

APPENDIX D I/O MODULE DATA SHEETS

This appendix is included to provide a place in which to store the I/O module data sheets that are packed with each module.

There are two types of modules that are available for use with the MICRO 84; discrete modules and register modules.

DISCRETE MODULES

A discrete module is used to isolate, convert, and condition discrete signals that pass between the user's device being controlled and the MICRO 84 Programmable Controller. A discrete signal is one that indicates the on or off condition of the device. A discrete input module converts the voltage level received from a control device (pushbutton, limit switch, etc.) to a voltage level that can be used within the programmable controller. Conversely, an output module converts the output voltage from the programmable controller to a voltage level that can be used to control a user device (motor-starter, solenoid valve, etc.).

REGISTER MODULES

A register module is used to isolate, convert, and condition binary-coded decimal (BCD) and analog (voltage or current) signals that pass between the user's device being controlled and the MICRO 84 Programmable Controller. A BCD signal is a numeric value in the range of 0-999. A register input module converts the input signals to numeric values usable by the programmable controller. A register output module converts the numeric output of the programmable controller to signals usable by the user's device. Standard hardware to encode and decode BCD numbers is commonly available.

B350-001 / 115 VAC Output Module

DATA SHEET

The B350-001 Output Module consists of eight independent and isolated 115 VAC output circuits.

FEATURES

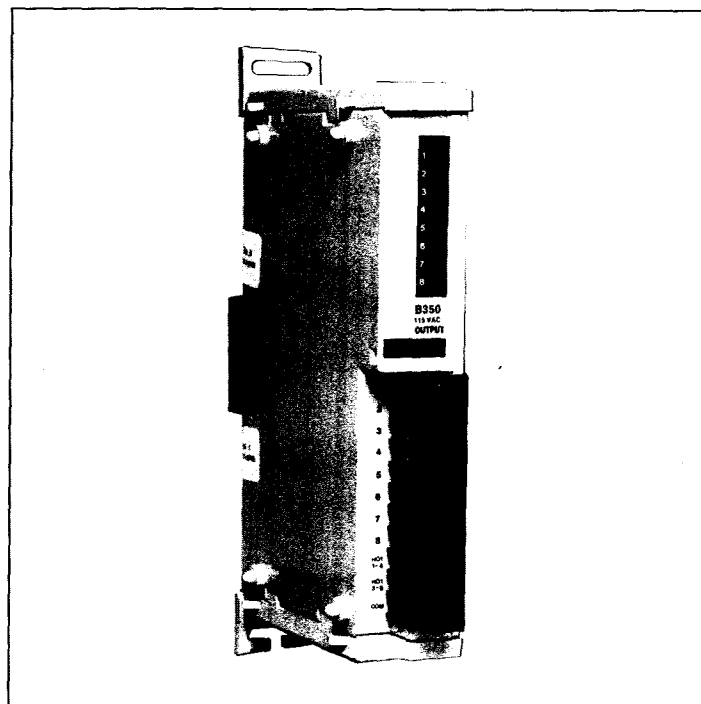
- Eight independent 115 VAC outputs
- Circuit isolation of 1500 VAC
- Zero-cross switching
- Field side status indicators
- Transient protection
- Surge withstand capability in compliance with IEEE 472-1974 and ANSI C37.90A
- Optional Fanning Strip permits module removal without disturbance to field wiring
- UL listed and CSA certified
- High 2 Amp current per output
- Designed for harsh plant floor environments

GENERAL DESCRIPTION

The Gould B350-001, 115 VAC Output Module converts logic signals used within the *Micro 84™* Programmable Controller into 8 independent 115 VAC outputs. Each output is capable of driving relays, pilot lamps, motor starters, solenoids, or other loads up to 2.0 amperes. The module uses 8 triac switches to control loads connected to an external power source. These switches are designed to withstand the high surge currents typical of industrial loads.

Each output is electrically isolated from the controller by an optical coupler. This enables the module and controller to withstand the severe voltage transients prevalent in an industrial environment. The module employs a zero-cross switching technique. This feature minimizes switching noise, extends the life of the triacs, and improves system reliability. Both IEEE and ANSI standards for surge withstand capability (SWC) tests are fully satisfied.

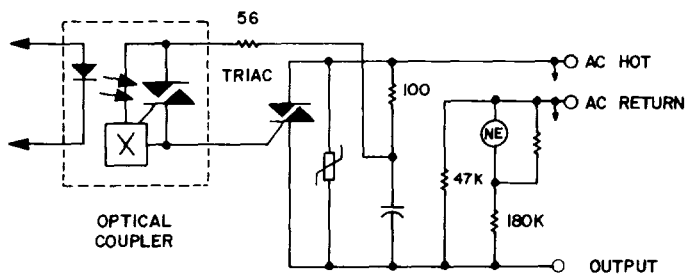
The output circuits are divided into two groups of four outputs each. Each group is driven by a separate voltage source. A neon



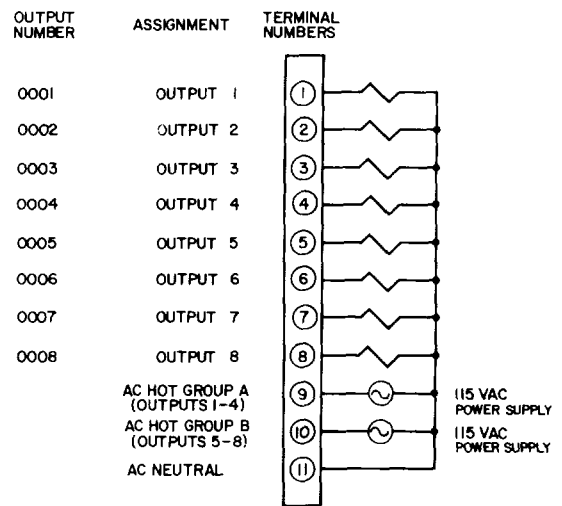
lamp connected to each circuit's field side displays the ON/OFF status of the output. This lamp indicates the output's true state.

The module is housed in a light weight, durable LEXAN case. A structural "chimney" within the module provides flow-through convection cooling and protection from moisture build-up. Self-contained mounting brackets eliminate the need for special I/O housings. A termination connector shipped with the *Micro 84* mainframe is required when using the module at the extreme right bus location. The module is also compatible with the B351 Input Module without the use of additional components.

User connections are made to a standard screw terminal strip. This strip is compatible with an optional Fanning Strip (P/N 0212-012) which allows quick module replacement without disturbing field wiring. Data bus connections are made with standard interface connectors. These connectors allow the B350 module to be placed in any location in the I/O structure without interference to other module operation.



B350 115 VAC Output Module
Simplified Schematic



B350 115 VAC Output Module
Terminal Numbering and Connections

SPECIFICATIONS

Load Ratings

ON Current:	2.0A (max) per output (10.0A max for 8 outputs)
Surge Current:	50A (max) for 1 cycle
Working Voltage:	80 to 130V rms 47 to 63 Hz
Transient Voltage:	200V rms (max) for 1 cycle 150V rms (max) for 10 seconds
ON Voltage Drop:	1.2V at 2A (typical)
OFF Current:	2mA (max)

Circuit Characteristics

Topology:	8 outputs per module 4 outputs per group
Isolation Voltage:	1500 VAC RMS for 60 sec.
Response Time:	ON to OFF, 8.3 msec OFF to ON, 8.3 msec
Surge Withstand Capability:	Per IEEE 472-1974 and ANSI C37.90A (2500V decaying in 6 microsec.)

Physical Characteristics

Environment:	
Temperature	0 to 60°C (ambient)
Humidity	0 to 95% (non-condensing)
Shock	10 G for 11 msec.
Vibration	.625 G, 50-500 Hz
EMI	Per MIL-STD 461B
RFI	Per FCC Class A
Dimensions:	
	1.62 in. (41.8 mm) X 6.00 in. (152.4 mm) X 11.00 in. (279.4 mm)
Weight:	2.0 lbs. (.91 kg)

CAUTION

During the power-up sequence, AC output modules may cause the false triggering of certain loads for one-half cycle. The loads most susceptible are latching relays, fast-acting solenoids, and latching circuits.

Special circuit designs have been incorporated to minimize this false triggering. However, applications using fast reacting or latching devices that initiate mechanical action may be a hazard.

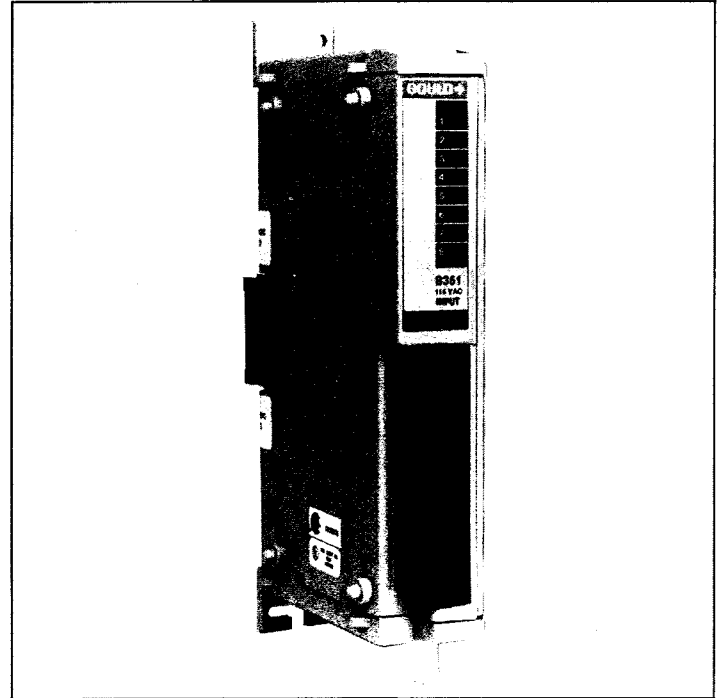
B351-001 / 115 VAC Input Module

DATA SHEET

The Gould B351-001 Input Module consists of eight independent and isolated 115 VAC input circuits.

FEATURES

- Eight independent 115 VAC inputs
- Circuit isolation of 1500 VAC
- Field side status indicators
- Transient protection
- Surge withstand capability in compliance with IEEE 472-1974 and ANSI C37.90A
- Optional Fanning Strip permits module removal without disturbance to field wiring
- UL listed and CSA certified
- Designed for harsh plant floor environments



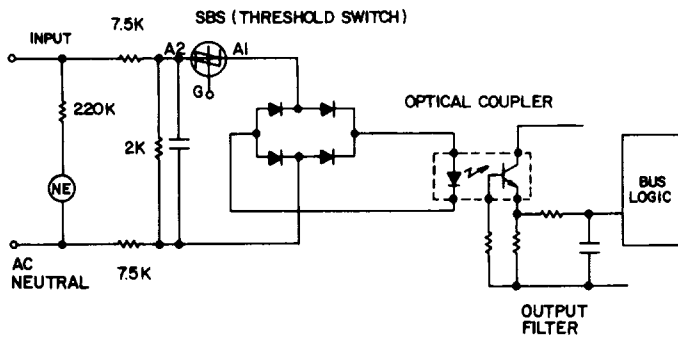
GENERAL DESCRIPTION

The Gould B351-001, 115 VAC Input Module senses and converts switched input signals into logic voltage levels used by the *Micro 84™* Controller. The module allows for up to eight independently sensed inputs. Inputs can be received from push buttons, limit and proximity switches, temperature and pressure switches, as well as other 115V sources. Eight independent threshold switches sense inputs from an external power source.

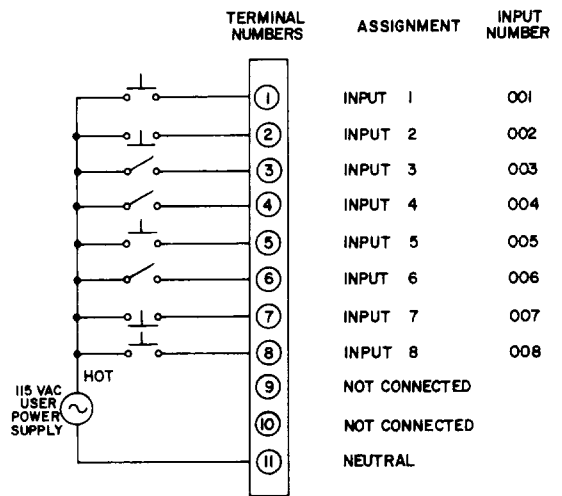
Each input is electrically isolated by an optical coupler. A neon lamp connected to the circuit's field side displays the ON/OFF status of the input. The lamp indicates the input's true state. Both IEEE and ANSI standards for surge withstand capability (SWC) tests are fully satisfied. The module is designed to withstand the severe voltage transients prevalent in industrial environments.

The B351 Input Module is housed in a light weight, durable LEXAN case. A structural "chimney" within the module provides flow-through convection cooling and protection from moisture build-up. Self-contained mounting brackets eliminate the need for special I/O housings. A termination connector shipped with the *Micro 84* mainframe is required when using the module at the extreme right bus location.

User connections are made to a standard screw terminal strip. This strip is compatible with an optional Fanning Strip (P/N 0212-012) allowing quick module replacement without disturbing field wiring. Data bus connections are made with standard interface connectors. These connectors allow the B351 Input Module to be placed in any location in the I/O structure without interference to other module operation.



B351 115 VAC Input Module
Simplified Schematic



B351 115 VAC Input Module
Terminal Numbering and Connections

SPECIFICATIONS

Electrical Characteristics

ON Level:	80 to 130V rms (less than 1000 ohms source impedance)
OFF Level:	0 to 45V rms (less than 1000 ohms source impedance) 0 to 130V rms (greater than 80K ohms source impedance)
Input Wetting Current:	5mA (typical) @ 80V rms input
Source Resistance:	1000 ohm (max)
Threshold Voltage:	45 to 80V rms
Max Input Voltage:	130V rms continuous
Frequency:	47 to 63 Hz

Circuit Characteristics

Topology:	8 inputs per module
Isolation Voltage:	1500V rms for 60 sec.
Response Time:	ON to OFF, 30 ms (max) OFF to ON, 10 ms (max)
Visual Indicators:	One neon lamp per input ON when input is ON
Surge Withstand Capability:	Per IEEE 472-1974 and ANSI C37.90A (2500V decaying in 6 microsec.)

Physical Characteristics

Environment:	
Temperature	0 to 60°C (ambient)
Humidity	0 to 95% (non-condensing)
Shock	10 G for 11 msec.
Vibration	.625 G, 50-500 Hz
EMI	Per MIL-STD 461B
RFI	Per FCC Class A
Dimensions:	1.62 in. (41.8 mm) X 6.00 in. (152.4 mm) X 11.00 in. (279.4 mm)
Weight:	2.0 lbs. (.91 kg)

NOTES

The B351-001 Input Module is compatible with the B350-001 Output Module without the use of additional components.

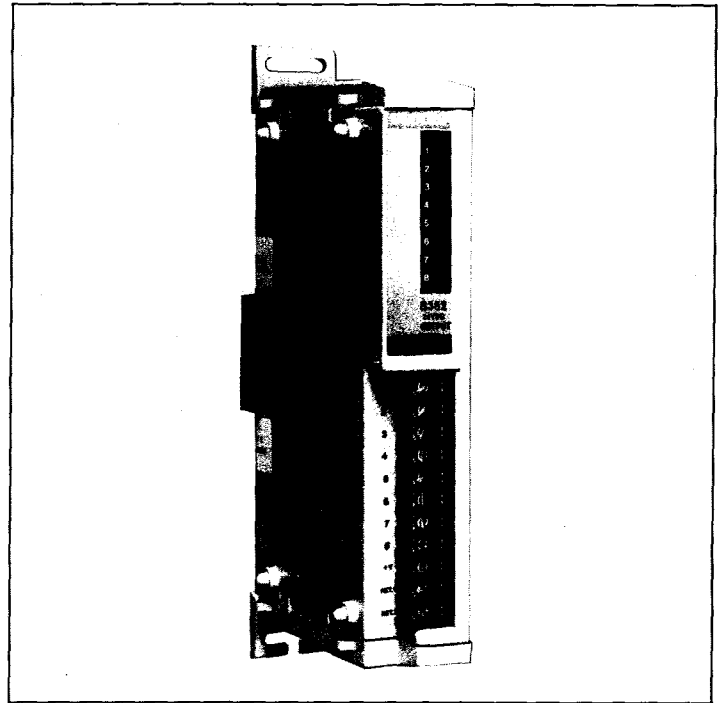
B352-001 / 24 VDC Output Module (True Low)

DATA SHEET

The Gould B352-001, 24 VDC Output Module (True Low) consists of eight independent and isolated output circuits.

FEATURES

- Eight independent 24 VDC outputs
- Circuit isolation of 1500 VDC
- Field side status indicators
- Transient protection
- Surge withstand capability in compliance with IEEE 472-1974 and ANSI C37.90A
- Optional Fanning Strip permits module removal without disturbance to field wiring
- UL listed and CSA certified
- High 2 amp current per output
- Designed for harsh plant floor environments



GENERAL DESCRIPTION

The B352-001, 24 VDC Output Module converts logic signals used within the *Micro 84*TM Programmable Controller into 8 independent 24 VDC outputs. Logic format for the module is "true low". Each output is capable of driving relays, pilot lamps, motor starters, solenoids, and other loads up to 2.0 amperes. The module uses 8 transistor switches to control loads connected to an external power source. These switches are designed to withstand the high surge currents typical of industrial loads.

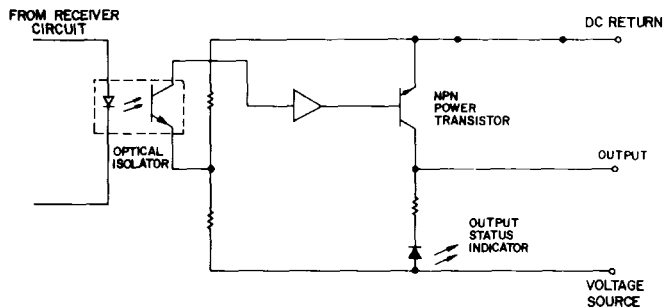
Each output is electrically isolated from the controller by an optical coupler. This enables the module and controller to withstand the severe voltage transients prevalent in an industrial environment. Both IEEE and ANSI standards for surge withstand capability (SWC) tests are fully satisfied.

The output circuits are divided into two groups of four outputs each. Each group is driven by a separate voltage source. An

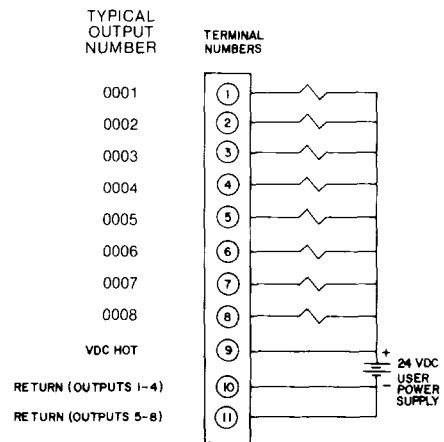
LED indicator connected to each circuit's field side displays the ON/OFF status of the output. The LED indicates the output's true state.

The module is housed in a light weight, durable LEXAN[®] case. A structural "chimney" within the module provides flow-through convection cooling and protection from moisture build-up. Self-contained mounting brackets eliminate the need for special I/O housings. A termination connector is shipped with the *Micro 84* mainframe to be used when the module is attached at the extreme right bus location.

User connections are made to a standard screw terminal strip. This strip is compatible with an optional Fanning Strip (P/N 0212-012) which allows quick module replacement without disturbing field wiring. Data bus connections are made with standard interface connectors. These connectors allow the B352 Output Module to be placed in any location in the I/O structure without interference to other module operation.



B352-001 Output Module
Simplified Schematic



B352-001 Output Module
Terminal Numbering and Connections

SPECIFICATIONS

Load Ratings

ON Current:	2.0A (max) continuous per output (10.0A max per module)
Surge Current:	5A (max) for 10 msec
Working Voltage:	18 to 30 VDC
Transient Voltage:	50 VDC for 10 ms
ON Voltage Drop:	1.2V at 2A
OFF Current:	1mA (max)

Circuit Characteristics

Topology:	8 outputs per module
Isolation Voltage:	1500 VDC (peak) for 10 sec.
Response Time:	ON to OFF, 1 msec OFF to ON, 1 msec
Visual Indicators:	One LED per input ON when input is ON (low)
Surge Withstand Capability:	Per IEEE 472-1974 and ANSI C37.90A (2500V decaying in 6 microsec.)

Physical Characteristics

Environment:	
Temperature	0 to 60°C (ambient)
Humidity	0 to 95% (non-condensing)
Shock	10 G for 11 msec.
Vibration	.625 G, 50-500 Hz
EMI	Per MIL-STD 461B
RFI	Per FCC Class A
Dimensions:	
	1.62 in. (41.8 mm) X 6.00 in. (152.4 mm) X 11.00 in. (279.4 mm)
Weight:	2.0 lbs. (.91 kg)

NOTES

The B352-001 Output Module is compatible with the B353-001 Input Module without the use of additional components.

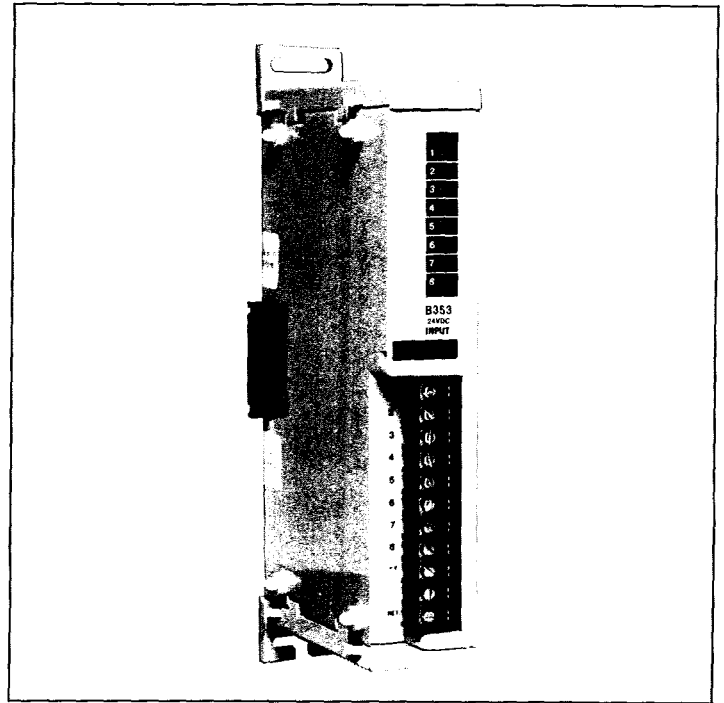
B353-001 / 24 VDC Input Module (True Low)

DATA SHEET

The Gould B353-001, 24 VDC Input Module (True Low) consists of eight independent and isolated input circuits.

FEATURES

- Eight independent 24 VDC inputs
- Circuit isolation of 1500 VDC
- Field side status indicators
- Transient protection
- Surge withstand capability in compliance with IEEE 472-1974 and ANSI C37.90A
- Optional Fanning Strip permits module removal without disturbance to field wiring
- UL listed and CSA certified
- Designed for harsh plant floor environments



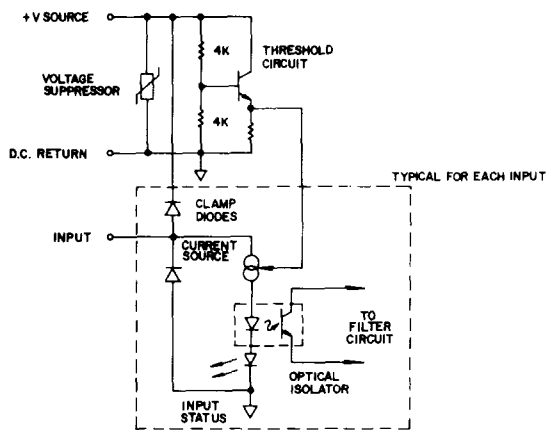
GENERAL DESCRIPTION

The Gould B353-001, 24 VDC Input Module senses and converts switched input signals into logic voltage levels used by the *Micro 84™* Controller. The logic format for the module is "true low". Inputs can be received from push buttons, limit and proximity switches, temperature and pressure switches, as well as other 24V sources. Eight independent threshold switches sense inputs from an external power source.

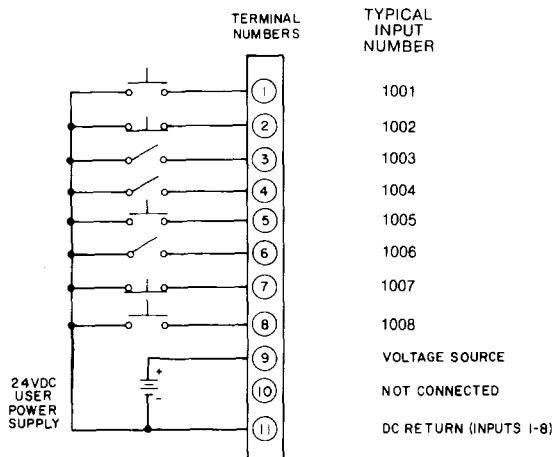
Each input is electrically isolated by an optical coupler. An LED indicator connected to the circuit's field side displays the true ON/OFF status of the input. Both IEEE and ANSI standards for surge withstand capability (SWC) tests are fully satisfied. This enables the module and controller to withstand severe voltage transients prevalent in industrial environments.

The module is housed in a light weight, durable LEXAN® case. A structural "chimney" within the module provides flow-through convection cooling and protection from moisture build-up. Self-contained mounting brackets eliminate the need for special I/O housings. A termination connector is shipped with the *Micro 84* mainframe to be used when the module is attached at the extreme right bus location.

User connections are made to a standard screw terminal strip. This strip is compatible with an optional Fanning Strip (P/N 0212-012) allowing quick module replacement without disturbing field wiring. Data bus connections are made with standard interface connectors. These connectors allow the B353 Input Module to be placed in any location in the I/O structure without interference to other module operation.



B353-001 Input Module
Simplified Schematic



B353-001 Input Module
Terminal Numbering and Connections

SPECIFICATIONS

Electrical Characteristics

ON Level:	Less than 30% of V source
OFF Level:	Greater than 70% of V source
Source Resistance:	1000 ohm (max) at 10 VDC
Threshold Voltage:	30-70% of V source
Max Input Voltage:	50 VDC, 10 ms

Circuit Characteristics

Topology:	8 inputs per module, true low
Isolation Voltage:	1500 VDC for 10 sec.
Response Time:	ON to OFF, 12 ms (max) OFF to ON, 12 ms (max)
Visual Indicators:	One LED indicator per input ON when input is ON (low)
External Power Supply:	24 VDC at 100 mA (max)
Surge Withstand Capability:	Per IEEE 472-1974 and ANSI C37.90A (2500V decaying in 6 microsec.)

Physical Characteristics

Environment:	
Temperature	0 to 60°C (ambient)
Humidity	0 to 95% (non-condensing)
Shock	10 G for 11 msec.
Vibration	.625 G, 50-500 Hz
EMI	Per MIL-STD 461B
RFI	Per FCC Class A
Dimensions:	
	1.62 in. (41.8 mm) X 6.00 in. (152.4 mm) X 11.00 in. (279.4 mm)
Weight:	2.0 lbs. (.91 kg)

NOTES

The B353-001 Input Module is compatible with the B352-001 Output Module without the use of additional components.

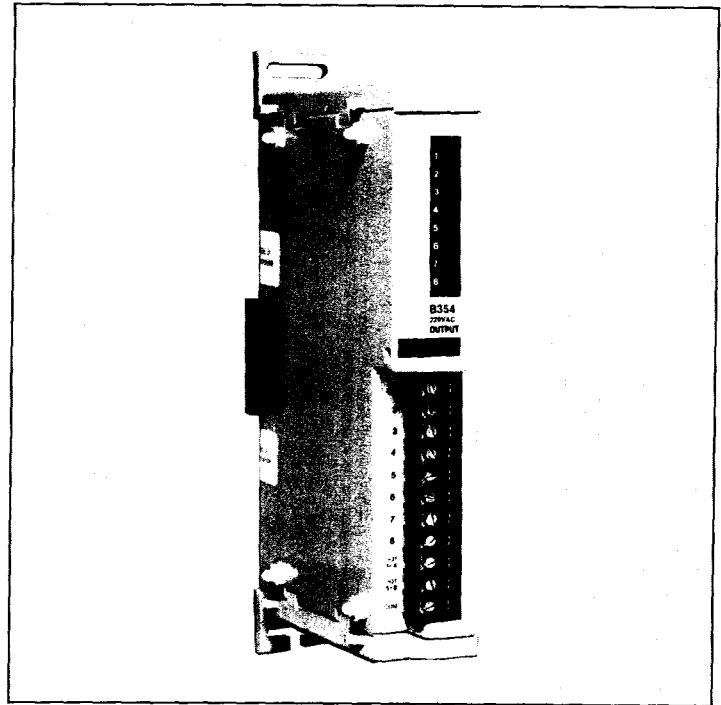
B354-001 / 220 VAC Output Module

DATA SHEET

The Gould B354-001 Output Module consists of eight independent and isolated 220 VAC output circuits.

FEATURES

- Eight independent 220 VAC outputs
- Circuit isolation of 1500 VAC
- Field side status indicators
- Transient protection
- Surge withstand capability in compliance with IEEE 472-1974 and ANSI C37.90A
- Optional Fanning Strip permits module removal without disturbance to field wiring
- UL listed and CSA certified
- High current per output (2 Amp)
- Designed for harsh plant floor environments



GENERAL DESCRIPTION

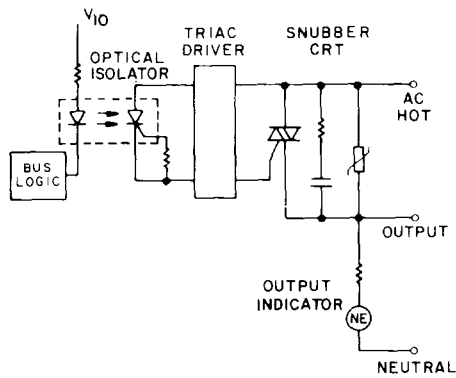
The Gould B354-001, 220 VAC Output Module converts logic signals used within the *Micro 84™* Programmable Controller into 8 independent 220 VAC outputs. Each output is capable of loads up to 2.0 amperes. The module uses 8 triac switches to control loads connected to an external power source. These switches are designed to withstand the high surge currents typical of industrial loads.

Each output is electrically isolated from the controller by an optical coupler. This enables the module and controller to withstand the severe voltage transients prevalent in an industrial environment. Both IEEE and ANSI standards for surge withstand capability (SWC) tests are fully satisfied.

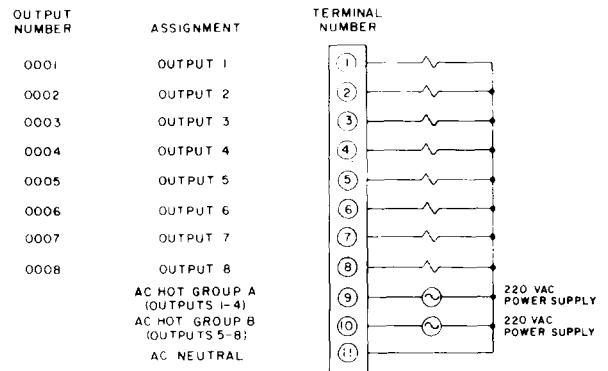
The output circuits are divided into two groups of four outputs each. Each group is driven by a separate voltage source. A neon lamp connected to each circuit's field side displays the ON/OFF status of the output. The lamp indicates the output's true state.

The module is housed in a light weight, durable LEXAN case. A structural chimney within the module provides flow-through convection cooling and protection from moisture build-up. Self-contained mounting brackets eliminate the need for special I/O housings. A termination connector shipped with the *Micro 84* is required when using the module at the extreme right bus location. The module is also compatible with the B355 Input Module without the use of additional components.

User connections are made to a standard screw terminal strip. The strip is compatible with an optional Fanning Strip (P/N 0212-012) which allows quick module replacement without disturbing field wiring. Data bus connections are made with standard interface connectors. These connectors allow the B354 module to be placed in any location in the I/O structure without interference to other module operation.



B354 220 VAC Output Module
Simplified Schematic



B354 220 VAC Output Module
Terminal Numbering and Connections

SPECIFICATIONS

Load Ratings

Electrical Characteristics

ON Current:	2.0A (max) per output (10.0A max for 8 outputs)
Load Current (Min):	50 mA
Surge Current:	50A (max) for 1 cycle (60 Hz)
Working Voltage:	180 to 260V rms 47 to 63 Hz
Transient Voltage:	300V rms (max) for 10 sec. 400V rms (max) for 1 cycle
ON Voltage Drop:	1.2V rms at 2A (typical)
OFF Current:	5 mA (max)

Circuit Characteristics

Topology:	8 outputs per module 4 outputs per group
Isolation Voltage:	1500 VAC RMS for 60 sec.
Response Time:	ON to OFF, 8.3 msec.(max) OFF to ON, 1 msec. (max)
Surge Withstand Capability:	Per IEEE 472-1974 and ANSI C37.90A (2500V decaying in 6 microsec at 1.5 mHz)

Physical Characteristics

Environment:	
Temperature	0 to 60°C (ambient)
Humidity	0 to 95% (non-condensing)
Shock	10 G for 11 msec.
Vibration	.625 G, 50-500 Hz
EMI	Per MIL-STD 461B
RFI	Per FCC Class A
Dimensions:	1.62 in. (41.8 mm) X 6.00 in. (152.4 mm) X 11.00 in. (279.4 mm)
Weight:	2.0 lbs. (.91 kg)

CAUTION

During the power-up sequence, AC output modules may cause the false triggering of certain loads for one half cycle. The loads most susceptible are latching relays, fast-acting solenoids, and latching circuits.

Special circuit designs have been incorporated to minimize this false triggering. However, applications using fast reacting or latching devices that initiate mechanical action may be a hazard.

B355-001 / 220 VAC Input Module

DATA SHEET

The Gould B355-001 Input Module consists of eight independent and isolated 220 VAC input circuits.

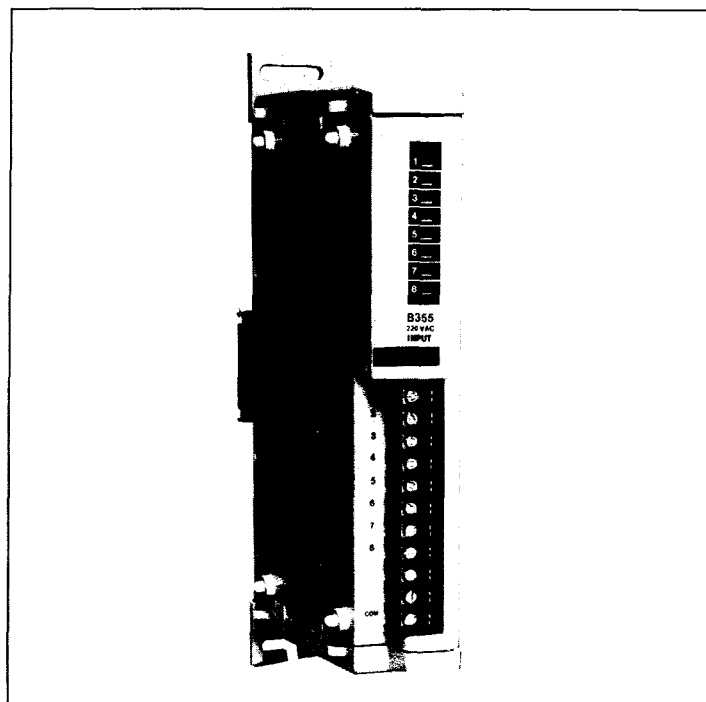
FEATURES

- Eight independent 220 VAC inputs
- Circuit isolation of 1500 VAC
- Field side status indicators
- Transient protection
- Surge withstand capability in compliance with IEEE 472-1974 and ANSI C37.90A
- Optional Fanning Strip permits module removal without disturbance to field wiring
- UL listed and CSA certified
- Designed for harsh plant floor environments

GENERAL DESCRIPTION

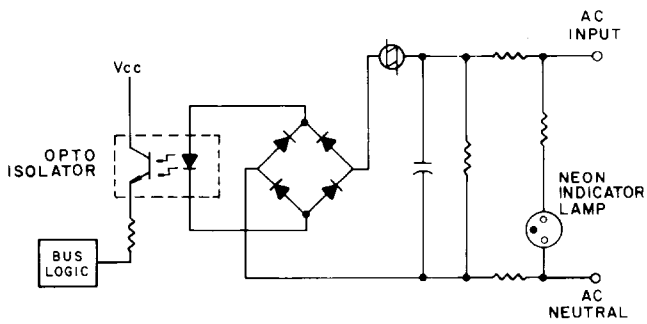
The Gould B355-001, 220 VAC Input Module senses and converts switched input signals into logic voltage levels used by the *Micro 84™* Controller. The module allows for up to eight independently sensed inputs. Eight independent threshold switches sense inputs from an external power source. Inputs can be received from push buttons, limit and proximity switches, temperature and pressure switches, as well as other 220V sources.

Each input is electrically isolated by an optical coupler. A neon lamp connected to the circuit's field side displays the ON/OFF status of the input. The lamp indicates the input's true state. Both IEEE and ANSI standards for surge withstand capability (SWC) tests are fully satisfied. The module is designed to withstand the severe voltage transients prevalent in industrial environments.

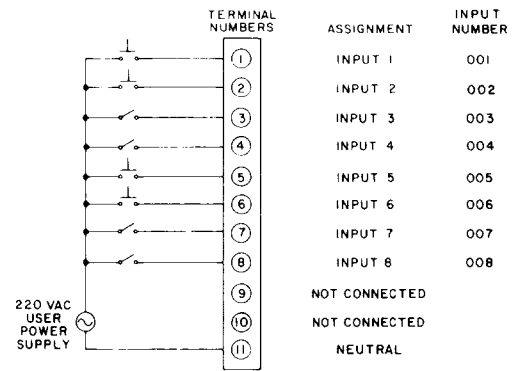


The B355 Input Module is housed in a light weight, durable LEXAN case. A structural chimney within the module provides flow-through convection cooling and protection from moisture build-up. Self-contained mounting brackets eliminate the need for special I/O housings. A termination connector shipped with the *Micro 84* is required when using the module at the extreme right bus location.

User connections are made to a standard screw terminal strip. This strip is compatible with an optional Fanning Strip (P/N 0212-012) allowing quick module replacement without disturbing field wiring. Data bus connections are made with standard interface connectors. These connectors allow the B355 Input Module to be placed in any location in the I/O structure without interference to other module operation.



B355 220 VAC Input Module
Simplified Schematic



B355 220 VAC Input Module
Terminal Numbering and Connections

SPECIFICATIONS

Electrical Characteristics

ON Level:	180 to 260V rms (less than 1000 ohms source impedance)
OFF Level:	0 to 90V rms (less than 1000 ohms source impedance) 0-260V rms (greater than 80K ohms source impedance)
Input Wetting Current:	5 mA (typical) @ 180 to 260V rms input
Source Resistance:	1000 ohm (max)
Threshold Voltage:	125V rms (approx.)
Max Input Voltage:	260V rms continuous 300V rms 10 sec. 400V rms 1 cycle
Frequency:	47 to 63 Hz

Circuit Characteristics

Topology:	8 inputs per module
Isolation Voltage:	1500 VAC RMS for 60 sec
Response Time:	ON to OFF, 26 ms (max) OFF to ON, 14 ms (max)
Visual Indicators:	One neon lamp per input ON when input is ON
Surge Withstand Capability:	Per IEEE 472-1974 and ANSI C37.90A (2500V decaying in 6 microsec)

Physical Characteristics

Environment:	
Temperature	0 to 60°C (ambient)
Humidity	0 to 95% (non-condensing)
Shock	10 G for 11 msec
Vibration	.625 G, 50-500 Hz
EMI	Per MIL-STD 461B
RFI	Per FCC Class A
Dimensions:	1.5 in. (42 mm) X 6.00 in. (152 mm) X 11.00 in. (279 mm)
Weight:	2.0 lbs. (.91 kg)

NOTES

The B355-001 Input Module is compatible with the B354-001 Output Module without the use of additional components. If a direct connection exists, a 50 mA loading resistor is required to guarantee the output module's 50 mA minimum load current.

B356-001 / 24 VDC Output Module (True High) DATA SHEET

The Gould B356-001, 24 VDC Output Module (True High) converts logic signals used within the *Micro 84™* Controller into eight, independent 24 VDC outputs.

FEATURES

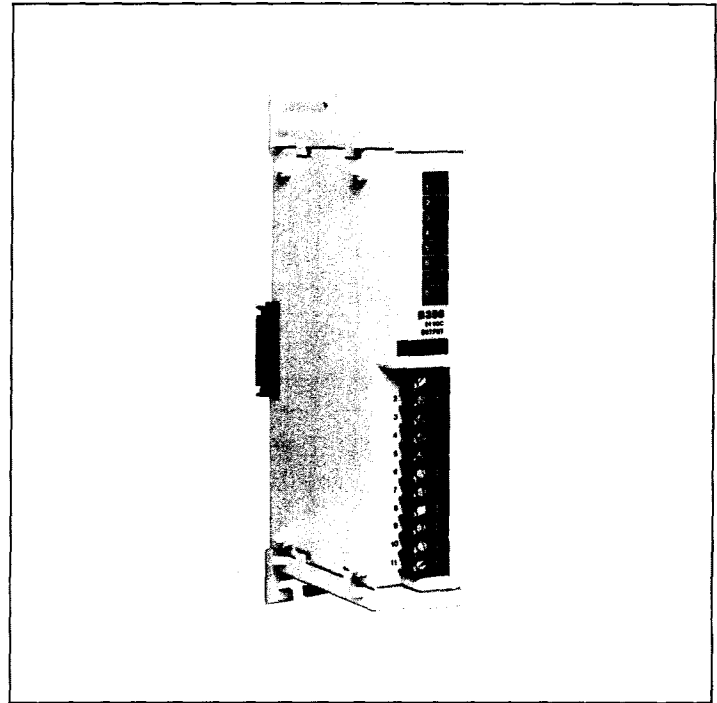
- Eight independent 24 VDC outputs
- Circuit isolation of 1500 VAC
- Field side status indicators
- Transient protection
- Surge withstand capability in compliance with IEEE 472-1974 and ANSI C37.90A
- Optional Fanning Strip permits module removal without disturbing field wiring
- High 2 Amp current per output
- Designed for harsh plant floor environments

GENERAL DESCRIPTION

The Gould B356-001, 24 VDC Output Module converts logic signals used within the *Micro 84* Programmable Controller into eight independent 24 VDC outputs. Logic format for the module is "true high". Each output is capable of driving relays, pilot lamps, motor starters, solenoids, or other loads up to 2.0 Amperes. The module uses eight transistor switches to control loads connected to an external power source. These switches are designed to withstand the high surge currents typical of industrial loads.

Each output is electrically isolated from the controller by an optical coupler. This enables the module and controller to withstand the severe voltage transients prevalent in an industrial environment. Both IEEE and ANSI standards for surge withstand capability (SWC) tests are fully satisfied.

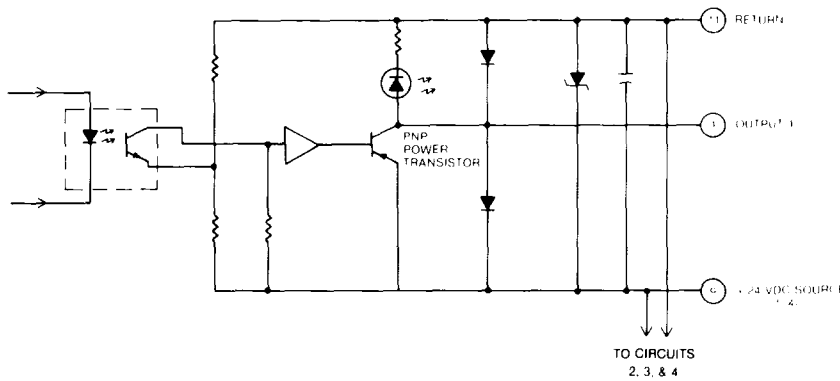
The output circuits are divided into two groups of four outputs each. Each group is driven by a separate voltage source. An



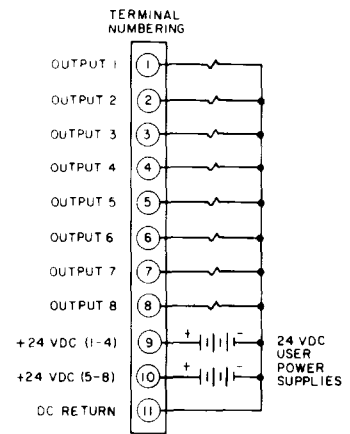
LED indicator connected to each circuit's field side displays the ON/OFF status of the output. The LED indicates the output's true state.

The module is housed in a light weight, durable LEXAN case. A structural "chimney" within the module provides flow-through convection cooling and protection from moisture build-up. Self-contained mounting brackets eliminate the need for special I/O housings. A termination connector is shipped with the *Micro 84* main-frame to be used when the module is attached to the extreme right bus location.

User connections are made to a standard screw terminal strip. This strip is compatible with an optional Fanning Strip (P/N 0212-012) which allows quick module replacement without disturbing field wiring. Data bus connections are made with standard interface connectors. These connectors allow the B356 Output Module to be placed in any location in the I/O structure without interfering with other module operations.



B356-001 OUTPUT MODULE
SIMPLIFIED SCHEMATIC



B356-001 OUTPUT MODULE TERMINAL
NUMBERING AND CONNECTIONS

SPECIFICATIONS

Electrical Characteristics

ON Current	2.0A (max) continuous per output (10.0 A max per module)
Surge Current	5 A (max) for 10 ms
Working Voltage	18 to 30 VDC
Transient Voltage	50 VDC for 10 ms
ON Voltage Drop	1.2 V at 2 A
OFF Load Current	1 mA (max)

Module Characteristics

Topology	8 outputs per module
Isolation Voltage	1500 VDC for 10 sec.
Response Time	ON to OFF, 1 ms OFF to ON, 1 ms
Visual Indicators	One LED per input ON when input is ON (high)

Surge Withstand Capability

Per IEEE 472-1974 and ANSI C37.90A (2500V decaying in 6 μ s)

Environment

Temperature	0 to 60°C (ambient)
Humidity	0 to 95°C (non-condensing)
Shock	10 G for 11 ms
Vibration	0.625 G, 50-500 Hz
EMI	Per MIL-STD 461B
RFI	Per FCC Class A
Dimensions (W x H x D)	1.62 in x 6.00 in x 11.00 in (41.8 mm x 152.4 mm x 279.4 mm)
Weight	2.0 lbs (0.91 kg)

NOTES

The B356-001 Output Module is compatible with the B353-001 Input Module without the use of additional components.

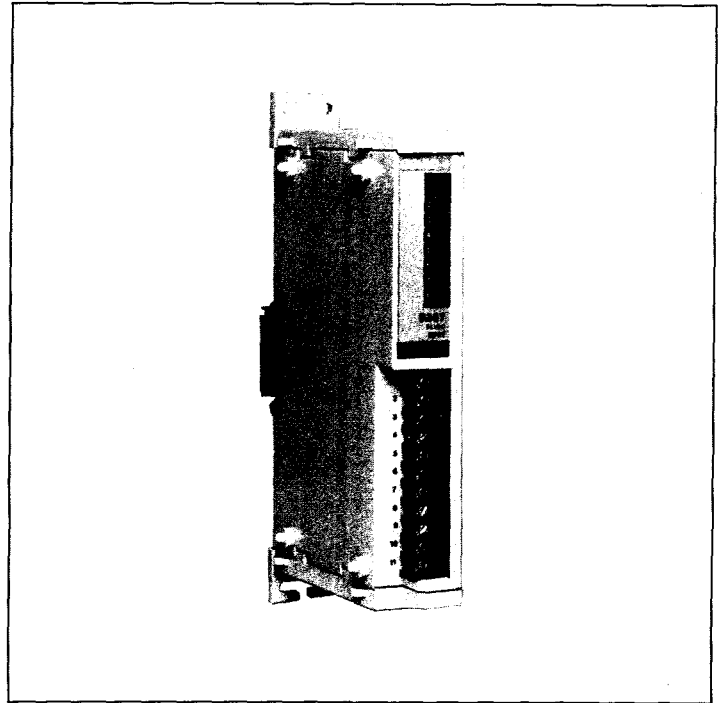
B357-001 / 24 VDC Input Module (True High)

DATA SHEET

The Gould B357-001, 24 VDC Input Module senses and converts 24 VDC switched input signals into logic voltage levels used by the *Micro 84™* Controller.

FEATURES

- Eight independent 24 VDC inputs
- Circuit isolation of 1500 VAC
- Field side status indicators
- Transient protection
- Surge withstand capability in compliance with IEEE 472-1974 and ANSI C37.90A
- Optional Fanning Strip permits module removal without disturbing field wiring
- UL listed
- Designed for harsh plant floor environments



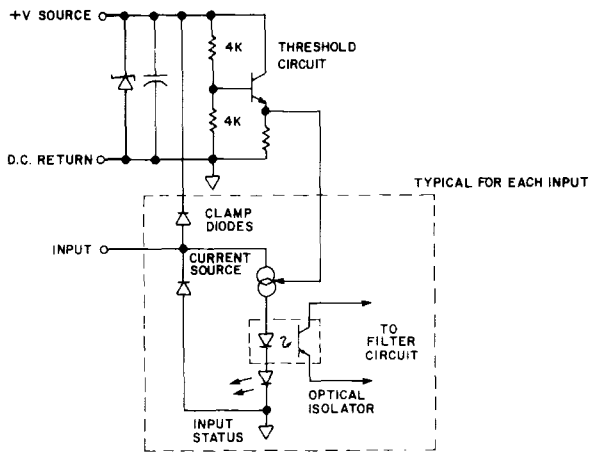
GENERAL DESCRIPTION

The Gould B357-001, 24 VDC Input Module senses and converts switched input signals into logic voltage levels used by the *Micro 84* Controller. The logic format for the module is "true high". Inputs can be received from push buttons, limit and proximity switches, temperature and pressure switches, as well as other 24 VDC sources. Eight independent threshold switches sense inputs from an external power source.

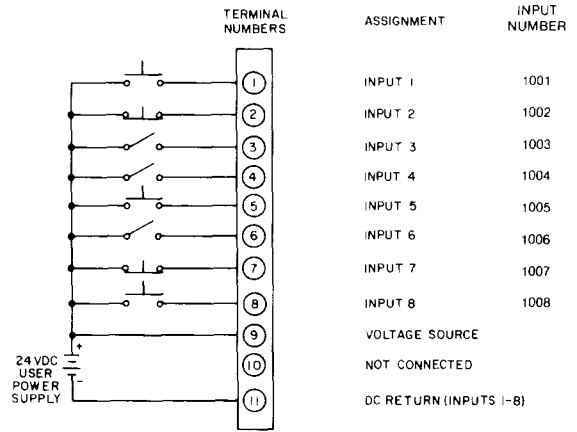
Each input is electrically isolated by an optical coupler. An LED indicator connected to the circuit's field side displays the true ON/OFF state of the input. Both the IEEE and ANSI standards for surge withstand capability (SWC) tests are fully satisfied. This enables the module and controller to withstand severe voltage transients prevalent in industrial environments.

The module is housed in a light weight, durable LEXAN case. A structural "chimney" within the module provides flow-through convection cooling and protection from moisture build-up. Self-contained mounting brackets eliminate the need for special I/O housings. A termination connector is shipped with the *Micro 84* mainframe to be used when the module is attached to the extreme right bus location.

User connections are made to a standard screw terminal strip. This strip is compatible with an optional Fanning Strip (P/N 0212-012) which allows quick module replacement without disturbing field wiring. Data bus connections are made with standard interface connectors. These connectors allow the B357 Input Module to be placed in any location in the I/O structure without interfering with other module operation.



B357-001 INPUT MODULE
SIMPLIFIED SCHEMATIC



B357-001 INPUT MODULE
TERMINAL NUMBERING AND CONNECTIONS

SPECIFICATIONS

Electrical Characteristics

OFF Level	Less than 30% of V source
ON Level	Greater than 70% of V source
Source Resistance	1000 ohm (max) at 10 VDC
Threshold Voltage	30-70% of V source
Max Input Voltage	50 VDC, 10 ms
V Source Range	18 to 30 VDC

Module Characteristics

Topology	8 inputs per module, true high
Isolation Voltage	1500 VDC for 10 sec.
Response Time	ON to OFF, 12 ms (max) OFF to ON, 12 ms (max)
Visual Indicators	One LED indicator per input ON when input is ON (high)

External Power Supply	24 VDC at 100 mA (max)
Surge Withstand Capability	Per IEEE 472-1974 and ANSI C37.90A (2500V decaying in 6 μ s)

Physical Characteristics

Environment	
Temperature	0 to 60°C (ambient)
Humidity	0 to 95% (non-condensing)
Shock	10 G for 11 ms
Vibration	0.625 G, 50-500 Hz
EMI	Per MIL-STD 461B
RFI	Per FCC Class A
Dimensions (W x H x D)	1.62 in x 6.00 in. x 11.00 in (41.8 mm x 152.4 mm x 279.4 mm)
Weight	2.0 lbs (0.91 kg)

NOTES

The B357-001 Input Module is compatible with the B356-001 Output Module without the use of additional components.