

Allen-Bradley 1771-IBD

The Allen-Bradley 1771-IBD is a discrete input module from the 1771 product bulletin. It has Sixteen (16) 10-30VDC sink input channels with Minimum On-state Voltage 10VDC and Maximum Off-state Voltage of 5VDC. It is compatible for installation to all 1771 I/O chassis except 1771-A1, -A2 and A4. Technical specifications for 1771-IBD

Manufacturer Rockwell Automation

Module Type Digital DC Input Module

Part Number/Catalog No. 1771-IBD

Brand Allen-Bradley

Series 1771 Product Bulletin

No. of Inputs Sixteen (16) Inputs

Operating Voltage Range 10 to 30VDC

Input Delay Time, OFF to ON 1 ms

Input Delay Time, ON to OFF 1 ms or 6 ms

Power Dissipation 7.3 Watts (max.), 1.0 Watts (min.)

Thermal Dissipation 24.7 BTU/hr (max.), 3.4 BTU/hr (min.)

Backplane Current at 24 Volts 130mA @ 5V dc +5%

Compatible chassis All 1771 I/O chassis except 1771-A1, -A2, and -A4

Keying Between 10 and 12; Between 16 and 18

Field Wiring Arm Cat. No. 1771-WH

Wiring Arm Screw Torque 7-9 inch-pounds

Number of Inputs 16 Inputs

Voltage Category 10 to 60 Volts DC, Sink (Source Load)

DC Operating Voltage 10 to 30 Volts

Backplane Current 130 Milliampere

Max DC Off-State Current 2.0 Milliampere

Typical DC Signal Delay (On) N/A

Typical DC Signal Delay (Off) N/A

Wiring Arm 1771-WN

Typical AC Signal Delay (Off) 20 (+/- 15) milliseconds

Dimensions 3.5 x 6.5 x 2.0 inches (89 x 165 x 51 millimeters)

UPC 10662468100660 Description

The Allen-Bradley 1771-IBD is a discrete input that is part of the 1771 Product family. This module is a single slot width component that mainly features Sixteen (16) 10-30VDC discrete inputs channels. It is mounted to any of the available 1771 chassis except for 1771-A1, 1771-A2 and 1771-A4.

Discrete input modules such as 1771-IBD are typically used to interface field signaling devices such as switches, sensors, auxiliary contacts that represent the state of the process. It is

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especially compatible for use with ON/OFF; 1 or 0 or binary operating devices.

The 1771-IBD comes with Eighteen (18) LED status indicators that provides information regarding the module status and the signal status present at each input channel of the module. It also comes with a Field Wiring Arm with compatible replacement part number of 1771-WH. Field Wiring Arms are used to provide modular wiring method as they can be removed from the module when terminating signals. Additionally, they contribute to ease of maintenance as they can be removed and installed to compatible modules without the need of disconnecting the attached wires.

The 1771-IBD requires a minimum input current of 4.5mA at 10VDC and 15mA at 30VDC while the Minimum Off-state Current of 2.0mA @ 5VDC. It has an input signal delay of 1ms for low to high signal transition and 1ms or 6ms for High to low signal transition as well. It has a rated power dissipation of 7.3 Watts (max.), 1.0 Watts (min.) and Thermal dissipation of 24.7 BTU/hr (max.), 3.4 BTU/hr (min.).

The 1771-IBD comes with a 1771-WH wiring arm for ease of wiring and simplified replacing of the module in case of module malfunction, thus eliminating the need to disconnect the wiring first. It supports $\frac{1}{2}$, 1, and 2-slot I/O addressing. It is compatible with source-switching devices such as dry-contact switches, electro-mechanical transmitters, and panel-switching devices like selector switches and pushbutton. The 1771-IBD module has 16 inputs with a 10 to 30 Volts DC Sink (Source load) voltage category. It has an operating voltage range of 10 to 30 Volts DC. It has a typical signal delay of 1.3 milliseconds (± 0.1) at an on-DC state and 1.3 milliseconds (± 0.1) at an off-DC state. It has a maximum off-state current of 2mA and a backplane current load of 130 mA. It has a maximum power dissipation of 6W and a thermal dissipation of 20.3 BTU/hour. It is installed in a 1771 I/O chassis containing a PLC processor. Keying bands for putting it in the right slot are found between pins 16 and 18 for the upper connector and between pins 10 and 12 for the lower connector. The 1771-IBD module has 1 green status indicator and 16 red status indicators for customer-side indication at the front panel. It contains optoelectrical isolation to protect the system circuits from electrical transients. It also contains an input filtering feature to reduce electrical noise.

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