SPECIAL No. R732

(REVISION STATUS)

REV.	DATE	DESCRIPTION	PAGE No.	ENGINEER
A	6-19-2001	ORIGINAL RELEASE	ALL	A. DONADO
B	3-4-2004	CHANGED SPECIAL TO SENSOR ONLY, NO	ALL	A. DONADO
—	—	ELECTRONIC MODULE REQUIRED. CHANGED	—	—
—	—	CALIBRATION INSTRUCTIONS.	—	—

COMMENTS: THIS SPECIAL WAS DESIGNED TO REPLACE OLD TYPE "A" HEADS.

DATE: 03-04-2004
REV. : B
W.O. No: 77817
CUSTOMER: WILLER ENG.
LOCATION: ONTARIO
LOCATION: CANADA

INFRARAIL SPECIAL NUMBER R732

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE "E" SERIES INFRARAIL PYROMETER WITH A NON-QUICK DISCONNECT INTERCONNECTING CABLE. (OLD STYLE SCREW ON CONNECTOR). THE CUSTOMER ALSO REQUIRES THAT THE SENSOR BE CALIBRATED SIMILAR AND TO MATCH THE OLD "A" TYPE SENSOR CALIBRATION. NO ELECTRONIC MODULE REQUIRED FOR THIS SPECIAL.

MODEL: DNE31-99C (SENSOR ONLY)
RANGE: 750 – 1400 DEG. C
OPTICAL RESOLUTION: D/100 @ 30"

GENERALITY OF APPLICATION AND RESTRICTIONS:

THE FOLLOWING RESTRICTIONS ARE APPLICABLE TO THIS SPECIAL:

DUE TO THE SLIGHT DIFFERENCE IN SPECTRAL RESPONSES, THE CUSTOMER MAY HAVE TO PERFORM MINOR SENSOR OUTPUT ADJUSTMENTS TO TRY TO MATCH THE DINRAIL SENSOR OUTPUT TO THAT OF THE "A" SENSOR OUTPUT. OUTPUTS WILL BE SIMILAR BUT EXACT MATCH IS NOT POSSIBLE.

UNRESTRICTED, SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: Ami Donado DATE: 3/4/04
AMI DONADO

APPROVED BY: Ami Donado DATE: 3/4/04

INFRARAIL SPECIAL NUMBER R732 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A STANDARD MODEL DNE31-13C SENSOR BUT MAKE THE FOLLOWING CHANGES:

BUILD SENSING HEAD ASSY. C11909 BUT REPLACE DETECTOR ASSY. No. L13354 WITH DETECTOR ASSEMBLY NUMBER L13350 (OLD "OA" SENSOR WITH OLD TYPE 3 PIN CONNECTOR). WIRE THE DETECTOR PER DRAWING C10251.

INSTALL SPECIAL **BB 1120** METAL TAG ON GROUND SCREW. SECURE FROM ENGINEERING.

NO ELECTRONIC MODULE REQUIRED FOR THIS SPECIAL.

REFERENCE: CABLE ASSEMBLY DRAWING NUMBER D11198:

BUILD THE STANDARD CABLE ASSEMBLY BUT REPLACE ITEMS 1 AND 2, RECEPTACLE P.N. 575892 WITH OLD STYLE CONNECTOR RECEPTACLE P.N. 572332 AND CLAMP ASSEMBLY P.N. 572342.

CALIBRATION INSTRUCTIONS:

PRE-CAL:

FOCUS SENSOR ON 1400 DEGREE C (2552 deg. F) BLACK BODY AND ADJUST SENSOR OUTPUT TO **8.5800 MicroAmps.**

FINAL-CAL:

SET BLACK BODY TO 1120 DEGREES C (2048 deg. F). USING RESISTOR BOX, INSTALL 8.000 Kohms ACROSS SENSOR OUTPUT LEADS. CONNECT VOLTMETER ACROSS RESISTOR AND ADJUST THE SENSOR OUTPUT TO **10.000 mV.**

USING OUTPUT TABLE ON PAGE 3, CHECK OTHER TEMPERATURES FOR ACCURACY. FOR mV OUTPUT MULTIPLY SENSOR CURRENT OUTPUT BY 8. ACCURACY IS SAME AS FOR STANDARD DINRAIL.

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL PAGE.

THE TEMPERATURE RANGE PORTION OF THIS SPECIAL IS THE SAME AS SPECIAL R620.

SPECIAL R732

PAGE 3 OF 3
REV. B
DATE: 3-4-2004

Temperature range: 750 TO 1400 degrees C
Spectrum: 0.70 TO 1.00 Microns

Temp. in Deg. C	% Signal	Planck Iout In uAmps	V shunt(8 Kohm) In mVolts
750.0	0.239	0.0205	0.164
775.0	0.343	0.0295	0.236
800.0	0.486	0.0417	0.334
825.0	0.678	0.0582	0.465
850.0	0.932	0.0800	0.640
875.0	1.264	0.1085	0.868
900.0	1.694	0.1454	1.163
925.0	2.243	0.1925	1.540
950.0	2.939	0.2521	2.017
975.0	3.809	0.3268	2.615
1000.0	4.890	0.4196	3.357
1025.0	6.220	0.5337	4.269
1050.0	7.843	0.6729	5.384
1075.0	9.809	0.8416	6.733
1100.0	12.172	1.0443	8.355
1125.0	14.993	1.2864	10.291
1150.0	18.338	1.5734	12.587
1175.0	22.282	1.9118	15.294
1200.0	26.903	2.3082	18.466
1225.0	32.287	2.7702	22.162
1250.0	38.527	3.3056	26.445
1275.0	45.723	3.9230	31.384
1300.0	53.981	4.6316	37.052
1325.0	63.414	5.4409	43.527
1350.0	74.142	6.3614	50.891
1375.0	86.293	7.4040	59.232
1400.0	100.000	8.5800	68.640

See Rev. B.
3/4/04 A.D.

DATE: 06-19-2001
REV. : A
W.O. No: 77817
CUSTOMER: WILLER ENG.
LOCATION: ONTARIO
LOCATION: CANADA

INFRARAIL SPECIAL NUMBER R732

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE "E" SERIES INFRARAIL PYROMETER WITH A NON-QUICK DISCONNECT INTERCONNECTING CABLE. (OLD STYLE SCREW ON CONNECTOR).

MODEL: DNE31-99C
RANGE: 750 – 1400 DEG. C
OPTICAL RESOLUTION: D/100 @ 30"

GENERALITY OF APPLICATION AND RESTRICTIONS:

THE FOLLOWING RESTRICTIONS ARE APPLICABLE TO THIS SPECIAL:

1. CALIBRATION ACCURACY IS 1.00% OF FULL SCALE.
2. EMISSIVITY IS RESTRICTED TO A MINIMUM SETTING OF 0.3 FOR THE FIRST 100 DEGREES C OF THE INSTRUMENT'S TEMPERATURE SPAN.

UNRESTRICTED, SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: Ami DONADO DATE: 6-19-2001
AMI DONADO

APPROVED BY: Ami DONADO DATE: 6-19-2001

INFRARAIL SPECIAL NUMBER R732 CONTINUED,

PRODUCTION INSTRUCTIONS:

BUILD A STANDARD MODEL DNE31-13C SENSOR BUT MAKE THE FOLLOWING CHANGES:

REPLACE THE STANDARD QUICK DISCONNECT CONNECTOR P.N. 575892 WITH OLD STYLE SCREW ON CONNECTOR PART NUMBER 571122. DO THE WIRING THE SAME AS STANDARD.

START WITH A MODEL DN31-13C ELECTRONIC MODULE AND BUILD THE M1 LINEARIZER MODULE PER BILL OF MATERIAL ON PAGE 3.

REFERENCE: CABLE ASSEMBLY DRAWING NUMBER D11198:

BUILD THE STANDARD CABLE ASSEMBLY BUT REPLACE ITEMS 1 AND 2, RECEPTACLE P.N. 575892 WITH OLD STYLE CONNECTOR RECEPTACLE P.N. 572332 AND CLAMP ASSEMBLY P.N. 572342.

CALIBRATION INSTRUCTIONS:

PRE-CAL: CALIBRATE PER STANDARD PROCEDURE.

LINEARIZER ACCURACY IS **0.5%** FOR THIS SPECIAL.

SET Iout Head Zero Scale (750 deg. C) = 0.0103 uA
SET Iout Head Full Scale (1400 deg. C) = 4.2656 uA

FINAL-CAL: USE TABLE ON PAGE 4 FOR FINAL CALIBRATION.

SYSTEM ACCURACY IS **1.0 %** OF FULL SCALE TEMPERATURE.

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL PAGE.

THE TEMPERATURE RANGE PORTION OF THIS SPECIAL IS THE SAME AS SPECIAL R620.

INCLUDE RESTRICTIONS LISTED ON PAGE ONE.

DATE: 06-19-2001
REV. : A

INFRARAIL SPECIAL NUMBER R732 CONTINUED,

BILL OF MATERIAL

MODULE M1 REFERENCE DRAWING No. C11194

SYMBOL	PART NO.	DESCRIPTION			
R1	107503011	RESISTOR	750	Kohm	METAL FILM 1/4W 1%
R44	101872011	RESISTOR	18.7	Kohm	METAL FILM 1/4W 1%
R54	101103011	RESISTOR	110	Kohm	METAL FILM 1/4W 1%
R45	101582011	RESISTOR	15.8	Kohm	METAL FILM 1/4W 1%
R55	106192011	RESISTOR	61.9	Kohm	METAL FILM 1/4W 1%
R46	101002011	RESISTOR	10.0	Kohm	METAL FILM 1/4W 1%
R56	101053011	RESISTOR	105	Kohm	METAL FILM 1/4W 1%
R47	106041011	RESISTOR	6.04	Kohm	METAL FILM 1/4W 1%
R57	101873011	RESISTOR	187	Kohm	METAL FILM 1/4W 1%
R48	103571011	RESISTOR	3.57	Kohm	METAL FILM 1/4W 1%
R58	103323011	RESISTOR	332	Kohm	METAL FILM 1/4W 1%
R49	101961011	RESISTOR	1.96	Kohm	METAL FILM 1/4W 1%
R59	106193011	RESISTOR	619	Kohm	METAL FILM 1/4W 1%
R50	101051011	RESISTOR	1.05	Kohm	METAL FILM 1/4W 1%
R60	101214011	RESISTOR	1.21	Mohm	METAL FILM 1/4W 1%
R51	105360011	RESISTOR	536	Ohm	METAL FILM 1/4W 1%
R61	102374011	RESISTOR	2.37	Mohm	METAL FILM 1/4W 1%
R52	102670011	RESISTOR	267	Ohm	METAL FILM 1/4W 1%
R53	102320011	RESISTOR	232	Ohm	METAL FILM 1/4W 1%
R62	104874011	RESISTOR	4.87	Mohm	METAL FILM 1/4W 1%

DATE: 06-19-2001
REV:A

INFRARAIL SPECIAL NUMBER R732

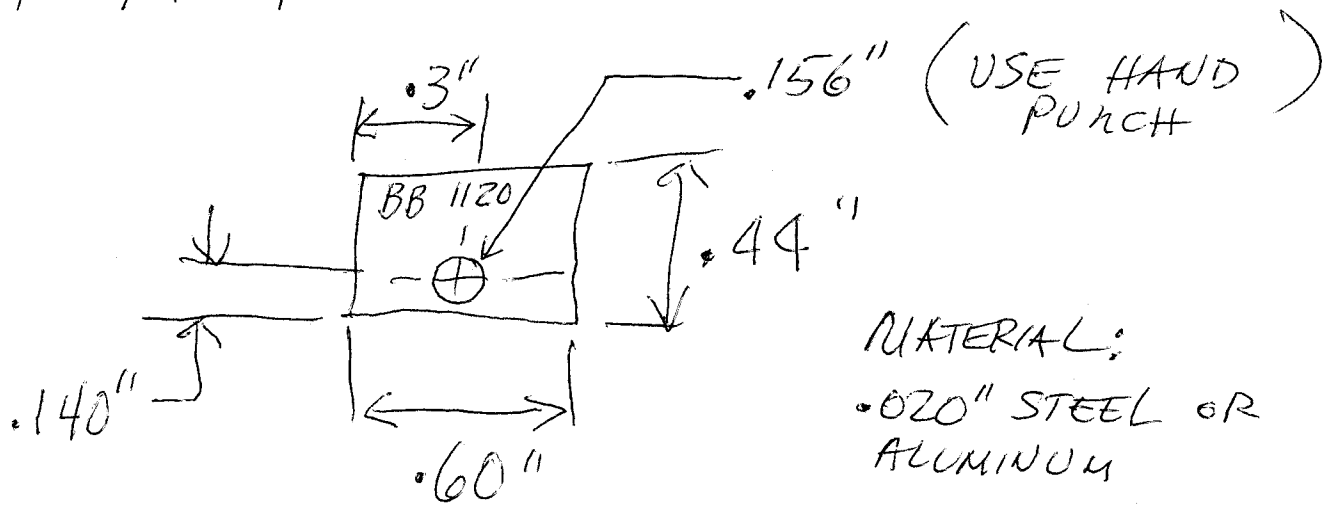
TEMPERATURE RANGE: 750 TO 1400 DEGREES C
SPECTRUM: 0.70 TO 1.00 MICRONS
(Planck Output)

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
750.0	0.0102	4.000
775.0	0.0146	4.615
800.0	0.0207	5.231
825.0	0.0289	5.846
850.0	0.0398	6.462
875.0	0.0539	7.077
900.0	0.0723	7.692
925.0	0.0957	8.308
950.0	0.1253	8.923
975.0	0.1625	9.538
1000.0	0.2086	10.154
1025.0	0.2653	10.769
1050.0	0.3346	11.385
1075.0	0.4184	12.000
1100.0	0.5192	12.615
1125.0	0.6395	13.231
1150.0	0.7822	13.846
1175.0	0.9505	14.462
1200.0	1.1476	15.077
1225.0	1.3772	15.692
1250.0	1.6434	16.308
1275.0	1.9504	16.923
1300.0	2.3026	17.538
1325.0	2.7050	18.154
1350.0	3.1626	18.769
1375.0	3.6809	19.385
1400.0	4.2656	20.000

Metal Tag Instructions R732

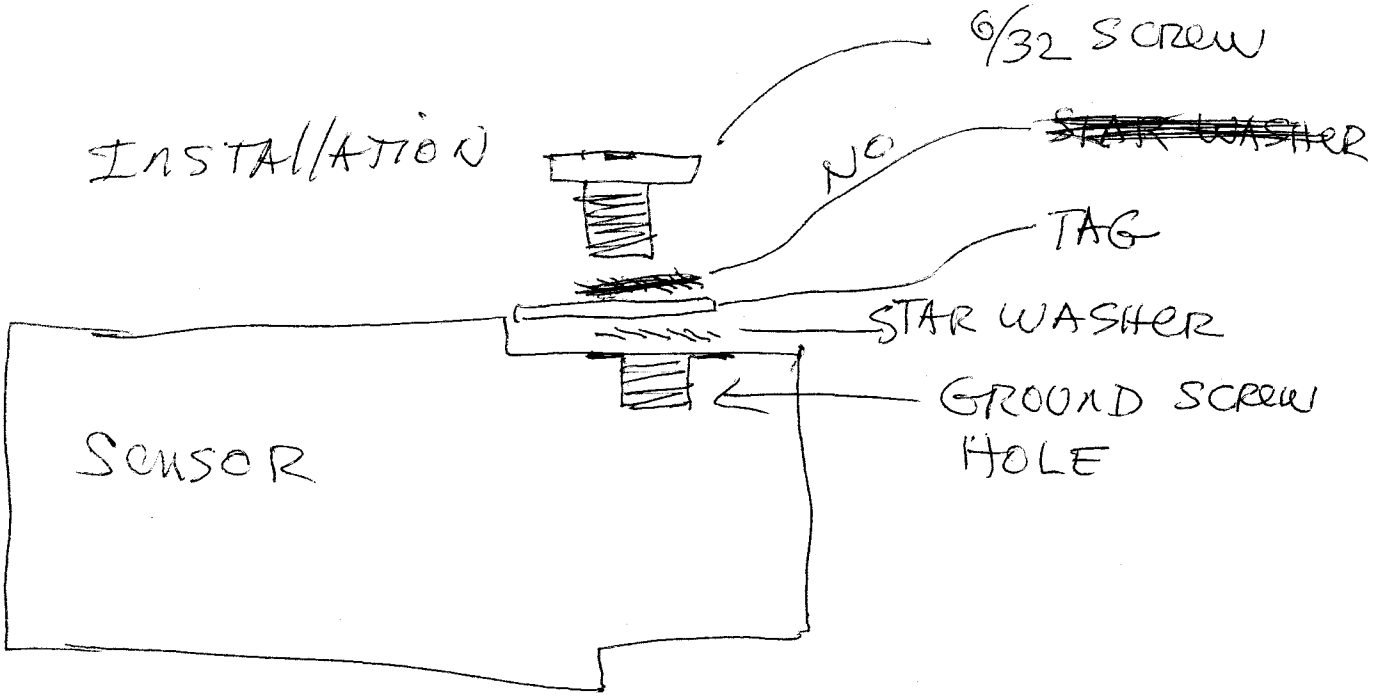
3/5/04 A.D.

1. Cut TAG per DIAGRAM Below



2. Use # and Letter punches and stamp TAG BB 1120 (Black Body 1120°C)

3. Installation



OLD A-HEAD

Temperature range: 750 TO 1400 degrees C
Spectrum: 0.70 TO 1.08 Microns

Temp. in Deg. C	% Signal	Planck Iout In uAmps	V shunt(8 Kohm) In mVolts
750.0	0.346	0.0296	0.237
775.0	0.486	0.0416	0.333
800.0	0.673	0.0576	0.461
825.0	0.918	0.0786	0.629
850.0	1.237	0.1059	0.847
875.0	1.646	0.1409	1.127
900.0	2.164	0.1853	1.482
925.0	2.815	0.2410	1.928
950.0	3.625	0.3103	2.483
975.0	4.624	0.3958	3.167
1000.0	5.844	0.5003	4.002
1025.0	7.324	0.6269	5.016
1050.0	9.105	0.7794	6.235
1075.0	11.232	0.9615	7.692
1100.0	13.757	1.1776	9.421
1125.0	16.733	1.4324	11.459
1150.0	20.223	1.7311	13.848
1175.0	24.289	2.0791	16.633
1200.0	29.002	2.4825	19.860
1225.0	34.436	2.9477	23.582
1250.0	40.671	3.4815	27.852
1275.0	47.793	4.0910	32.728
1300.0	55.890	4.7841	38.273
1325.0	65.057	5.5689	44.551
1350.0	75.394	6.4537	51.630
1375.0	87.005	7.4477	59.581
1400.0	100.000	~~8.5600~~ 8.580	68.48

S.S. @ GROUND SCREW
ADD TAG TO READ.
BB-1120

Set BB TO 1120°C
~~Set~~ Se w/ 8KΩ
E= 10.00mV
I=
} RT32

DIN-RAIL SENSOR (R732)

~~OLD PROBE~~

Temperature range: 750 TO 1400 degrees C
Spectrum: 0.70 TO 1.00 Microns

Temp. in Deg. C	% Signal	Planck Iout In uAmps	V shunt(8 Kohm) In mVolts
750.0	0.239	0.0204	0.163
775.0	0.343	0.0294	0.235
800.0	0.486	0.0416	0.333
825.0	0.678	0.0580	0.464
850.0	0.932	0.0798	0.638
875.0	1.264	0.1082	0.866
900.0	1.694	0.1450	1.160
925.0	2.243	0.1920	1.536
950.0	2.939	0.2515	2.012
975.0	3.809	0.3261	2.609
1000.0	4.890	0.4186	3.349
1025.0	6.220	0.5324	4.260
1050.0	7.843	0.6714	5.371
1075.0	9.809	0.8396	6.717
1100.0	12.172	1.0419	8.335
1125.0	14.993	1.2834	10.267
1150.0	18.338	1.5698	12.558
1175.0	22.282	1.9073	15.259
1200.0	26.903	2.3029	18.423
1225.0	32.287	2.7638	22.110
1250.0	38.527	3.2979	26.383
1275.0	45.723	3.9139	31.311
1300.0	53.981	4.6208	36.966
1325.0	63.414	5.4282	43.426
1350.0	74.142	6.3466	50.773
1375.0	86.293	7.3867	59.094
1400.0	100.000	8.5600	68.480

DINRAIL SENSOR

Temperature range: 500 TO 1100 degrees C
Spectrum: 0.70 TO 1.00 Microns

Temp. in Deg. C	% Signal	Planck Iout In uAmps	V shunt(8 Kohm) In mVolts
500.0	0.015	0.0002	0.001
525.0	0.028	0.0003	0.003
550.0	0.050	0.0006	0.005
575.0	0.086	0.0011	0.009
600.0	0.145	0.0018	0.015
625.0	0.237	0.0030	0.024
650.0	0.378	0.0047	0.038
675.0	0.589	0.0074	0.059
700.0	0.897	0.0112	0.090
725.0	1.338	0.0167	0.134
750.0	1.960	0.0245	0.196
775.0	2.820	0.0353	0.282
800.0	3.993	0.0499	0.399
825.0	5.569	0.0696	0.557
850.0	7.656	0.0957	0.766
875.0	10.387	0.1298	1.039
900.0	13.918	0.1740	1.392
925.0	18.432	0.2304	1.843
950.0	24.143	0.3018	2.414
975.0	31.297	0.3912	3.130
1000.0	40.177	0.5022	4.018
1025.0	51.103	0.6388	5.110
1050.0	64.438	0.8055	6.444
1075.0	80.587	1.0073	8.059
1100.0	100.000	1.2500	10,00 mV

460

8.56 µA

OLD A-HEAD

Temperature range: 500 TO 1100 degrees C
Spectrum: 0.70 TO 1.08 Microns

Temp. in Deg. C	% Signal	Planck Iout In uAmps	V shunt (8 Kohm) In mVolts
500.0	0.027	0.0003	0.003
525.0	0.047	0.0006	0.005
550.0	0.082	0.0010	0.008
575.0	0.137	0.0017	0.014
600.0	0.222	0.0028	0.022
625.0	0.351	0.0044	0.035
650.0	0.542	0.0068	0.054
675.0	0.818	0.0102	0.082
700.0	1.212	0.0151	0.121
725.0	1.761	0.0220	0.176
750.0	2.515	0.0314	0.252
775.0	3.534	0.0442	0.353
800.0	4.892	0.0611	0.489
825.0	6.676	0.0834	0.668
850.0	8.992	0.1124	0.899
875.0	11.962	0.1495	1.196
900.0	15.732	0.1966	1.573
925.0	20.466	0.2558	2.047
950.0	26.355	0.3294	2.635
975.0	33.613	0.4202	3.361
1000.0	42.485	0.5311	4.248
1025.0	53.241	0.6655	5.324
1050.0	66.184	0.8273	6.618
1075.0	81.648	1.0206	8.165
1100.0	100.000	1.2500	10.000 mV

1400

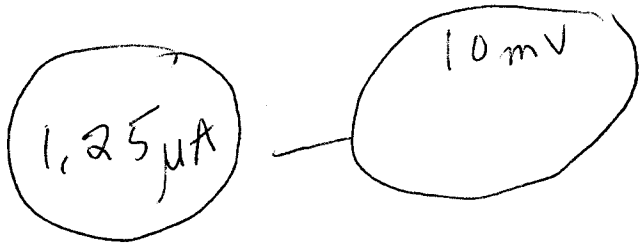
8.56μA

OLD A-HEAD

Temperature range: 500 TO 1100 degrees C
Spectrum: 0.70 TO 1.08 Microns

8K

Temp. in Deg. C	% Signal	Planck Iout In uAmps	V shunt (~~10K~~) In mVolts
500.0	0.027	0.0003	0.003
525.0	0.047	0.0006	0.005
550.0	0.082	0.0010	0.008
575.0	0.137	0.0016	0.013
600.0	0.222	0.0026	0.021
625.0	0.351	0.0042	0.033
650.0	0.542	0.0064	0.051
675.0	0.818	0.0097	0.078
700.0	1.212	0.0144	0.115
725.0	1.761	0.0209	0.167
750.0	2.515	0.0299	0.239
775.0	3.534	0.0420	0.336
800.0	4.892	0.0581	0.465
825.0	6.676	0.0793	0.634
850.0	8.992	0.1068	0.855
875.0	11.962	0.1421	1.137
900.0	15.732	0.1869	1.495
925.0	20.466	0.2431	1.945
950.0	26.355	0.3131	2.505
975.0	33.613	0.3993	3.195
1000.0	42.485	0.5047	4.038
1025.0	53.241	0.6325	5.060
1050.0	66.184	0.7863	6.290
1075.0	81.648	0.9700	7.760
1100.0	100.000	1.1880	9,504

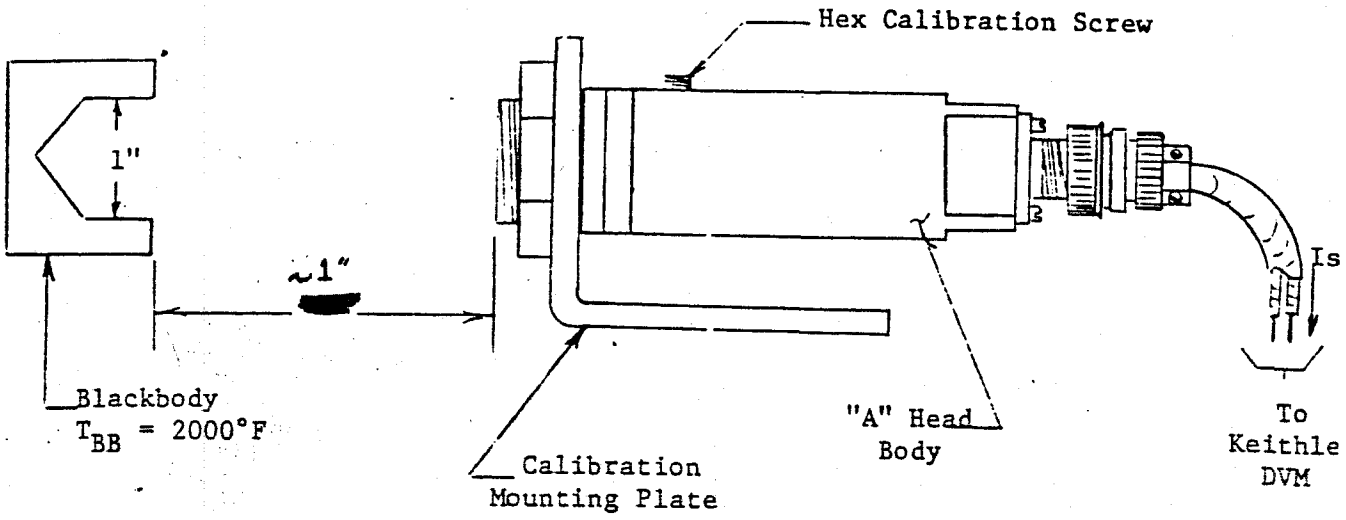


DINRAIL SENSOR

Temperature range: 500 TO 1100 degrees C
Spectrum: 0.70 TO 1.00 Microns

Temp. in Deg. C	% Signal	Planck Iout In uAmps	V shunt (~~10K~~ 8KΩ) In mVolts
500.0	0.015	0.0002	0.001
525.0	0.028	0.0003	0.003
550.0	0.050	0.0006	0.005
575.0	0.086	0.0010	0.008
600.0	0.145	0.0017	0.014
625.0	0.237	0.0028	0.023
650.0	0.378	0.0045	0.036
675.0	0.589	0.0070	0.056
700.0	0.897	0.0107	0.085
725.0	1.338	0.0159	0.127
750.0	1.960	0.0233	0.186
775.0	2.820	0.0335	0.268
800.0	3.993	0.0474	0.380
825.0	5.569	0.0662	0.529
850.0	7.656	0.0910	0.728
875.0	10.387	0.1234	0.987
900.0	13.918	0.1653	1.323
925.0	18.432	0.2190	1.752
950.0	24.143	0.2868	2.295
975.0	31.297	0.3718	2.974
1000.0	40.177	0.4773	3.818
1025.0	51.103	0.6071	4.857
1050.0	64.438	0.7655	6.124
1075.0	80.587	0.9574	7.659
1100.0	100.000	1.1880	9,504

"A" HEAD CALIBRATION PROCEDURE



1) Use the 1" Diameter Blackbody for Calibration of all "A" Heads. Set Blackbody Temperature to 2000°F.

2) Attach Calibration Mounting Plate to Tripod and fasten "A" Head as shown above with supplied hardware. Connect DVM and set on µA scale.

3) Bring "A" Head Body as close to horizontal as possible and elevate Tripod so "A" Head is looking directly at Blackbody cavity. Rotate "A" Head on Tripod from right to left and fix at maximum output.

4) Adjust Hex Calibration Screw for Isc as follows using CORRECTION factor if necessary:

D/25	Isc = 19µA	(A X 2)	@ 2000°F
D/50	Isc = 4.75µA	(A X 5)	@ 2000°F
D/100	Isc = 1.188µA	(A X 1)	@ 2000°F

CORRECTION FACTOR:

A X 2	di/dt = .11µA/°F
A X 5	di/dt = .007µA/F°
A X 1	di/dt = .027µA/F°

Example: If calibrating a A X 2 Type "A" Sensing Head and Blackbody Temperature is 1998°F, then;

$$\begin{array}{r} 2000°F \\ -1998°F \\ \hline 2°F \end{array}$$

for A X 2, di/dt = .11µA/F°

$$\frac{.11\mu A}{°F} \times 2°F = .22\mu A$$

calibrate at 19µA + .22µA = 19.22µA

(continued)

THIS SPECIAL WAS
DONE WRONG.

UPDATE TO CALIBRATE

@ 1100°C I_{SC} = 1.188 μA

No 4-20mA output REQUIRED.
SENSOR Only output

2/23/04 A.D.

DNE 1.0M

L13354 - SH DETECTOR ASSEMBLY E-SE

Item..	X	..Part Number.. Description	Rev	.Quantity. Inv	...Alt-Part.... Oper.	.....Reference Designator.....	.UM.	ECO No. Yield%	ECO Date	Strt Use	End Use.
	P	L13354	C	1.0000			EA				
		SH DETECTOR ASSEMBLY E-SE									
		431432	A	1.0000			EA	3770	08-21-96		
		DET. HOLDER MR20 SERIES			10	1		100.00			
		640642	A	1.0000			EA	3770	08-21-96		
		FILTER, BANDPASS			10	14		100.00			
		590672		1.0000			EA	3770	08-21-96		
		DET. SI VACTEC 21D459			10	2		100.00			
		560372		3.0000			IN	3770	08-21-96		
		CABLE PVC 1 COND SHIELD 2			10	3		100.00			
		312430100		1.0000			IN	3770	08-21-96		
		WIRE 24AWG BARE SOLID			10	13		100.00			
						CUT (1) PIECE TO 1/2 INCHES LONG...					
		430292	D	1.0000			EA	3770	08-21-96		
		CONN. GASKET 2000 SERIES			10	6		100.00			
		575892		1.0000			EA	3770	08-21-96		
		CONN. CIRC 3 RECPT 10SL-3			10	7		100.00			
		490042	A	1.0000			EA	3770	08-21-96		
		SPRING DETECTOR RETAINER			10	8		100.00			
		630092	B	1.0000			EA	3770	08-21-96		
		FOLDING MIRROR SH MROA SE			10	9		100.00			
		490032	B	1.0000			EA	3770	08-21-96		
		SPRING FOLDING MIRROR MOD			10	10		100.00			
		200204130		1.0000			EA	3770	08-21-96		
		SCREW #2-56 X 1/8 BH SLOT			10	11		100.00			
		990100016		1.0000			EA	3770	08-21-96		
		EPOXY HARDMAN #4001 3-5 M			10	12		100.00			
		3214G00X0		1.0000			IN	3770	08-21-96		
		TUBING #14 PVC CLEAR			10	15		100.00			
						CUT (1) PIECE TO 3/16 INCHES LONG.					
		3208I1000		1.0000			IN				
		BLACK HEAT SHRINK TUBING			10	16		100.00			
						CUT (2) PIECES TO 1/2 INCHES LONG EACH.					

L133500 - Detector Assy - "A" Series

REVISION: A
DATE: 06-19-2001

INFRARAIL SPECIAL NUMBER R732 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A STANDARD MODEL DNE31-13C SENSOR BUT MAKE THE FOLLOWING CHANGES:

BUILD SENSING HEAD ASSY. C11909 BUT ~~REPLACE DETECTOR~~ ASSY. No. L13354 WITH DETECTOR ASSEMBLY NUMBER L13350 (OLD "OA" SENSOR WITH OLD TYPE 3 PIN CONNECTOR). WIRE THE DETECTOR PER DRAWING C10251.

START WITH A MODEL DN31-13C ELECTRONIC MODULE AND BUILD THE M1 LINEARIZER MODULE PER BILL OF MATERIAL ON PAGE 3.

REFERENCE: CABLE ASSEMBLY DRAWING NUMBER D11198:

BUILD THE STANDARD CABLE ASSEMBLY BUT REPLACE ITEMS 1 AND 2, RECEPTACLE P.N. 575892 WITH OLD STYLE CONNECTOR RECEPTACLE P.N. 572332 AND CLAMP ASSEMBLY P.N. 572342.

CALIBRATION INSTRUCTIONS:

PRE-CAL: CALIBRATE PER STANDARD PROCEDURE.

LINEARIZER ACCURACY IS **0.5%** FOR THIS SPECIAL.

SET Iout Head Zero Scale (750 deg. C) = 0.0103 uA
SET Iout Head Full Scale (1400 deg. C) = 4.2656 uA

FINAL-CAL: USE TABLE ON PAGE 4 FOR FINAL CALIBRATION.

SYSTEM ACCURACY IS **1.0 %** OF FULL SCALE TEMPERATURE.

~~Be~~ But wire
Detector Assy C13354
Per Assy # L13350
Reference Drawing #
C10251

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL PAGE.

THE TEMPERATURE RANGE PORTION OF THIS SPECIAL IS THE SAME AS SPECIAL R620.

INCLUDE RESTRICTIONS LISTED ON PAGE ONE.

Detector Wiring

OA sensors — Assy # C-10251

DNE sensors — C11209

USE WITH DRAWING(S): T-C10251-1

LV	SEQ#	COMPONENT NO	QUANTY	UM	SYM/ITEM	DESCRIPTION	
01	0010	431432	1.00	EA	1	DET. HOLDER MR20 SERIES	
01	0020	590672	1.00	EA	2	DET. SI VACTEC 21D459	VTB-5051 SELECT W/VR)/=2.3MV
01	0030	30242X100	2.50	IN	3	WIRE 24AWG RED STRANDED	IRRADIATED PVC HOOKUP 19 X 36
01	0040	30249X100	2.50	IN	4	WIRE 24AWG WHITE STRANDED	IRRADIATED PVC HOOKUP 19 X 36
01	0050	3214G00X0	1.00	EA	5	TUBING #14 PVC CLEAR CUT 2 PIECES TO 3/8 INCHES LONG.	.066 ID .016 WALL
01	0060	430292	1.00	EA	6	CONN. GASKET 2000 SERIES	
01	0070	571122	1.00	EA	7	CONN. CIRC 3 PLUG 10SL-3 BOX	#10 MS BOX MOUNT
01	0080	490042	1.00	EA	8	SPRING DETECTOR RETAINER MOD2	
01	0090	630092	1.00	EA	9	FOLDING MIRROR SH MR0A SERIES	
01	0100	490032	1.00	EA	10	SPRING FOLDING MIRROR MOD2	
01	0110	200204130	1.00	EA	11	SCREW #2-56 X 1/8 BH SLOT	ZINC PLATE
01	0120	990100004	1.00	AR	12	EPOXY H8 FULLER FE 7004	MIX 2:1 PART A/PART B

END OF REPORT

SPL# R711

ALL MODELS

SELECTED FROM TABLE(S): S-C11209-1

LV	SEQ#	COMPONENT NO	QUANTY	UM	SYM/ITEM	DESCRIPTION		
01	0001	"ENG1	3.00			ASSEMBLE USING DRAWINGS C11209 AND C11207 USE DRAWING C11207 FOR DETAIL "A" ONLY...		
01	0010	431432	1.00	EA	1	DET. HOLDER MR20 SERIES		
01	0015	640552	1.00	EA	14	FILTER, BANDPASS	1.49-1.60 MICRON	B-DWG
01	0020	590792	1.00	EA	2	DETECTOR INGAAS 1.6 MICRON	SHUNT RES > 30 MEG	C-DWG
01	0025	"MFG1	5.00			**********		
						NOTE: WIRE THE DETECTOR (# 590792) PER DETAIL A ***		
						*** OF DRAWING C - 11207. ***		
						*** DO NOT CUT OFF THE TAB AS DETAIL A INDICATES!!! ***		
						**********		
01	0030	560372	3.00	IN	3	CABLE PVC 1 COND SHIELD 26 AWG 1 COND. 26AWG BRAIDED SHIELD		
01	0040	312430100	1.00	EA	13	WIRE 24AWG BARE SOLID CUT (1) PIECE TO 1/2 INCHES LONG...		
01	0060	430292	1.00	EA	6	CONN. GASKET 2000 SERIES		
01	0070	575892	1.00	EA	7	CONN. CIRC 3 RECPT 10SL-3	BOX MOUNT RECPT NICKEL PLT	
01	0080	490042	1.00	EA	8	SPRING DETECTOR RETAINER MOD2		
01	0090	630092	1.00	EA	9	FOLDING MIRROR SH MR0A SERIES		
01	0100	490032	1.00	EA	10	SPRING FOLDING MIRROR MOD2		
01	0110	200204130	1.00	EA	11	SCREW #2-56 X 1/8 BH SLOT	ZINC PLATE	
01	0120	990100016	1.00	AR	12	EPOXY HARDMAN #4001 3-5 MINS		
01	0130	3214G00X0	1.00	EA	15	TUBING #14 PVC CLEAR	.066 ID .016 WALL	
						CUT (1) PIECE TO 3/16 INCHES LONG.		

END OF REPORT

Number :DN-HO#10115 - IRCON INFRARAIL IRT SO-LI: 77817*1

Change to: C11201-R732 FROM TB: TDNSH

C11209-R732 — Use w/: L13354

L13354 R732 — USE w/C11209 R732

Level	Part Number	Description	Quantity	UM	Alt. UM	MB	X	ECO No.	ECO Date	Start Use	End Use
1	DN1DNE	DN PRICES	1.0000	EA		M	P				
1	C11201	SENSING HEAD FINAL ASSEMB	1.0000	EA		M	P				
2	451322	FIELD STOP .022DIA	1.0000	EA		B		3709	05-17-1996		
2	C11201/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	990300005	RETAINING RING 7/16 OD,.2	1.0000	EA		B		3709	05-17-1996		
2	431442	DET. LOCATOR MOD2	1.0000	EA		B		3709	05-17-1996		
2	C11209	SH DETECTOR ASSEMBLY (E-S	1.0000	EA		M	P	3709	05-17-1996		
3	L13354	SH DETECTOR ASSEMBLY E-SE	1.0000	EA		M	P				
4	431432	DET. HOLDER MR20 SERIES	1.0000	EA		B		3770	08-21-1996		
4	640642	FILTER, BANDPASS	1.0000	EA		B		3770	08-21-1996		
4	590672	DET. SI VACTEC 21D459	1.0000	EA		B		3770	08-21-1996		
4	560372	CABLE PVC 1 COND SHIELD 2	3.0000	IN		B		3770	08-21-1996		
4	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B		3770	08-21-1996		
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B		3770	08-21-1996		
4	575892	CONN. CIRC 3 RECPT 10SL-3	1.0000	EA		B		3770	08-21-1996		
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B		3770	08-21-1996		
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B		3770	08-21-1996		
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B		3770	08-21-1996		
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B		3770	08-21-1996		
4	990100016	EPOXY HARDMAN #4001 3-5 M	1.0000	EA		B		3770	08-21-1996		
4	3214G00X0	TUBING #14 PVC CLEAR	1.0000	IN		B		3770	08-21-1996		
4	3208I1000	BLACK HEAT SHRINK TUBING	1.0000	IN		B					
2	447352	SENSOR, E-HEAD	1.0000	EA		B		3709	05-17-1996		
2	610432	EYE LENS FOR A HEAD	1.0000	EA		B		3709	05-17-1996		
2	990100002	EPOXY HARDMAN #4005 GEN P	1.0000	EA		B		3709	05-17-1996		
2	447372	FIELD STOP, .312 DIA	1.0000	EA		B		3709	05-17-1996		
2	447382	FIELD STOP, .437 DIA	1.0000	EA		B		3709	05-17-1996		
2	610402	LENS PLANO CONVEX 30" F/L	1.0000	EA		B		3709	05-17-1996		
2	431752	O RING 13/16 X 1/16 TH 70	1.0000	EA		B		3709	05-17-1996		
2	447362	LENS RING E-HEAD SENSOR	1.0000	EA		B		3709	05-17-1996		
2	200412440	SCREW #4-40 X 3/8 FIL SLO	4.0000	EA		B		3709	05-17-1996		
2	220403200	WASHER #4 LOCK SPLIT RING	4.0000	EA		B		3709	05-17-1996		
2	454152	SCREW, ADJUSTMENT,	1.0000	EA		B		3709	05-17-1996		
2	433372	O RING 3/32 X 7/32 X 1/16	1.0000	EA		B		3709	05-17-1996		
2	220602200	WASHER #6 LOCK EXT TOOTH	1.0000	EA		B		3709	05-17-1996		
2	200606040	SCREW #6-32 X 3/16 PH SLO	1.0000	EA		B		3709	05-17-1996		
2	C11201/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	443502	RETAINING NUT	1.0000	EA		B		3709	05-17-1996		
2	477142	LABEL, SERIAL NUMBER, SEN	1.0000	EA		B		3709	05-17-1996		
2	474772	LABEL GROUND WARNING	1.0000	EA		B		3709	05-17-1996		
2	T-C11201-1	DETERMINE IF CABLE IS REQ	0.0000	EA		B		3709	05-17-1996		
2	C11201/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	999900013	CAP PLUG #SC-1-1/4	1.0000	EA		B		3709	05-17-1996		
2	990100028	SEALANT RTV SILICONE BLAC	1.0000	EA		B		3709	05-17-1996		
2	999900014	STEM BUMPER 3/8OD .275T	1.0000	EA		B		3709	05-17-1996		

5711/22

Before Changes
(Sensor Only)

Keep for Reference

W.O.# 9770

Number :DN-HO#10115 - IRCON INFRARAIL IRT SO-LI: 77817*1

Level	Part Number	Description	Quantity	UM	Alt. UM	MB	X	ECO No.	ECO Date	Start Use	End Use
1	DN1DNE	DN PRICES	1.0000	EA		M	P				
1	C11201-R732	SENSING HEAD FINAL ASSEMB	1.0000	EA		M	P				
2	451322	FIELD STOP .022DIA	1.0000	EA		B		3709	05-17-1996		
2	C11201/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	990300005	RETAINING RING 7/16 OD,.2	1.0000	EA		B		3709	05-17-1996		
2	431442	DET. LOCATOR MOD2	1.0000	EA		B		3709	05-17-1996		
2	C11209-R732	SH DETECTOR ASSY (E SERIE	1.0000	EA		M	P	3709	05-17-1996		
3	L13354-R732	SH DETECTOR ASSY (E SERIE	1.0000	EA		M	P				
4	431432	DET. HOLDER MR20 SERIES	1.0000	EA		B		3456	06-29-1995		
4	590672	DET. SI VACTEC 21D459	1.0000	EA		B		3456	06-29-1995		
4	30242X100	WIRE 24AWG RED STRANDED	2.5000	IN		B		3456	06-29-1995		
4	30249X100	WIRE 24AWG WHITE STRANDED	2.5000	IN		B		3456	06-29-1995		
4	3214G00X0	TUBING #14 PVC CLEAR	1.0000	IN		B		3456	06-29-1995		
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B		3456	06-29-1995		
4	571122	CONN. CIRC 3 PLUG 10SL-3	1.0000	EA		B		3456	06-29-1995		
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B		3456	06-29-1995		
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B		3456	06-29-1995		
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B		3456	06-29-1995		
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B		3456	06-29-1995		
4	990100002	EPOXY HARDMAN #4005 GEN P	1.0000	EA		B					
2	447352	SENSOR, E-HEAD	1.0000	EA		B		3709	05-17-1996		
2	610432	EYE LENS FOR A HEAD	1.0000	EA		B		3709	05-17-1996		
2	990100002	EPOXY HARDMAN #4005 GEN P	1.0000	EA		B		3709	05-17-1996		
2	447372	FIELD STOP, .312 DIA	1.0000	EA		B		3709	05-17-1996		
2	447382	FIELD STOP, .437 DIA	1.0000	EA		B		3709	05-17-1996		
2	610402	LENS PLANO CONVEX 30" F/L	1.0000	EA		B		3709	05-17-1996		
2	431752	O RING 13/16 X 1/16 TH 70	1.0000	EA		B		3709	05-17-1996		
2	447362	LENS RING E-HEAD SENSOR	1.0000	EA		B		3709	05-17-1996		
2	200412440	SCREW #4-40 X 3/8 FIL SLO	4.0000	EA		B		3709	05-17-1996		
2	220403200	WASHER #4 LOCK SPLIT RING	4.0000	EA		B		3709	05-17-1996		
2	454152	SCREW, ADJUSTMENT,	1.0000	EA		B		3709	05-17-1996		
2	433372	O RING 3/32 X 7/32 X 1/16	1.0000	EA		B		3709	05-17-1996		
2	220602200	WASHER #6 LOCK EXT TOOTH	1.0000	EA		B		3709	05-17-1996		
2	200606040	SCREW #6-32 X 3/16 PH SLO	1.0000	EA		B		3709	05-17-1996		
2	C11201/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	443502	RETAINING NUT	1.0000	EA		B		3709	05-17-1996		
2	477142	LABEL, SERIAL NUMBER, SEN	1.0000	EA		B		3709	05-17-1996		
2	474772	LABEL GROUND WARNING	1.0000	EA		B		3709	05-17-1996		
2	T-C11201-1	DETERMINE IF CABLE IS REQ	0.0000	EA		B		3709	05-17-1996		
2	C11201/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	999900013	CAP PLUG #SC-1-1/4	1.0000	EA		B		3709	05-17-1996		
2	990100028	SEALANT RTV SILICONE BLAC	1.0000	EA		B		3709	05-17-1996		
2	999900014	STEM BUMPER 3/8OD .275T	1.0000	EA		B		3709	05-17-1996		

SIMILAR ~~SAME~~ To L13350

R732

Sensor Only

"A" heads .70 – 1.05 μ

E heads .70 – 1.00 μ
(uses filter)
.7 – 1.0

DRAWING (S) TOO LARGE TO SCAN.
TO VIEW THE ORIGINAL DESIGN,
A REQUEST TO VIEW PHYSICAL FILE
IS YOUR NEXT OPTION.

DATE :06-27-2001
REVISION:
W.O.NO :
CUSTOMER:
LOCATION:
LOCATION:

INFRARAIL SPECIAL NUMBER DEMO

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE IFRARAIL MODEL 'S' SERIES PYROMETER AS FOLLOWS:

MODEL: DNS05-99
RANGE: 800 - 1600 DEG. C
OPTICAL RESOLUTION: D/50

GENERALITY OF APPLICATON AND RESTRICTIONS:

RESTRICTIONS: CALIBRATION ACCURACY IS 1.0% FOR THIS SPECIAL.

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY:_____

APPROVED BY:_____ DATE:_____

INFRARAIL SPECIAL NUMBER DEMO CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A STANDARD MODEL DNE31-13C SENSOR AND MAKE THE FOLLOWING CHANGES: IF NO CHANGES ARE LISTED, THEN BUILD THE STANDARD SENSOR LISTED ABOVE.

START WITH A STANDARD MODEL DNE31-13C ELECTRONIC MODULE AND MODIFY THE M1 LINEARIZER MODULE PER PAGE 3 ATTACHED.

CALIBRATION INSTRUCTIONS:

CALIBRATE AS A STANDARD MODEL.

LINEARIZER ACCURACY FOR THIS SPECIAL IS 0.5%.

REFERENCE IscZS 0.014 uAMPS
REFERENCE IscFS 5.928 uAMPS

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL.

2H Calibration of MIRAGE Series OA and OZ; MODLINE II Type A and Z

TABLE 2H.1 - CALIBRATION RESISTOR

Sensor Type		For BCL		BCH Set		Output Value (mV)
		Resistor Value (Ohms)		Resistor Value (Ohms)		
MIRAGE Series OA	MOD II Type A	BCL Set to 1500°F	BCL Set to 800°C	BCH Set to 2000°F	BCH Set to 1100°C	
	22A01	140k	171 k	8.44 k	8.00 k	10
	22A11	140k	171 k	8.44 k	8.00 k	10
MR-OA31	22A31	140k	171 k	8.44 k	8.00 k	10
	22A02	8.66k	10.5 k	522	494	10
	22A12	X	X	522	494	10
MR-OA32	22A32	X	X	522	494	10
	22A05	34.8 k	42.4 k	2.10 k	1.99 k	10
	22A15	34.8 k	42.4 k	2.10 k	1.99 k	10
MR-OA35	22A35	X	X	2.10 k	1.99 k	10
MIRAGE Series OZ	**MOD II Type Z**	10.5 k	12.8 k	Series OZ or Type Z Sensor cannot be calibrated with a BCH System		10

X *These models not suitable for calibration using a BCL System.*

MIDSCALE CALIBRATION (Optional)

If you require peak accuracy at some midscale temperature value, and if this value is within the range of temperatures available with the BC System, you may continue calibration as follows.

1. Set BC System to desired temperature within span of instrument.

2. With instrument power OFF, connect Sensor to its normal temperature indicator as follows:

   MIRAGE
   Terminals 1, 2 and 3 of Indicator/Processor.

   MODLINE II
   Terminals A14, A15 and A16 of Electronics Module.

3. Set instrument controls as follows:

   MIRAGE

   - Set Emissivity to 1.00.
   - Set Peak Picker, if present, to OFF.
   - Set Response Time to FAST.

   MODLINE II

   - Set Emittance (or "e") to 1.0.
   - Set Response Time to minimum (full CCW)
   - Connect jumper from A10 to A11 (or close external Peak Picker or Track & Hold switch, if present).
   - If temperature indicator is an analog meter, check its zero scale setting with POWER OFF. A mechanical adjustment may be necessary.

4. Turn on instrument power. When BC System stabilizes at set point temperature, adjust Sensor calibration screw until temperature indication of instrument equals digital temperature display on BC Indicator/Controller.

This completes the calibration. Restore the instrument to operation.

DRAWING (S) TOO LARGE TO SCAN.
TO VIEW THE ORIGINAL DESIGN,
A REQUEST TO VIEW PHYSICAL FILE
IS YOUR NEXT OPTION.

DATE :06-27-2001
REVISION:
W.O.NO :
CUSTOMER:
LOCATION:
LOCATION:

INFRARAIL SPECIAL NUMBER DEMO

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE IFRARAIL MODEL 'E' SERIES PYROMETER AS FOLLOWS:

MODEL: DNE31-99
RANGE: 750 - 1400 DEG. C
OPTICAL RESOLUTION: D/100 @ 30 inches

GENERALITY OF APPLICATON AND RESTRICTIONS:

RESTRICTIONS: CALIBRATION ACCURACY IS 1.0% FOR THIS SPECIAL.

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY:_____

APPROVED BY:_____ DATE:_____

DATE: 06-26-2001
REV:A

INFRARAIL SPECIAL NUMBER R732

TEMPERATURE RANGE: 750 TO 1400 DEGREES C
SPECTRUM: 0.70 TO 1.05 MICRONS
(Planck Output)

SAME AS OLD "A" HEADS

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
750.0	0.0129	4.000
775.0	0.0183	4.615
800.0	0.0255	5.231
825.0	0.0351	5.846
850.0	0.0477	6.462
875.0	0.0638	7.077
900.0	0.0845	7.692
925.0	0.1107	8.308
950.0	0.1434	8.923
975.0	0.1840	9.538
1000.0	0.2338	10.154
1025.0	0.2946	10.769
1050.0	0.3681	11.385
1075.0	0.4563	12.000
1100.0	0.5615	12.615
1125.0	0.6861	13.231
1150.0	0.8328	13.846
1175.0	1.0044	14.462
1200.0	1.2041	15.077
1225.0	1.4352	15.692
1250.0	1.7014	16.308
1275.0	2.0064	16.923
1300.0	2.3544	17.538
1325.0	2.7496	18.154
1350.0	3.1967	18.769
1375.0	3.7003	19.385
1400.0	4.2656	20.000

(USED FLAG FOR TEMP COMP)

DATE: 06-26-2001
REV:A

INFRARAIL SPECIAL NUMBER R732

TEMPERATURE RANGE: 750 TO 1400 DEGREES C
SPECTRUM: 0.70 TO 1.00 MICRONS
(Planck Output)

.7 To
DNE 1.0μ
(USES Filter
FOR TEMP COM

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
750.0	0.0102	4.000
775.0	0.0146	4.615
800.0	0.0207	5.231
825.0	0.0289	5.846
850.0	0.0398	6.462
875.0	0.0539	7.077
900.0	0.0723	7.692
925.0	0.0957	8.308
950.0	0.1253	8.923
975.0	0.1625	9.538
1000.0	0.2086	10.154
1025.0	0.2653	10.769
1050.0	0.3346	11.385
1075.0	0.4184	12.000
1100.0	0.5192	12.615
1125.0	0.6395	13.231
1150.0	0.7822	13.846
1175.0	0.9505	14.462
1200.0	1.1476	15.077
1225.0	1.3772	15.692
1250.0	1.6434	16.308
1275.0	1.9504	16.923
1300.0	2.3026	17.538
1325.0	2.7050	18.154
1350.0	3.1626	18.769
1375.0	3.6809	19.385
1400.0	4.2656	20.000

IRCON

Engineering Special or System Request

From: HB

To: AMI

Date 5/2/01

Page ___ of ___

Customer: Alcan Canada

Description of Request: DNE31-99C-R620

Base standard model or series:

Provide old 7 Pin Connector like 22A31 on DNE31-Head

Price for 5 unit

Details of specific approval:

Replace QUICK DISCONNECT CONNECTOR P.N. 57589 with SCREW ON CONNECTOR P.N. 57112-2. NEW SPECIAL.

Specific Exceptions:

Price: $100.00 EACH (adder to standard)

Delivery: STANDARD (adder to standard)

Approved by: AMI DONADO

Date: 5-2-2001

Form No. O1006 Rev B

Acknowledgment

IRCON, INC.
7300 N. Natchez Ave.
Niles, IL 60714 USA

Phone 847-967-5151
Toll Free 800-323-7660
Fax 847-647-0948

REQUEST DATE (MM-DD-YY): 07-19-01
PROMISE DATE (MM-DD-YY): 07-19-01

SOLD TO
CUSTOMER NO.: 020560

WILLER ENGINEERING LTD.
422 CONSUMERS ROAD
NORTH YORK, ONT, M2J 1P8
CANADA

OUR ORDER NO.: 77817
ORDER DATE (MM-DD-YY): 06-19-01

YOUR ORDER NO.: 7005

TERMS: 0.00/0/60

F.O.B.: ORIGIN

SHIPPING ADDRESS
TAX CODE

WILLER ENGINEERING LTD.
422 CONSUMERS ROAD
NORTH YORK, ONT, M2J 1P8
CANADA

CODE: 1030 (100.00)

VIA: BAX GLOBAL

SPECIAL SHIPPING INSTRUCTIONS

99C

LI	PART NO.	DESCRIPTION	QTY	DSCNT%	UNIT PRICE	AMOUNT
1	DN-HO#10115 W.O.#9770	DN_DNE31-13C IRCON INFRARAIL IRT SENSING HEAD ONLY Temp range 750-1400C w/ Special No R620 and with old connector P/N 57112 Consists of the following: 1.0000 - INFRARAIL HEAD ONLY 1.0000 - DN - E SERIES 1.0000 - D/100 RESOLUTION (E) 1.0000 - 800-1300C DN_DNE31-13C Per work sheet RTB 6/19	4	0.00	824.50	3298.00
2	MOD-CHARGES	MODIFICATION OF PRODUCT	4	0.00	300.00	1200.00
					GRAND TOTAL	

THIS ORDER IS ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE

SHIP TO: IRCON, INC.
7300 N. NATCHEZ AVE.
NILES, IL 60714 USA

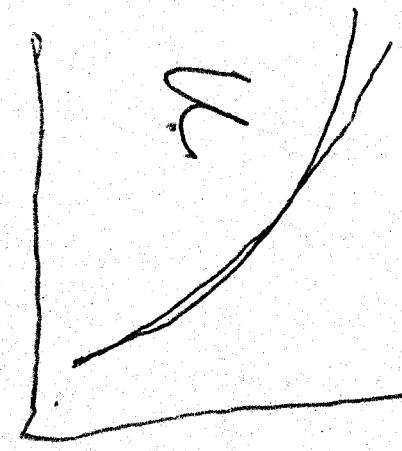
IF TAX EXEMPT, PLEASE PROVIDE COPY OF EXEMPTION OR DIRECT PAYMENT CERTIFICATE.

"A" Sensor

	Iout	Vou
1.158		
1100°C	1.250mA	10m
1400°C	8.560μA	8.5

Spec. R732

1100°C	1.050	8.
1400°C	8.56 (set)	8.



"A" Sensor

	Iout	8K Vout
1.158		
1100°C	1.250mA	10mV
1400°C	8.560μA	[redacted]

Spec. R732

1100°C	1.050 [redacted]	8.4mV [redacted]
1400°C	8.5C (set)	[redacted]