

DATE: 01-29-1999
REV. : A
W.O. No: 67069
CUSTOMER: IRCON GmbH
LOCATION: TAUNUSSTEIN
LOCATION: GERMANY

INFRARAIL SPECIAL NUMBER R723

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE FIBER OPTIC IFRARAIL SYSTEM WITH A SPECIAL OPTICAL RESOLUTION OF D/100.

MODEL: DNF99-99C
RANGE: 950 - 1350 DEG. C
OPTICAL RESOLUTION: D/100
FIBER OPTIC: 10 FEET

GENERALITY OF APPLICATION AND RESTRICTIONS:

DUE TO THE LOW ZERO SCALE SIGNAL CURRENTS, THE FOLLOWING RESTRICTIONS APPLY:

1. THE SENSOR AMBIENT TEMPERATURE IS RESTRICTED TO A MAXIMUM OF 150 DEG. F (66 DEG. C).
2. ZERO SCALE EMISSIVITY SETTING IS RESTRICTED TO A MINIMUM OF 0.05.

UNRESTRICTED, SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: Ami DONADO DATE: 01-29-99
AMI DONADO

APPROVED BY: Ami DONADO DATE: 01-29-99

INFRARAIL SPECIAL NUMBER R723 CONTINUED,

PRODUCTION INSTRUCTIONS:

BUILD THE FIBER OPTIC SENSOR PER STANDARD MODEL DNFFB-16C.

BUILD STANDARD FIBER OPTIC CABLE ASSEMBLY No. L120FA5 , 10 FEET.

BUILD THE STANDARD REIMAGING LENS ASSEMBLY L12002 BUT INSTALL FIELD STOP PART NUMBER 45342-3, (0.024 DIA., D/100) IN PLACE OF STANDARD ONE.

START WITH A MODEL DNFFB-16C ELECTRONIC MODULE AND BUILD THE M1 LINEARIZER MODULE PER BILL OF MATERIAL ON PAGE 3.

CALIBRATION INSTRUCTIONS:

CALIBRATE PER STANDARD PROCEDURE.

SET Iout Head Zero Scale (950 deg. C) = 0.0613 uA

SET Iout Head Full Scale (1350 deg. C) = 1.5460 uA

USE TABLE ON PAGE 4 FOR FINAL CALIBRATION.

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL PAGE.

INFRARAIL SPECIAL NUMBER R723 CONTINUED,

BILL OF MATERIAL

MODULE M1 REFERENCE DRAWING No. C11194

SYMBOL	PART NO.	DESCRIPTION			
R1	102104011	RESISTOR	2.10 Mohm	METAL FILM 1/4W 1%	
R44	101872011	RESISTOR	18.7 Kohm	METAL FILM 1/4W 1%	
R54	101543011	RESISTOR	154 Kohm	METAL FILM 1/4W 1%	
R45	101022011	RESISTOR	10.2 Kohm	METAL FILM 1/4W 1%	
R55	104642011	RESISTOR	46.4 Kohm	METAL FILM 1/4W 1%	
R46	108251011	RESISTOR	8.25 Kohm	METAL FILM 1/4W 1%	
R56	106192011	RESISTOR	61.9 Kohm	METAL FILM 1/4W 1%	
R47	106341011	RESISTOR	6.34 Kohm	METAL FILM 1/4W 1%	
R57	108662011	RESISTOR	86.6 Kohm	METAL FILM 1/4W 1%	
R48	104991011	RESISTOR	4.99 Kohm	METAL FILM 1/4W 1%	
R58	101183011	RESISTOR	118 Kohm	METAL FILM 1/4W 1%	
R49	103651011	RESISTOR	3.65 Kohm	METAL FILM 1/4W 1%	
R59	101653011	RESISTOR	165 Kohm	METAL FILM 1/4W 1%	
R50	102741011	RESISTOR	2.74 Kohm	METAL FILM 1/4W 1%	
R60	102323011	RESISTOR	232 Kohm	METAL FILM 1/4W 1%	
R51	101961011	RESISTOR	1.96 Kohm	METAL FILM 1/4W 1%	
R61	103243011	RESISTOR	324 Kohm	METAL FILM 1/4W 1%	
R52	101401011	RESISTOR	1.40 Kohm	METAL FILM 1/4W 1%	
R53	103011011	RESISTOR	3.01 Kohm	METAL FILM 1/4W 1%	
R62	104643011	RESISTOR	464 Kohm	METAL FILM 1/4W 1%	

INFRARAIL SPECIAL NUMBER R723 CONTINUED,TEMPERATURE RANGE: 950 TO 1350 DEGREES C
SPECTRUM: 0.70 TO 1.00 MICRONS

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT IN mAMPS
950	0.0613	4.000
975	0.0794	5.000
1000	0.1020	6.000
1025	0.1297	7.000
1050	0.1635	8.000
1075	0.2045	9.000
1100	0.2538	10.000
1125	0.3126	11.000
1150	0.3824	12.000
1175	0.4646	13.000
1200	0.6510	14.000
1225	0.6732	15.000
1250	0.8034	16.000
1275	0.9534	17.000
1300	1.1256	18.000
1325	1.3223	19.000
1350	1.5460	20.000

1150.0	5.2143	8.000
1165.0	5.6995	9.000
1180.0	6.2628	10.000
1195.0	6.9207	11.000
1210.0	7.7031	12.000
1225.0	8.6089	13.000
1250.0	9.6586	14.000
1275.0	10.8692	15.000
1300.0	12.2504	16.000
1325.0	13.8453	17.000
1350.0	15.6801	18.000
1375.0	17.8942	19.000
1400.0	20.0000	20.000

PROGRAM "INFRAIL".BAS IN SPECIALS DIRECT

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REV1

INFRARAIL SPECIAL NUMBER
TEMPERATURE RANGE: 950 TO 1350 DEGREES C.
SPECTRUM: 0.70 TO 1.00 MICRONS

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
950.0	0.0613	4.000
975.0	0.0794	5.000
1000.0	0.1020	6.000
1025.0	0.1297	7.000
1050.0	0.1635	8.000
1075.0	0.2045	9.000
1100.0	0.2538	10.000
1125.0	0.3126	11.000
1150.0	0.3824	12.000
1175.0	0.4646	13.000
1200.0	0.5610	14.000
1225.0	0.6732	15.000
1250.0	0.8034	16.000
1275.0	0.9534	17.000
1300.0	1.1256	18.000
1325.0	1.3223	19.000
1350.0	1.5460	20.000

PAGE 4 OF 4
REV1

INFRARAIL SPECIAL NUMBER
TEMPERATURE RANGE: 1000 TO 1400 DEGREES C
SPECTRUM: 0.70 TO 1.00 MICRONS

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
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The signal span is 25 / 100
 The full scale is 1.546 uamps
 The zero scale is 61.291 uamps
 The zero scale (with a 0.1 uamps
 The probe diameter = 0.024 inch dia.
 The probe length is 1.00 inch
 The probe diameter is 0.024 inch dia.

analysis of special temperature range:

Signal span = 25 / 100

Full scale = 1.546 uamps

Zero scale = 61.291 uamps

Zero scale (with a 0.1 uamps

probe diameter = 0.024 inch dia.

Due to the low Zero Scale Signal Currents, the following
 correction will apply to this special temperature range:

Signal span = 25 / 100

Full scale = 1.546 uamps

Zero scale = 61.291 uamps

Zero scale (with a 0.1 uamps

probe diameter = 0.024 inch dia.

PAGE 1 OF 4
DATE :01-29-1999
REVISION:A
W.O.NO :
CUSTOMER:
LOCATION:

INFRARAIL SPECIAL NUMBER R723

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

MODEL: DNS10-99
RANGE: 950 - 1350 DEG. C
OPTICAL RESOLUTION: D/100

GENERALITY OF APPLICATION AND RESTRICTIONS:

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: _____

APPROVED BY: _____

DATE: _____

INFRARAIL SPECIAL NUMBER R723 CONTINUED,

BILL OF MATERIAL

MODULE M1 REFERENCE: DWG.NO.C11194

SYMBOL	PART NO.	DESCRIPTION			
R1	102104011	RESISTOR	2.10 Mohm	METAL FILM 1/4W 1%	
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R62	104643011	RESISTOR	464 Kohm	METAL FILM 1/4W 1%	

INFRARAIL SPECIAL NUMBER R723 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNS10-13C SENSING HEAD AND MAKE THE FOLLOWING CHANGES:

INSTALL THE M1 MODULE PER BILL OF MATERIAL PER PAGE 3.

CALIBRATION INSTRUCTIONS:

CALIBRATE AS PER STANDARD.

ADJUST FULL SCALE CURRENT TO: 1.546 uA.

REFERENCE ZERO SCALE CURRENT TO: 0.061 uA.

MANUAL INSTRUCTIONS:

GENERIC S SERIES INFRARAIL PYROMETER.

INFRARAIL SPECIAL NUMBER R723
TEMPERATURE RANGE: 950 TO 1350 DEGREES C
SPECTRUM: 0.70 TO 1.00 MICRONS

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
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1125.0	0.3126	11.000
1150.0	0.3824	12.000
1175.0	0.4646	13.000
1200.0	0.5610	14.000
1225.0	0.6732	15.000
1250.0	0.8034	16.000
1275.0	0.9534	17.000
1300.0	1.1256	18.000
1325.0	1.3223	19.000
1350.0	1.5460	20.000