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C-it P/T/Z ReceiverTM

Installation Manual

Revision: 12th February 2006

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C-it P/T/Z Reciever **24VDC Pan/Tilt and Lens Controller**

Revised: 12th February 2006

INSTALLATION

The PTZ controller board is designed to support a 24VDC pan/tilt motorised head delivering a maximum of 50watts per motor. Control of 12v lens functions for Zoom/Focus and Iris are also available. In addition, Wash and Wipe relay contacts and 12vDC camera power are provided.

The board must be mounted using the six (6) mounting holes provided. Anti-static and RF bypass is provided on-board to the mounting holes. The mounting holes should be connected to earth.

A power supply of 24vAC at 50VA with an available peak delivery of 150VA is required. The PTZ controller board has an on-board Poly-Fuse. This will protect against prolonged over-current consumption. It is self-healing when allowed to cool. It is advised that an additional source fuse is used to protect on the input side of the transformer being used.

Note: The Lens COMMON must NOT be connected to ground.

Preset sensing is supported for pan/tilt and Zoom/Focus functions. The PTZ controller automatically detects and adjusts for preset sensing wiring standards.

The RS-485 communications port must be connected to the control system.

(A) wire to (A) pin

(B) wire to (B) pin

SETUP PROCEDURE

Once the PTZ controller board is wired, and checked, connect the power. The PTZ controller board will automatically select Baud rate and Protocol by listening to the data traffic on the RS-485 communications port. This may take several seconds of data transmission.

The RED led will LONG flash every few seconds indicating INCORRECT protocol received until the protocol is identified.

The GREEN led will SHORT flash confirming a valid command has been received for this site ID.

If the RED led SHORT flashes instead, this indicates that a valid command packet was received but it was not for this site ID and as such has been ignored.

Once the baud rate and protocol has been detected they will be remembered ready for next time the board is powered up.

POWERING UP

Applying power to the PTZ controller board will cause a RESET. Both GREEN and RED leds are flashed together once for one second indicating that a RESET has occurred.

After a few seconds the current Site ID address is announced using the same leds.

flashing the GREEN led counts the TENS digit

flashing RED led counts the UNITS digit

For large Site Ids both GREEN and RED leds are flashed together counting the HUNDREDS digit.

The YELLOW STATUS led should light up (not flashing) indicating that all is OK. If a problem is detected the YELLOW STATUS led will flash counting the appropriate error number.

1 flash – tilt motor failure (open or short circuit)

2 flashes – pan motor failure (open or short circuit)

3 flashes – lens common fault (lens common has been shorted to power ground)

SETTING SITE ID

To set the Site ID address for the PTZ controller board, press and hold both buttons (TENS and UNITS) for two seconds, then release. The GREEN and RED leds will both flash together for one second confirming you can now enter the new Site ID.

Press the TENS button the number of times required.

Press the UNITS button the number of times required.

Pressing both buttons together, enters counts for the HUNDREDS digit.

As an example, to enter a Site ID of (53). Five times on the TENS button and three times on the UNITS button.

Another example for a Larger Site ID of (1354). Press both buttons together 13 times. Press TENS button 5 times and UNITS button 4 times.

When finished just wait. After three (3) seconds, the PTZ controller board will RESET and announce the new Site ID address.

flashing the GREEN led for tens digit

flashing RED led for units digit

flashing both GREEN and RED together for hundreds digit

The maximum Site ID address allowed is only restricted by the protocol being used. Commonly a maximum of 128 or 256 would be assumed. Some protocols however allow a maximum of 2047.

The Site ID entered must not exceed the protocol maximum allowed.

MOVING THE PAN/TILT HEAD

Once the Pan and Tilt motors are wired to the PTZ controller board, it is virtually impossible to manually push the head around to position it for maintenance. This is because DYNAMIC BRAKING is applied to the motors, even when the PTZ controller board is turned off.

For easy installation, maintenance and setting of physical limit switches, it is possible to manually control the Pan/Tilt head directly by pressing the TENS and UNITS buttons on the PTZ controller board.

Press and hold the TENS button. After half a second the head will PAN in one direction at a fixed slow speed. Release the button to stop. Press the TENS button again, and after half a second the head will PAN back in the opposite direction. Use this feature to pan the head to any position. The UNITS button operates the same way for manual TILT control.

Manual pan/tilt control does not require any data communications, protocol or Site ID. It is a local function of the PTZ controller board.

CONTINUOUS ROTATION PAN/TILT HEADS

Commonly, called 360 degree rotation, these heads can be connected to the PTZ controller board. Some heads have two overlapping pan sensing potentiometers. If so, connect only one of them to the normal PRESET PAN terminal.

The PTZ controller board will automatically determine if the connected pan/tilt head is a continuous rotation type. Just pan slowly going right round in both directions. The difference in performance is for preset recall functions. Now the shortest path for FAST panning to the required preset position will be automatically determined, regardless of the pan direction to be taken.

RESTORING TO FACTORY DEFAULT SETTINGS

If a PTZ controller board has previously been used, it should be set back to the factory default settings to avoid internal confusion between the new and old installation's wiring and equipment. This is most important when previously connected to a continuous rotation pan/tilt head.

To restore to factory default settings, turn OFF the power to the PTZ controller board. Wait for 10 seconds. Press and HOLD both the TENS and UNITS buttons while turning ON the power to the board. Then release both buttons. The PTZ controller board has now been restored to factory defaults and will announce the Site ID as the default (01).

WASH AND WIPE RELAY CONTACTS

Two relay contacts are provided. Each contact is a NORMALLY-OPEN, DRY CONTACT. This means it can be considered as a switch. When activated the switch (or contact) is closed, turning on the attached device.

WASH RELAY .. responds to Wash command, Aux 1 and Aux 3 commands.

WIPE RELAY ... responds to Wipe command, Aux 2 and Aux 4 commands.

Note: Aux 3 and Aux 4 commands are automatically managed to turn OFF the relay after 5 seconds.

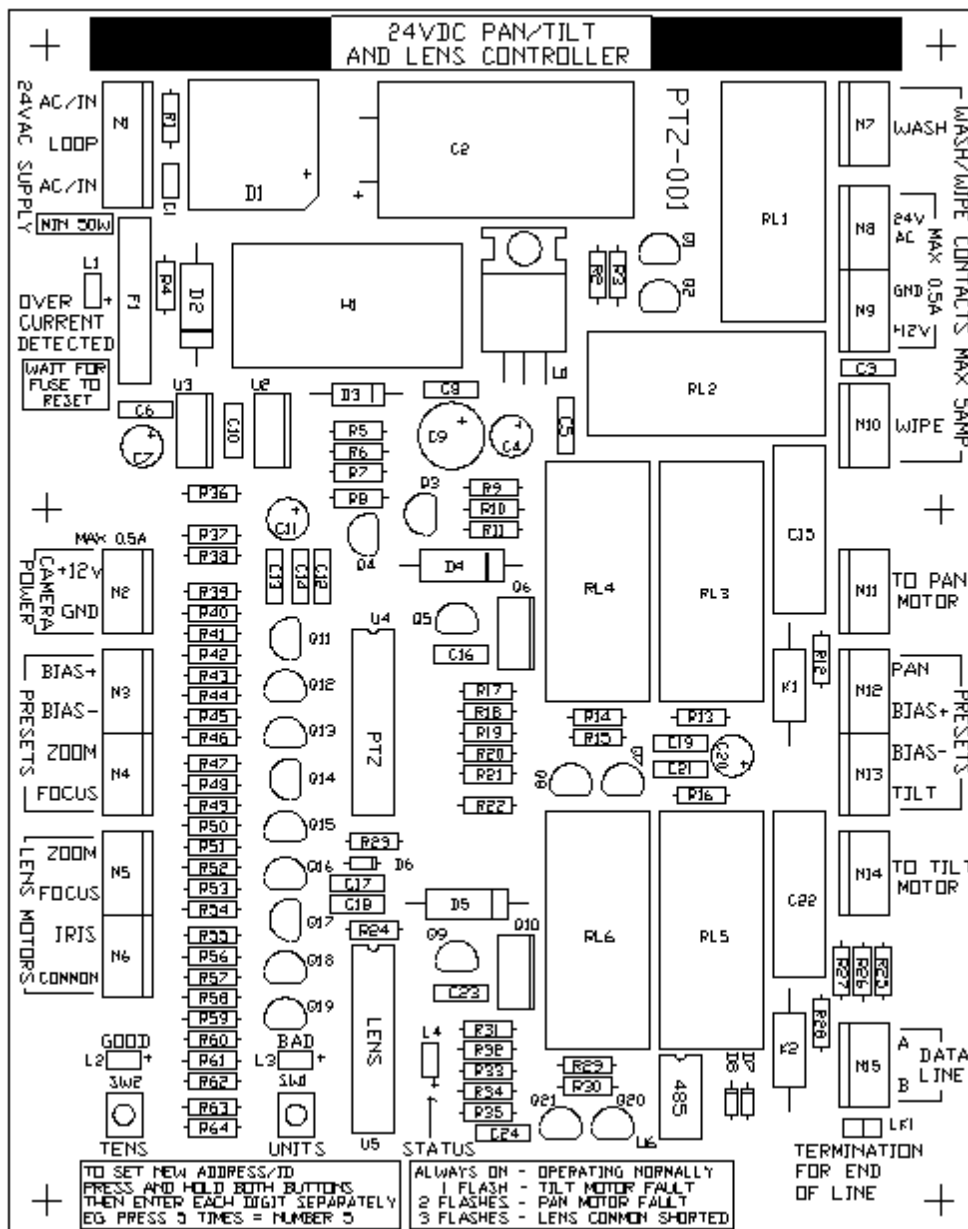
A maximum current of 5 amps can be switched by each relay contact. This should be adequate to directly switch the wash or wipe motors. Check the requirements of the attached device before connecting. If using the 24VAC check that the power required is available from the source transformer being used to power the PTZ controller board.

CAMERA POWER

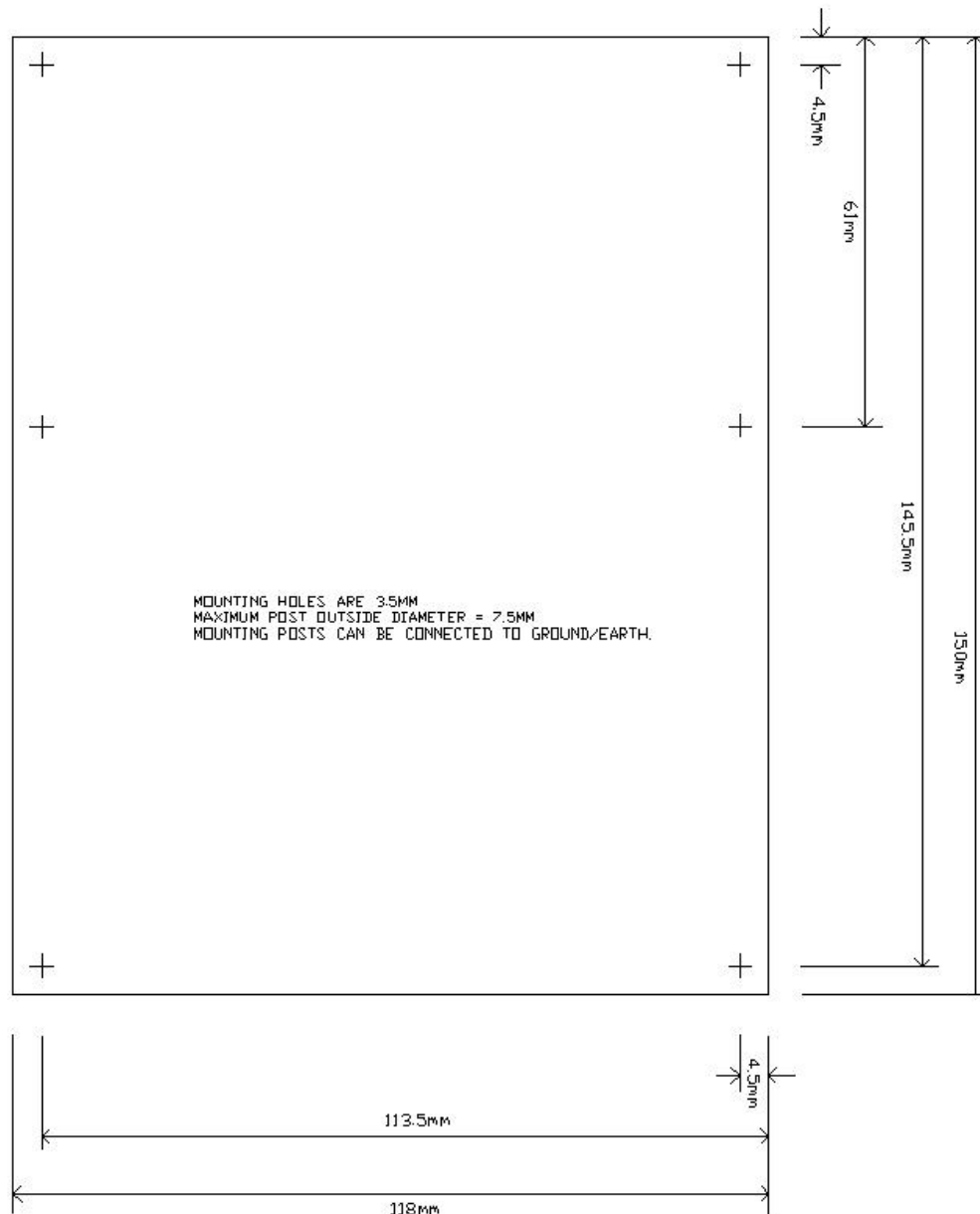
The PTZ controller board provides 12VDC to power the camera. A maximum current of 0.5A can be used. Exceeding this maximum will cause over-heating of the on-board DC regulator chip.

Note: DO NOT USE the 24VAC power. It should not be used to power 24vAC cameras. This is because the PTZ controller board rectifies the incoming AC power and connects one side of the AC to the DC Ground. Most 24vAC cameras do not have internal transformers and also apply their own DC ground to one side of the AC power. If these two situations are opposing then a dangerous short circuit may occur. It can also cause interference to the video signal from the camera. It's always best to use the 12VDC to power the camera and avoid this potential problem completely. The 24VAC could be use by the wash/wipe relay contacts if required.

PCB LAYOUT AND CONNECTIONS



24VDC PAN/TILT AND LENS CONTROLLER MOUNTING DETAIL



Electromagnetic Interference

This product is designed to provide reasonable protection against harmful interference in an industrial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

It is recommended to use shielded cables and locate this product in a grounded metal cabinet/casing.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television

reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult your point of purchase or service representative for additional suggestions.

The manufacturer is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this equipment.

NOTES

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