TG-1000 General Information

Electrical Characteristics

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AC Input: 90-264 VAC, 3.3 A (peak), 50/60 Hz
AC In-rush Current (Cold Start): 77 A (maximum), at 240 VAC
Fuse Replacement: 2.0 A Fast Blow 250 VAC
(Spare fuse located in Power Jack on Back Panel)
Mains supply voltage fluctuations not to exceed 10% of the nominal voltage
Indoor use only
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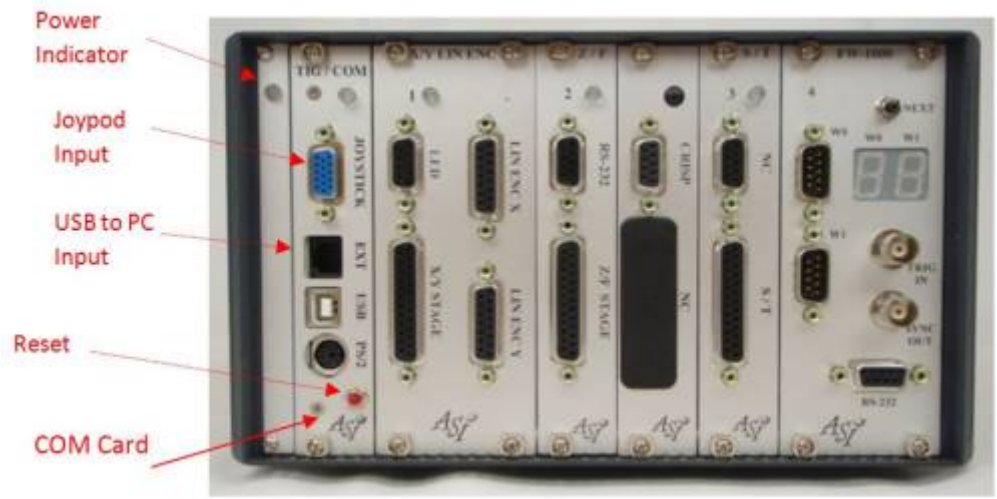
Warnings

1. Ensure power switch is in the OFF position before plugging in the power cord.
2. Do not unplug or plug-in devices / cables when power is on.
3. Do not remove the front or back panels; no user serviceable parts are inside.
4. Do not insert hand or non-isolated tools into Control Box even with power off. Stored charge on capacitors could result in personal electrical shock or damaging of electrical components if contact is made to internal circuit boards.
5. For indoor use only.
6. Do not position controller so that there is no access to the back mains supply input.
7. Protection provided by the equipment bay be impaired if the equipment is used in a manner not specified by ASI.
8. In the event of device failure, contact ASI: (541) 461-8181 or (800) 706-2284 and International: +1-541-461-8181

Description



Tiger System

The TG-1000 Tiger system provides a case that houses multiple control cards and allows for future expansion. It is available in 8 or 16 slot configurations. The standard setup comes with +24, +5, & -5 VDC. The power indicator shows that 5 VDC is on. The only card that comes standard with all Tiger systems is the TIG/COM card.

Tiger Comm Card

The COM card is the base of the system. It provides communication to all cards installed into the controller system via a backplane communication bus. The COM card actively monitors and supervises all communications and inputs to the system and distributes the information to all cards. Each card discerns what information to listen to and communicates with the COM card to give responses on the USB serial port.

JOYSTICK / JOYPOD Input

This port allows the attachment of the ASI JOYPOD unit. The joypod unit has an analog joystick, multiple high resolution digital input knobs, as well as several switches and buttons. The COM card monitors the input from the joypod and shares the information to all cards. Several serial USB port commands can be used to set up which cards use the information and what it controls.

USB to PC Input

This port allows the controller to be connected to a PC via USB which creates a virtual com port through which high speed serial communication can be established.

Download the Silicon Labs drivers to connect to the Tiger system.

RESET

The COM card also has a reset button which resets all the cards installed.

Tiger Controller Plugin Cards

`Card:` links to the individual control card manuals.

`Slots:` how many expansion slots the card takes.

Card	Slots	Description
TGCOM	1	Communication card. Provides communication with all cards in the TG8 or TG16 controller. Required.
TGDCM2	1	Dual axis motion control card.
TGADEPT	2	Single axis motion piezo control card. Includes ADEPT card and CRISP interface.
TGFW	2	Dual FW-1000 Filter Wheel control card.
TGDAC4	1	Four analog voltage outputs, programmable range.
TGMM4	1	Four-axis micro-mirror scanner control card.
TGSPIM	1	Scan card without micro-mirror outputs for stage scanning using Micro-Manger plugin.
TGGALVO	1	Four analog outputs, includes micro-mirror SPIM-type firmware for galvo control.
TGCRISP	2	CRISP card. It provides CRISP focus control of DC servo stage such as LS-50, has TTL I/O.
TGPLC	2	Field-programmable card for digital logic. Has 8 front-panel I/O ports plus connections to the backplane.
TGTLC	1	Control card for Optotune lens including temperature compensation.
TGLED	1	Four-channel high power LED driver for -A LED illuminators (analog current control)
TGLED_S	1	Four-channel high power LED driver for -S LED illuminators (analog voltage + optical feedback)
TGPMT	2	Dual PMT control card - control two photo multiplier tubes.
TGBUF	1	Two-channel 50 Ohm TTL driver.

Occasionally we replace our Tiger plugin cards with new cards that cover the old device's functionality.

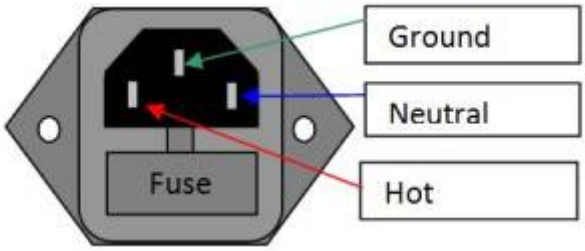
Legacy Tiger Plugin Cards

Card	Slots	Description
TGDAC	1	2 Ch 16-Bit DAC voltage control card - used for controlling 0-10V piezo devices (obsolete)
TGTTL	1	Configurable TTL I/O card - allows backplane connection (obsolete)

Installation of Cables

Plug the AC power cord into the rear of the controller. Attach the cable between the filter wheel and the controller. Connect the serial cable between the computer and controller.

WARNING! Ensure that the power switch is in the “OFF” position while connecting or disconnecting connectors including the mains power plug. Connecting and disconnecting with the power on can result in permanent damage to the controller electronics.



The controller relies on proper orientation of the terminals on the mains input plug. The ground terminal must be properly earth grounded to provide safe protective grounding. Where possible, correct connection of Neutral and Hot convention should be followed.

Warning! Failure to follow Hot / Neutral conventions can result in failure of fuse shorting protection.

Danger! Failure to ground the ground terminal can result in failure of protection against electrical shock.

When setting up the controller several things should be taken into consideration. One, the controller should not be setup in a location where access to the power cord is blocked. Although heat build up is generally not an issue, the controller should be placed where it can get adequate ventilation to the bottom air vents. The on/off power switch on the front of the controller should be easily accessible. The controller should be close enough to the filter wheel / shutters that there is no strain on the attachment cables.

Cleaning & Maintenance

Cleaning should be done with a 70% isopropyl alcohol solution. Bottom air vents should be checked to ensure that the vents do not become clogged with dust. Maintenance should only be done by ASI, or an ASI approved technician.

Environmental Capabilities

Temperature range of storage: -20C to 60C

Maximum humidity of storage: Non-Condensing, no frost (~0% R.H. below 0C).

Temperature range of operation: 0C to 40C

Maximum altitude of operation: 5000m

Maximum humidity of operation: 90% Relative Humidity, Non-Condensing

Pollution Degree 1 (Only non-conductive particle contaminants and non-condensing atmospheres allowed)

ESD Performance Level: Exposure to an electrostatic discharge may cause the Tiger controller to reset itself. This action is intentional to prevent memory errors. No user action is required.

WARRANTY

Applied Scientific Instrumentation, Inc., hereafter referred to as ASI, guarantees its equipment against all defects in materials and workmanship to the original purchaser for a period of one (1) year from the date of shipment. ASI's responsibility to this warranty shall not arise until the buyer returns the defective product, freight prepaid, to ASI's facility. After the product is returned, ASI at its option, will replace or repair free of charge any defective component or device that it has manufactured. The warranty set forth above does not extend to damaged equipment resulting from alteration, misuse, negligence, abuse or as outlined below:

Equipment not manufactured by ASI that is offered as part of complete systems carry the original equipment manufacturer's warranty.

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