



## *User's Manual*

# **Bulletin 2803** **VIM™ Vision Input Module**

*Addendum to Publication 2803-800 Dated October, 1987*

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### **Overview**

This is an addendum to the Bulletin 2803 VIM™ Vision Input Module *User's Manual* (Publication 2803-800). The addendum contains information about the Series "B" enhancements to the VIM module.

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### **VIM Series "B" Enhancements**

The Series "B" enhancements to the VIM module are:

1. Verification of the block checksum word at the end of each configuration block will no longer be done when the VIM receives a block transfer write of configuration data from a PLC. The checksum word will still be included in each block to retain block length compatibility with all Series "A" VIM's.

To maintain the integrity of the configuration data, range checking is done in firmware. This additional firmware requires that the 16K EPROM used in the Series "A" VIM's be replaced by a 32K EPROM.

2. Two new PLC discrete bits (on the 1771 backplane) have been implemented to facilitate the range checking.
  - A) A "CONFIG BUSY" bit will be set high by the VIM when a configuration block transfer is in progress, then set low when the VIM is ready to receive another block transfer or resume inspecting. The PLC can monitor this bit after a block transfer write to the VIM to determine when the VIM is ready to receive another block or resume inspecting.
  - B) A "LAST BLOCK FLAG" bit is set high by the PLC when the last configuration block is sent to the VIM. The VIM will use this bit to determine when the new configuration should be validated (and copied from the temporary buffer into the actual configuration area). If the PLC fails to set this bit, the new configuration will remain in the temporary buffer.

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**VIM Series "B"  
 Enhancements  
 (continued)**

The following tables illustrate the addition of the new discrete PLC bits. (These two tables update Table 5.A on p. 5-19 in the VIM User's Manual, Publication No. 2803-800.)

Table 1 shows the input functions. These are VIM status conditions, which the PLC inputs or "reads" from the VIM module.

**Table 1  
 PLC Discrete Bits: Input Functions**

Input Bit Address	VIM-to-PLC Functions	
	Functions	Bit State
10	Module Fault	0 = Running OK 1 = Fault
11	Configuration Fault	0 = Configuration OK 1 = EEPROM/CONFIG Invalid
12	Module Busy	0 = Ready 1 = Busy
13	Master Range Alarm	0 = Accept 1 = Decision Reject
14	Probe Error	0 = OK, Normal Operation 1 = Error, Probe Out of Range
15	X/Y Float Error	0 = OK, Normal Operation 1 = Error, Out of Range
16	Reserved for Future Expansion	
17	Config Busy	0 = Ready 1 = Configuration Download in Progress

Table 2 shows the output functions. These are VIM controls and commands, which the PLC outputs or "writes" to the VIM module.

**VIM Series "B"  
 Enhancements  
 (continued)**

**Table 2  
 PLC Discrete Bits: Output Functions**

Output Bit Address	PLC-to-VIM Functions	
	Functions	Bit State
10	Unlock	0 = Lock the Module/Disable Programming 1 = Unlock/Enable Programming
11	Last Block Flag	0 = Not Last Block 1 = Last Block
12	Reserved for Future Expansion	
13	Reserved for Future Expansion	
14	Reserved for Future Expansion	
15	Trigger	0 = Stand By 1 = Initiate an Inspection Cycle
16	Binary/BCD Results	0 = Standard Binary Number Format 1 = BCD Format
17	Save Configuration Data	0 = Temporary Storage (Fast Mode) 1 = Configure Permanently

3. Two known software bugs have been corrected on the Series "B" VIM:
  - A) The 2-pixel filter option for vertical line gauges now works properly. Formerly, 1-pixel filtering was done despite having made the 2-pixel selection.
  - B) Center/width of largest blob now reports an error if no blob is found. Formerly, the previous pixel count value was displayed whenever a blob center or width was not found. Now, either an error or the correct pixel count will be displayed.

**NOTE:** Series "A" VIM configuration blocks may contain uninitialized data that will fail the new configuration validation range checking. The Series "B" VIM will automatically initialize such data when it is loaded via a block transfer write operation, or upon power-up, if the EEPROM contains Series "A" configuration data. This initialization will be transparent to the user. However, the Configuration Revision Level word in each Configuration Block may hold a different value as a result of the reinitialization.

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