



PAGE 1 OF 2  
DATE: 1-28-1997  
REVISION:A  
W.O. NO: 62712  
CUSTOMER: IRCON GMBH  
LOCATION: GERMANY

**INFRARAIL SPECIAL NUMBER R709**

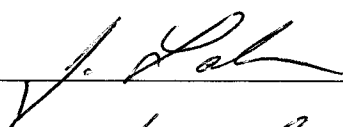
**PURPOSE AND DESCRIPTION:**

CUSTOMER REQUIRES A INFRARAIL TEMPERATURE SYSTEM WITH A STANDARD TEMPERATURE RANGE AND SPECIAL OPTICAL RESOLUTION TO BE INSTALLED AS PART OF A CONTINUOUS CASTER PYROMETER AS FOLLOWS :

MODEL: DNE99-13C  
RANGE: 800 - 1300 DEG. C  
OPTICAL RESOLUTION: D/100  
SPECIAL FIXED FOCUS AT 50" (STANDARD FOCUS 30")  
WAVELENGTH: 0.7 - 1.0 um

**GENERALITY OF APPLICATION AND RESTRICTIONS:**

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: 

APPROVED BY:  DATE: 1-28-97

**INFRARAIL SPECIAL NUMBER R709**

REVISION:A  
DATE: 1-28-1997

**PRODUCTION INSTRUCTIONS:**

BUILD A STANDARD MODEL DNE31-13C ELECTRONICS MODULE.  
SECURE THE SPECIAL STAINLESS STEEL SENSING HEAD FROM ENGINEERING.  
INSTALL SPECIAL LENS EX-4006 INPLACE OF STANDARD LENS. SECURE THIS LENS FROM  
THE ENGINEERING DEPARTMENT.  
DELIVER THE HIGH TEMP CABLE TO ENGINEERING FOR INSTALLATION OF THE WATERPROOF  
LEMO CONNECTOR TO THE CABLE.

**CALIBRATION INSTRUCTIONS:**

CALIBRATE AS PER STANDARD BUT NOTE THE CHANGE IN FOCAL DISTANCE OF 50 INCHES. WHEN  
FINISHED, CALL ENGINEERING TO ASSIST IN ASSEMBLING THE SENSOR INTO THE CC1000 SIGHT TUBE.

**MANUAL INSTRUCTIONS:**

GENERIC INFRARAIL SERIES MANUAL.

# Acknowledgment



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

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

SCHEDULED SHIPPING WEEK ENDING MONTH/DAY/YEAR 03/29/97

SOLD TO CUSTOMER NO. 008241

OUR ORDER NO. SA 062712/00 ORDER DATE MONTH/DAY/YEAR 01/13/97

IRCON GMBH  
POSTFACH 1361, D-65221  
TAUNUSSTEIN, GRILLPARZERSTR 40  
GERMANY

YOUR ORDER NO. D-5739

TERMS NET 30  
X OTHER NET 60

F.O.B. X NILES, ILLINOIS

SHIPPING ADDRESS TAX CODE NO TAX

CODE 726 .00

INTROPA  
SPEDITIONSGESELLSCHAFT GMBH  
FRANKFURT AIRPORT  
ZUR VERFUEGUNG IRCONGMBH

VIA DANZAS PPD. X COLL.

SPECIAL SHIPPING INSTRUCTIONS  
FOR REEXPORT TO ALGERIA

LINE NO.	PART NO.	QTY.	DESCRIPTION	UNIT MEAS	DISCOUNT %	PRICE EACH US DOLLAR X	AMOUNT US DOLLAR X
01		1	INFRARAIL TEMPERATURE SYSTEM MODEL DNE99-13C SERIAL NBR 001509  CABLE(S) 4 MET. EA (4 MET. EA INCLUDED IN ABOVE) ***** * SPECIAL Z999 * ***** !!!!!!!!!!!!WARNING!!!!!!!!!!!! ** SPL # TO BE DETERMINED ** ** SEE ENGINEERING DEPT. **  SUB TOTALS  GRAND TOTAL	EA		6238.15	6238.15
							6238.15
							6238.15

*Eng Chg = \$3300*

*Provide infrarail with CCI000  
Caster pyrometer @ bottom  
with tube extension to  
43.685 inches.*

*MHB 1/14/96*

BILLINGS IN D.M.

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

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

Ship To: IRCON, INC.  
7300 N. NATCHEZ AVE.  
NILES, IL 60714 USA

ORIGINAL

# Acknowledgment



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Niles, IL 60714 USA

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Fax 847-647-0948

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VIA DANZAS PPD. X COLL.

SPECIAL SHIPPING INSTRUCTIONS  
FOR REEXPORT TO ALGERIA

2/21/97

PAGE 1

\*\*CHANGED ORDER\*\*

LINE NO.	PART NO.	QTY.	DESCRIPTION	UNIT MEAS	DISCOUNT %	
01		1	INFRARAIL TEMP SYSTEM W/D CBL MODEL DNE99-13C SERIAL NBR 001509 ***** * SPECIAL R709 * ***** DNE SER SPEC D/100 RESOLUTION 50 INCH FOCUS WITH CC1000 CASTER PYROMETER SIGHT TUBE	EA		
02	050312	1	INFRARAIL MANUAL	EA		
			SUB TOTALS			
			GRAND TOTAL			

APPROVED BILLINGS IN  
MAR 19 1997  
QUALITY ASSURANCE

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

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

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7300 N. NATCHEZ AVE.  
NILES, IL 60714 USA

PACKING SLIP

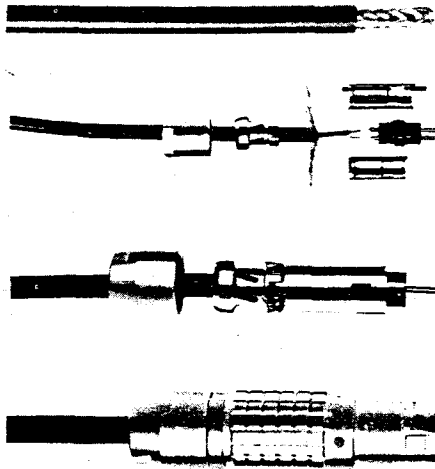
Part No. 020172 Rev C 12/95

# B Series Assembly Instructions

SPECIAL # K708  
W.O.# 54173

F121

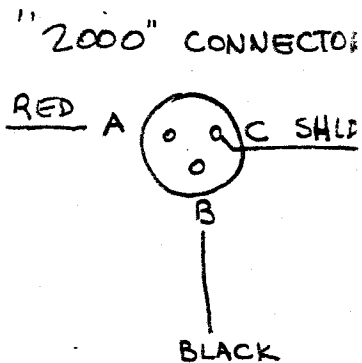
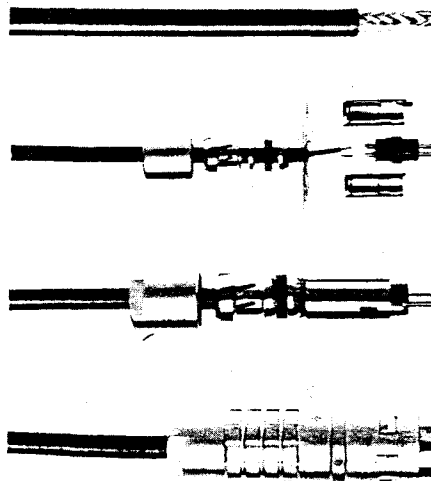
1. Strip cable jacket as shown.
2. Slide collet nut and collet onto cable. If connector shell is to be grounded, fray shielding as shown.
3. Strip conductor insulation to dimension as shown on the following pages.
4. Terminate contacts using solder or crimp methods.
5. Position midpieces on insert as shown making sure that insert key appears through midpiece window.
6. Position collet as shown.
7. Fold and trim shielding over collet flange making sure to keep collet keying slot clear.
8. Install outershell and tighten collet nut to specified torque value.



# K Series Assembly Instructions

PHG. 0K.303.CLL C45  
F6G.0K.303.CLAC45

1. Strip cable jacket as shown.
2. Slide collet nut, collet and sealing hardware onto cable. If connector shell is to be grounded, fray shielding as shown.
3. Strip conductor insulation to dimension as shown in table below.
4. Terminate contacts using solder or crimp methods.
5. Position midpieces on insert as shown making sure that insert key appears through midpiece window.
6. Position collet and sealing hardware as shown.
7. Fold and trim shielding over collet flange making sure to keep collet keying slot clear.
8. Install outershell and tighten collet nut to specified torque value as shown.



## Maximum Torquing Value

### B Series

Size	Maximum Torque	Torque Wrench
00B	2 in.-lbs.	MTZ.00.B17.USA
0B	7 in.-lbs.	MTZ.0B.062.USA
1B	9 in.-lbs.	MTZ.1B.084.USA
2B	11 in.-lbs.	MTZ.2B.104.USA
3B	15 in.-lbs.	MTZ.3B.132.USA

## Maximum Torquing Value

### K Series

Size	Maximum Torque	Torque Wrench
0K	~ 2 in.-lbs.	MTZ.0K.017.USA
1K	5 in.-lbs.	MTZ.1K.048.USA
2K	10 in.-lbs.	MTZ.2K.088.USA
3K	15 in.-lbs.	MTZ.3K.132.USA

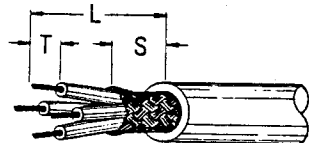


# Cable Stripping—Solder Contacts

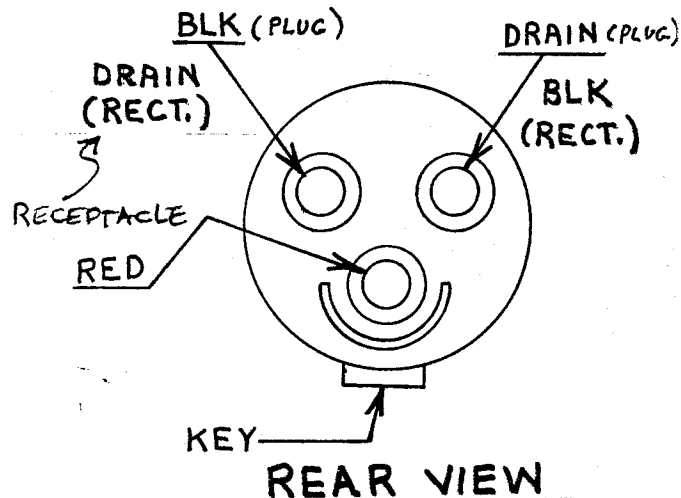
CABLE STRIPPING FOR CONNECTORS WITH SOLDER CONTACTS  
(for crimp contacts see previous table)

Size	Type	Contact Dia. MM.	Stripping for FGG, PKG, PHG						Stripping for FHG					
			L		S		T		L		S		T	
			In.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.	In.	MM.
00B	302/303	0.5	.275	7.00	.150	3.8	.078	2.0						
0B or 0K	302/303	0.9	.512	13.00	.276	7.0	.118	3.0	.709	18.00	.276	7.0	.146	3.7
	304/305	0.5	.512	13.00	.276	7.0	.118	3.0	.709	18.00	.276	7.0	.146	3.7
	307	0.5	.350	8.89	.216	5.5	.785	2.0	.551	14.00	.216	5.5	.078	2.0
1B or 1K	302/303	1.3	.591	15.00	.315	8.0	.138	3.5	.984	25.00	.315	8.0	.146	3.7
	304/305	0.9	.551	14.00	.315	8.0	.118	3.0	.984	25.00	.315	8.0	.146	3.7
	306/307	0.7	.551	14.00	.315	8.0	.118	3.0	.984	25.00	.315	8.0	.146	3.7
	310	0.5	.452	11.50	.315	8.0	.078	2.0	.650	16.50	.225	5.72	.078	2.0
2B or 2K	302	2.0	.748	19.00	.354	9.0	.157	4.0	1.142	29.00	.354	9.0	.205	5.2
	303	1.6	.748	19.00	.354	9.0	.138	3.5	1.142	29.00	.354	9.0	.205	5.2
	304/305/306/307	1.3	.709	18.00	.354	9.0	.138	3.5	1.102	28.00	.354	9.0	.138	3.5
	308/310	0.9	.669	17.00	.354	9.0	.118	3.0	1.102	28.00	.354	9.0	.138	3.5
	312/314/316/318	0.7	.669	17.00	.354	9.0	.118	3.0	1.102	28.00	.354	9.0	.138	3.5
	319	0.7	.669	17.00	.354	9.0	.118	3.0	1.102	28.00	.354	9.0	.138	3.5
3B or 3K	302	3.0	.945	24.00	.394	10.0	.177	4.5	1.339	34.00	.394	10.0	.224	5.7
	303/304	2.0	.906	23.00	.394	10.0	.157	4.0	1.339	34.00	.394	10.0	.205	5.2
	305/306/307	1.6	.906	23.00	.394	10.0	.157	4.0	1.339	34.00	.394	10.0	.205	5.2
	308/310	1.3	.866	22.00	.394	10.0	.138	3.5	1.299	33.00	.394	10.0	.138	3.5
	312/314/316/318	0.9	.827	21.00	.394	10.0	.118	3.0	1.260	32.00	.394	10.0	.118	3.0
	320/322/324/326	0.7	.827	21.00	.394	10.0	.118	3.0	1.260	32.00	.394	10.0	.118	3.0
	328/330	0.7	.827	21.00	.394	10.0	.118	3.0	1.260	32.00	.394	10.0	.118	3.0
4B or 4K	304	3.0	1.299	33.00	.472	12.0	.177	4.5	1.614	41.00	.472	12.0	.224	5.7
	306	2.0	1.260	32.00	.472	12.0	.157	4.0	1.614	41.00	.472	12.0	.205	5.2
	310	1.6	1.260	32.00	.472	12.0	.138	3.5	1.535	39.00	.472	12.0	.205	5.2
	312	1.3	1.260	32.00	.472	12.0	.138	3.5	1.535	39.00	.472	12.0	.118	3.0
	316/320/324/330	0.9	1.260	32.00	.472	12.0	.118	3.0	1.535	39.00	.472	12.0	.118	3.0
	340	0.7	1.260	32.00	.472	12.0	.118	3.0	1.535	39.00	.472	12.0	.118	3.0
	354	0.7	1.260	32.00	.472	12.0	.118	3.0	1.535	39.00	.472	12.0	.118	3.0
5B or 5K	304	4.0	1.89	48.00	.709	18.0	1.97	5.0						
	310	3.0	1.850	47.00	.709	18.0	.177	4.5						
	314/316	2.0	1.811	46.00	.709	18.0	.157	4.0						
	320	1.6	1.811	46.00	.709	18.0	.138	3.5						
	330/340/348	1.3	1.772	45.00	.709	18.0	.138	3.5						
	354/364	0.9	1.772	45.00	.709	18.0	.118	3.0						

Tolerances for these dimensions are: L = ±4%  
S = ±3%  
T = ±5%



L: 0.512"  
S: 0.276"  
T: 0.118"



## FaxTransmittal Fax Transmittal



IRCON GmbH  
Postfach 1361 Taunusstein D-65221  
Germany

Fax 06128-927423  
Tele 06128-92740

Date SEPT. 15 97

To \_\_\_\_\_

Fax No \_\_\_\_\_

Attn DICK

From WERNER

No. of pages (including this page) \_\_\_\_\_

RE: CC 1000 - SA 062712  
REEXPORT TO ALGERIA

got TEL call this morning that the 7m  
long special inter connecting cable  
is missing. they say it was not in  
package no 2 as described.

pls check if you can find out, may  
be with help of the weight of this  
box, if cable was in or not.

what is fastest possible delivery of  
new cable.

shipment went not through our office  
it was reexported directly from the air-  
port so we've no possibility to check  
here.

THANKS

Werner - we will have

cable to ship this week, how + where  
do you want this shipped. DICK

## Section 1 — GENERAL INFORMATION

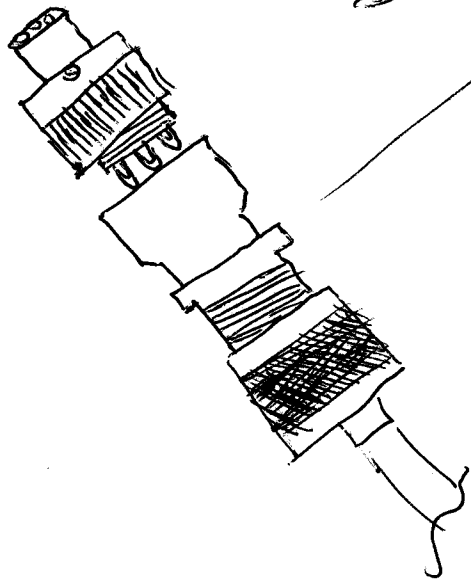
### 1.5 SPECIAL MODIFICATIONS

IRCON InfraRail Model DNE99-13C, Serial No. 001509 is modified for a standard temperature range of 800 to 1300°C with a special optical resolution of D/100 at a special fixed focus of 50 in.. The wavelength specified is 0.7 - 1.0  $\mu\text{m}$ .

The 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. R709.

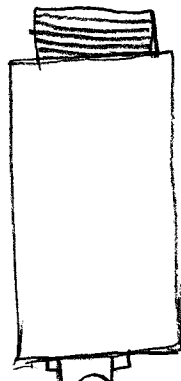
*NOTE:* Ircon Inc. is the sole owner in all respects of anyproduct or software modification or design herein specified.



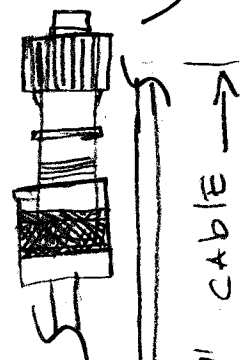
REMOVE FLAT SHELL  
(EXTRA)

TWIST ON  
CONNECTOR

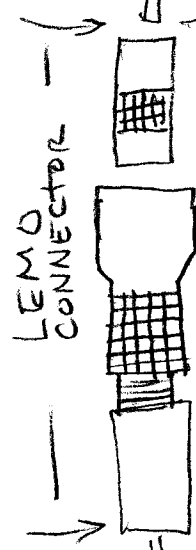
SH,



SHELL - 57588-2  
CONNECTOR - 57590-2



30" CABLE  
(silicon)

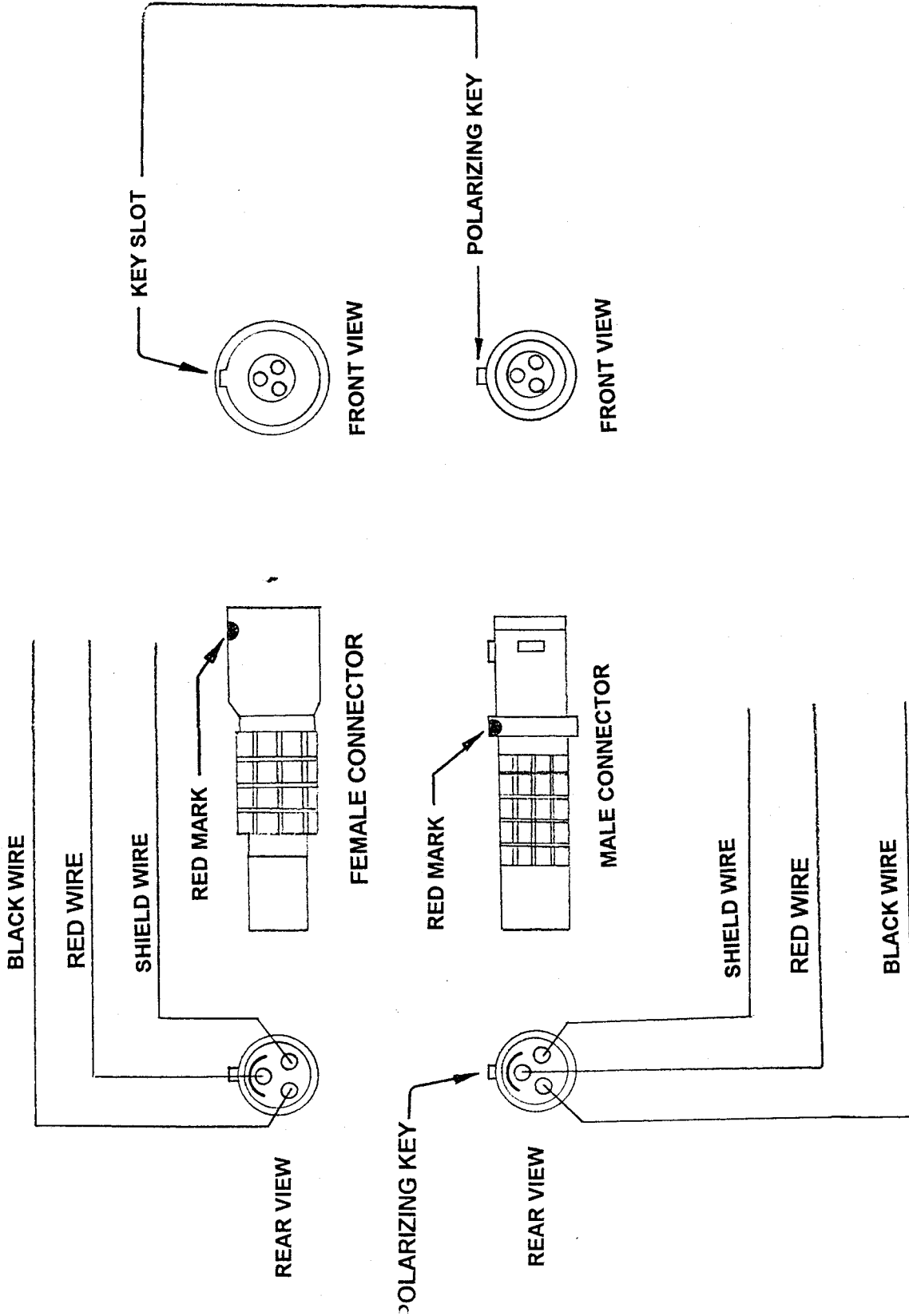


LEMO  
CONNECTOR

Rest of cable

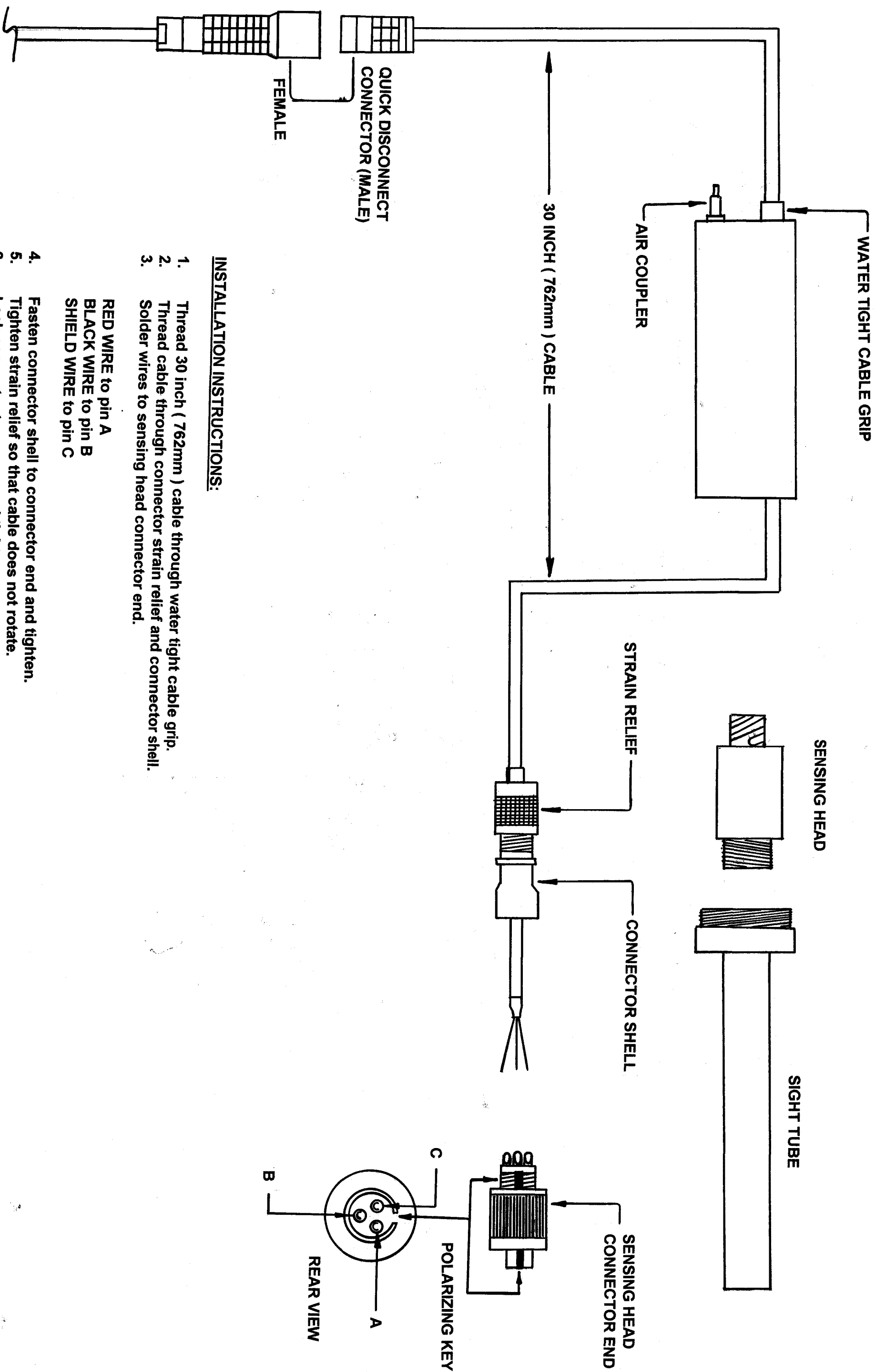
TO ELECTRONICS

3-21-97  
A.D.



Lemo Connector Wiring Diagram  
 Specials K712, K714, and R709

# CC1000 CABLE



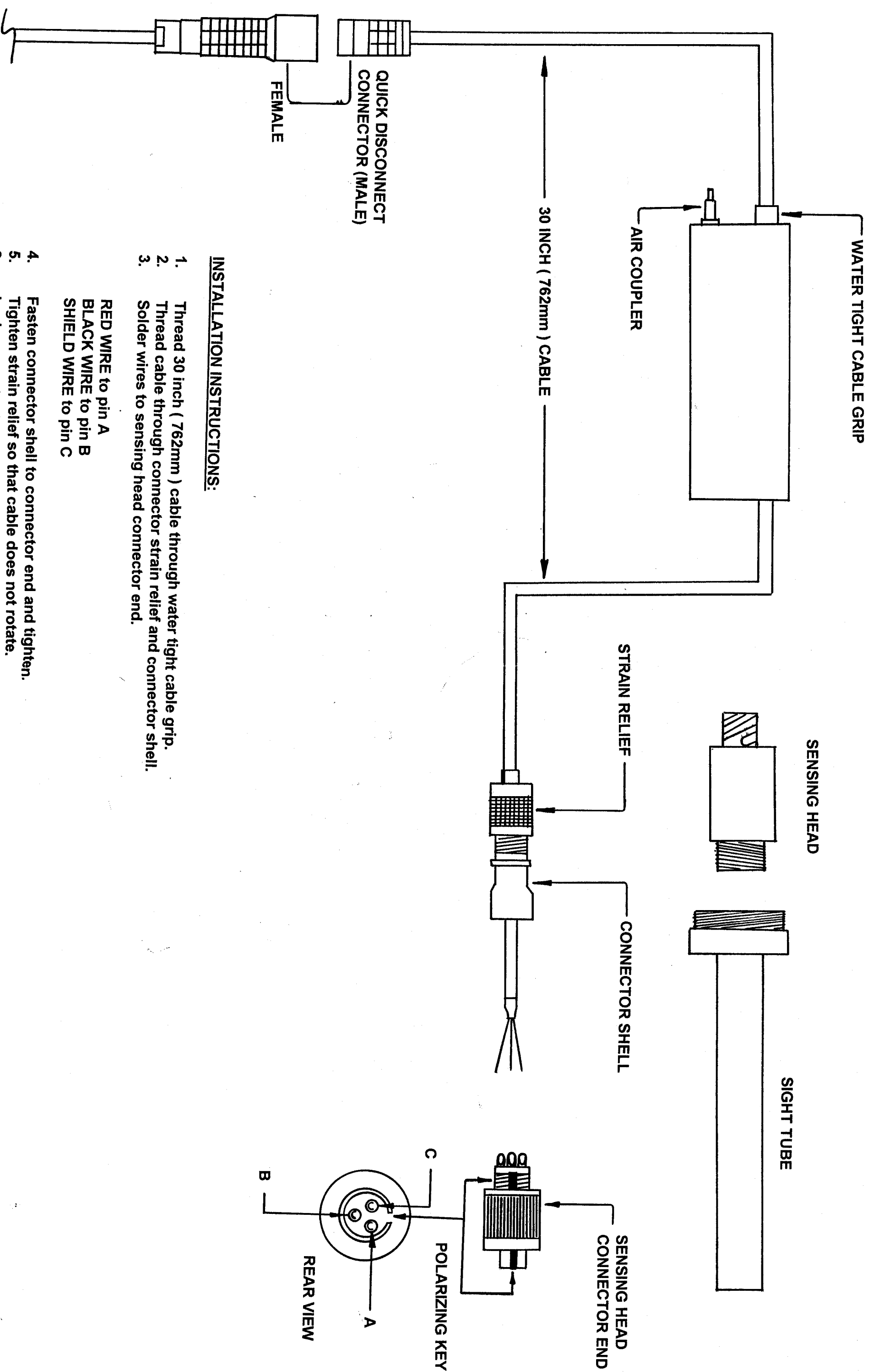
## INSTALLATION INSTRUCTIONS:

1. Thread 30 inch ( 762mm ) cable through water tight cable grip.
2. Thread cable through connector strain relief and connector shell.
3. Solder wires to sensing head connector end.

RED WIRE to pin A  
BLACK WIRE to pin B  
SHIELD WIRE to pin C

4. Fasten connector shell to connector end and tighten.
5. Tighten strain relief so that cable does not rotate.
6. Lock connector to sensor and tighten water tight cable grip so that cable does not rotate.

# CC1000 CABLE



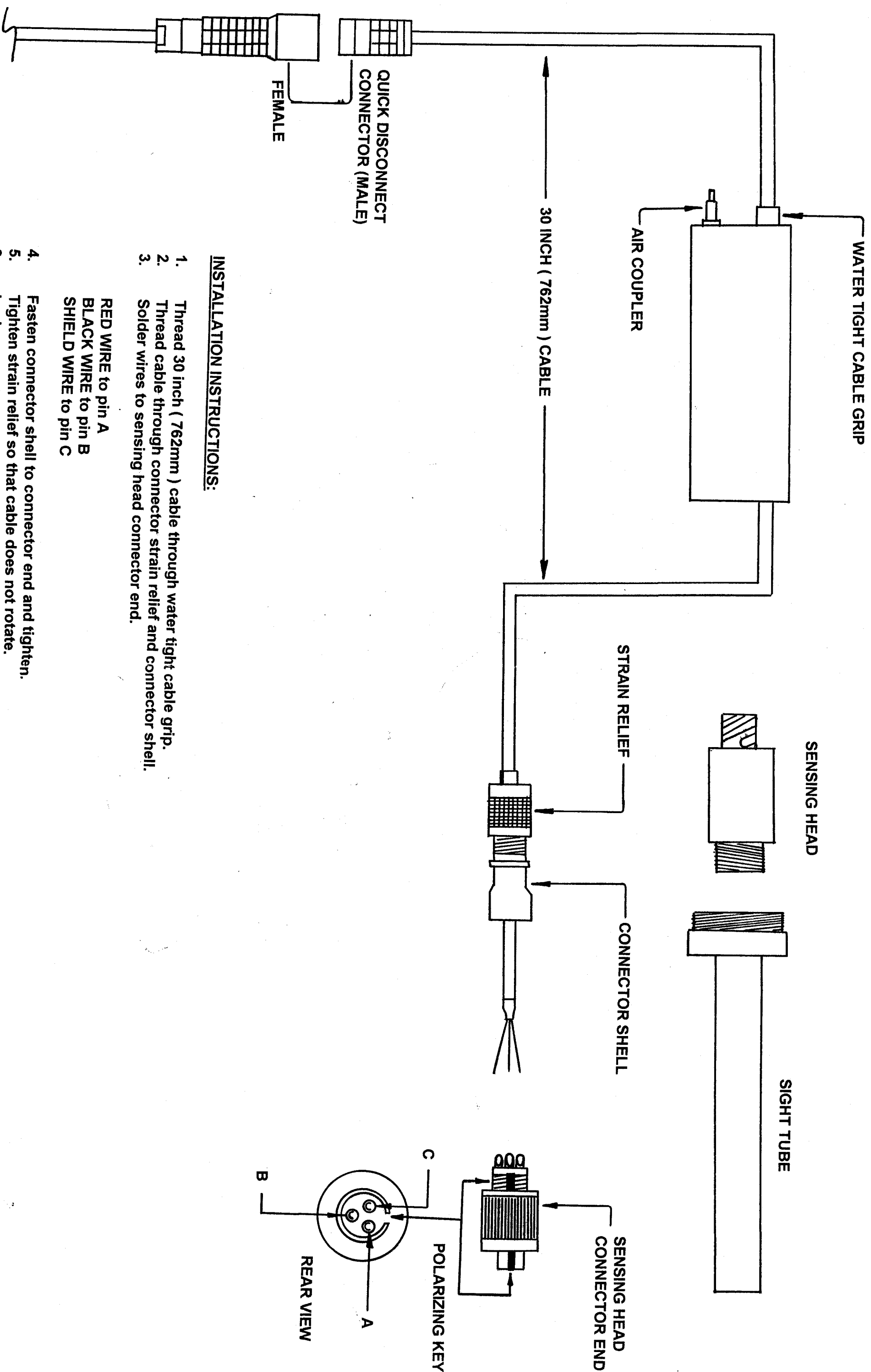
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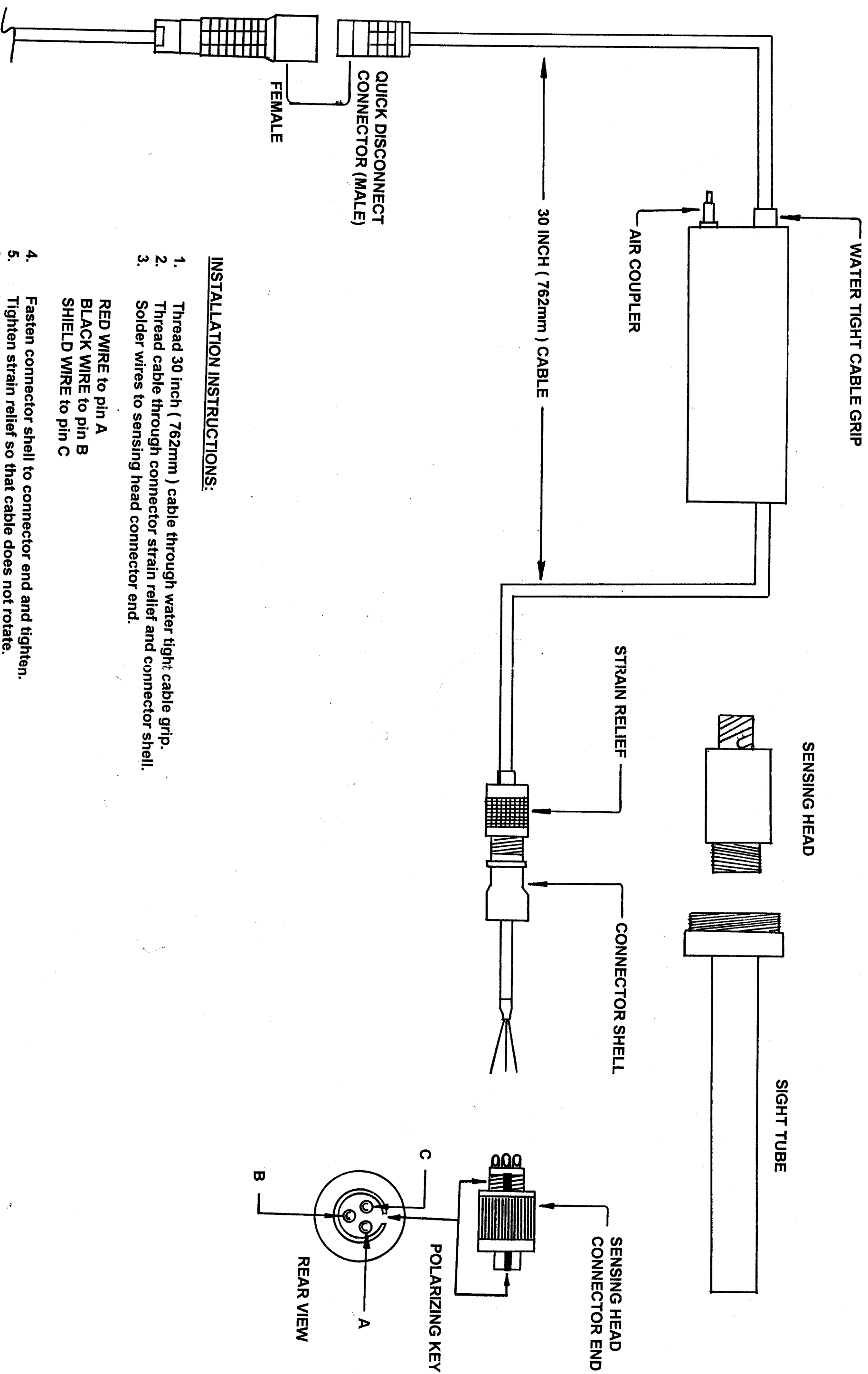
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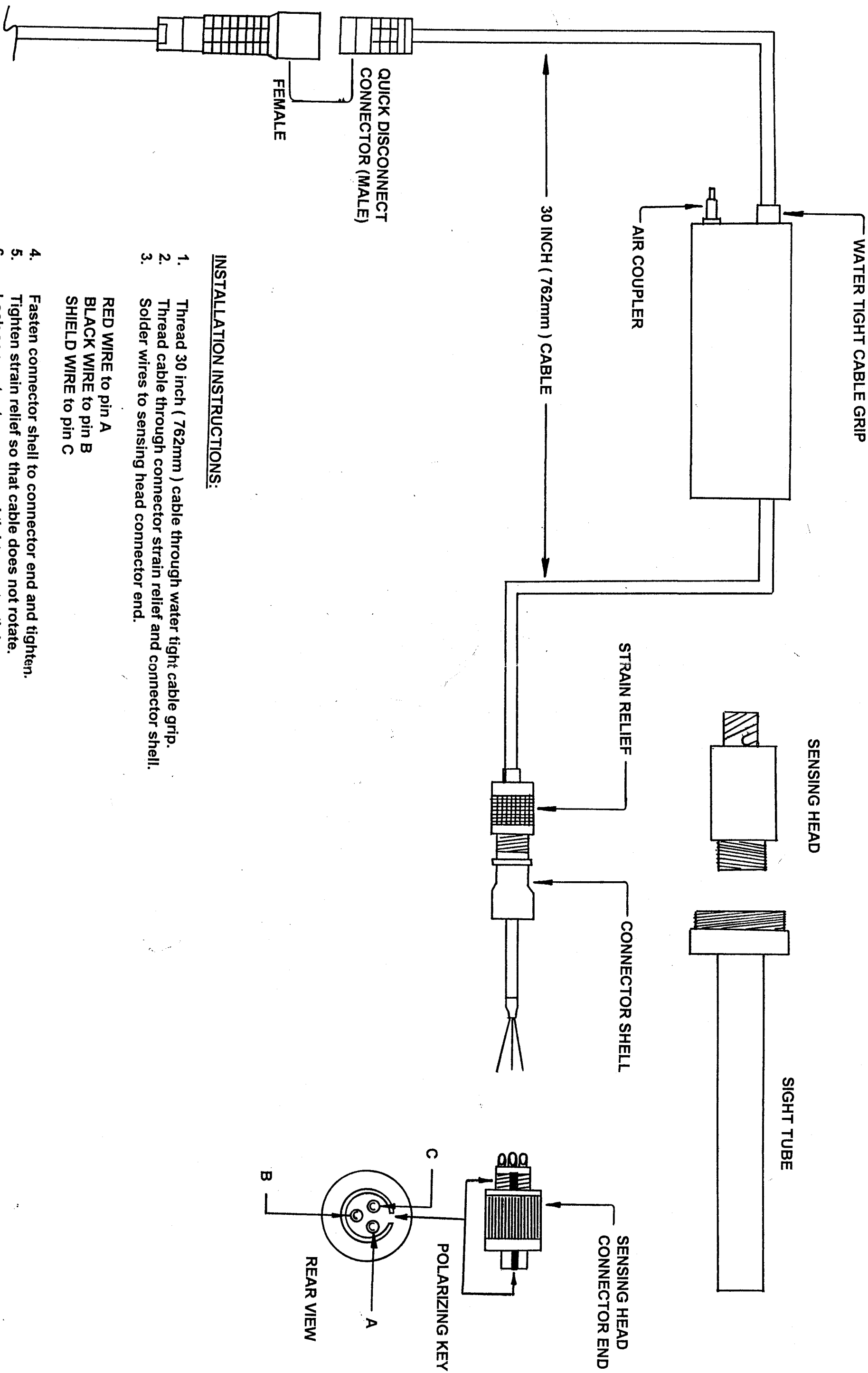
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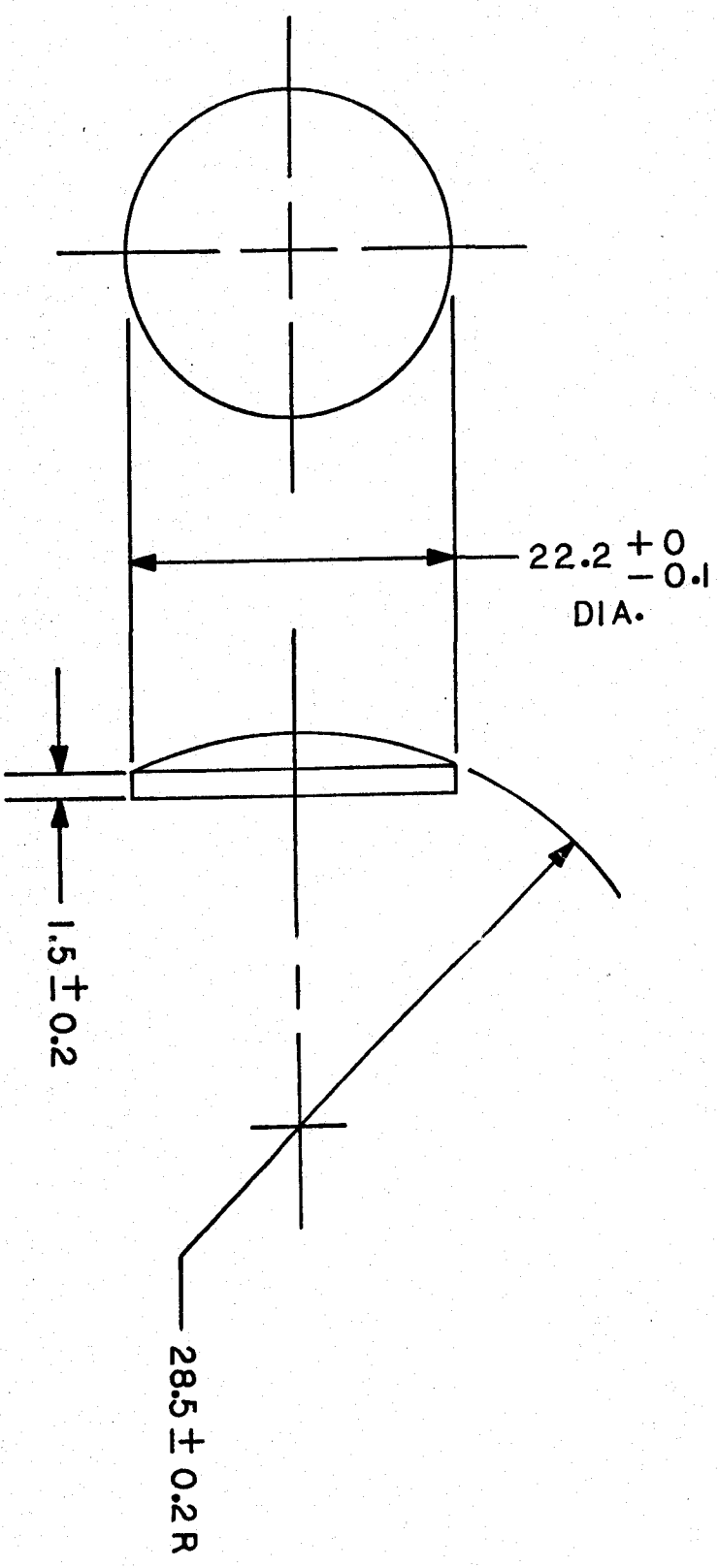
RED WIRE to pin A  
 BLACK WIRE to pin B  
 SHIELD WIRE to pin C

4. Fasten connector shell to connector end and tighten.
5. Tighten strain relief so that cable does not rotate.
6. Lock connector to sensor and tighten water tight cable grip so that cable does not rotate.

DRAWING NO. REV.

EX-4006

REVISION		
LTR.	DESCRIPTION	BY/DATE



TYPE \_\_\_\_\_ PLANO-CONVEX LENS  
 MATERIAL \_\_\_\_\_ C-1 GLASS (523586)  
 DIFFERENCE IN EDGE THICKNESS \_\_\_\_\_ 0.05 MAX

ALL DIMENSIONS ARE IN MILLIMETERS

SPECIAL K708

DO NOT SCALE

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

MATERIAL	DRAWN BY	DATE
	R.L.V.	3-8-93
	APPROVED	DATE



IRCON, INC.  
 7301 North Caldwell Ave.  
 Niles, Il 60714

TITLE	DRAWING NO.	REV.
LENS (FOCUS AT 50 INCHES)	EX-4006	
SCALE 2:1		

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SHEET # OF





**DRAWING(S) TOO LARGE  
TO SCAN.**

**TO VIEW THE ORIGINAL  
DESIGN,  
A REQUEST TO VIEW  
PHYSICAL FILE  
IS YOUR NEXT OPTION.**