



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)



# Instruction Bulletin

**Subject: SY/MAX<sup>®</sup>**  
**CLASS 8030 TYPE CIM-151**  
**TTL INPUT MODULE**

\*NOTE: This module requires an external 5 VDC power source. This can be either a user supplied 5 VDC source or a SY MAX Power Supply - see Power Supply Instruction Bulletin.

**DESCRIPTION**

The Type CIM-151 TTL Input Module provides 4 optically isolated inputs which are capable of receiving signals from TTL and 5 VDC level devices. Through the use of DIP switches located in the rear of the module, the user has the option of selecting 1.6 mA or 10.0 mA current levels. The module also features both capacitive noise filtering and built-in hysteresis to ensure greater input signal integrity.

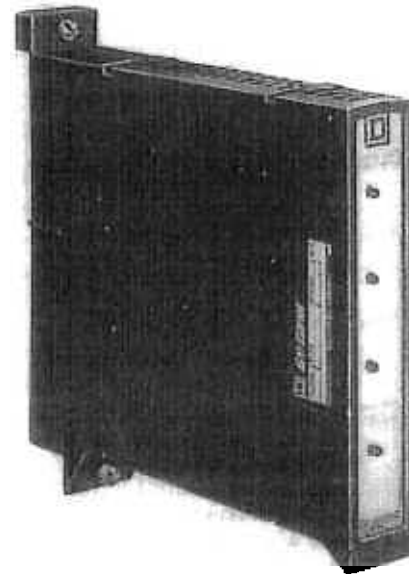
Four LEDs on the face of the module provide status indication for the individual inputs. LED illumination indicates a logic 1 input voltage.

†**SPECIFICATIONS**

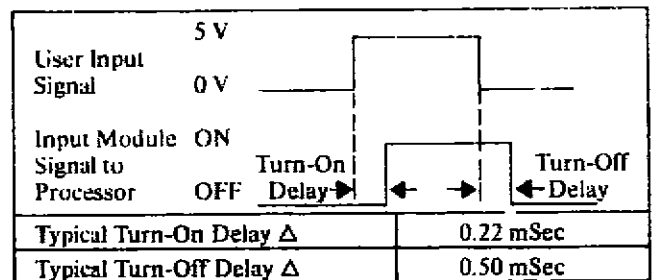
Inputs per Module . . . . . 4  
 Type and Rated Isolation  
 Between Input Terminal and  
 Logic . . . . . Optical: 2500 V RMS  
 User Information:

PARAMETERS	LOGIC 0	LOGIC 1
Signal	Low	High
Input Voltage	0.0 V min. to 0.8 V max.	2.0 V min. to 8.0 V max.
LED Operation	OFF	ON
Status Seen by Processor	OFF	ON
User Current Sink Req. (per input)	-1.6 mA max. (DIP switch OFF)* -10.0 mA max. (DIP switch ON)*	—
User Current Source Req. (per input)	—	3.0 mA max. (DIP switch OFF)‡ 10.0 mA max. (DIP switch ON)‡
User Supply Voltage Req.	5 VDC (±0.25 V) at 100 mA max. 100 mV (p-p) ripple max.	

\* — At 0.0 V with User Supply Voltage at 5.25 V.  
 ‡ — At 8.0 V with User Supply Voltage at 4.75 V.



Input Module Switching Characteristics:



Δ — Turn-On Delay and Turn-Off Delay Values are based on Input Voltage Levels indicated in the Diagram.

- Rated Module Current Draw  
On SY/MAX Power Supply . . . 20 mA per Module
- Ambient Temperature Rating 0 - 60° C
- Humidity Rating . . . . . 0-95% non-condensing
- Weight . . . . . 0.5 lb./0.23 kg. (Unpackaged)
- Rack Assemblies In Which  
Module May Be Used . . . . . CRK-100, CRK-200, CRK-210,  
CRK-300, DRK-210, DRK-300
- Compatibility With Output  
Modules . . . . . COM-261, COM-271, COM-281,  
HOM-261, HOM-271

**TYPICAL WIRING**

Figure 1 illustrates the typical wiring for the CIM-151 TTL input module. Each input module is capable of being connected to a separate voltage supply. If only one voltage supply is

used for more than one module, the B terminals of each terminal block may be connected together and A terminals of each terminal block may be connected together.

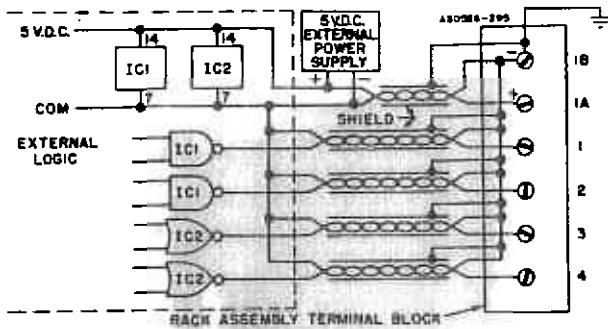


Figure 1 - Typical Wiring

**APPLICATION CONSIDERATIONS**

- External power supply connections to terminals A and B on the rack assembly will power all four functions.
- The polarity of the wires connected to the rack assembly terminals A (+) and B (-) must be as indicated or damage to the Module will occur (Figure 1).
- Only shielded twisted pair cable, such as Belden No. 8760, should be used when connecting the TTL input module to an external device. With the 1.6 mA current level selected, the maximum cable length is 10 feet. With the 10.0 mA current level selected, the maximum cable length is 50 feet.
- The input common terminal on the rack assembly should be connected to the rack chassis ground to minimize noise susceptibility. Each individual cable shield must also be connected to the common terminal B on the rack. The other end of the shield must be left unconnected (Figure 1).
- If an output of a TTL input module, the cable shields should be connected to the B terminal (common) on the output rack assembly. The other end of the shield must be left unconnected.
- When using the TTL input module in conjunction with a SY/MAX Model 300 Processor, refer to the processor "Instruction Bulletin" for minimum input pulse width and signal frequency.
- If using the TTL input module with a Class 8884 SY/MAX-20 Processor, consult factory for minimum input pulse width and signal frequency.

**MODULE KEYING**

Each socket on the I/O rack assembly may be keyed to accept only one type of module. An optional keying pin kit, Class 8030 Type CBP-104, is available for this purpose. The correct position of the keying pin for the TTL input module is between pins 38 and 40. See Figure 2. The keying pin is simply inserted manually into the slot in the rack connector, as shown in Figure 3, using the keying pin insertion tool provided with the kit.

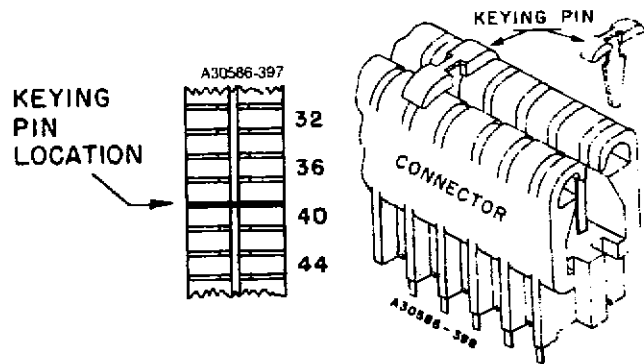


Figure 2 Keying Pin Location

Figure 3 Inserting Keying Pin

**CAUTION:** When inserting or removing the keying pins, use care to avoid touching the contact fingers within the connector. Improper insertion removal may damage the connector.

**INSTALLATION INSTRUCTIONS**

Insert the key mentioned above into the appropriate slot then, before inserting the module into the rack, set the DIP switches to select the 1.6 mA or 10.0 mA current level for each individual input. The DIP switches are accessible through the edge connector slot in the rear of the module. Simply set the switch in the "ON" position (towards the PC board) to select 10.0 mA current level or set the switch in the "OFF" position to select 1.6 mA current level (Figure 4). After setting the DIP switches to the desired position, insert the module into the rack slot and tighten the two input module captive screws.

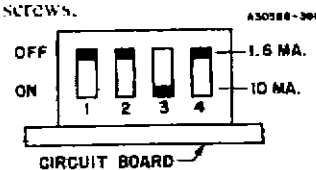


Figure 4 - Module DIP Switches

**SIMPLIFIED SCHEMATIC OF MODULE**

Figure 5 illustrates one of four circuits within the module. The terminals marked "1A" and "1B" are common to all four inputs within the module.

NOTE: The switch labeled "S1", when closed, selects 10.0 mA current level.

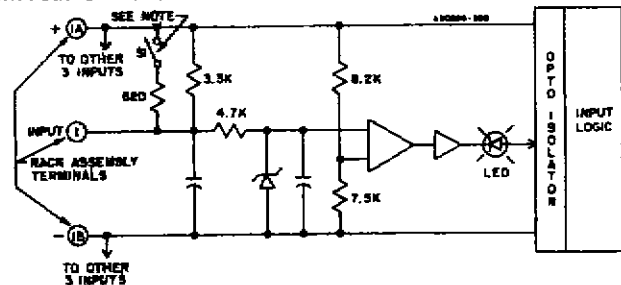


Figure 5 - Simplified Schematic of One Input Module Circuit



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)