VIAMED

SpO$_2$ Finger Probe Assembly

COMPANY OPERATING PROCEDURES

0018550   BCI   P855RA

VM3/COP/32.02

Date:	8-Dec-01	**Revision date: 17-May-04**	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)

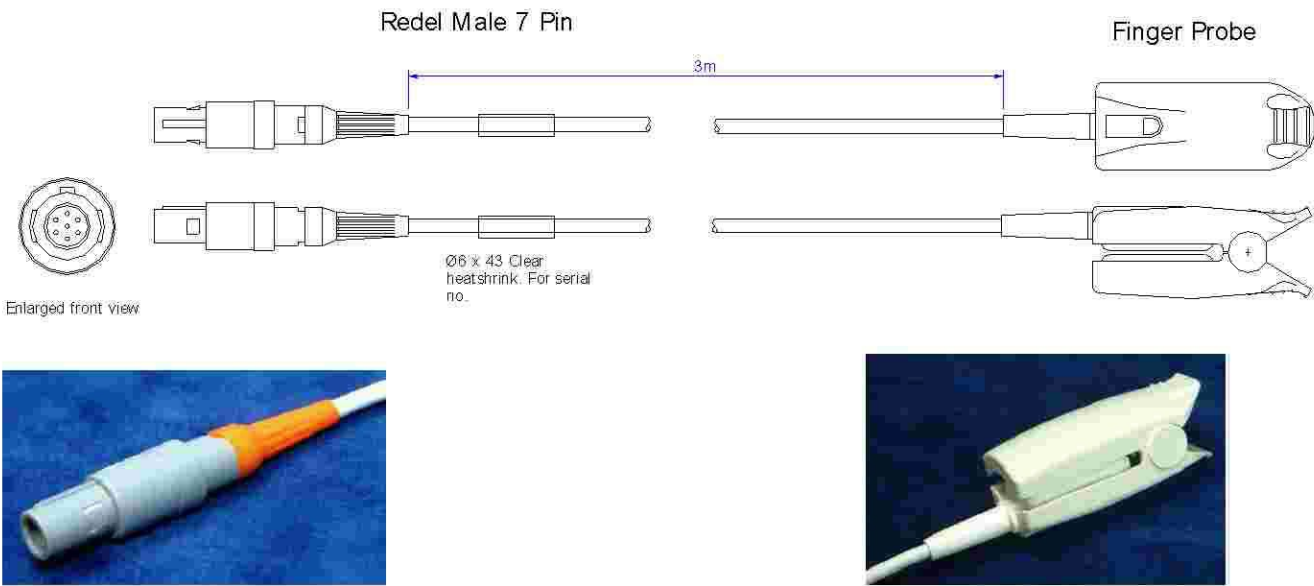|					
Redel male 7-pin Side			**Finger Probe Side**		
Qty	Description	Part No.	Qty	Description	Part No.
1	Redel male 7-pin kit	0030795	1	Top Shell (x25)	0010110
(1)	Sleeve	Kit	2	Pad Support (white) (x50)	0010160
(1)	Collett	Kit	1	Top Pad (white)(x25)	0010130
(1)	Connector Pin	Kit	1	Bottom Pad (white)(x25)	0010131
(1)	Outer Sleeve	Kit	1	Bottom Shell (x25)	0010111
1	Strain Relief (orange)	0030796	1	Spring (x25)	0010140
1	⌀6 x 43mm Clear heat shrink	0032331	2	Button (White) (x50)	0010180
1	⌀6 x 10mm heat shrink	0032321	1	Detector	0030902

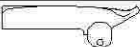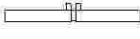Page 1 of 5

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1	∅1.6 x 10mm heat shrink	0032310	1	LED/ I.R.	0030953
			1	Strain Relief	0010150

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.

Redel male 7 pin side:

Fig 2.2
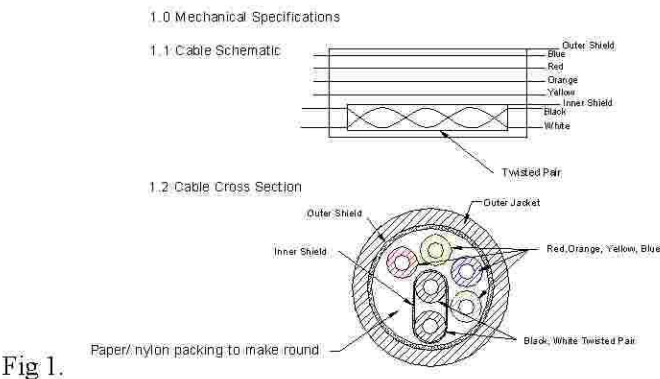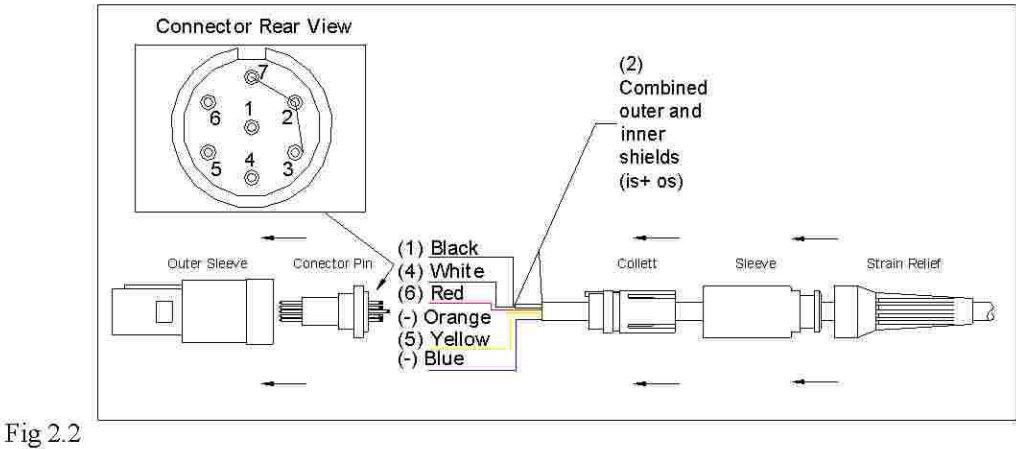
1.   Feed ∅6 x 43mm (clear) heat shrink, strain relief, sleeve, collett, ∅6 x 10mm (black) heat shrink over end of cable.
2.   Strip 20mm off outer jacket of wire to reveal coloured wires, outer shield, and nylon/paper wire packing.

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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.
6.   Trim (tidy) ends of all wires and shields to 12mm.
7.   Strip jacket of every wire 2mm to reveal copper core.
8.   Apply small amount of solder to ends of each wire and shields.
9.   Heat ∅1.6 x 10mm heat shrink over twisted shield pair to insulate.
10.   Solder wires and paired shields to the rear of the connector pins as shown in fig 2.2.
11.   Place ∅6 x 10mm heat shrink over base of coloured wires and outer jacket and heat to shrink firmly around.
12.   Push collett up to the connector pin, and screw the sleeve into the outer sleeve.

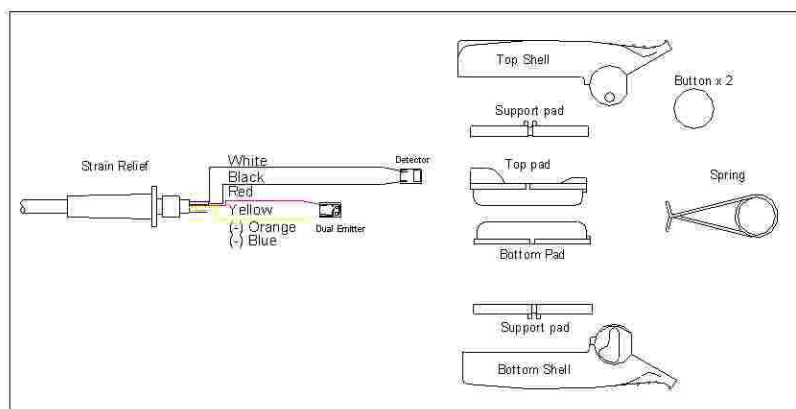Finger Probe side:

Fig 2.3

1.   Apply loctite primer to the cable surface, and slide on the strain relief.
2.   Apply a small amount of superglue on to the surface of the cable and push the strain relief over the glue to secure in place leaving approximately 80 mm of cable.
3.   Strip outer jacket up to the strain relief and cut packing, outer shield, blue and orange wires.
4.   Cut red and yellow wires to 15 mm, strip jackets off 2mm and apply a small amount of solder to the ends.
5.   Strip 10 mm off inner jacket and cut off inner shield.
6.   Strip jackets 2mm and apply small amount of solder.
7.   Solder wires to the detector, LED/I.R as shown in fig 2.3
8.   Place the assembly on the drying rack, and apply a small amount of clear silicon to the front of the detector and LED/I.R and mount into the pads (Led/IR in the top pad and Detector in the bottom pad) allowing the sensors to be seen and central, and scrape excess silicon. Then place the drying rack in the drying cabinet and leave to dry overnight.
9.   Superglue loose cable to the pads and fill the rears with white silicon.
10.   Glue pads onto the pad supports (prime first).
11.   Place spring around pads and into place.
12.   Clip upper and lower shells (apply a little super glue) into place and glue caps onto the sides.

COMPANY OPERATING PROCEDURES
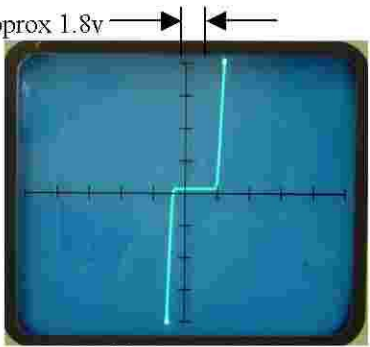
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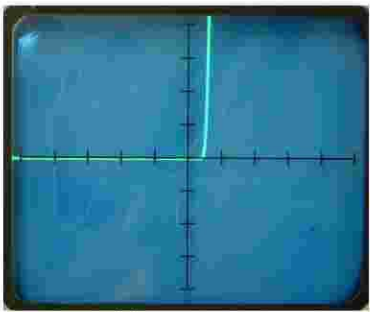| Date:	8-Dec-01	**Revision date: 17-May-04**	Issue: 3

TESTING

1. Attach Redel male 7-pin side to a test lead and then to the test box connector marked 'A'.
2. Check display is showing correct characteristics as shown below. (At correct switch positions)

LED should read approx 1.8v

Position 1. IR, LED.   Position 4. Detector

3. If the LED signal is at the bottom then it is wired incorrectly.
4. 'Play' with wire at connections to see if any change in the display (i.e. flickering etc).
5. If there is any movement of signal, the cable must be taken apart and all connections checked and re-soldered. Then tested again until results are satisfactory.
6. Check the cable is of correct quality standard. (See VM/COP/30.11 for details).
7. Attach Redel 7-pin side to test lead then to a 71000A2 monitor and the probe on to the finger to check SpO$_2$ level. (Ideal reading 95-100.)

Labelling

1. Labels: to be attached facing upwards as looking at the top of the probe.
   - 1 x CE Label
   - 1 x Viamed shell label on probe lower shell.
   - 1 x Serial no. Label
   - 1x Orange BCI Label

Orange/Brown
dumbell labell

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Quality Assurance (QA)

1. Attach Redel male 7-pin side to a test lead and then to the test box connector marked 'A'.
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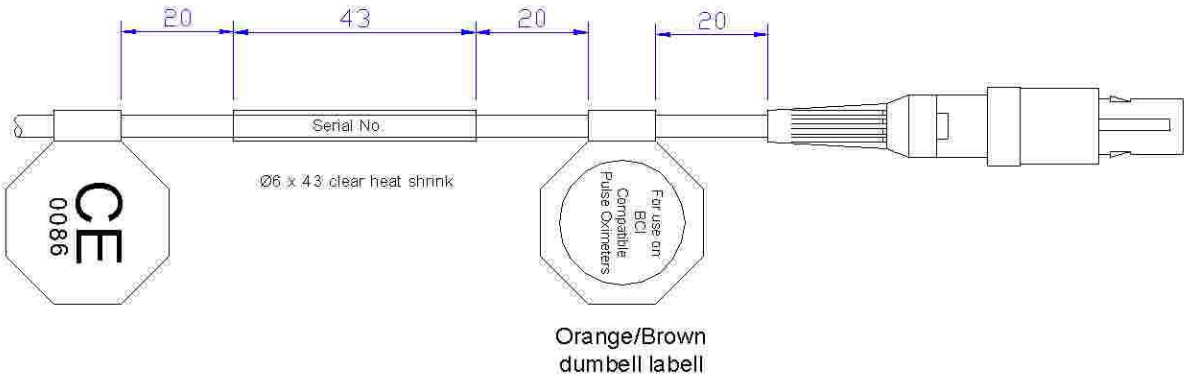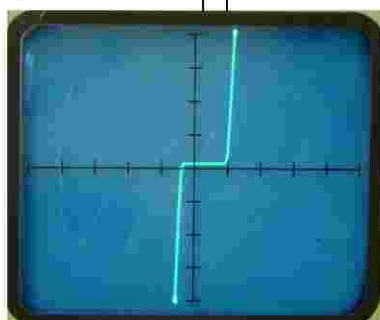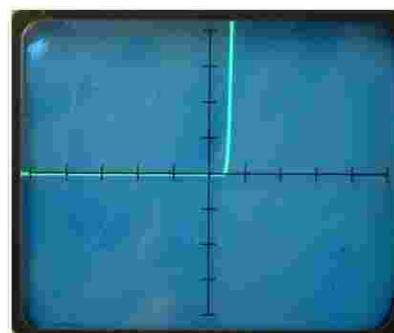
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8. Fill and sign attached paperwork.
9. Test 10 % of batch on DL3000 simulator at all the correct settings (see compatibility sheet).
10. Log all results on compatibility sheet.

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.