ID addressing
- Standard hole patterns make it interchangeable with the most popular I/O blocks
- Patent pending SLICE IN A BOX I/O Supports Automatic Device Replacement

The Brad Harrison SLICE IN A BOX block is a user-friendly device which brings the best of "in the enclosure" point style and "enclosureless" I/O together in a single product! The SLICE IN A BOX block lets you buy only the points you need configured, and then mount the block directly in harsh industrial environments. The I/O is designed to withstand locations where water, weld sparks or vibration are present. Its flexibility is further enhanced by its quick-disconnect design for input, output, network and power connections ▲



SLICE IN A BOX I/O flexibility in an industrial IP67 package

Now you can accommodate, down to the last minute, the number of inputs and outputs you need. Through the use of your ladder logic program, you can choose to use any of the ports on the SLICE IN A BOX block as any combination of inputs and outputs. If you need to change the number of inputs or outputs—simply change the ladder logic to accommodate your choices ▲

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SLICE IN A BOX™ block simplifies the replacement of I/O Blocks

You no longer need a skilled DeviceNet user to replace an I/O block. The iButton memory chip simplifies block replacement because it stores both the MAC ID and the last set of device parameters that tell the I/O how to behave in the event of a failure such as a short circuit. To replace the block, simply remove the I/O connections, remove the iButton and replace the block. Insert the iButton into the new block, reconnect, and you're off and running. Late night phone calls from the maintenance staff to a controls engineer are eliminated ▲

Unique benefits of the SLICE IN A BOX block

As if the configurability and simplified replacement weren't enough, the SLICE IN A BOX block adds even more features that users found lacking in their current I/O products. These include:

Visible Diagnostics

LEDs can be seen even when splitters are used to double up on the inputs or outputs ▲

Simplified Plug-Play Connectivity

I/O, power and bus line connectors are elevated and generously-spaced to allow easy access for even the largest hands and fingers ▲

Visible Rotary Switches

Sharp, contrasting indicators make the MAC ID easy to read ▲

Interchangeability

The SLICE IN A BOX block has a mounting hole pattern consistent with the most popular DeviceNet I/O blocks ▲

SLICE IN A BOX™ I/O Block Ordering Information

Part Number	Inputs	Outputs	Fixed/Configurable
TDN-800-118-16B	8 x 2 IN --OR--	8 x 2 OUT; 1A	CONFIGURABLE

Additional Brad Harrison DeviceNet I/O Blocks

TDN-8C0-108	8 x 2 IN		FIXED
TDN-888-118	4 x 2 IN	4 x 2 OUT; 1A	FIXED
TDN-808-118		8 x 1 OUT; 1A	
TDN-220-108	2 x 1 IN		FIXED
TDN-240-108	2 x 2 IN		FIXED
TDN-221-108	1 x 2 IN	1 x 1 OUT; 250mA	FIXED
TDN-202-108		2 x 1 OUT; 250mA	FIXED

Accessories

Part Number	Description
67-0081	iButton Memory Chip
80013	Port Closure Cap
65-0086	Network and Auxiliary Power "In" Cap
65-0085	Network and Auxiliary Power "Out" Cap

SLICE IN A BOX™



Specifications

Connectors

I/O Connectors	Micro-Change®, 5 pole Female internally-threaded m12 connectors
Bus Connectors	Mini-Change®, 5 pole Male (network IN) and Female (network OUT) connectors
Auxiliary Connectors	Mini-Change®, 4 pole Male (power IN) and Female (power OUT) connectors

Inputs

Number of Inputs	Up to 16, software-configurable
Input Voltage	10-25VDC
Input Format	Sourcing (PNP) Dedicated or Dry Contact
On-state current	1 to 8mA maximum
Sensor current	250mA maximum
Max off state current	300uA
Max switching frequency	100Hz
Overcurrent Protection	Grouped in 2, overcurrent shut-off

Outputs

Number of outputs	Up to 16, software-configurable
Output Voltage	10-25VDC
Output Format	Sourcing (PNP)
Output current, max	1A per port; 2.4A surge for 10ms before faulting, 8A max per unit
Max switching Frequency	100Hz
Overcurrent Protection	Overcurrent shut-off at 1A

Settings

Address	0-63 using Rotary Switches
Baud Rate	125k, 250k, 500kbits/sec, or Autobaud
Configuration Management	iButton memory chip



Specifications

LED Indicators

Block Status	Flash GREEN = Autobauding GREEN = Baudrate established, block OK RED = Configuration error	Inputs	YELLOW = Input ON (2 each) RED = Input shorted
Network Status	OFF = Autobauding Flash GREEN = Connection <i>not</i> allocated Flash RED = Recoverable network error RED = Bus-off unrecoverable network error	Outputs	YELLOW = Output ON (2 each) RED = Output current overloaded
Auxiliary Power	GREEN = Aux power ON RED = Reverse polarity OFF = Auxillary power OFF		

I/O Data

Implicit Messaging		Environmental	
Polled	YES	Temp-Storage	0-90° C
COS	YES	Temp-Operating	0-70° C
Cyclic	YES	RH Operating	5-95% non-condensing
Bit Strobe	NO	Protection	IEC IP67
Explicit Messaging	YES	Vibration	IEC68-2-6
		Shock	10 G, 11ms, 3 axis

Inout/Output Map

Produce

Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Input 7	Input 6	Input 5	Input 4	Input 3	Input 2	Input 1	Input 0
1	Input 15	Input 14	Input 13	Input 12	Input 11	Input 10	Input 9	Input 8
2	Status 7	Status 6	Status 5	Status 4	Status 3	Status 2	Status 1	Status 0
3	Status 15	Status 14	Status 13	Status 12	Status 11	Status 10	Status 9	Status 8
4	Reserved						Aux Power Reversed	Aux Power Present

Consume

Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Output 7	Output 6	Output 5	Output 4	Output 3	Output 2	Output 1	Output 0
1	Output 15	Output 14	Output 13	Output 12	Output 11	Output 10	Output 9	Output 8