

COMPANY OPERATING PROCEDURES

0019698

CRITICARE

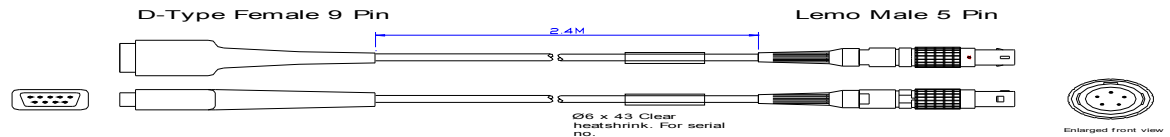
P969E8

VM3/COP/33.13

Date: 20-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			Lemo male 5-pin Side		
Qty	Description	Part No.	Qty	Description	Part No.
1	D-type female 9-pin kit	0010760	1	Lemo Male 5-pin kit	0010650
(1)	 Outer Casing	Kit	(1)	 Housing	Kit
(1)	 Cable grip	Kit	(1)	 Connector	Kit
(1)	 Pin Housing	Kit	(1)	 Upper sleeve	Kit
(9)	 Pins	Kit	(1)	 Lower sleeve	Kit
1	2.5m 6-core cable	0030513 (roll)	(1)	 Collett	Kit
1	Ø1.6 x 17mm heat shrink	0032310 (roll)	(1)	 Rear Housing	Kit
1	Ø6 x 10mm heat shrink	0032321 (roll)	(1)	 Strain relief	0030654
			1	Ø6 x 43mm Clear heat shrink	0032331 (roll)
			1	Ø1.6 x 17mm heat shrink	0032310 (roll)

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			1	Ø6 x 25mm heat shrink	0032321 (roll)

ASSEMBLY OPERATIONS

1. Pre Heat soldering iron temperature to 240°C.
2. Collect all required parts and equipment listed above.
3. Cut a 2.5 metre length of standard 6-core cable. Shown below.

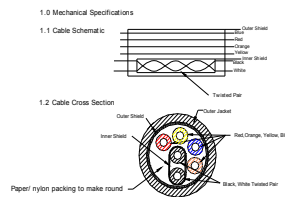


Fig 1.

D-Type female 9-pin side:

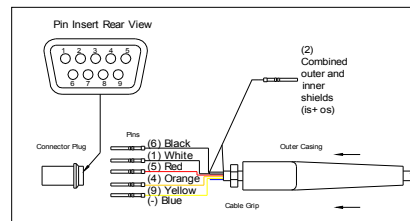


Fig 2.1

1. Feed outer casing, cable grip and Ø6 x 10mm heat shrink (black) over end of cable.
2. Strip 20mm off outer jacket of cable to reveal coloured wires, outer shield, and nylon/paper wire packing.
3. Cut all packing and blue wire 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.

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6. Trim ends of wires and shields to the same length.
7. Strip jacket of every wire 2mm to reveal copper core.
8. Heat Ø1.6 x 17mm heat shrink over twisted inner and outer shields to cover naked wire, and solder end to the rear of one pin.
9. Solder each of the 5 wires to the rear of separate pins & shield.
10. Clamp cable grip approximately 2mm from the end of the outer jacket.
11. Heat Ø6 x 10mm heat shrink firmly over cable grip and beginning of wires.
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.

Lemo 5-pin side:

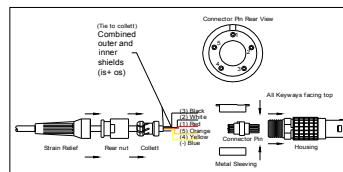


Fig 2.2

1. Feed Ø6 x 43mm (clear) heat shrink, strain relief, rear nut, collett and Ø6 x 25mm (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.
3. Cut all packing and blue wire 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 to 13mm long.
7. Strip jacket of every wire 2mm to reveal copper core.
8. Heat Ø6 x 25mm (black) heat shrink up to the end of the cable.
9. Fold shields back along the surface and glue down over the heatshrink.
10. Solder ends of every wire and shields to the correct positions on the rear of the connector.
11. Slide collett over shields and to the end of the cable.
12. Fit metal sleeves over the connector, and insert into the housing ensuring all keyways lie up.
13. Holding the housing fixed with a spanner, tighten the rear nut.
14. Push the strain relief onto the rear nut.

TESTING

1. Attach Lemo male 5-pin side to the test box connector marked 'J'.

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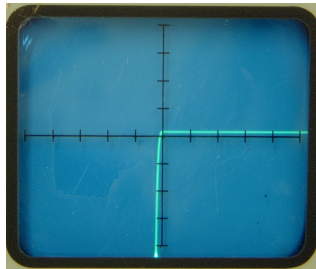
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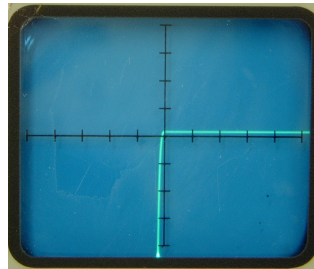
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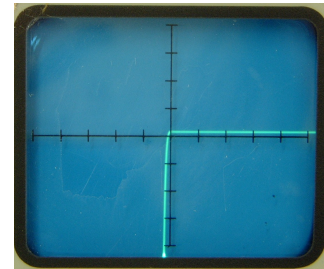
2. Attach female 9-pin side to a Criticare finger probe.
3. Check display is showing correct characteristics as shown below. (At correct switch positions)



Pos 2. LED



Pos 3. IR

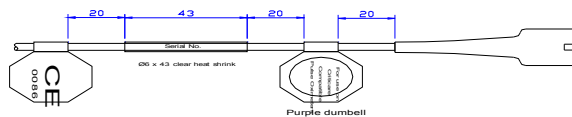


Pos 4. Detector

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 extension wire 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. Connect the Lemo male 5-pin side to the CSI 504 monitor and attach probe on finger to check SpO₂ 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 Serial no. Label
 - 1 x Purple Criticare dumbbell Label.



Quality Assurance (QA)

1. Attach Lemo male 5-pin side to the test box connector marked 'J'.
2. Attach female 9-pin side to a Criticare finger probe.

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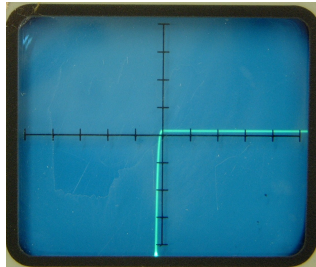
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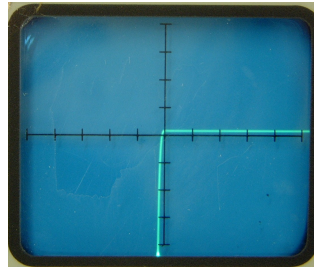
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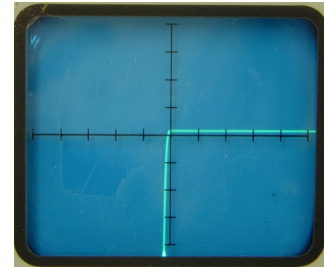
3. Check display is showing correct characteristics as shown below. (At correct switch positions)



Pos 2. LED



Pos 3. IR



Pos 4. Detector

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 extension wire 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. Connect the Lemo male 5-pin side to the CSI 504 monitor and attach probe on finger to check SpO₂ level. (Ideal reading 95-100.)
8. Fill and sign attached paperwork.
9. Test 10 % of batch on DL3000 simulator.
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.