

DATE: 02-16-2001

REV. : B

W.O. No:

CUSTOMER: IRCON GmbH

LOCATION: TAUNUSSTEIN

LOCATION: GERMANY

INFRARAIL SPECIAL NUMBER R728

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE "S" SERIES INFRARAIL PYROMETER WITH A SPECIAL FAULT CONDITION INDICATOR THAT WARNS THE USER WHEN THE CABLE IS DISCONNECTED.

MODEL: DNS05-99C
RANGE: 350 - 830 DEG. C
OPTICAL RESOLUTION: D/50
SPECTRUM: 1.49 - 1.60 MICRON

GENERALITY OF APPLICATION AND RESTRICTIONS:

THE FOLLOWING RESTRICTIONS ARE APPLICABLE TO THIS SPECIAL:

1. DUE TO THE WIDE SIGNAL SPAN OF THIS INSTRUMENT, **ACCURACY SPECIFICATIONS ARE 1% OF FULL SCALE TEMPERATURE.** THIS IS IN LIEU OF THE STANDARD SPECIFICATION OF 0.75%.
2. AMBIENT TEMPERATURE IS RESTRICTED TO A RANGE OF 0 TO 65 DEGREES C.
3. EMISSIVITY IS RESTRICTED TO A MINIMUM OF 0.5 FOR TEMPERATURES 350 TO 370 DEGREES C.
4. THE SENSOR INTERCONNECTING CABLE LENGTH IS RESTRICTED TO A MAXIMUM OF 250 FT (76 mt).

UNRESTRICTED, SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: Ami DONADO DATE: 2-16-2001
AMI DONADO

APPROVED BY: Ami DONADO DATE: 2-16-2001

INFRARAIL SPECIAL NUMBER R728 CONTINUED,

PRODUCTION INSTRUCTIONS:

BUILD STANDARD MODEL SENSOR DNS05-08C.

START WITH A MODEL DNS05-08C ELECTRONIC MODULE AND BUILD THE M1 LINEARIZER MODULE PER BILL OF MATERIAL ON PAGE 3.

CALIBRATION INSTRUCTIONS:

PRE-CAL: DO THE COMPUTERIZED LINEARIZER TEST PER STANDARD PROCEDURE.

FINAL-CAL:

!!! NOTE !!! CALIBRATION MUST MAKE THE MODIFICATIONS TO THE ELECTRONIC MODULE FOR THE SPECIAL FAULT CONDITION INDICATION OPTION INCLUDED WITH THIS INSTRUMENT. THE MODIFICATIONS MUST BE COMPLETED BEFORE FINAL CALIBRATION IS DONE. **FOLLOW THE INSTRUCTIONS ON PAGE 5 ATTACHED.**

DO FINAL CALIBRATION PER STANDARD PROCEDURE.

REFER TO CURRENT OUTPUT TABLE ON PAGE 4 FOR FINAL CALIBRATION.

ACCURACY SPECIFICATION CHANGE:

ALLOW 0.6% OF FULL SCALE FOR LINEARIZER AND 1.0% FOR COMPLETE SYSTEM ACCURACY.

TEST THE FAULT INDICATION FEATURE BY DISCONNECTING THE INTERCONNECTING CABLE FROM THE SENSOR WHILE FOCUSED ON A BLACK BODY. WHEN THIS IS DONE, THE ELECTRONIC MODULE OUTPUT SHOULD CLIMB TO 20.000 MA OR HIGHER. THIS PROVIDES THE CUSTOMER WITH CABLE BREAK WARNING.

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL "S" SERIES MANUAL PAGE.

NOTE: THIS SPECIAL COMBINES SPECIALS R612 AND R200. REFER TO THOSE FOR THE MANUAL PAGE. INCLUDE ALL RESTRICTIONS LISTED ON PAGE 1 OF THESE PAGES.

INFRARAIL SPECIAL NUMBER R728 CONTINUED,**BILL OF MATERIAL**

MODULE M1 REFERENCE DRAWING No. C11194

SYMBOL	PART NO.	DESCRIPTION			
R1	103653011	RESISTOR	365 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	101622011	RESISTOR	16.2 Kohm	METAL FILM 1/4W 1%	
R55	106342011	RESISTOR	63.4 Kohm	METAL FILM 1/4W 1%	
R46	101022011	RESISTOR	10.2 Kohm	METAL FILM 1/4W 1%	
R56	101103011	RESISTOR	110 Kohm	METAL FILM 1/4W 1%	
R47	106041011	RESISTOR	6.04 Kohm	METAL FILM 1/4W 1%	
R57	101963011	RESISTOR	196 Kohm	METAL FILM 1/4W 1%	
R48	103401011	RESISTOR	3.40 Kohm	METAL FILM 1/4W 1%	
R58	103743011	RESISTOR	374 Kohm	METAL FILM 1/4W 1%	
R49	101821011	RESISTOR	1.82 Kohm	METAL FILM 1/4W 1%	
R59	107153011	RESISTOR	715 Kohm	METAL FILM 1/4W 1%	
R50	109090011	RESISTOR	931 Ohm	METAL FILM 1/4W 1%	
R60	101504011	RESISTOR	1.50 Mohm	METAL FILM 1/4W 1%	
R51	104320011	RESISTOR	453 Ohm	METAL FILM 1/4W 1%	
R61	103404011	RESISTOR	3.40 Mohm	METAL FILM 1/4W 1%	
R52	102100011	RESISTOR	210 Ohm	METAL FILM 1/4W 1%	
R53	101580011	RESISTOR	158 Ohm	METAL FILM 1/4W 1%	
R62	106654011	RESISTOR	6.65 Mohm	METAL FILM 1/4W 1%	

INFRARAIL SPECIAL NUMBER R728 CONTINUED,

TEMPERATURE RANGE: 350 TO 830 DEGREES C
SPECTRUM: 1.49 TO 1.60 MICRONS

TEMPERATURE DEGREES C	SENSOR OUTPUT IN nAMPS	INDICATOR OUTPUT IN mAMPS
350	13.4955	4.000
370	21.4426	4.667
390	33.1339	5.333
410	49.9152	6.000
430	73.4679	6.667
450	105.8528	7.333
470	149.5520	8.000
490	207.5083	8.667
510	283.1602	9.333
530	380.4715	10.000
550	503.9565	10.667
570	658.6984	11.333
590	850.3614	12.000
610	1085.1975	12.667
630	1370.0428	13.333
650	1712.3143	14.000
670	2119.9954	14.667
690	2601.6155	15.333
710	3166.2297	16.000
730	3823.3882	16.667
750	4583.1030	17.333
770	5455.8198	18.000
790	6452.3706	18.667
810	7583.9351	19.333
830	8862.0000	20.000

FAULT INDICATION MODIFICATIONS SPECIAL R728

REMOVE JUMBER JP1
ON COMPONENT SIDE

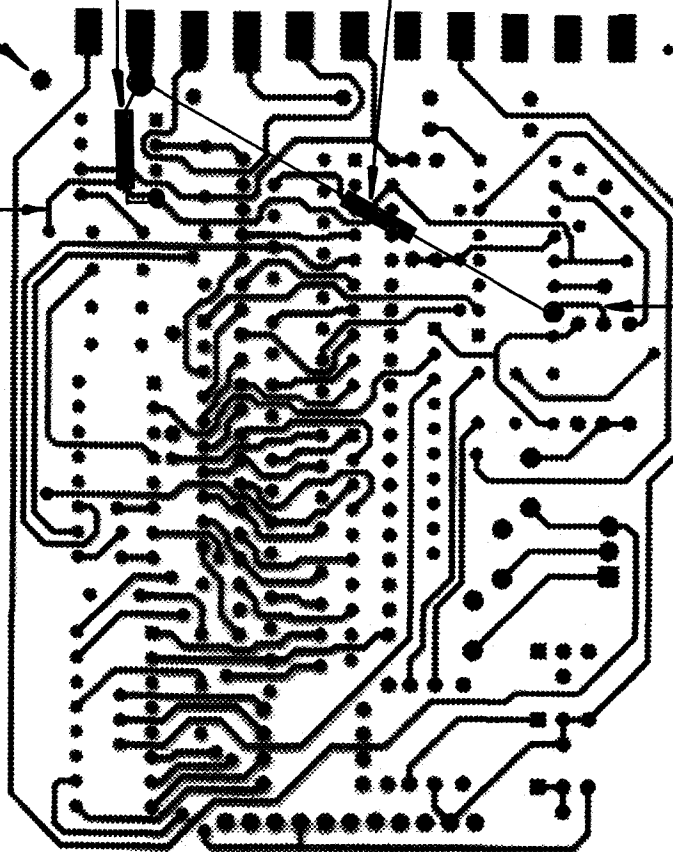
ADD RESISTOR 24.9 Kohm

ADD RESISTOR 274 Kohm

REFERENCE
FOIL

REFERENCE
FOIL

NOTE:
ADD SHRINK
TUBING TO 274K
RESISTOR AND
REMOVE LEADS
FROM BOARD
TO PREVENT
SHORTS AND
INTERFERENCE



FOIL SIDE, PCB P.N. 50249-3

SEE REV B.
AD 2-16-2001

PAGE 1 OF 4

DATE: 08-23-99

REV.: A

W.O. No:

CUSTOMER: IRCON GmBH

LOCATION: TAUNUSSTEIN

LOCATION: GERMANY

INFRARAIL SPECIAL NUMBER R728

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE "S" SERIES IFRARAIL PYROMETER WITH A SPECIAL FAULT CONDITION INDICATOR THAT WARNS THE USER WHEN THE CABLE IS DICONNECTED.

MODEL: DNS05-99C
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GENERALITY OF APPLICATION AND RESTRICTIONS:

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WRITTEN BY: Ami DONADO DATE: 8-23-99
AMI DONADO

APPROVED BY: Ami DONADO DATE: 8-23-99

INFRARAIL SPECIAL NUMBER R728 CONTINUED,

PRODUCTION INSTRUCTIONS:

BUILD STANDARD MODEL SENSOR DNS05-08C.

START WITH A MODEL DNS05-08C ELECTRONIC MODULE AND BUILD THE M1 LINEARIZER MODULE PER BILL OF MATERIAL ON PAGE 3.

WHEN DONE, DELIVER THE ELECTRONIC MODULE TO ENGINEERING FOR MODIFICATIONS.

CALIBRATION INSTRUCTIONS:

CALIBRATE PER STANDARD PROCEDURE.

ACCURACY SPECIFICATION CHANGE:

ALLOW 0.6% OF FULL SCALE FOR LINEARIZER AND 1.0% FOR COMPLETE SYSTEM ACCURACY.

REFER TO CURRENT OUTPUT TABLE ON PAGE 4 FOR FINAL CALIBRATION.

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL "S" SERIES MANUAL PAGE.

NOTE: THIS SPECIAL COMBINES SPECIALS R612 AND R200. REFER TO THOSE FOR THE MANUAL PAGE. INCLUDE ALL RESTRICTIONS LISTED ON PAGE 1 OF THESE PAGES.

INFRARAIL SPECIAL NUMBER R728 CONTINUED,

BILL OF MATERIAL

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INFRARAIL SPECIAL NUMBER R728 CONTINUED,

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770	5455.8198	18.000
790	6452.3706	18.667
810	7583.9351	19.333
830	8862.0000	20.000

Acknowledgment



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

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

SOLD TO _____ CUSTOMER NO. 003131

CERRO METAL PRODUCTS
P.O. BOX 388
BELLEFONTE, PA 16823

SHIPPING ADDRESS _____ TAX CODE NO TAX

CERRO METAL PRODUCTS
ROUTE 144
BELLEFONTE, PA 16823

REQUEST DATE (MM-DD-YY) 12-31-03 PROMISE DATE (MM-DD-YY) 12-31-03
OUR ORDER NO. 84220 ORDER DATE (MM-DD-YY) 12-15-03
YOUR ORDER NO. 354012
TERMS 0.00/0/30
QUOTE # _____
F.O.B. ORIGIN
CODE 1175 (100.00)
VIA UPS
SPECIAL SHIPPING INSTRUCTIONS _____

gac

LI	PART NO.	DESCRIPTION	QTY	DSCNT %	UNIT PRICE	AMOUNT
1	DN#19244 <i>w.o. #15176</i>	DN_DNS05-08C IRCON INFRARAIL IRT SYSTEM-COMLETE Consists of the following: 1.0000 - INFRARAIL 1.0000 - DN - S SERIES 1.0000 - P1-LENS (L12021) 1.0000 - Std Cbl Lgth 12ft 1.0000 - D/50 1.0000 - 375 TO 800C DN_DNS05-08C	2	0.00	2290.00	4580.00
						GRAND TOTAL
THIS ORDER IS ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE						USD4,580.00

Handwritten notes:
Reels 2 pos. No R728
Temp Range 350-830C
+ Cable Break alarm
RD
12/15

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

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



IRCON, INC.
7300 North Natchez Avenue
Niles, Illinois 60714 USA

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

ISO 9001/QS 9000 TE
Quality Systems Certified

Modified Standard Product
Data Form

A modified standard product is a product that is based on a standard product found in the most recent price list. The modifications maybe items such as; temperature ranges, output types, resolution, response time and optical issues. A modified standard product form is to be completed and submitted to Steve Schumm and Gene Kalley for review and approval based on the modification (which we have done before). If the modification has not been done before, the approval will require the entire senior management team's approval BEFORE QUOTING. A modified standard product if approved; this product will become a price listed standard product. We can then pay commission as outlined in our most recent contract.

- Standard Product is a Model Number: DN505-08C
 - Standard Product List Price: \$ 1890
 - The product change requested would be: Photo R728
350-8700/cable Brk *Sales will attach specifics to this form.*
 - The market is willing to pay \$2290 for this product (total including standard price).
 - What is engineering's expected time investment and cost: 1 hour Man Days
\$ 100.00
 - What is production's expected purchasing and production time requirement: _____ Days
 - This new product has potential in the following application and estimated potential per year would be _____ per year:
-
- This product will be not be _____ quoted and produced as previously outlined.
 - Agreed on this date of _____ By production/purchasing _____
By engineering A DONADO 12/16/03
 - Sales can now quote this project for \$ _____ per unit. W.O.# 15176
_____ lead time.

____ Add to standard product list in literature (Maxine)
____ Add to price list (Vern)
cc/ Greg P, Paul V, Regional Sales Staff Globally

u.o.# 15176

Number :DN#19244 - IRCON INFRARAIL IRT SO-LI: 84220*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
1	DN0DNS	DN PRICES	1.0000	EA		M P				
1	NL12021	NEW 'N'# FOR L12021	1.0000	EA		M P				
2	L12021	P1 LENS ASSEMBLY	1.0000	EA		M P				
3	441543	LENS TUBE HSG FINISHED P	1.0000	EA		B	4905	05-14-2003		
3	431992	O RING 1 1/16 ID X 1/16 T	1.0000	EA		B				
3	610232	LENS ELEMENT TYPE P1	1.0000	EA		B				
3	442682	RETAINER RING OBJECTIVE L	1.0000	EA		B				
3	L12021/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
1	C11197	SH FINAL ASSY (STD) (S-SER	1.0000	EA		M P				
2	A10116	LENS ASSEMBLY - "P" SERIE	1.0000	EA		M P	3781	10-08-1996		
3	T-A10116-1	SELECT "P" TYPE LENS	0.0000	EA		B	4022	10-01-1997		
3	LENS	UNDEFINED	1.0000	EA		M P	4022	10-01-1997		
2	T-C11197-2	SELECT SH REAR PLT OPTICA	0.0000	EA		B	3781	10-08-1996		
2	477252	LABEL-CAL. VOID TAMPERPRO	1.0000	EA		B	3781	10-08-1996		
2	477042	SERIAL PLATE LR-SENSOR	1.0000	EA		B	3781	10-08-1996		
2	433322	GASKET S/N PLATE LR-SERIE	1.0000	EA		B	3781	10-08-1996		
2	452932	SCREW #06-32 X 1/4" PH T	4.0000	EA		B	3781	10-08-1996		
2	C10288	SH HOUSING ASSY (STD) (1	1.0000	EA		M P	3781	10-08-1996		
3	442103	SH ENCLOSURE MACHINED	1.0000	EA		M X	2530	07-11-1991		
4	442102	SH ENCLOSURE RAW	1.0000	EA		B				
3	433442	EMI GASKET, FOR ROUND S.H	1.0000	EA		B	2530	07-11-1991		
3	20100874F	SCREW #10-32 X 1/4 SOCKET	1.0000	EA		B	2530	07-11-1991		
3	20100874G	SCREW #10-32 X 1/4 SLOTTE	1.0000	EA		B	2530	07-11-1991		
3	433222	GASKET OBJECTIVE LENS WIN	1.0000	EA		B	2530	07-11-1991		
3	620102	OBJECTIVE WINDOW MODLINE	1.0000	EA		B	2530	07-11-1991		
3	433212	GASKET OBJECTIVE APERTURE	1.0000	EA		B	2530	07-11-1991		
3	200612330	SCREW #6-32 X 3/8 PH SLOT	2.0000	EA		B	2530	07-11-1991		
3	T-C10288-1	2000 - OBJ. APERT.	0.0000	EA		B	2530	07-11-1991		
3	T-C10288-2	MR20 - CAL. FLAG ASSEMBLY	0.0000	EA		B	2530	07-11-1991		
3	T-C10288-3	DNS - OBJ. APERTURE	0.0000	EA		B	2530	07-11-1991		
3	T-C10288-4	1100 - OBJ. APERTURE	0.0000	EA		B				
3	990100028	SEALANT RTV SILICONE BLAC	1.0000	EA		B	2530	07-11-1991		
2	200820030	SCREW #8-32 X 5/8 PH SLOT	1.0000	EA		B	3781	10-08-1996		
2	220802030	WASHER #8 LOCK EXT TOOTH	1.0000	EA		B	3781	10-08-1996		
2	200616440	SCREW #6-32 X 1/2 FIL SLO	4.0000	EA		B	3781	10-08-1996		
2	T-C11197-1	DETERMINE IF CABLE IS REQ	0.0000	EA		B	3781	10-08-1996		
1	D11196	PVC INTERCONNECT CABLE AS	1.0000	EA		M P				
2	560052	CABLE PVC 2 COND 1100/200	1.0000	FT		B	3913	04-02-1997		
2	D11196/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	D11196/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	D11196/03	SEE EXTENDED DESCRIPTION	8.0000	EA		M				
2	575932	CONN. CIRC 10SL-3 BACKSHE	1.0000	EA		B	3913	04-02-1997		
2	3210G00X0	TUBING #10 PVC CLEAR	3.0000	IN		B	3913	04-02-1997		
2	3212G00X0	TUBING #12 PVC CLEAR	1.0000	IN		B	3913	04-02-1997		
2	575902	CONN. CIRC 10SL-3 STR PLU	1.0000	EA		B	3913	04-02-1997		
2	3216I1400	TUBING 1/4" SHRINKABLE BL	1.0000	IN		B	3913	04-02-1997		
2	990100027	ADHESIVE LOCTITE 272	1.0000	EA		B	3913	04-02-1997		
2	C-CABLE	DETERMINE CABLE LENGTH FR	1.0000	EA		M P	3913	04-02-1997		
2	477202	LABEL INFRARAIL (2.0" X 0	1.0000	EA		B	3913	04-02-1997		
1	U-D11196-C	12 FEET OF CABLE	1.0000	EA		M P				
2	560052	CABLE PVC 2 COND 1100/200	12.0000	FT		B				
1	U-M1-R612	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P				
2	103653011	RES. 365K OHM MF 1/4W 1%	1.0000	EA		B				
2	101872011	RES. 18.7K OHM MF 1/4W 1%	1.0000	EA		B				
2	101103011	RES. 110K OHM MF 1/4W 1%	2.0000	EA		B				
2	101622011	RES. 16.2K OHM MF 1/4W 1%	1.0000	EA		B				
2	106342011	RES. 63.4K OHM MF 1/4W 1%	1.0000	EA		B				
2	101022011	RES. 10.2K OHM MF 1/4W 1%	1.0000	EA		B				
2	106041011	RES. 6.04K OHM MF 1/4W 1%	1.0000	EA		B				
2	101963011	RES. 196K OHM MF 1/4W 1%	1.0000	EA		B				
2	103401011	RES. 3.40K OHM MF 1/4W 1%	1.0000	EA		B				
2	103743011	RES. 374K OHM MF 1/4W 1%	1.0000	EA		B				
2	101821011	RES. 1.82K OHM MF 1/4W 1%	1.0000	EA		B				
2	107153011	RES. 715K OHM MF 1/4W 1%	1.0000	EA		B				
2	109310011	RES. 931 OHM MF 1/4W 1%	1.0000	EA		B				
2	101504011	RES. 1.50M OHM MF 1/4W 1%	1.0000	EA		B				
2	104530011	RES. 453 OHM MF 1/4W 1%	1.0000	EA		B				
2	103404011	RES. 3.40M OHM MF 1/4W 1%	1.0000	EA		B				

OK

R728

Number :DN#19244 - IRCON INFRARAIL IRT SO-LI: 84220*1

Level	Part Number	Description	Quantity	UM	Alt	MB	X	ECO No.	ECO Date	Start Use	End Use
2	102100011	RES. 210 OHM MF 1/4W 1%	1.0000	EA		B					
2	101580011	RES. 158 OHM MF 1/4W 1%	1.0000	EA		B					
2	106654011	RES. 6.65M OHM MF 1/4W 1%	1.0000	EA		B					
1	U-C10288-1	OBJECTIVE APERTURE	1.0000	EA		M	P				
2	441532	OBJECTIVE APERTURE 6000 S	1.0000	EA		B					
1	C11203	SH REAR PLT (OPTICAL) ASS	1.0000	EA		M	P				
2	C11204	SH REAR PLT BASIC MECH/ W	1.0000	EA		M	P	3646	02-28-1996		
3	442913	REAR PLATE SH FINISHED 11	1.0000	EA		M	X	3682	06-10-1996		
4	442912	REAR PLATE SH RAW 1100 SE	1.0000	EA		B					
3	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B		3682	06-10-1996		
3	575892	CONN. CIRC 3 RECTP 10SL-3	1.0000	EA		B		3682	06-10-1996		
3	220403030	WASHER #4 LOCK SPLIT RING	4.0000	EA		B		3682	06-10-1996		
3	200412040	SCREW #4-40 X 3/8 PH SLOT	3.0000	EA		B		3682	06-10-1996		
3	570892	CAP W/CHAIN EYE LENS COVE	1.0000	EA		B		3682	06-10-1996		
3	200416031	SCREW #4-40 X 1/2 PH SLOT	1.0000	EA		B		3682	06-10-1996		
3	474772	LABEL GROUND WARNING	1.0000	EA		B		3682	06-10-1996		
3	330000005	CABLE MOUNT BASE #8 SCREW	1.0000	EA		B		3682	06-10-1996		
3	200612140	SCREW #6-32 X 3/8 BH SLOT	1.0000	EA		B		3682	06-10-1996		
3	220601030	WASHER #6 LOCK INT TOOTH	3.0000	EA		B		3682	06-10-1996		
3	T-C11204-1	SELECT DET. MOUNTING BLK	0.0000	EA		B		3682	06-10-1996		
3	200616140	SCREW #6-32 X 1/2 BH SLOT	2.0000	EA		B		3682	06-10-1996		
3	220600030	WASHER #6 FLAT 3/8OD	2.0000	EA		B		3682	06-10-1996		
3	T-C11204-2	SELECT DETECTOR ASSY (S-S	0.0000	EA		B		3682	06-10-1996		
3	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B		3682	06-10-1996		
3	330000001	TYWRAP SMALL	1.0000	EA		B		3682	06-10-1996		
2	T-C11203-1	SELECT RETICLE (1.6 MICRO	0.0000	EA		B		3646	02-28-1996		
2	431312	LENS RETICLE SPACER 6	1.0000	EA		B		3646	02-28-1996		
2	432652	O RING .75ID X .875OD #18	1.0000	EA		B		3646	02-28-1996		
2	610132	FIELD LENS ALL M1 SERIES	1.0000	EA		B		3646	02-28-1996		
2	450022	RETAINING RING FIELD LENS	1.0000	EA		B		3646	02-28-1996		
2	B11131	FOLDING MIRROR ASSY (1.6	1.0000	EA		M	P	3646	02-28-1996		
3	L13005	FOLDING MIRROR 1.6 MICRON	1.0000	EA		M	P				
4	441522	FOLDING MIRROR PLATE 6000	1.0000	EA		B					
4	630132	MIRROR, DICHROIC 1.6 MICR	1.0000	EA		B					
4	990100002	EPOXY HARDMAN #4005 GEN P	1.0000	EA		B					
3	T-B11131-X	FLOW TAG TEXT	0.0000	EA		B					
2	20061293P	SCREW #6-32 X 3/8 PH PHL	2.0000	EA		B		3646	02-28-1996		
2	610262	EYE LENS 2000/6000 SERIES	1.0000	EA		B		3646	02-28-1996		
2	410242	RETAINING RING 0.482 X 0.	1.0000	EA		B		3646	02-28-1996		
2	990100002	EPOXY HARDMAN #4005 GEN P	1.0000	EA		B		3646	02-28-1996		
2	990100001	ADHESIVE LOCTITE 222	1.0000	EA		B		3646	02-28-1996		
2	640552	FILTER, BANDPASS	1.0000	EA		B		3646	02-28-1996		
2	431342	DET. RETAINER TO-5	1.0000	EA		B		3646	02-28-1996		
2	990100039	ADHESIVE LORD 310 A/B		AR		B					
1	U-66014-2	RET. D/50 0.056" DIA	1.0000	EA		M	P				
2	660142	RETICLE X056	1.0000	EA		B					
1	U-C11124-5	SH DETECTOR MTG. BLK. ASS	1.0000	EA		M	P				
2	442122	DET. MOUNTING BLOCK M	1.0000	EA		B		3646	02-28-1996		
2	433152	HOLDER DET, FILTER & STOP	1.0000	EA		B		3646	02-28-1996		
2	446793	FIELD STOP .055	1.0000	EA		B		3646	02-28-1996		
2	990100002	EPOXY HARDMAN #4005 GEN P	1.0000	EA		B		3646	02-28-1996		
2	200404130	SCREW #4-40 X 1/8 BH SLOT	1.0000	EA		B		3646	02-28-1996		
2	433162	O RING .319ID X .028W 70	1.0000	EA		B		3646	02-28-1996		
2	451372	CAL SCREW 1100/2000 SERIE	1.0000	EA		B		3646	02-28-1996		
1	D11191	INFRARAIL BOX ASSEMBLY	1.0000	EA		M	P				
2	433332	ENCLOSURE, DIN BOX, MODIF	1.0000	EA		B		3671	04-08-1996		
2	C11187	POWER SUPPLY/ PEAK-PICKER	1.0000	EA		M	P	3671	04-08-1996		
3	C20212	SCHEMATIC: POWER SUPPLY/	1.0000	EA		M	P	4202	01-14-1999		
3	LDN200	PWR SUPPLY/ PP PCB ASSY	1.0000	EA		M	P	4202	01-14-1999		
4	502505	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B		3769	08-05-1996		
4	LDN200/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M	P				
4	533082	TRAN. MJE800 NPN - DARLIN	1.0000	EA		B		3769	08-05-1996		
4	LDN200/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M	P				
4	LDN200/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M	P				
4	530882	DIODE 1N4002 GP RECTIFIER	1.0000	EA		B		3769	08-05-1996		
4	532952	OP-AMP ULTRA LOW BIAS	2.0000	EA		B		3769	08-05-1996		
4	532322	IC 4053B ANALOG MUX/DEMUX	1.0000	EA		B		4842	07-31-2002		
4	531862	OP-AMP LM346N PROGRAM QUA	1.0000	EA		B		3769	08-05-1996		

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Level	Part Number	Description	Quantity	UM	Alt	MB	X	ECO No.	ECO Date	Start Use	End Use
4	102493011	RES. 249K OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	101820011	RES. 182 OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	104421011	RES. 4.42K OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	106654011	RES. 6.65M OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	104993011	RES. 499K OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	104021011	RES. 4.02K OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	105364011	RES. 5.36M OHM MF 1/4W 1%	2.0000	EA		B		3769	08-05-1996		
4	103480011	RES. 348 OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	100000990	JUMPER DUMMY RESISTOR	5.0000	EA		B		3769	08-05-1996		
4	101000011	RES. 100 OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	101004011	RES. 1.00M OHM MF 1/4W 1%	4.0000	EA		B		3769	08-05-1996		
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B		3769	08-05-1996		
4	104991011	RES. 4.99K OHM MF 1/4W 1%	1.0000	EA		B		3769	08-05-1996		
4	101503011	RES. 150K OHM MF 1/4W 1%	1.0000	EA		B					
4	530572	DIODE 1N4446 SWITCHING	2.0000	EA		B		4906	05-19-2003		
4	530532	DIODE FD300 GENERAL PURPO	1.0000	EA		B		3769	08-05-1996		
4	521852	CAP. 0.68 MFD 50V CERAMIC	1.0000	EA		B		3769	08-05-1996		
4	521972	CAP. .047 MFD 50V CER X7	1.0000	EA		B		3769	08-05-1996		
4	521072	CAP. 22MFD 16V TANT 10%	2.0000	EA		B		3769	08-05-1996		
4	551122	CHOKE 9250-122 1.2 UH, .1	2.0000	EA		B		3769	08-05-1996		
4	521902	CAP. NPO 1000pf 200V .2LS	1.0000	EA		B		3769	08-05-1996		
4	521862	CAP. 3.3 MFD 50V CERAMC X	1.0000	EA		B		3769	08-05-1996		
4	521872	CAP. 1.0 MFD 50V CERAMIC	5.0000	EA		B		3769	08-05-1996		
4	522002	CAP. .01 MFD 200V CERAMIC	6.0000	EA		B		3769	08-05-1996		
4	531892	REG. LM317LZ +1.2/37V ADJ	1.0000	EA		B		3769	08-05-1996		
4	431902	BIVAR PERMO PAD 0.250 DIA	1.0000	EA		B		3769	08-05-1996		
4	530862	TRAN. 2N2222A NPN MED POW	1.0000	EA		B		3769	08-05-1996		
4	551152	INDUCTOR 100UH +/-10% IMS	2.0000	EA		B		3769	08-05-1996		
4	531882	DIODE LM385BZ-2.5 2.5V RE	6.0000	EA		B		3769	08-05-1996		
4	575602	CONN. HDR AMP STRAIGHT 5	1.0000	EA		B		3769	08-05-1996		
4	574592	CONN. HDR AMP STRAIGHT 4	1.0000	EA		B		3769	08-05-1996		
4	LDN200/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P					
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B		3769	08-05-1996		
4	LDN200/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P					
2	C11186	PREAMP/ LINEARIZER PCB AS	1.0000	EA		M P		3671	04-08-1996		
3	C20211	SCHEMATIC: PREAMP/ LINEAR	1.0000	EA		M P		4785	03-05-2002		
3	LDN100	PREAMP/ LIN PCB ASSY INFR	1.0000	EA		M P		3659	04-12-1996		
4	502493	PCB DIN RAIL LINEARIZER	1.0000	EA		B		3767	08-07-1996		
4	LDN100/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P					
4	LDN100/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P					
4	532982	OP-AMP AD548CQ LOW PWR	1.0000	EA		B		3767	08-07-1996		
4	531862	OP-AMP LM346N PROGRAM QUA	3.0000	EA		B		3767	08-07-1996		
4	530532	DIODE FD300 GENERAL PURPO	16.0000	EA		B		3767	08-07-1996		
4	514632	RES. 330K NETWORK 10 PIN	2.0000	EA		B		3767	08-07-1996		
4	514642	RES. 330K NETWORK 10 PIN	2.0000	EA		B		3767	08-07-1996		
4	104533011	RES. 453K OHM MF 1/4W 1%	1.0000	EA		B		3767	08-07-1996		
4	1010R0011	RES. 10.0 OHM MF 1/4W 1%	1.0000	EA		B		3767	08-07-1996		
4	102743011	RES. 274K OHM MF 1/4W 1%	1.0000	EA		B		3767	08-07-1996		
4	102103011	RES. 210K OHM MF 1/4W 1%	1.0000	EA		B		3767	08-07-1996		
4	105364011	RES. 5.36M OHM MF 1/4W 1%	6.0000	EA		B		3767	08-07-1996		
4	101002011	RES. 10.0K OHM MF 1/4W 1%	1.0000	EA		B		3767	08-07-1996		
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B		3767	08-07-1996		
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B		3767	08-07-1996		
4	101000011	RES. 100 OHM MF 1/4W 1%	2.0000	EA		B		3767	08-07-1996		
4	100000990	JUMPER DUMMY RESISTOR	1.0000	EA		B		3767	08-07-1996		
4	551122	CHOKE 9250-122 1.2 UH, .1	1.0000	EA		B		3767	08-07-1996		
4	540412	FERRITE BEAD ON LEAD AXIA	3.0000	EA		B		3767	08-07-1996		
4	522002	CAP. .01 MFD 200V CERAMIC	7.0000	EA		B		3767	08-07-1996		
4	521902	CAP. NPO 1000pf 200V .2LS	2.0000	EA		B		3767	08-07-1996		
4	521932	CAP. 100 PF COG 200V	1.0000	EA		B		3767	08-07-1996		
4	521962	CAP. 10Pf NPO 200V .2LS	2.0000	EA		B		3767	08-07-1996		
4	514612	POT. 50K 25T 1/2W 10%	1.0000	EA		B		3767	08-07-1996		
4	514242	POT. 25K OHM 25T 1/2W 10%	1.0000	EA		B		3767	08-07-1996		
4	514622	POT. 100K 25T 1/2W 10%	1.0000	EA		B		3767	08-07-1996		
4	574922	CONN. HDR AMP STRAIGHT 3	1.0000	EA		B		3767	08-07-1996		
4	LDN100/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M P					

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Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
4	574432	SOCKET 40 POS DIP .5HT EL	1.0000	EA		B	3767	08-07-1996		
4	LDN100/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	526002	CAP. SMC 330Pf NPO 50V 5%	1.0000	EA		B	3767	08-07-1996		
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B	3767	08-07-1996		
4	LDN100/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	C11193	PCB INTERCONNECT ASSEMBLY	1.0000	EA		M P	3671	04-08-1996		
3	LDN300	PCB INTERCONN ASSY (INFRA	1.0000	EA		M P				
4	502533	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B	3721	08-01-1996		
4	575922	CONN. FEMALE 11 POSITION	2.0000	EA		B	3721	08-01-1996		
2	477112	LABEL, COVER, DIN BOX	1.0000	EA		B	4909	06-11-2003		
2	C11190	DECAY RATE POT/ CONNECTOR	1.0000	EA		M P	3671	04-08-1996		
3	LDN003	DECAY RATE POT/ CONN. ASS	1.0000	EA		M P	4030	10-08-1997		
4	514592	POT. 50K OHM 1T 1/2W 10%	1.0000	EA		B				
4	LDN003/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	302479000	WIRE 24AWG VIO/WHITE STRA	1.0000	IN		B				
4	302409000	WIRE 24AWG BLK/WHITE STRA	1.0000	IN		B				
4	302459000	WIRE 24AWG GRN/WHITE STRA	1.0000	IN		B				
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA		B				
4	574692	CONN. HOUSING 5 POSITION-	1.0000	EA		B				
2	C11189	RESPONSE TIME POT/ CONNEC	1.0000	EA		M P	3671	04-08-1996		
3	LDN002	RESP. TIME POT/ CONN. ASS	1.0000	EA		M P				
4	514602	POT. 5M OHM 1T 1/2W 20% P	1.0000	EA		B				
4	302440000	WIRE 24AWG YEL/BLACK STRA	1.0000	IN		B				
4	302460000	WIRE 24AWG BLU/BLACK STRA	1.0000	IN		B				
4	302430000	WIRE 24AWG ORG/BLACK STRA	1.0000	IN		B				
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA		B				
4	574682	CONN. HOUSING 4 POSITION-	1.0000	EA		B				
2	C11188	EMISSIVITY POT/ CONNECTOR	1.0000	EA		M P	3671	04-08-1996		
3	LDN001	EMISSIVITY POT/ CONN. ASS	1.0000	EA		M P	3767	08-07-1996		
4	513722	POT. 100K 2 DIGIT 1% DIGI	1.0000	EA		B	3767	08-07-1996		
4	30245X000	WIRE 24AWG GREEN STRANDED	1.0000	IN		B	3767	08-07-1996		
4	30249X000	WIRE 24AWG WHITE STRANDED	1.0000	IN		B	3767	08-07-1996		
4	30246X000	WIRE 24AWG BLUE STRANDED	1.0000	IN		B	3767	08-07-1996		
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA		B	3767	08-07-1996		
4	574672	CONN. HOUSING 3 POSITION-	1.0000	EA		B	3767	08-07-1996		
4	477212	LABEL - CLEAR WINDOW	1.0000	EA		B	3767	08-07-1996		
2	575852	KNOB, 9MM COLLET TYPE,	2.0000	EA		B	3671	04-08-1996		
2	575872	POINTER, 9MM COLLET TYPE	2.0000	EA		B	3671	04-08-1996		
2	575862	CAP. 9MM COLLET TYPE KNOB	2.0000	EA		B	3671	04-08-1996		
2	C11194	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P	3671	04-08-1996		
3	573912	HEADER 40 PIN DIP .6 CENT	1.0000	EA		B				
3	T-C11194-1	SELECT "M1" MODULE VALUES	0.0000	EA		B				
3	T-C11194-3	GT M1 MODULE VALUES	0.0000	EA		B				
2	575912	CONN. KEYING ELEMENT (DN-	2.0000	EA		B	3671	04-08-1996		
2	477132	LABEL, SERIAL NUMBER, DIN	1.0000	EA		B	3671	04-08-1996		
2	477122	LABEL, DIN BOX, INFRARAIL	1.0000	EA		B	3671	04-08-1996		
2	574082	TERM. BLOCK JUMPER QUICK	1.0000	EA		B	3671	04-08-1996		
2	LDNKIT	MTG CLIP KIT FOR INFRARAI	1.0000	EA		M P	3671	04-08-1996		
3	990300010	CLIP MTG FOR DIN BOX	2.0000	EA		B	3694	04-17-1996		
3	LDNKIT/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	477182	LABEL-CE MARK (PRODUCTS)	1.0000	EA		B	3671	04-08-1996		
1	C11207	DETECTOR ASSY (1.6 MICRON	1.0000	EA		M P				
2	LDN106	DETECTOR ASSY 1.6 MICRON	1.0000	EA		M P	3681	04-08-1996		
3	590942	DETECTOR InGaAs 1.6u	1.0000	EA		B				
3	560372	CABLE PVC 1 COND SHIELD 2	6.0000	IN		B	3681	04-08-1996		
3	990400001	BAG STATIC SHIELD 3X5 3M	1.0000	EA		B	3681	04-08-1996		
3	3214G00X0	TUBING #14 PVC CLEAR	1.0000	IN		B	3681	04-08-1996		
3	3208I1400	TUBING 1/8" SHRINKABLE BL	0.0000	IN		B				
2	T-C11207-X	FLOW TAG TEXT FOR DETECTO	0.0000	EA		B	3681	04-08-1996		
1	C11124	DETECTOR MOUNTING BLOCK A	1.0000	EA		M P				
2	T-C11124-1	SELECT SH DET. MTG. BLK.	0.0000	EA		B	3646	02-28-1996		
2	T-C11124-2	SELECT SH DET MTG BLK ASS	0.0000	EA		B	3646	02-28-1996		
2	T-C11124-3	SELECT SH DET. MTG. BLK A	0.0000	EA		B	3646	02-28-1996		
2	T-C11124-4	SELECT SH DET. MTG. BLK.	0.0000	EA		B	3646	02-28-1996		

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Section 1 — GENERAL INFORMATION

1.5 PRODUCT MODIFICATION

IRCON InfraRail Model DNS05-99C is modified for a special temperature range of 350 to 830°C and an optical resolution of D/50 at a wavelength of 1.49 to 1.6 microns.

There is a special fault indication when the sensor is disconnected from the signal processor. This special fault indication provides for a current output which exceeds 20.00 mAdc from the signal processor.

Restrictions:

1. Due to the wide signal span of this instrument, accuracy specifications are 1.0% of full scale temperature in place of the standard specification of 0.75% of full scale temperature.
2. Ambient temperature is restricted to a range of 0° to 65°C.
3. Emissivity is restricted to a minimum setting of 0.5 from the range of 350° to 370°C.
4. The sensor interconnecting cable length is restricted to a maximum of 250 feet (76 meters).

This modified instrument may be used with all standard InfraRail options and accessories. Details of this modification are retained in IRCON Engineering Files as InfraRail Special No. R728.

NOTE: Ircon Inc., is the sole owner in all respects of any product or software modification or design herein specified.