DISCLAMER: Emton Pty Ltd, Trading as Microtec Engineering, do not take any responsibility for any damage caused installing this product

MICROTEC ENGINEERING

EXTERNAL WARNING LIGHT INSTALLATION INSTRUCTIONS

GROVE EKS4

ESTIMATED TIME OF INSTALLATION: 4 HOURS

SUPPLIED PARTS:

- 2x Wire Tap Connector
- 2 x Male blade crimp
- Heatshrink
- Solder
- 1x Activation box
- 5m 7core cable
- 6x Female Pins (2 spare)
- 1x External Warning Light
- 15x Ferrule Crimps
- 4x self drilling screws
- Cable Ties

GROVE EKS4/5 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-up computer for a safe working load.
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, turn the ATB over-ride key 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. Turn machine off and on again, therefore restarting the computer. Before setting up computer, check to see that the moment LED bar is lit up to 100%. Also check that the 90% and the 100% LED is lit up.
6. 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.
7. Turn the over-ride key and verify crane motions winch up, luff down and tele out are operational.
➤ *Beware: Autostop functions will not operate during over-ride.*

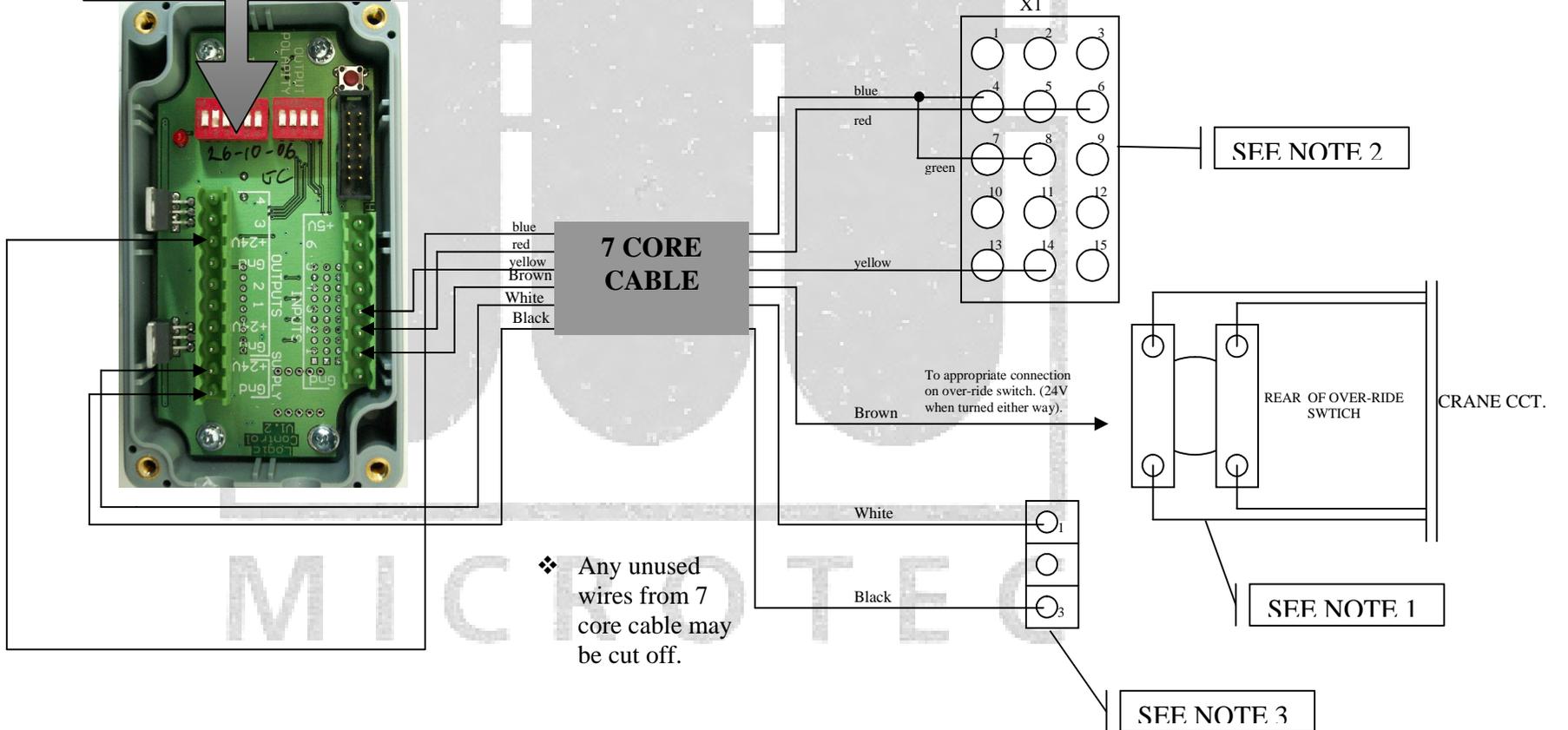> ➤ Should any of these tests fail call Microtec for service

INSTALLATION OF INPUTS

PREINSTALLATION PREPARATION

1. Isolate the batteries using the battery isolator.
2. Unscrew the EKS4 screen and pull the computer forward to access the connectors at the rear of the computer.
3. Locate connector X1(15pin) and X9(3pin). These two connectors are situated close to each other on the EKS motherboard.
4. Remove panel that to the over-ride switch is mounted on to expose the wiring at the rear of the over ride switch.
5. Mount the activation box in a suitable position in cavity behind the computer.

C:\Users\superman\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\HQ3FXJ4M\Grove EKS4(Normal).doc

2/5

CONNECTIONS GROVE EKS4

SWITCH NO.	SWITCH POSITION
1	OFF
2	ON
3	OFF
4	OFF
5	OFF
6	ON

X1

blue
red
green

SEE NOTE 2

blue
red
yellow
Brown
White
Black

7 CORE CABLE

yellow

To appropriate connection on over-ride switch. (24V when turned either way).

Brown

REAR OF OVER-RIDE SWTICH

CRANE CCT.

White

Black

❖ Any unused wires from 7 core cable may be cut off.

SEE NOTE 1

SEE NOTE 3

NOTES

1

> *Reconnect the battries with the isolator switch for the following steps only. Then disconnect the batteries again.*

- Strip back approx. 20cm of insulation off the 7 core cable.
- Turn computer on via key switch. Using a multimeter, test all contacts on the O/R switch for +24V. 1 or 2 contacts should have +24V when the key switch is turned left or right. Turn off computer.
- Connect the brown wire to this contact.

> *Use solder or a wire tap crimp to make the connection.*

CRANE CCT.

24V

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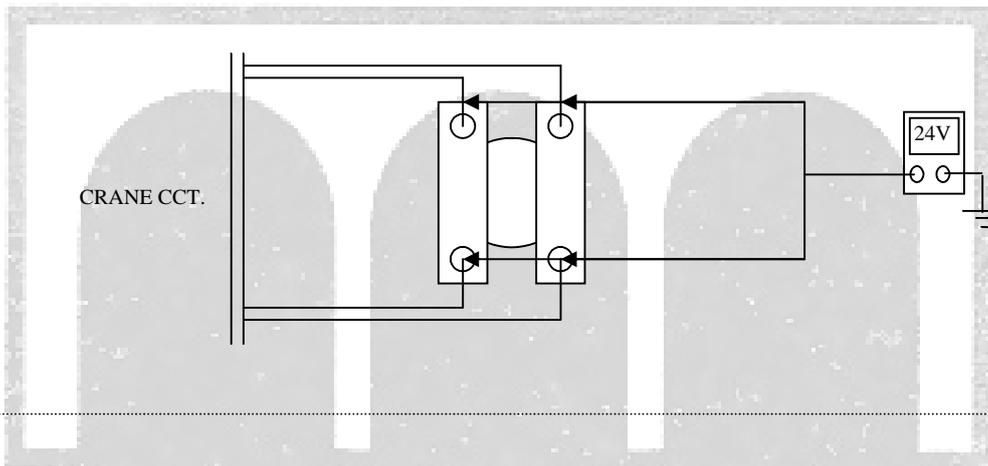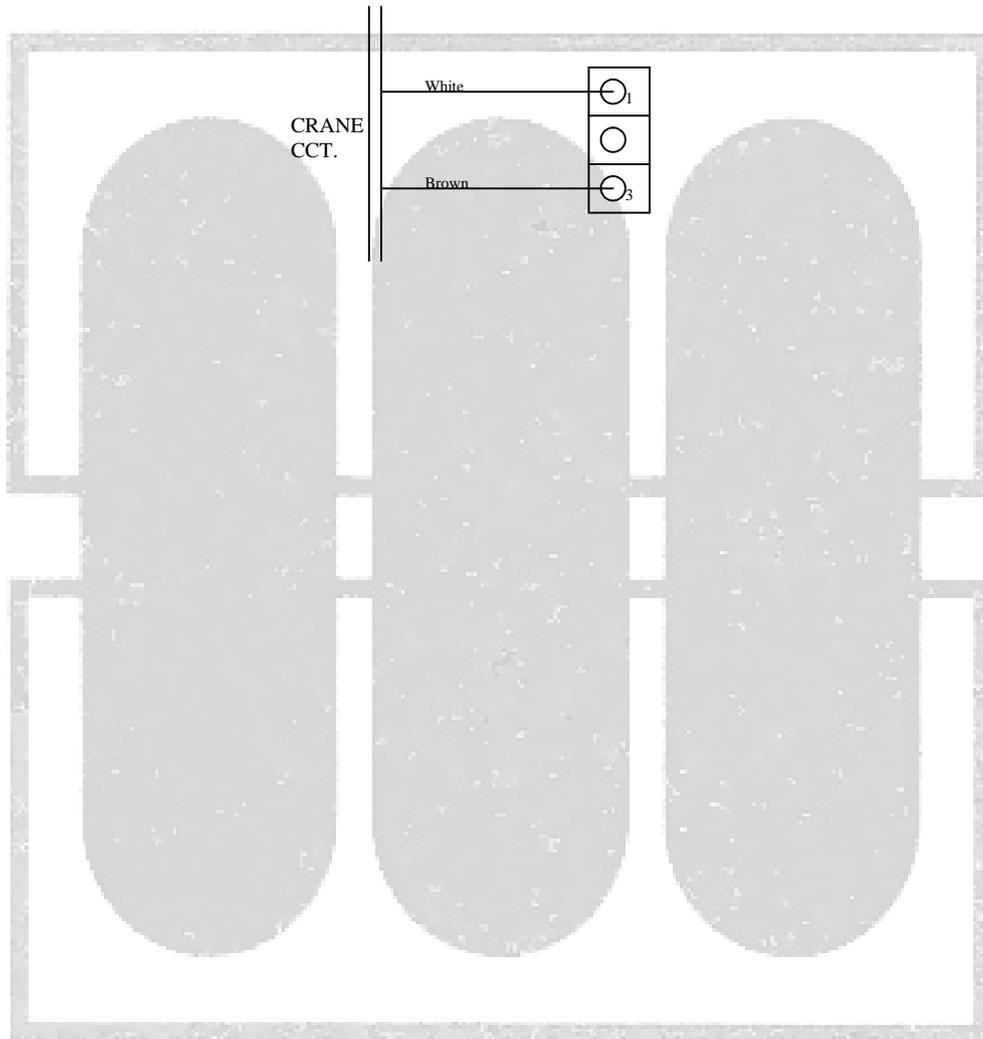
2

- Locate X1 on the behind EKS computer.
- Disconnect X1. Check if terminals 4, 6, 8 and 14 on connector X1 has wire connections. If any do see note '1a' below.
- Using a 9/64 imperial bit (or equivalent metric size), drill pin housing 4, 6, 8, 14 to enlarge the hole slightly for the pins supplied.
- Insert the yellow wire into pin 14, red wire into pin 6. While these wires are inserted, crimp/solder the pins supplied to the end of the wire. Gently pull each wire back until the pin sits neatly in the socket.
- Cut the green wire off from the loom at the point where the insulation starts so now you have an approx 20cm long piece of wire. Crimp/solder the supplied pin to the end of the wire. Fit the pin into pin 8 of the connector.
- Insert the blue and the other end of the green wire into pin 4. While the wires are inserted, crimp/solder the pin supplied to the end of the wires. Gently pull each wire back until the pin sits neatly in the socket.

> *note: Because 2 wires are crimped to one pin in this case, it may be a little tighter to sit the pin into the socket. Take extra care.*

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NOTE 1A:
If pins 4 & 8 have connections to them, do not worry about connecting anything to these pins. If pins 6 & 14 have wires in them, connect to these wires by using solder or a wire tap connector.

X1

blue
red
green
yellow

LUME
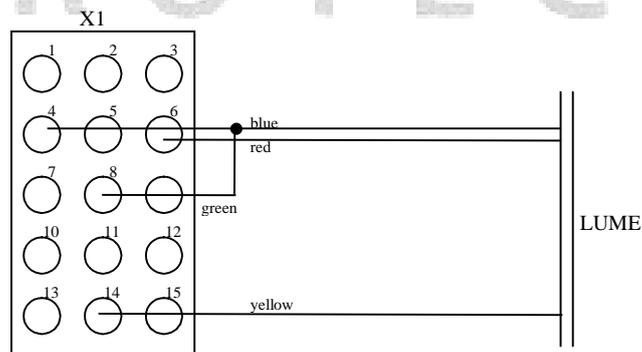
3
- Locate connector X9.
- Connect the white wire from the loom to connector X9 pin 1 (White wire).
- Connect the black wire from the loom to connector X9 pin 3 (brown wire).
- *Note: You may connect to these wires by either using the scotch clips provided, or by using the solder and heat shrink provided.*

White

CRANE
CCT.

Brown

1

3

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