

 TELEDYNE ANALYTICAL INSTRUMENTS	ENGINEERING CHANGE ORDER (ECO)		ECO No. <u>07-0175</u>
			ECR No. <u>07-0182</u>
			SH. <u>1</u> OF <u>2</u>

FAMILY:	MODEL: R21AVL	PREPARED BY: Vincent Figueroa 8/8/08	RESP. ENGINEER: <i>Michael Gonzalez</i> 8-18-08 Michael Gonzalez	CHANGE CATEGORY
				M1 M2 <u>M3</u> REC

REASON FOR CHANGE: Customer requested to change sensor output spec from 7-13mv to 9-14 mv, old p/n C43981-R21AAVL to C77173-R21A and have label graphic change per Customer's logo. Customer also requested No other changes to sensor that will affect form. Fit or function of sensor.	CAUSE CODE 1 2 3 4 5 6 7 8 <u>9</u> 10
	SUB-CONTRACT YES OR <u>NO</u>
	RE-TRAINING REQ. YES OR NO

AFFECTED DOCUMENTS	INCORP	REVISION		MATERIAL DISPOSITION N=N/A U=USE R=REWORK S=SCRAP						NOTIFIED BODY NOTIFICATION []
		WAS	IS	ON ORDER	STOCK	ASSY	TEST	FIN GOODS	FIELD	MANUFACTURING EFFECTIVITY
B56358	X	8	9	<i>N</i>					<i>N</i>	<i>11/14/08</i>
C77173-R21AVL	X	0	1	<i>R</i>	<i>R</i>	<i>R</i>	<i>U</i>		<i>U</i>	
C77173-R21A	X	-	0	<i>U</i>					<i>U</i>	
A59712	X	1	2	<i>R</i>	<i>S</i>	<i>S</i>	<i>U</i>		<i>U</i>	

DESCRIPTION OF CHANGE: B56358 SPEC CONTROL DRAWING -Change spec 1 voltage is: (9-14mv) was: (7-13mv) C77173-R21AVL FINAL ASSEMBLY -Change item 2 part number on BOM is: QTY 1 P/N A57246 DES LABEL, R21AV was: QTY 1 P/N A59712 DES LABEL, R21AV C77173-R21A FINAL ASSEMBLY -Initial release	 TELEDYNE ANALYTICAL INSTRUMENTS Configuration Management ECO Release Copy
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CHANGE CONTROL BOARD (CCB) (SIGNATURE & DATE)			
ENGINEERING: <i>8-18-08</i>	QUALITY: <i>8/14/08</i>	SALES: <i>8/18/08</i>	GENERAL MANAGER:
TEST: <i>8-18-08</i>	PROD. CONTROL: <i>08/18/08</i>	CONFIGURATION: <i>10/28/08</i>	E. H. S.:

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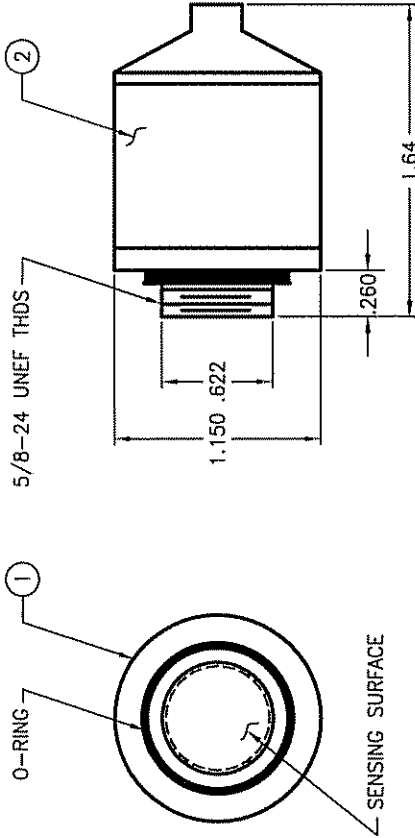
NOTES: UNLESS OTHERWISE SPECIFIED.

1. BASIC CONFIGURATION: C43981-R21A

2. REFERENCE: MPD61679.

3. TEST LIMITS: SAME AS R21A, EXCEPT OUTPUT (IN AIR) IS 9.5 -13.5 mV

4. SPEC. CONTROL DWG.: B56358.



ITEM	QTY	PART NO.	DESCRIPTION
6	1	B-173	BAG (NOT SHOWN)
5	REF	MPD-61679	MANUFACTURING PROCEDURE
4	1	A-66370-B	LABEL, BAG (NOT SHOWN)
3	REF	B-56358	SPEC CONTROL DWG
2	1	A-59712	LABEL, R21A/VL
1	1	C43981-R21A	SENSOR, R21A FINAL ASSEMBLY

DO NOT SCALE DWG	DATE	SCALE	REV
TOLERANCE UNLESS OTHERWISE SPECIFIED: ANGULAR $\pm .1$ LINEAR $\pm .02$ $\pm .010$	3/7/08	NONE	0
SIGNATURES	DATE	SCALE	REV
DRAFT: VF	3/7/08	NONE	0
CHK: N/		NONE	0
APPR: P/		NONE	0
ENGR: H. GONZALEZ		NONE	0
S.O.		NONE	0
REFERENCE		NONE	0
CAD ID: C77173-R21A-0			
AS LISTED			
DWG NO.			
CLASS R21A			
OXYGEN SENSOR			
FINAL ASSEMBLY			
REV			
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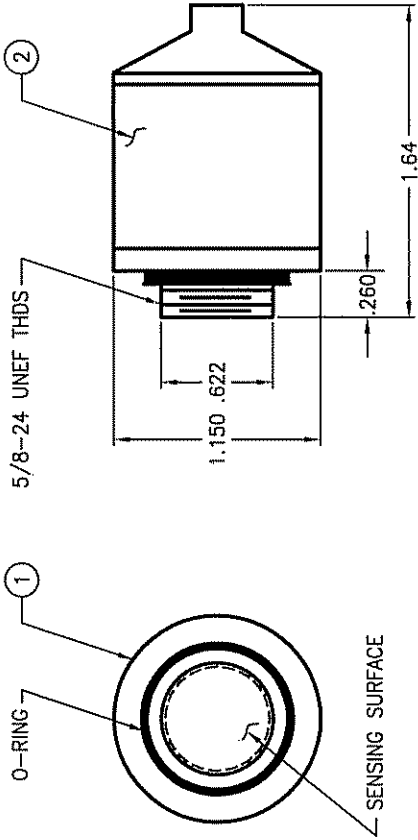
NOTES: UNLESS OTHERWISE SPECIFIED.

1. BASIC CONFIGURATION: C43981-R21A

2. REFERENCE: MPD61679.

3. TEST LIMITS: SAME AS R21A, EXCEPT OUTPUT (IN AIR) IS 9.5 - 13.5 mV. IF NECESSARY, USE THE
OPTIONAL PCB ASSY ON ITEM 1 (ASSY C43981-R21A) WHEN MINIMUM READING OF 9.5 mV CANNOT BE OBTAINED.

4. SPEC. CONTROL DWG.: B57949



4. SPEC. CONTROL DWG.: B57949

REV	DESCRIPTION	DATE	APP.	REV.
0	INC ECO# 04-0167	08-22-04	M.C.	VF
1	INC ECO 07-0175	3/3/08	MG	VF

8	REF	B57949	SPEC CONTROL DWG
7	REF	C77173-R21AVL-RS	ROUTE SHEET
6	1	B-173	BAG (NOT SHOWN)
5	REF	MPD-61679	MANUFACTURING PROCEDURE
4	1	A-66370-B	LABEL, BAG (NOT SHOWN)
3	1	A-57246	LABEL, R21AVL
2	1	C43981-R21A	SENSOR, R21A FINAL ASSEMBLY
1	1	C43981-R21A	SENSOR, R21A FINAL ASSEMBLY
ITEM	QTY	PART NO.	DESCRIPTION

ITEM	QTY	PART NO.	DESCRIPTION
1	1	C43981-R21A	SENSOR, R21A FINAL ASSEMBLY

DO NOT SCALE DWG	TELEDYNE INSTRUMENTS
TOLERANCE UNLESS OTHERWISE SPECIFIED: ANGULAR ±1/16° ±.02° LINEAR .001 ±.001	Analytical Instruments
	A Teledyne Technologies Company
	City of Industry, California, 91746, USA

S/	DATE	TITLE	SCALE
I/	08/22/04	CLASS R21AVL	NONE
N/		OXYGEN SENSOR	SM
P/		FINAL ASSEMBLY	NONE
O/			SHEET
F/			1 OF 1
REFERENCE	CAO ID C77173-R21AVL-1	AS LISTED	REV
		DWG NO. C-77173-R21AVL	1

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NOTES: UNLESS OTHERWISE SPECIFIED

- 1) MATERIAL: 3M#7810
ADHESIVE: 300
BASE COLOR: SILVER (NON-CONDUCTIVE)
LETTERING: BLACK
FINISH FOR WRITING SERIAL No.
WITH BALL POINT PEN INK.

- 2) WEBER TRANSPARENT WEBFLEX (CLEAR) LAMINANT
#L-70099 TO BE APPLIED OVER LABEL

3.75

AVL DITEST



SAUERSTOFF-SENSOR - R21A

ACHTUNG:

Vor Frost schützen !

Nicht öffnen. Verursacht schwere Verätzungen.
Bei Berührung mit den Augen gründlich mit Wasser
spülen und Arzt aufsuchen. Entsorgung als Sondermüll.
Darf nicht in die Hände von Kindern gelangen.

SN 803010 K6

Bezugs-Anschrift :

AVL DITEST GmbH D-90766 Fürth Tel 0911-4757-444 Fax 0911-4757-277

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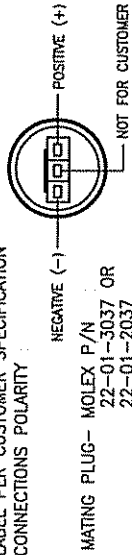
REVISIONS

REV	DESCRIPTION	DATE	APP.	REV. BY
2	INC ECO 07-0175	8/8/08	MG	--

DO NOT SCALE DWG		THIS DRAWING IS THE PROPERTY OF TELEDYNE INSTRUMENTS AND CONTAINS CONFIDENTIAL IT IS NOT TO BE COPIED, REPRODUCED OR USED WITHOUT WRITTEN PERMISSION	
TOLERANCE UNLESS OTHERWISE SPECIFIED: ANGULAR $\pm 1/2^\circ$			
LINEAR $\begin{matrix} X & = & \pm .1 \\ .XX & = & \pm .02 \\ .XXX & = & \pm .010 \end{matrix}$		TELEDYNE INSTRUMENTS Analytical Instruments A Teledyne Technologies Company City of Industry, California 91748, USA	
SIGNATURES		TITLE	
DRFT: MW	DATE 6/24/93	REPLACEMENT OXYGEN CELL CLASS R-21AAVL LABEL DETAIL	
CHK:		SCALE SIM	NTS A57246
APPR:		SHEET 1 OF 1	
ENGR:		REV	
C.O.:		2	
REFERENCE	CAD I.D. A59712-2	DWG NO. A-59712	
		NOTED	
		MATL	

NOTES: UNLESS OTHERWISE SPECIFIED.

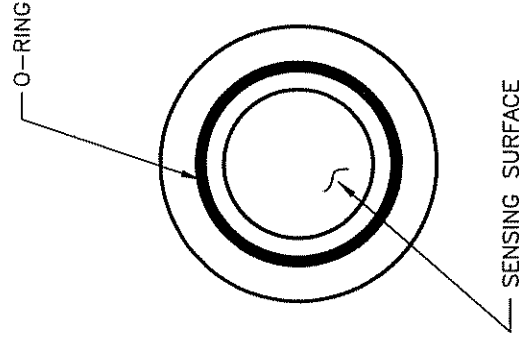
1. LABEL PER CUSTOMER SPECIFICATION
2. CONNECTIONS POLARITY



3. TEMPERATURE COMPENSATION ERROR IS $\pm 5\%$ OF FULL SCALE OVER THE OPERATING TEMPERATURE RANGE. (AFTER CALIBRATION AT 25°C)
- THE WORST CASE TRACKING ERROR (WITHIN THE FIRST HOUR AFTER A MAXIMUM TEMPERATURE STEP) IS $\pm 10\%$ OF FULL SCALE. (GAS SAMPLES MUST BE BROUGHT TO AMBIENT TEMPERATURE) PERCENT READOUT IS ONLY WITHIN $\pm 1\%$ AT CONSTANT PRESSURE (E.G. A 10% INCREASE IN PRESSURE WILL RESULT IN A 10% INCREASE IN READING).
4. ASSEMBLY TO BE PACKAGED IN A GAS BARRIER BAG.
5. ASSEMBLY MANUFACTURED AND TESTED TO MPD61679.

SPECIFICATIONS:

1. OUTPUT -- (9--14mV) IN AIR 25°C AT SEA LEVEL.
2. RANGE -- 0--100% OXYGEN (MAX), 0--1% OXYGEN (MIN).
3. RESPONSE TIME -- LESS THAN 6 SEC. FOR 90% OF FINAL VALUE.
4. OPERATING TEMPERATURE RANGE -- 0° TO 40°C (32° TO 104°F)
5. AVG EXPECTED CELL LIFE -- 36 MONTHS IN AIR AT 25°C, 50% R.H.
6. STORAGE TEMPERATURE -- 0° TO 50°C (32° TO 122°F)
7. HUMIDITY -- 0 TO 99% RH (NON-CONDENSING).
8. ACCURACY -- WITHIN $\pm 1\%$ OF FULL SCALE AT CONSTANT TEMPERATURE AND PRESSURE (SEE NOTE 3)
9. WEIGHT -- 1.2 OZ (32 GM)
10. OFFSET -- $\leq 0.1\%$ O2 IN ≤ 30 SECONDS FOR A STEP CHANGE FROM AIR TO 0% O2.
11. REQUIRED LOAD 10K



REVISIONS

REV	DESCRIPTION	DATE	APP.	REV. BY
7	INC. ECO 96-0713	6-11-97	MG	JCR
8	INC. ECO 99-0164	11/17/99	JML	DC
9	INC ECO 07-0175	8/8/08	MG	VF

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TELEDYNE INSTRUMENTS
Analytical Instruments
A Teledyne Technologies Company
City of Industry, California 91744, USA

DO NOT SCALE DWG	TOLERANCE UNLESS OTHERWISE SPECIFIED: ANGULAR $\pm 1/2^\circ$ LINEAR $\pm .010$	SIGNATURES	DATE	TITLE	SCALE
		DRFT: L. GARCES	04/28/93	SPEC CONTROL DWG	NONE
		CHK:		OXYGEN SENSOR	SIM NONE
		APPR:		CLASS R21A	SHEET 1 OF 1
		ENGR: JAY LAUER			REV
		C.O.:			DWG NO.
		REFERENCE	CAD I.D. B56358-9		B-56358