Equipment type: Finger probe	Part Number:	
Batch Size		
Nos	**Viamed Part number**	**Description**
1	0010100	Viamed SpO2 finger probe service kit (White pads)
1	0030651	Lemo 7 pole cable plug connector
1	0030654	Lemo connector strain relief boot, white
1	0032100	Resistor - 39K2, metal film
3m	0030513	SpO2 cable - version D (production)
30mm	0032331	Heatshrink tubing - clear, 6.0mm, 7m reel
5mm	0032321	Heatshrink tubing - black, 6.0mm, 7m reel
28mm	0032310	Heatshrink tubing - black, 1.6mm, 25m reel

Assembly Clip

1. Prepare Clip end of cable as follows
   a. Attach strain relief "0010150," to relevant replacement cable, and glue in position.
   b. Strip back outer cable cover of exposed end 1mm from end of strain relief.
   c. Remove outer shield and paper, and cut off Kevlar fibres and any unused wires.
   d. Strip and tin relevant coloured wires (from red, yellow, blue, orange) to 13mm from end of cable cover. Strip and tin last 1mm of each wire.
   e. Cut inner white cable to 78mm from end of outer cable cover, strip last 8mm of inner cable cover, strip and tin last 1mm of black and white wires, cut off inner shield and discard
   f. Strip and tin ends of black and white wires.
2. Solder wires to components as per relevant diagram
3. Fit components into pads as follows
   a. Position components in drying rack.
   b. Place a small amount of flowable non-corrosive silicone sealant onto the face of the components.
   c. Place pads onto components, ensuring that both emitter and detector are central in pad windows. Also note that the silicone on the outside of the pad must run to the contour of the pad to make a smooth window - there should be no doming or sinking of the window. Any excess can be removed with a small screwdriver, also any deficit can be topped up with small amounts of silicone from a screwdriver tip - however these steps should be taken within 2 minutes of the pad being placed on the component, before the silicone has had time to become tacky, so that it is still flowing enough to ensure that the window will return to a smooth flat surface

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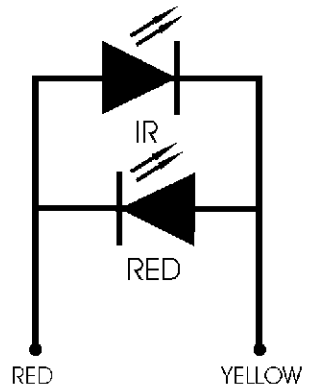
Date	
Revised By	

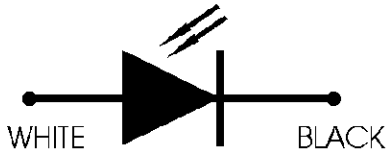
d. Leave pads to set for 24 hours.

4. Assemble the clip as follows
   a. Glue white inner cable into channel in detector pad
   b. Fill around component with silicone
   c. Glue pad support onto back of detector pad.
   d. Glue pad support onto back of emitter pad.
   e. Glue white inner cable into channel in emitter pad.
   f. Fill around component with silicone
   g. Refit replacement springs "0010140," around pads.
   h. Push pads into position within clip, making sure that the pad support rim is securely underneath the pad retaining lugs - there are four retaining lugs for each pad. If any lugs are not holding the pad support securely, then add a drop of superglue to the relevant lug.



i. Glue strain relief into position in clip body.

j. Add labels as required.



. **Assembly Connector**

5. a/ Check that all the relevant parts are with the connector - the kit should contain:

1 x metal backnut , 1 x metal collet, 1 x 7 pin insert , 1 x metal external barrel,

2 x internal barrel pieces.

b/ Add a 30mm length of heatshrink (0032331) to the cable.

c/ Add the strain relief boot (0030654) to the cable.

d/ Add the backnut to the cable.

e/ Add the collet to the cable

f/ Strip the outer cable cover back by 30mm, using the cable stripper (0060031).

g/ Unwind, but do not remove, the outer shield. Remove the paper layer, and the Kevlar strands, using flush cutter (0060020), cutting them flush to the end of the cable cover. Also remove any unused wires, using the flush cutter, flush to the end of the cable cover.

h/ Strip the inner cable cover back, using the cable stripper, as close to the end of the outer cable cover as possible. Unwind, but do not remove, the inner shield.

i/ Straighten out the outer and inner shields, then twist together the strands of the inner shield with the strands of the outer shield. Solder these twisted shields between 9-15mm from the cable cover. Cut the shields at 12mm from the cable cover using the flush cutter. Cover the shields with a 10mm length of heatshrink (0032310), shrinking into place using a heatgun.

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Date	
Revised By	

j/ Add the 5mm length of heatshrink (0032321) to the cable.

k/ Cut the emitter and detector wires to 15mm from the outer cable cover. Strip and tin the last 2mm of each wire.

l/ Cut one of the legs of the 39K2 resistor (0032100) to 4mm from the resistor body. Cut the other leg to 15mm from the resistor body. Bend the longer leg of the resistor to form a hairpin, ensuring that the ends of both legs are now level.

m/ Cover the resistor with an 18mm length of heatshrink (0032310), leaving approximately 4mm of each resistor leg exposed. Shrink the heatshrink in place using a heatgun.

n/ Referring to the wiring diagram, solder each leg of the resistor into the relevant contacts. Next solder the shields to the centre contact in the insert. Next solder each wire into the relevant contact point in the insert, ensuring that no peaks of solder are created that could touch the metal body of the connector.

o/ In order to fully isolate the contacts from the metal body of the connector, push the 5mm length of heatshrink (0032321) over the contacts on the rear side of the insert, shrinking this in place using a heatgun.

p/ Fit the internal barrel pieces around the insert, manipulating so that the orienting insert lug fits through the intended slot in the upper internal barrel piece.

q/ Manipulating the cable so that the the collet interlocks with the upper internal barrel piece, and that the orienting insert lug lines up with the red dot on the external barrel, push the external barrel over the interlocked internal pieces. Slide up the backnut to meet the barrel, and screw the connector together, tightening the connector using two 10mm spanners (0060050).

r/ Push up the strain relief boot to meet the backnut, fitting the flared end of the strain relief boot over the rear part of the backnut, in order to secure it.

Connector rear view:

1. White
2. Black
3. Red
4. R1
5. Yellow
6. R1
7. Main + inner shield

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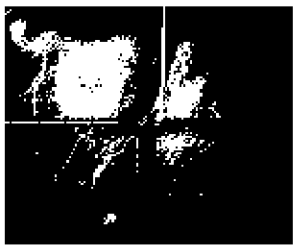
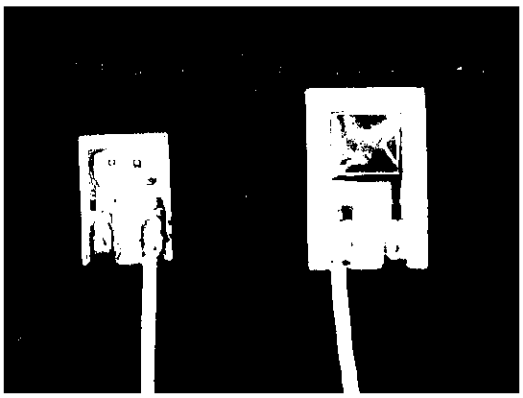
Date	
Revised By	

Test using component tester and test box:

Position 1:Red & IR emitters

Position 3:Photo-diode





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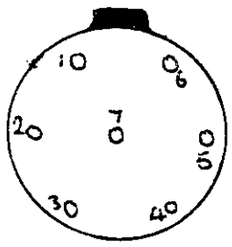
Date	26/04/01
Checked By	
Date	
Revised By	

P878CA INVIVO (10 foot) 28/09/00

Connector END — 7 Pin LEMO

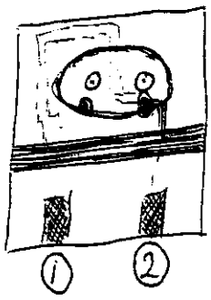
REAR VIEW



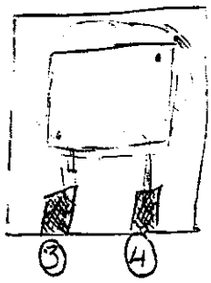
1/ 39K resistor
2/ RED
3/ 39K resistor
4/ Blue
5/ Black
6/ white
7/ Both shields.

CLIP END

L.E.D
1/ Blue
2/ RED



SENSOR

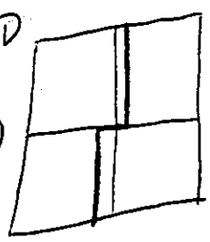


3/ White
4/ Black

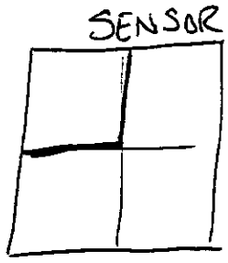
1/ Clear heatshrink. Rubber boot, cable grip, 1cm black heatshrink.
2/ Strip Cable to about 1½ inch. Cut yellow + orange off.
3/ Cut rest off wires to 1cm. Strip + tin ends. Fasten both shields together + heatshrink.
4/ Solder into connector as above, starting with No. 7 (Shield)
5/ Strain relief 7-8cm down cable. Strip cable and cut off both shields plus yellow and orange.
6/ Tin ends of blue + red and solder to L.E.D.
7/ Tin ends of black + white and solder to Sensor.

TEST POSITIONS

L.E.D



SENSOR



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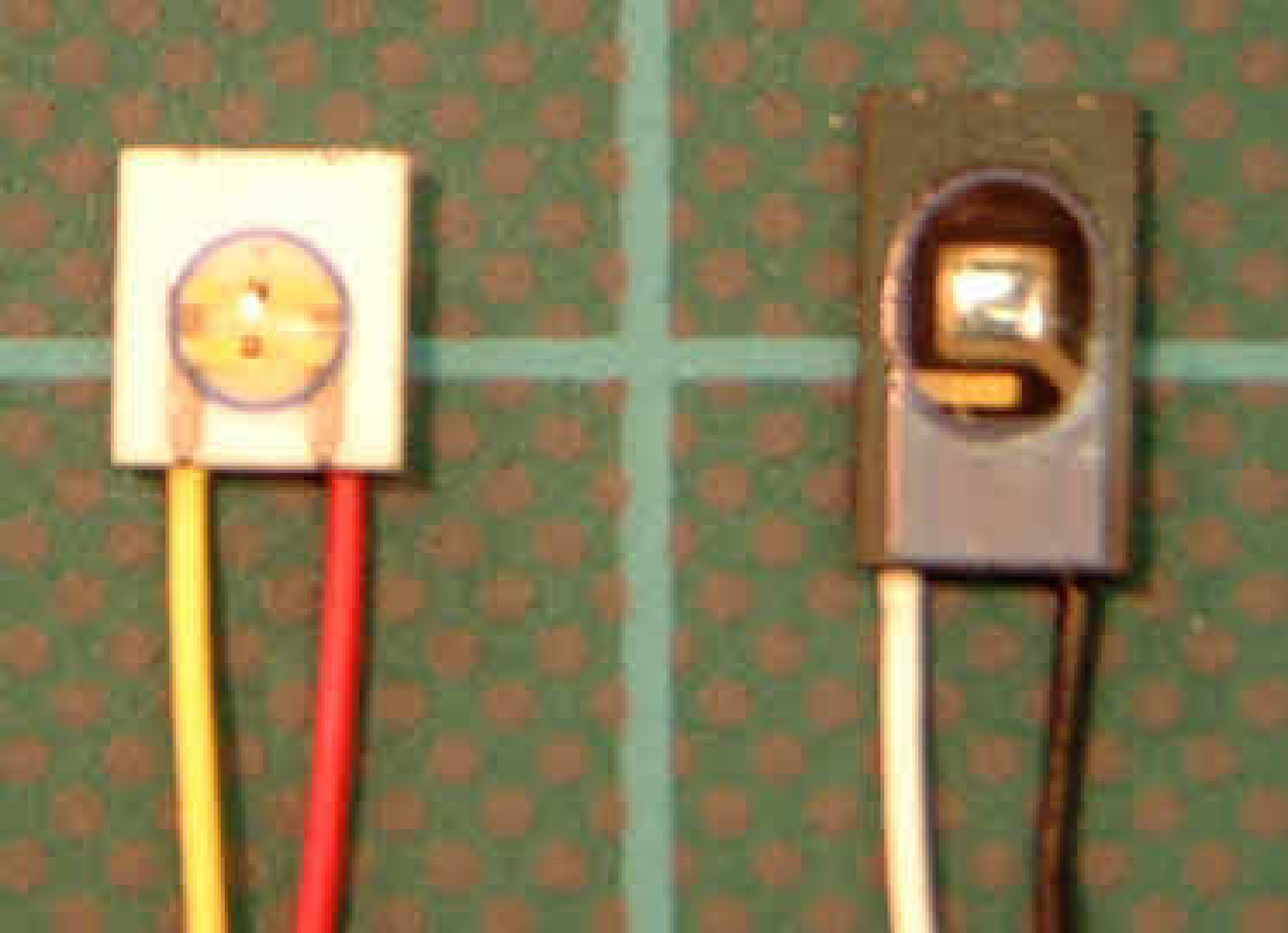
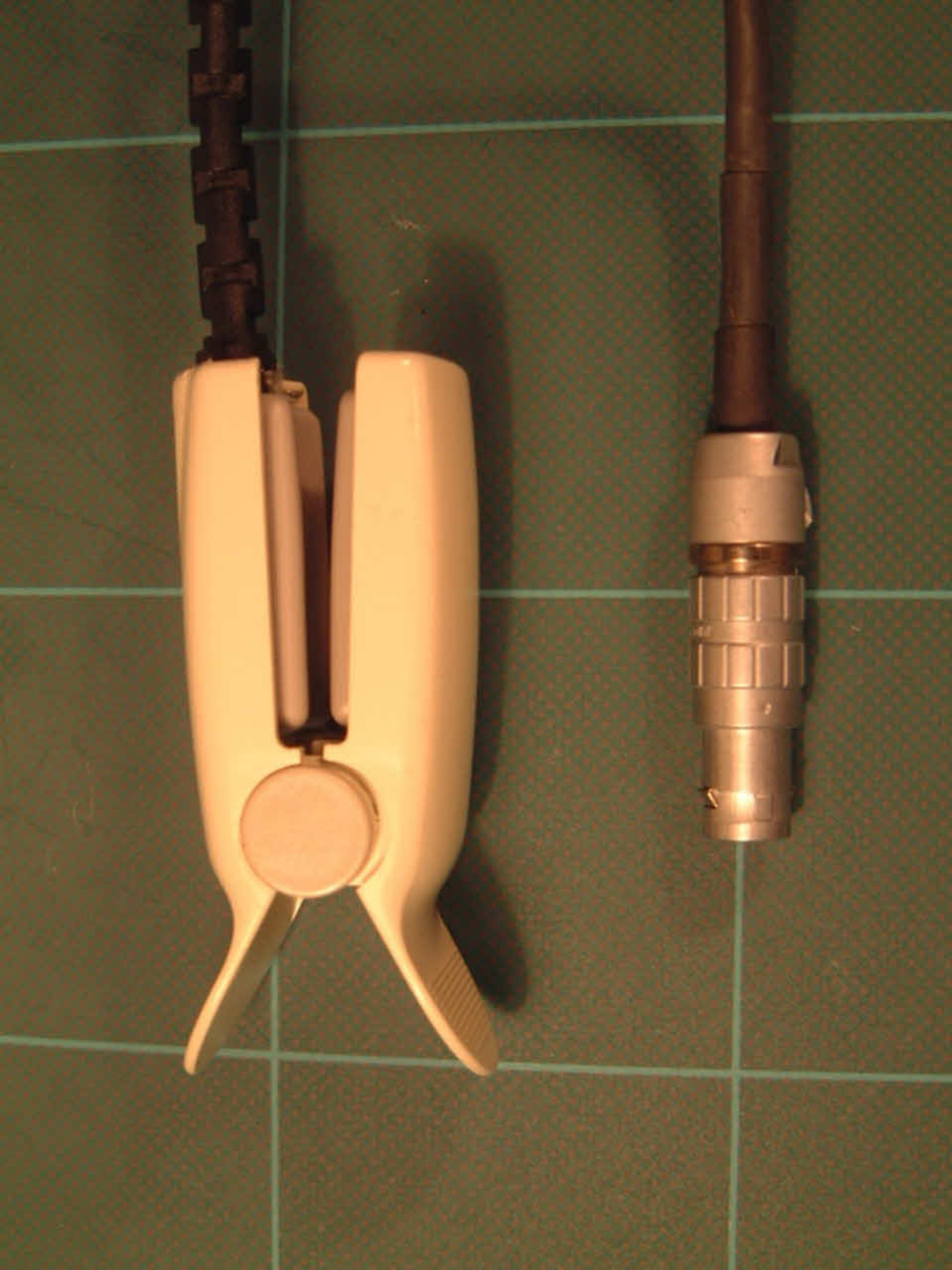
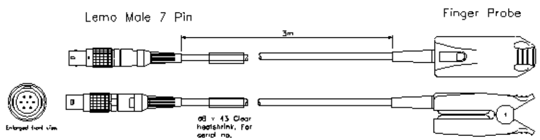
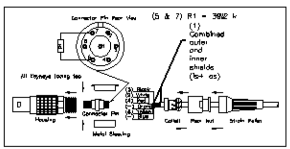
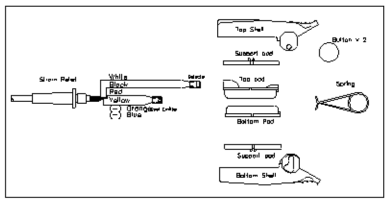
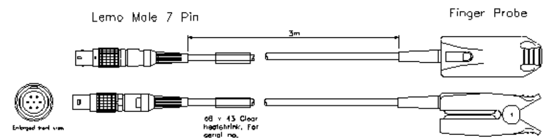


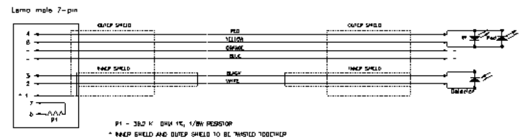


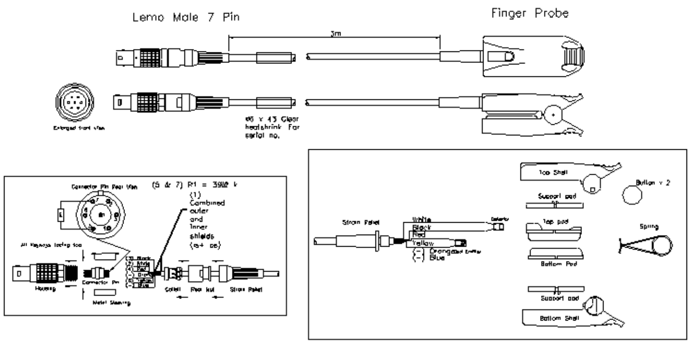

Lemo Male 7 Pin
Finger Probe
3m
Enlarged front view
Ø8 x 43 Clear
heatshrink. For
serial no.

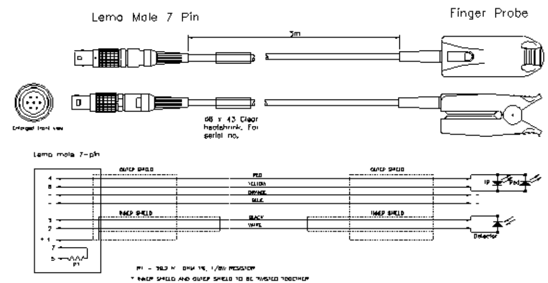

Connector Pin Rear View
(5 & 7) R1 = 30.2 k
(1)
Combined
outer
and
inner
shields
(1st as)
Black
White
Red
Orange
Yellow
Blue
Housing
Connector Pin
Metal Sleeving
Collet
Strain Relief


Top Shell
Button x 2
Support pad
Top pad
Spring
Strain Relief
White
Black
Red
Yellow
Detector
Orange
Blue
Bottom Pad
Support pad
Bottom Shell


Lemo Male 7 Pin
Finger Probe
3m
Enlarged front view
Ø8 x 43 Clear
heatshrink. For
serial no.

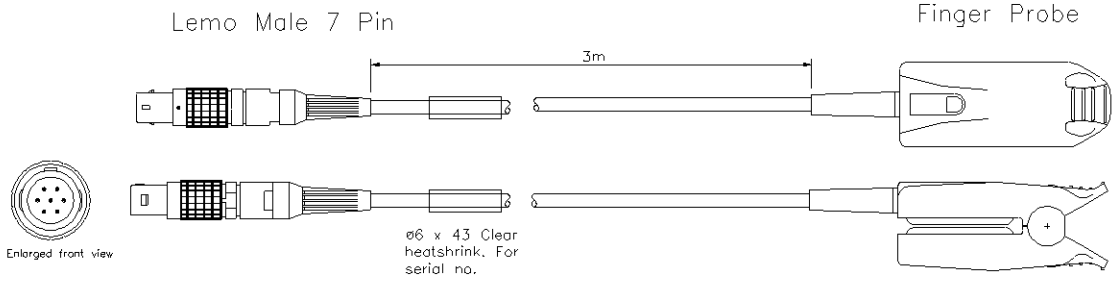

Lemo male 7-pin
OUTER SHIELD
INNER SHIELD
RED
YELLOW
ORANGE
BLUE
BLACK
WHITE
Red
Detector
P1
P1 - 30.2 K OHM 1%, 1/8W RESISTOR
* INNER SHIELD AND OUTER SHIELD TO BE TWISTED TOGETHER

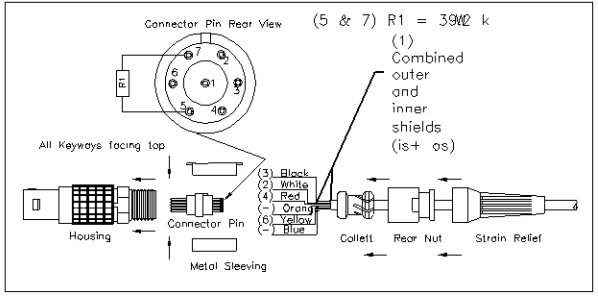

Lemo Male 7 Pin
Finger Probe
3m
ø6 x 43 Clear heatshrink. For serial no.
Connector Pin Rear View
(5 & 7) R1 = 39.2 k
(1) Combined outer and inner shields
Connector Pin
Housing
Metal Sleeving
Collet
Strain Relief
Strain Relief
White
Black
Red
Yellow
Orange
Blue
Top Shell
Button x 2
Support pad
Top pad
Spring
Bottom Pad
Support pad
Bottom Shell

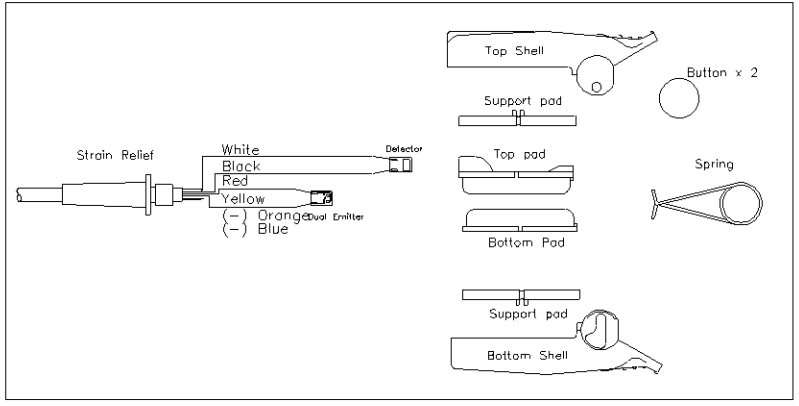

Lemo Male 7 Pin
Finger Probe
3m
ø6 x 43 Clear heatshrink. For serial no.
Lemo male 7-pin
OUTER SHIELD
INNER SHIELD
RED
YELLOW
ORANGE
BLUE
BLACK
WHITE
IR
Red
Detector
R1

Lemo Male 7 Pin

Finger Probe







					Material :	Title	P878RA Invivo	Dim in	mm
								Tol	± 0.2
						Scale	Not To Scale	Drawn	J.Nirwan
REV	Date	N°	Drawn	Approv	Part No. 0018780	Date	30/01/02	Dwg No.	SPF-878

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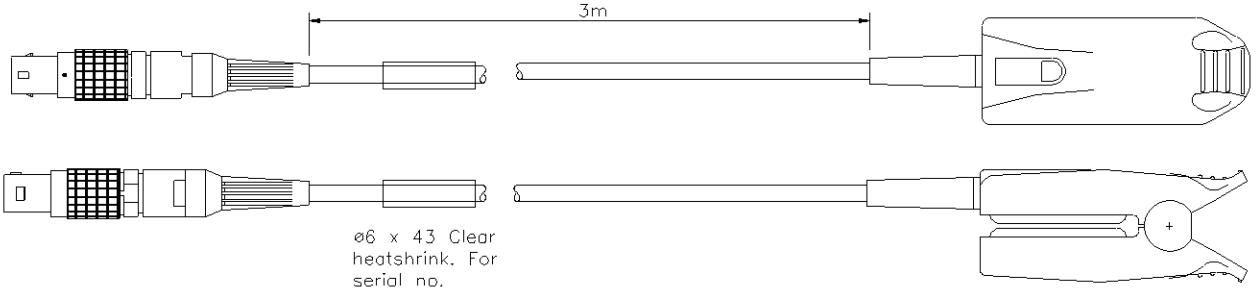
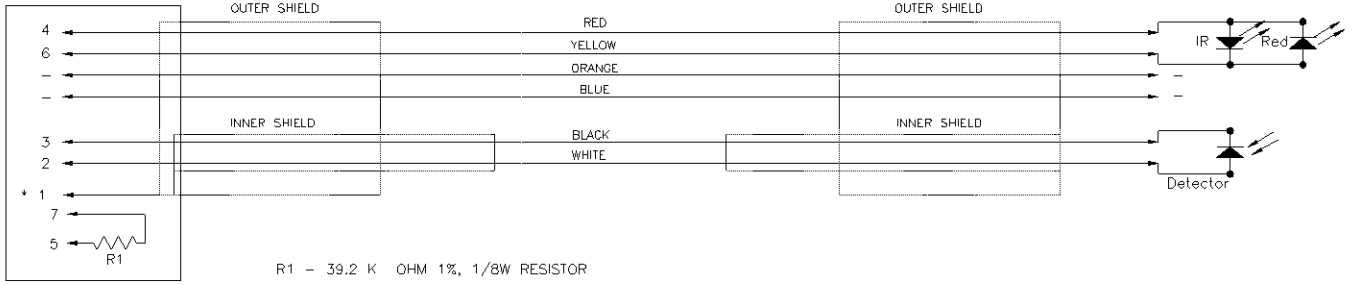
West Yorkshire
BD20 7DT

Lemo Male 7 Pin

Finger Probe



Lemo male 7–pin



R1 – 39.2 K OHM 1%, 1/8W RESISTOR

* INNER SHIELD AND OUTER SHIELD TO BE TWISTED TOGETHER.

					Material :	Title	P878RA Invivo	Dim in	mm
								Tol	± 0.2
						Scale	Not To Scale	Drawn	J.Nirwan
REV	Date	N°	Drawn	Approv	Part No. 0018780	Date	30/01/02	Dwg No.	SPF–878.1

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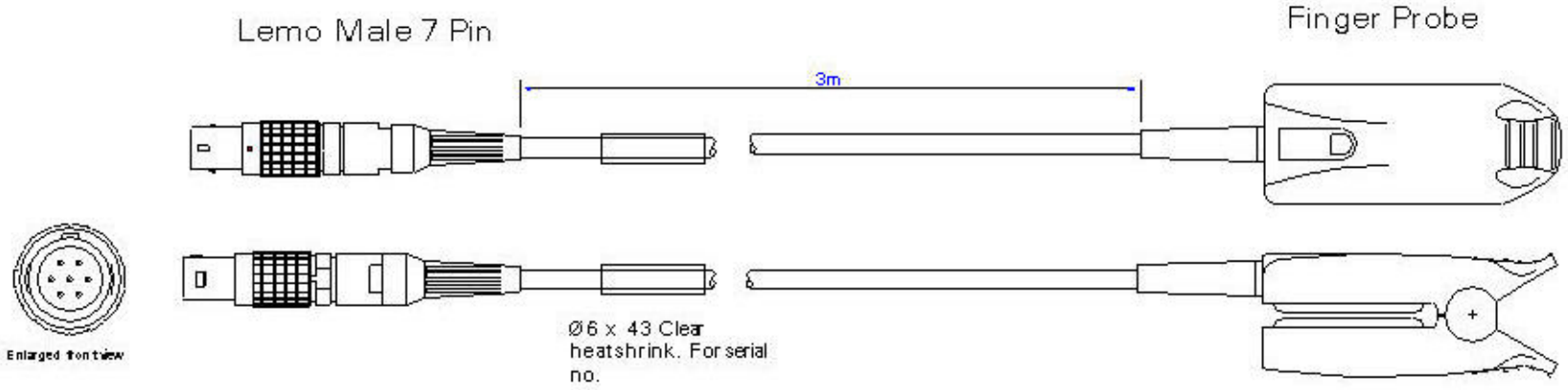

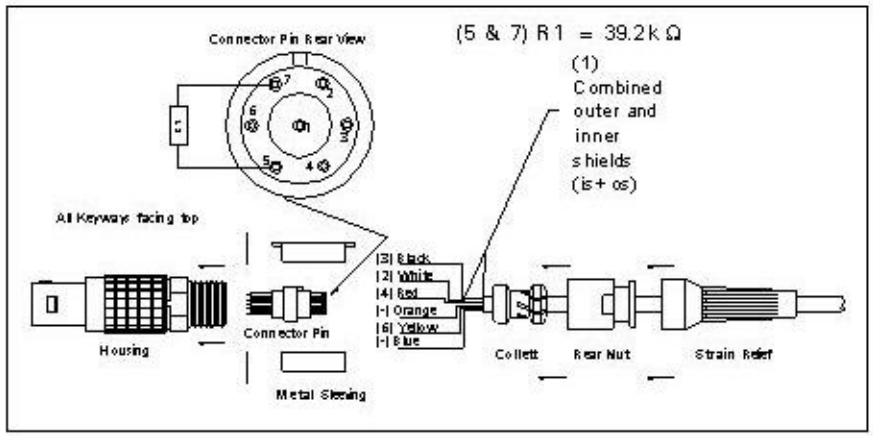

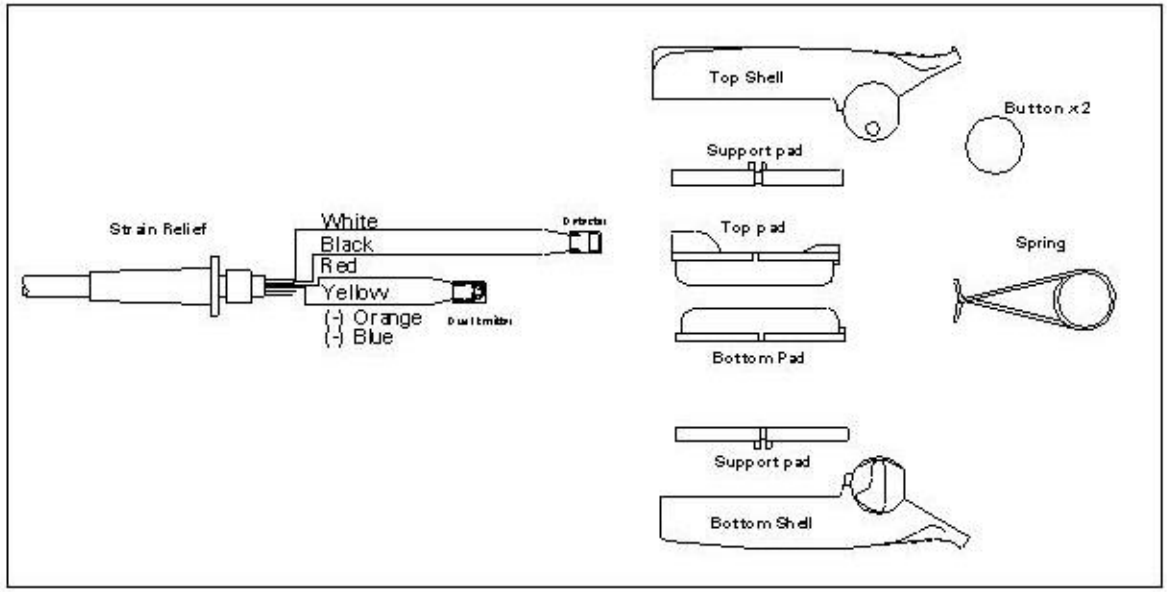

					Material:	Title	P878RA Invivo	Dim in	mm
								Tol	± 0.2
REV	Date	N°	Drawn	Approv	Part No. 0018780	Scale	Not To Scale	Drawn	J.Nirwan
						Date	30/01/02	Dwg No.	SPF-878

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15 Station Rd
Cross Hills, Keighley
West Yorkshire
BD20 7DT

10'

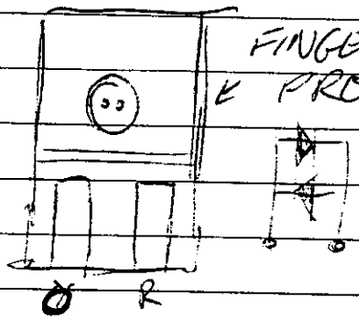
P700 RA

~~ACT~~ VIAMED INVIVO HYPER-TRONICS PROBE

N.B. see previous pages for original probe.

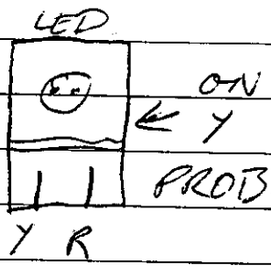
LED face up.

PN: PDI-E833



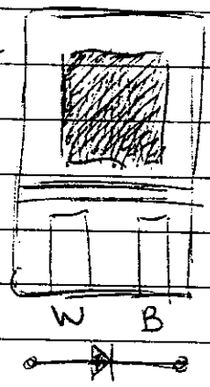
* LED 930nm = IR
660nm = R

This LED is the same as the SIMED.

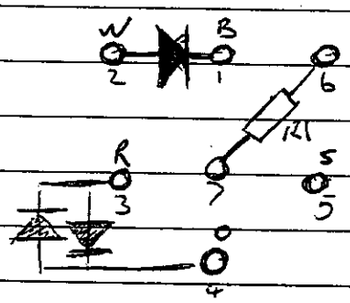


Photodiode RV

PN: PDB-C165

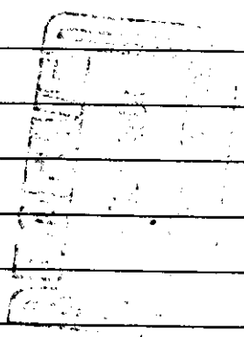


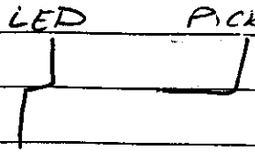
CONNECTOR RV 7PIN HYPERTRONICS (BLACK)



R1 = 39.2KΩ (1%)

1/ BLACK
2/ WHITE
3/ RED
4/ ORANGE
5/ MAIN SHIELD
6/ R1
7/ R1





MAKE SURE LED IS WIRED CORRECTLY
ORANGE & RED FOR FINGER.
YELLOW & RED FOR Y.

16

New Information Data Sheet

Viamed

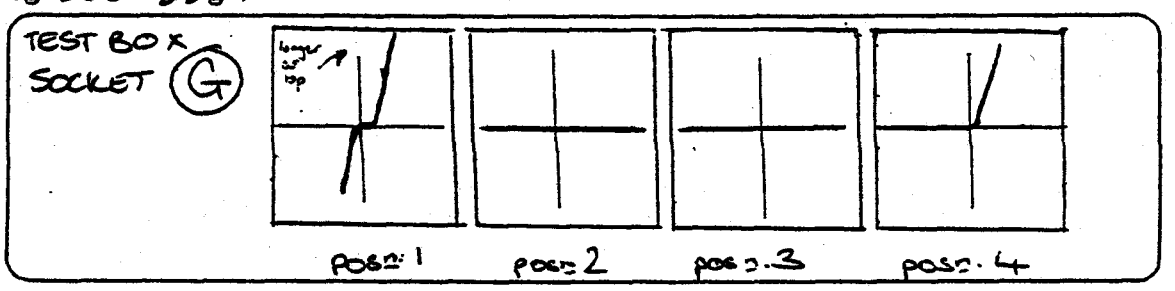
Viamed

To be filled in for any new information gained in the workshop

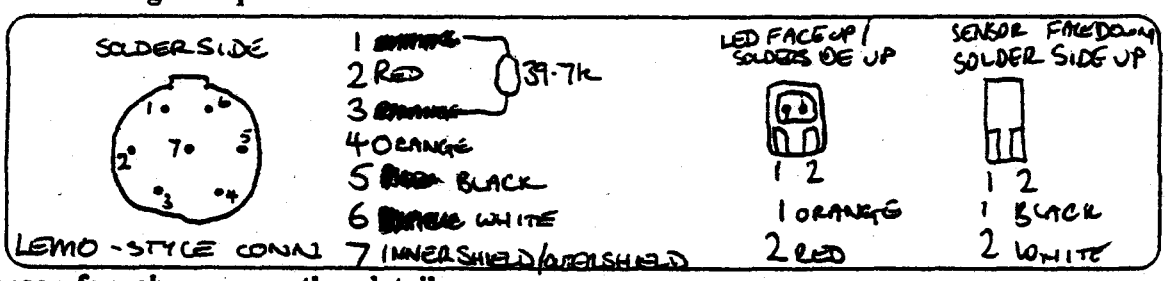
Date	30998
Technician	D.B.
Original part Number	RECORDER NO. 9383 ADULT
Description	OXICLIP FINGER PROBE (INVIVO RESEARCH INC.)
Work requested by	D.B.
New part number if required	P878RA
Time taken	45 minutes

Modifications need to be dated ,signed and explained

~~Original Drawing~~



New Drawing if required



Reason for change or other details

No diagram in current manual

Cable length - 307 cm (311 cm including both strain reliefs)

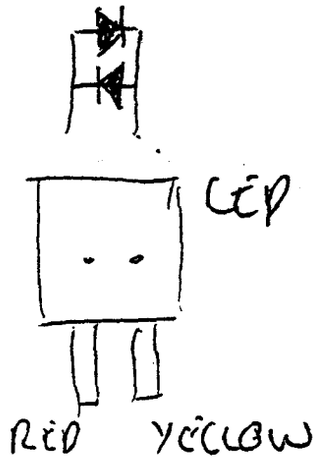
324 cm from end to end.

No original monitor to test on.

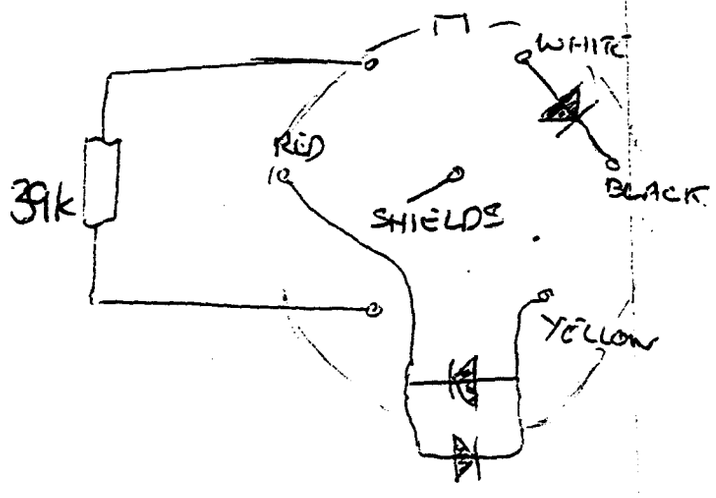
N.B. Shields should be wrapped together then heat shrink used to isolate completely from metal body of connector

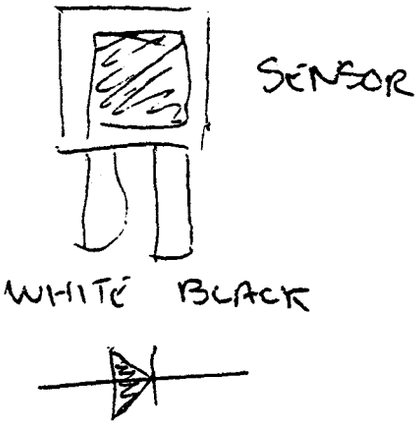
Confidential not for customer use

Date		Type	P878RA INVUE

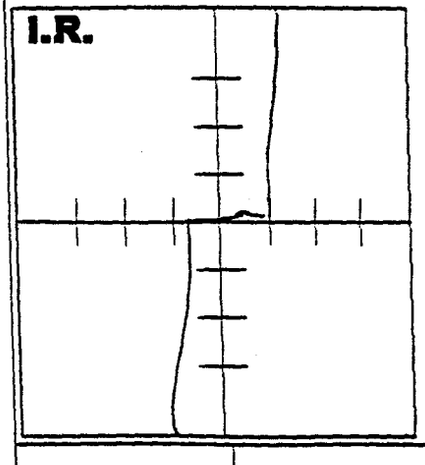


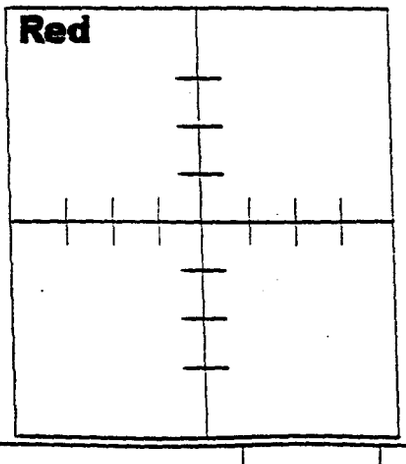
CONNECTOR REAR VIEW



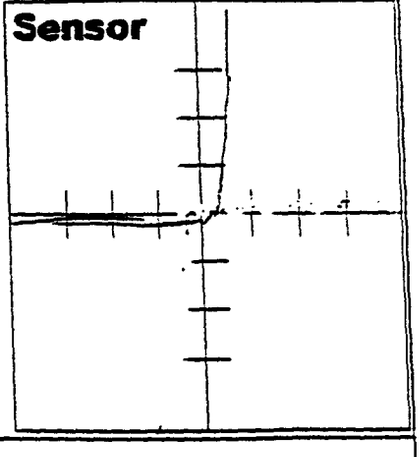


POS 1





POS 4.



Drawn By:		Signed	