

MICROTEC ENGINEERING

EXTERNAL WARNING LIGHT INSTALLATION INSTRUCTIONS

PAT DS350G

ESTIMATED TIME OF INSTALLATION: 4 HOURS

Required Parts:

- 1x Fuse Holder (inc. fuse)
 - 1x Cable Gland
- 300mm 2 Core Signal Cable
- 5m 2 core Automotive Cable
- 2 Pin Inline Connector
- 15x Ferrule Crimp Connectors
 - Solder
 - Heatshrink
 - Activation Box
- External Warning Light
 - Cable Ties
- 4x Self Drilling Screws

DS-350G INSTRUCTIONS

Read all instructions before commencing

PRE-INSTALLATION CHECKS

1. Set up machine on full outriggers and raise the boom so there are no errors or buzzers active. Set the operating code according to assembling condition of crane.
2. Raise any hook to an ATB alarm situation. Check that the crane motions winch up, luff down, and tele out functions are cut off. Check that the “safe” crane motions winch down, tele in and luff up are operable.
3. Whilst still in alarm condition, switch the ATB over-ride and verify that the unsafe functions are now operable. *note: be careful not to overwind hook
4. Repeat steps 2-3 with the other hook.
5. Change the operating code so that the computer registers overload. At this point verify that the  and  light is on. check that all unsafe motions (Luff down, winch up, Tele out) are in-operable and safe functions (luff up, winch down, tele in) are operable.
6. Then turn the over-ride switch on. Test that all unsafe functions are operational with the over-ride on. Beware: Autostop functions will not operate during over-ride.
 - Should any of these tests fail call Microtec for service

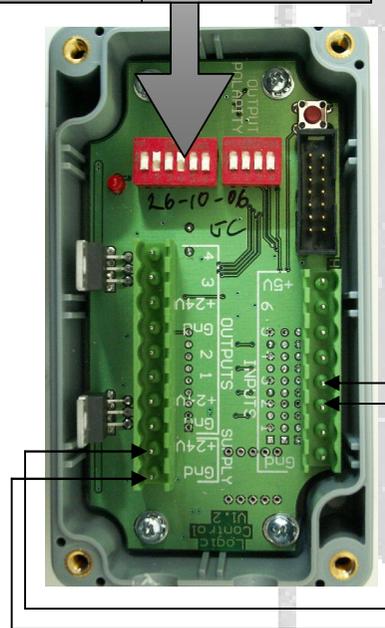
INSTALLATION OF INPUTS

PREINSTALLATION PREPARATION

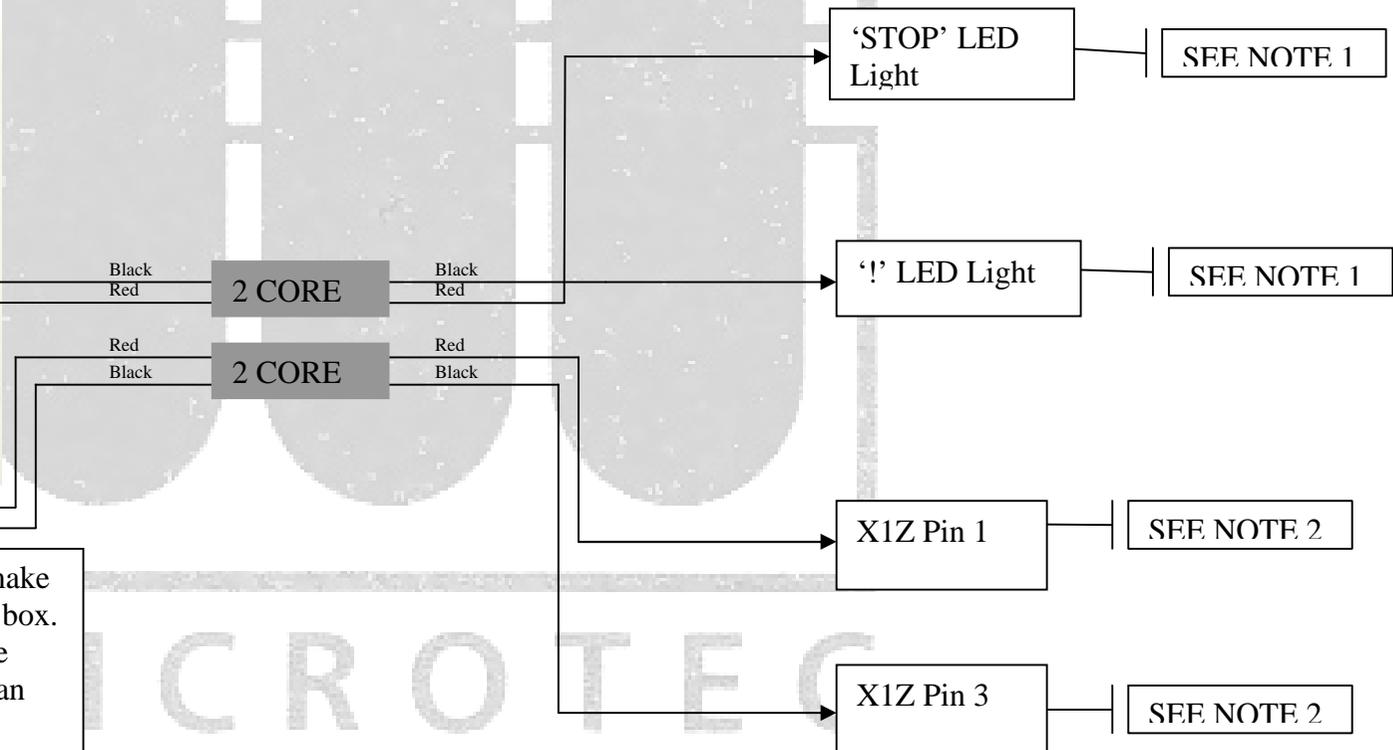
1. Isolate batteries during installation with isolator switch.
2. Remove panel behind seat on the right hand side (Right hand side when sitting in the seat).
3. Mount the activation box neatly behind this panel. If there is no suitable position behind panel, mount near this area in a suitable position.
4. Prepare 2-core cable approx. length from the activation box to the DS 350G computer console. Allow enough length for connections to the rear of the ‘!’ and ‘STOP’ LED lights to be made.
5. Remove fascia of the PAT display. Exposing the rear of existing wiring gland. NOTE: Be extremely careful when opening computer.
6. Drill hole at rear of computer near other wiring gland and insert cable gland supplied.

CONNECTIONS TO PAT DS350G

SWITCH NO.	SWITCH POSITION
1	Off
2	On
3	On
4	Off
5	Off
6	On



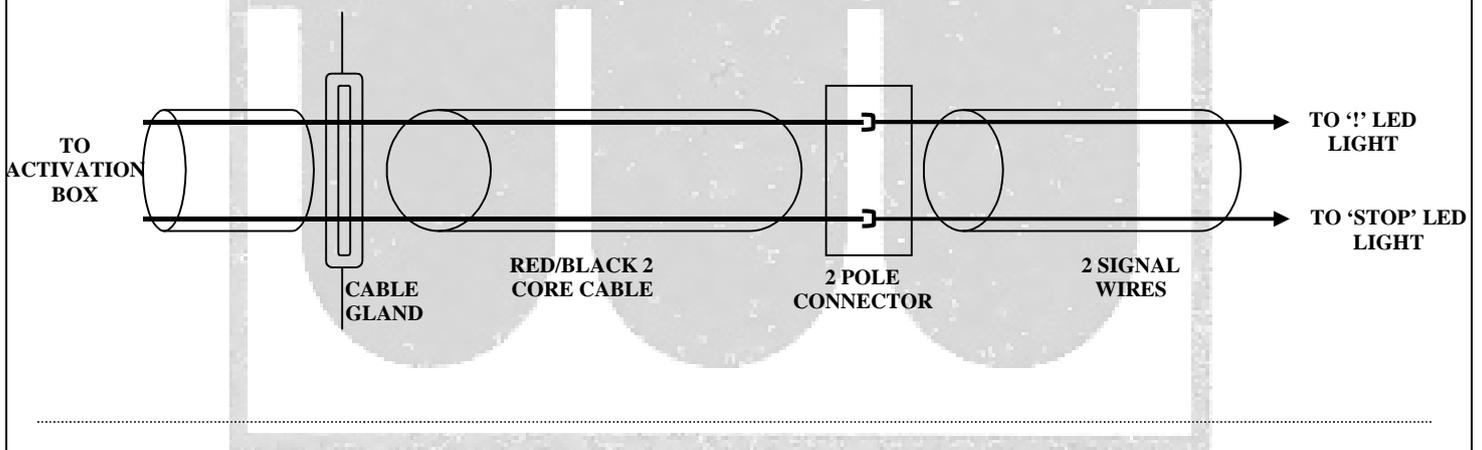
Use ferrule crimps provided to make the connections to the activation box. You may also need to shorten the length of the ferrules so the lid can close easily.



NOTES

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- Inspect the computer and make sure that nothing that has been pulled apart is shorting on other boards, the case etc. (If any part of the computer is touching any metallic item that it is not supposed to, severe damage can occur to the computer).
- Identify the pins that the '!' and 'STOP' LED's are soldered to on the printed circuit board.
- Turn isolator back on and turn on the computer.
- Using a multimeter, you are required to find the voltage drop across one of the pins on each LED light. When the LED light is 'on' the correct pin will have 0-1vdc, when it switches 'off' the pin will have 4-5vdc. Place the black probe of the multimeter to earth. With the red probe, place on each pin of the 'STOP' LED while turning the LED on and off by changing the operating code on the computer to a false setting (if this method fails, you may be required to take a load to 90% and 100%. When the correct pin is found on the 'STOP' LED light, the same corresponding pin for the '!' LED light is usually the correct pin also).
- Turn the computer and the battery isolator off.
- Terminate 2 male pins to the end of each wire from the 2 core cable. Terminate the mating female pins to the thinner (300mm long) signal wires. Insert pins into the relative 2 pin connectors. Join the connectors together.
- Solder the wire that is connected to the black wire of the 2 core cable to the correct pin of the '!' LED light (making sure the connection is secure).
- Solder the wire that is connected to the red wire of the 2 core cable to the correct pin of the 'STOP' LED light (making sure the connection is secure).
- Put the fascia of the PAT DS350G back in place, insuring all parts are back to original position.



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- Run two core from the activation box to the terminal block connector X1Z.
- Using a multimeter, measure for voltage across connector X1Z pin 1 and 3. Put the red lead onto pin 1 and the black lead on pin 3. A measurement of +24V should be read.
- Crimp a ferrule connector to each wire. Insert the red wire into connector X1Z pin 1. Insert the black wire into connector X1Z pin 3.