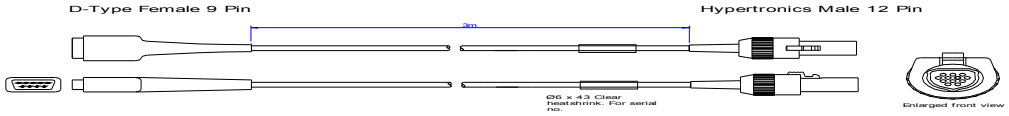
COMPANY OPERATING PROCEDURES

0019260 SPACELABS P926E10

VM3/COP/33.02

Date: 13-Dec-01 **Revision date: 7-Apr-11** Issue: 3



Equipment required: Soldering iron (0060120), solder (0050012), Wire stripper (0060030), Flush Cutter (0060010), Snipe nose pliers (0060021), 'helping hand' (0060145), Heat gun (0060100).

Parts list: Kit and parts required. (Continued over page)

D-Type female 9-pin Side			Hypertronics male 12-pin Side		
Qty	Description	Part No.	Qty	Description	Part No.
1	D-type female 9-pin kit	0010760	1	Hypertronics male 12-pin Kit	0010602
(1)	Outer Casing	kit	(1)	Pin Housing	kit
(1)	Cable grip	kit	(12)	Pins	kit
(1)	Pin Housing	kit	(1)	Cable grip	kit
(9)	Pins	kit	(1)	Strain relief	kit
1	1.3m 6-core cable	0030513 (roll)	(1)	Collett	kit
1	∅1.6 x 17mm heat shrink	0032310 (roll)	(1)	Barrel	kit
1	∅6 x 10mm heat shrink	0032321 (roll)	1	10 Ω Resistor	0032010
			1	60.4 kΩ Resistor	0032130
			1	∅6 x 43mm Clear heat shrink	0032331 (roll)

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			1	∅6 x 10mm heat shrink	0032321 (roll)
			1	∅1.6 x 4mm heat shrink	0032310 (roll)

ASSEMBLY OPERATIONS

1. Pre Heat soldering iron temperature to 240°c.
2. Collect all required parts and equipment listed above.
3. Cut a 3.1 metre length of standard 6-core cable. (Details shown below).

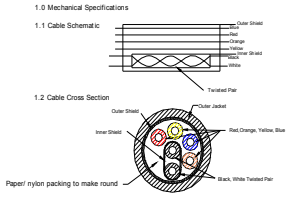


Fig 1.

D-Type female 9-pin side:

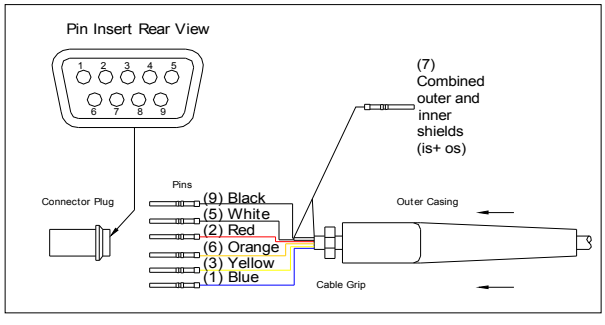


Fig 2.1

1. Feed outer casing, cable grip and ∅6 x 10mm heat shrink (black) over the end of the cable.
2. Strip 20mm off outer jacket of cable to reveal coloured wires, outer shield, and nylon/paper packing.
3. Cut all packing to the base.

4. Strip 20mm off inner jacket to reveal black and white wires and the inner shield.
5. Twist outer and inner shields together.
6. Trim ends of wires and shields to the same length.
7. Strip jacket of every wire 2mm to reveal copper core.
8. Heat ∅1.6 x 17mm heat shrink over twisted inner and outer shields to cover naked wire, and solder end to the rear of one pin.
9. Apply small amount of solder to ends of each wire and solder each of the 6 wires to the rear separate pins.
10. Clamp cable grip approximately 2mm from end of outer jacket.
11. Place ∅6 x 10mm heat shrink over cable grip and beginning of wires and heat to shrink firmly over.
12. Insert pins into correct locations (as shown in fig 2.1) and push firmly into place.
13. Push outer casing over cable grip and wires to fit around the pin housing.

Hypertronics male 12 pin side:

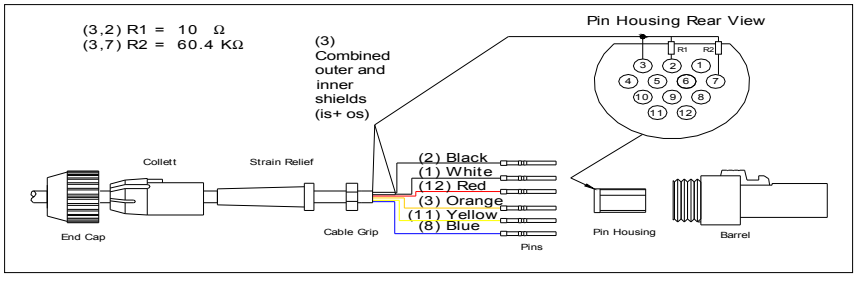


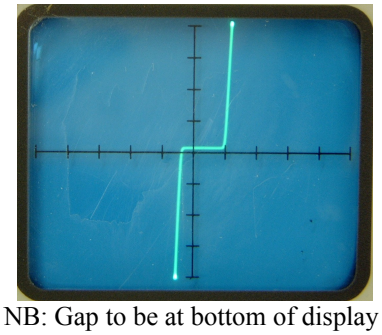
Fig 2.2

1. Feed ∅6 x 43mm (clear) heat shrink, end cap, collett, strain relief, ∅6 x 10mm heat shrink (black) and cable grip over end of wire.
2. Strip 20mm off outer jacket of wire- to reveal coloured wires, outer shield, and nylon/paper wire packing.
3. Cut all packing to the base.
4. Strip 20mm off inner jacket of wire- to reveal black and white wires and the inner shield.
5. Twist outer and inner shields together and trim with orange wire to approximately 6mm long.
6. Trim (tidy) all ends of remaining wires to the same length.
7. Strip jacket of every wire 2mm to reveal copper core.
8. Apply small amount of solder to the ends of each wire and shields.
9. Solder orange wire to the end of the twisted shield pair.
10. Heat ∅1.6 x 4mm heat shrink over twisted shield pair and orange wire to insulate.
11. Cut one leg of the (R1) 10Ω resistor to 4mm and the other to 15mm, and solder each side to the rear of 2 separate pins.
12. Solder the black wire to the pin with short 4mm side of the 10Ω resistor.

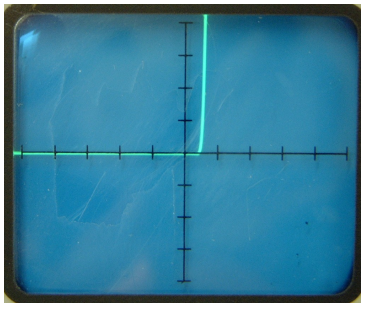
13. Cut one leg of (R2) 60.4 kΩ resistor to 4mm and solder to the rear on one pin.
14. Solder remaining wires to the rear of pins.
15. Push/pull all pins firmly into the correct locations shown in fig 2.2.
16. Solder remaining leg of (R2) to the long leg of (R1) as shown in fig 2.2. and trim off excess wire. (form wire to shape, solder then trim to be as compact as possible).
17. Clamp cable grip approximately 2mm from outer jacket end.
18. Place ∅6 x 10mm heat shrink over cable grip and beginning of wires and heat to shrink firmly around.
19. Push strain relief up to cable grip, collett over strain relief and up to pin housing and into the barrel and finally screw end cap onto the barrel.

TESTING

1. Attach male 12-pin side to a Spacelabs/Nellcor adapter cable and then to the test box connector labelled (A).
2. Attach female 7-pin side to a Novametrics probe.
3. Check display is showing correct characteristic as shown below. (At correct switch positions)



NB: Gap to be at bottom of display
Position 2. IR, LED.

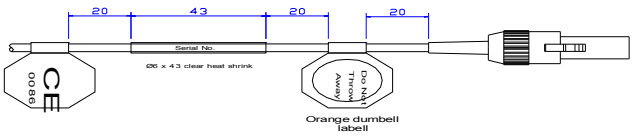


Position 4. Detector

4. If gap is at the top of the screen then LED is wired the wrong way around.
5. 'Play' with wire at connections to see if any change in the display (flickering etc).
6. If there is any movement of signal, the extension wire must be taken apart and all connections checked and re-soldered. Then tested again, until results are satisfactory.
7. Check the cable is of correct quality standard. (See VM/COP/30.11 for details).
8. Connect cable to the test cable and then the Nellcor monitor, and attach probe to the finger, check SpO_2 level (ideal reading between 95-100).

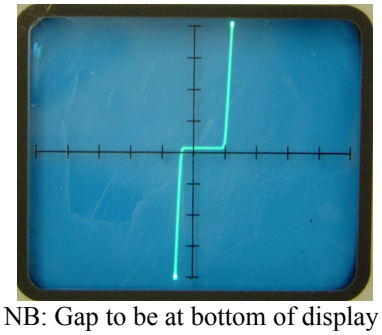
Labelling

1. Labels: to be attached facing upwards as looking at the top of the probe.
   - 1 x CE Label
   - 1 x serial no. Label
   - 1x Orange 'Do Not Throw Away' Label (correct one of two is dependant of country unit is being sold to).

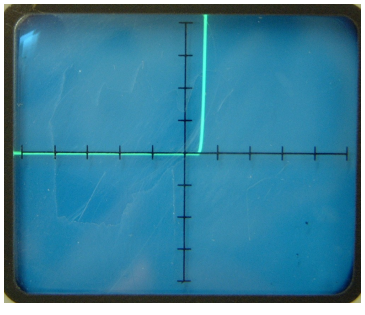


Quality Assurance (QA)

1. Attach Hypertronics male 12-pin side to a Spacelabs/Nellcor adapter cable and then to the test box connector labelled (A).
2. Attach D-type female 9-pin side to a Novametrics probe.
3. Check display is showing correct characteristic as shown below. (At correct switch positions)



NB: Gap to be at bottom of display
Position 2. IR, LED.



Position 4. Detector

4. If gap is at the top of the screen then LED is wired the wrong way around.
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6. If there is any movement of signal, the extension wire must be taken apart and all connections checked and re-soldered. Then tested again, until results are satisfactory.
7. Check the cable is of correct quality standard. (See VM/COP/30.11 for details).
8. Connect cable to the test cable and then the Nellcor monitor, and attach probe to the finger, check SpO_2 level (ideal reading between 95-100).
9. Fill and sign attached paperwork.

Packaging

1. Visually check all labels are attached properly

2. Using a twist tie (bunny clip) wrap the cable and place in a small blue Viamed plastic box, ensuring the cable is inserted in a neat and tidy presentable manor.
3. Place a serial number sticker (supplied with the batch) on the front face of the box.
4. Place a packed and tested sticker (also containing initials of the individual who is packing) on the right hand side top left corner of the box. Do not close box.

Final QA

1. Final inspection. Visually ensure cable sit neatly within the box and is in a presentable state.
2. Boxes are ready to stock in stores.