

CablPro® SERIES

Continuous Leak Detection Cable

Operating Manual



Corrosion-Free
Instrumentation Equipment

Table of Contents

Safety Information 03

Technological Progress 03

Product Description 03

Leak Detection Controller 04

Technical Specifications 05

Dual Containment Piping Systems 05

2-Core Leak Notification Cable 06

4-Core Leak Distance Locating Cable 07

Correct Installation Position 07

Cable Connectors Instructions 08

Terminal Connector Assembly Field Instructions 11

Install Connector Information 12

Electrical Test 12

Warranty, Returns & Limitations 13



Safety Information

Please always observe the following safety instructions!

Please pay attention to the safety instructions with the following pictograms and signal words in these operating instructions :



Warning | Caution | Danger

indicates general hazardous situations or cases which, if not avoided, could result in serious injury or death.



IMPORTANT!

indicates situations or cases which, if not avoided, could result in damage or failure of the **UltraFlo®** equipment.

Notice : Is used to lead users to helpful information not related to personal injury.

Technological Progress

The manufacturer reserves the right to revise, alter, or modify the flow meter to the most current technology without special prior notice. Further information about the latest updates and potential additions to these operating instructions are available from www.iconprocon.com

Product Description

The Industrial line of the **CablPro®** sensor cables are designed to meet the requirements of a variety of industrial applications and excel in harsh environments. The self-wicking hydrophobic non-conductive PE helical construction has been designed to address inherent issues caused by moisture absorption in high humidity services, as well as dirt, dust, and contact with metals that propagate spurious false alarms.

CablPro® is flexible, flame-retardant, non-toxic high strength cable with excellent chemical resistance



Corrosion Resistant



Location



HD Easy Connections



Environmental Protection



PE Jacket



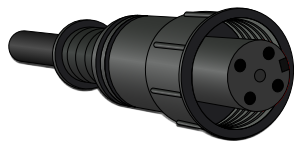
2-Wire General Purpose



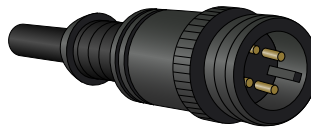
4-Wire Leak-Point Cable



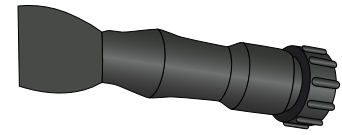
4-Wire Chemical Cable



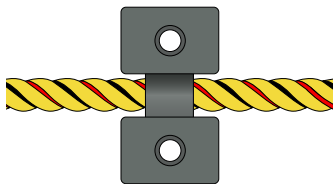
Female Connector



Male Connector



Terminal Connector



Cable Clip



Cable Lead



Cable Puller

Leak Detection Controller



**LeakPoint®
 Leak Point Monitor**

- 9000' Cable Sensing Range
- Audible + Visual Notification
- 3Amp Relay Output
- Sensitivity Adjustment
- NEMA 4X Enclosure
- RS485 Modbus



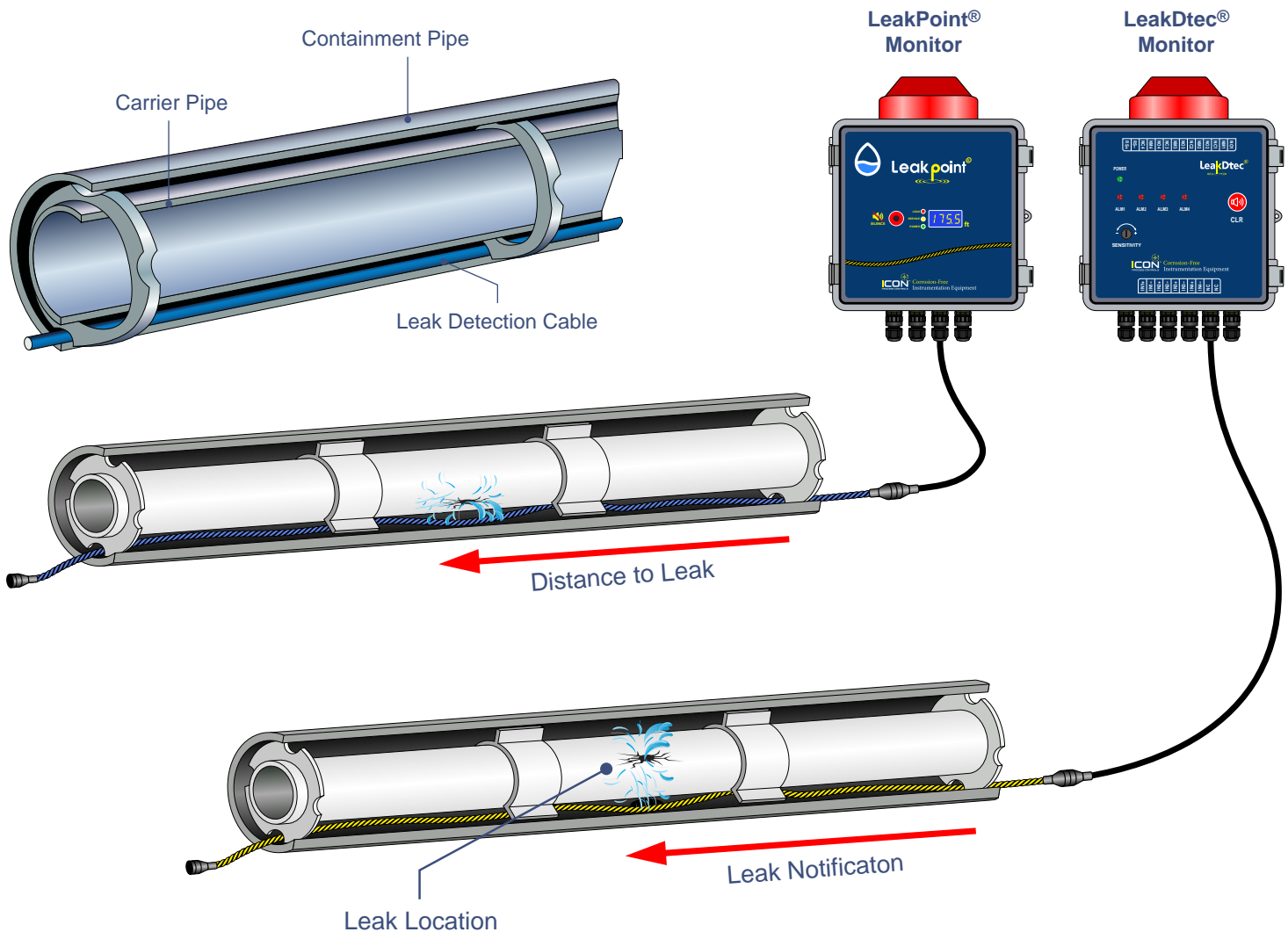
**LeakDtec®
 Leak Detection Controller**

- NEMA 4X enclosure
- Up to 60 separate sensor inputs
- 10A relay outputs
- NPN or PNP sensor input
- LED channel indicator
- Polycarbonate clear cover
- 110dB audible alarm (optional)
- High Intensity Xenon Visual Alarm

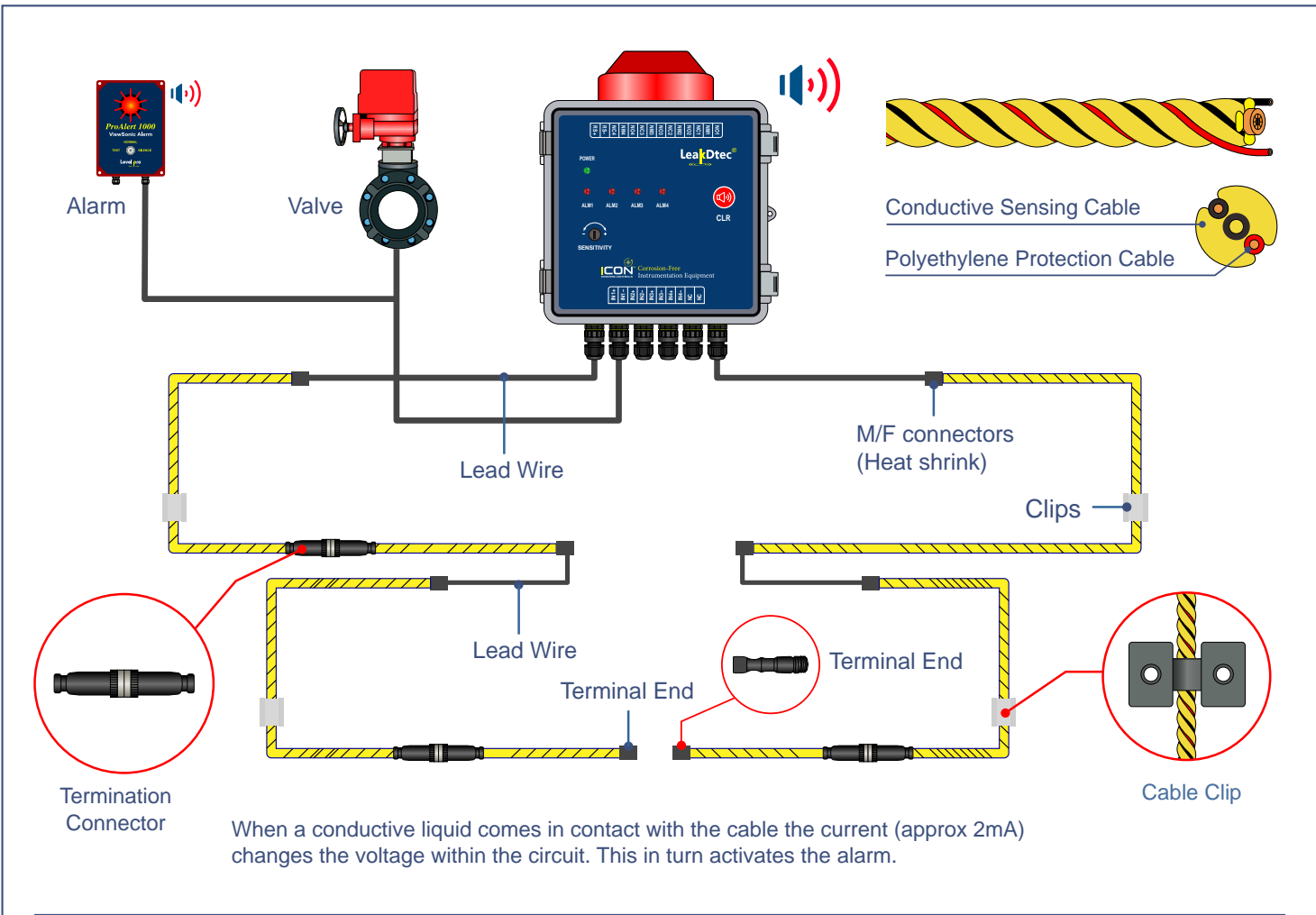
Technical Specifications	
Material of Construction	Polyethylene Copper
Tensile Strength	<120 lbs
Cable Diameter	6mm
Temperature	-40 - 176°F
Core Material	Copper
Core Resistance	13.0/m Ohms
Cable Length	25" 50" 100" Customized

Dual Containment Piping Systems

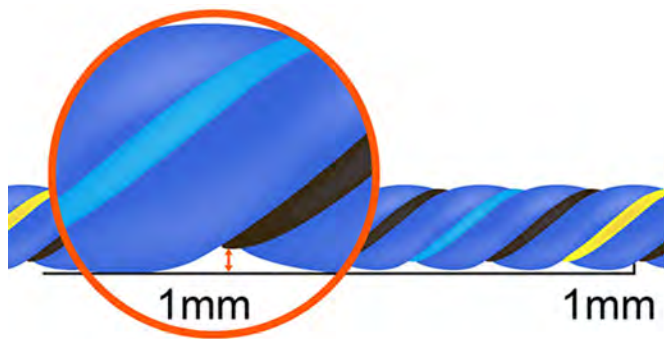
CabIPro® Sensor Cables flexible and are designed to be self-wicking. Each individual strand of braid wire is heavily jacketed in corrosion-resistant polyethylene. The high tensile properties make the **CabIPro®** line an excellent choice for dual containment or insulated piping systems.



2-Core Leak Notification Cable

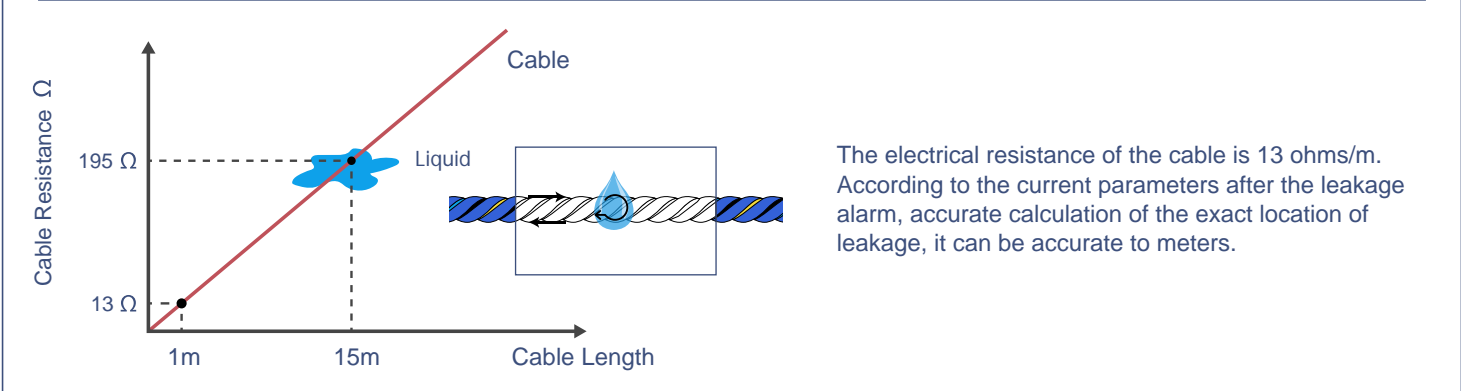
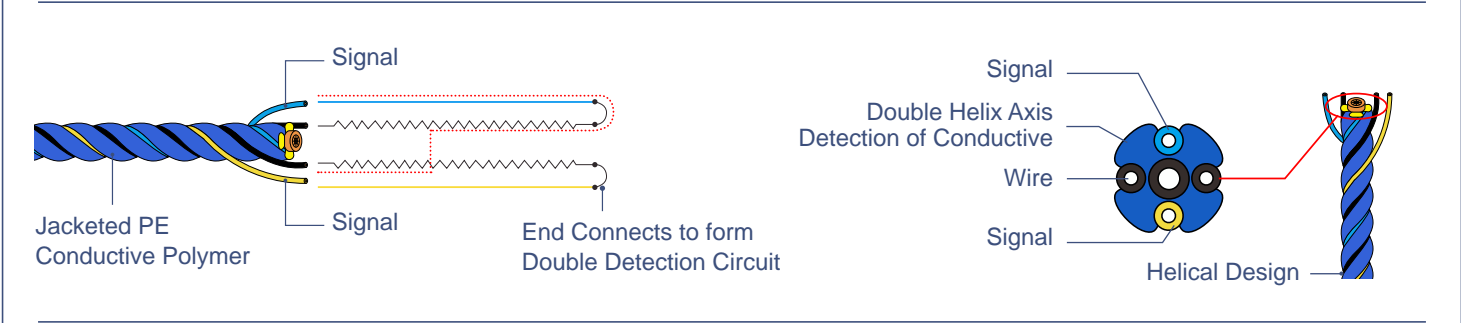
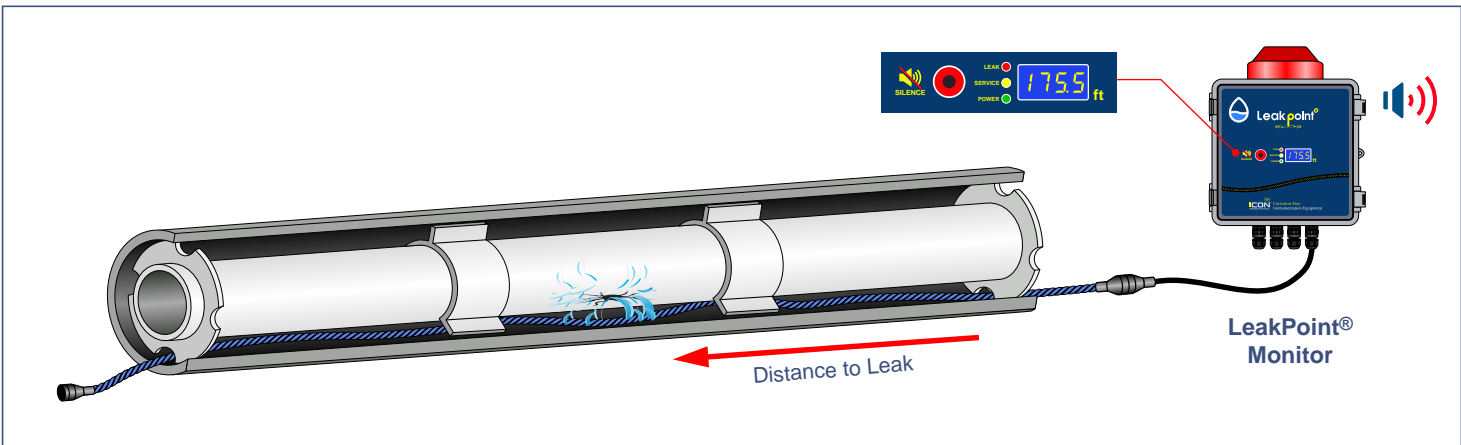


Heavy Duty Connections can be supplied as factory fitted or in-field installed without any special tools

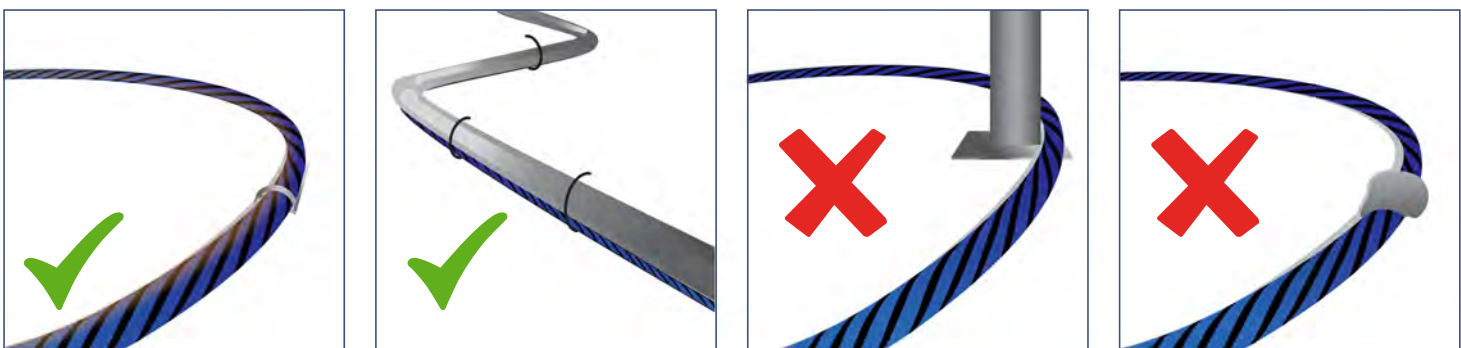


1mm in the horizontal plane

4-Core Leak Distance Locating Cable



Correct Installation Position



Plastic Clips

Cable Ties

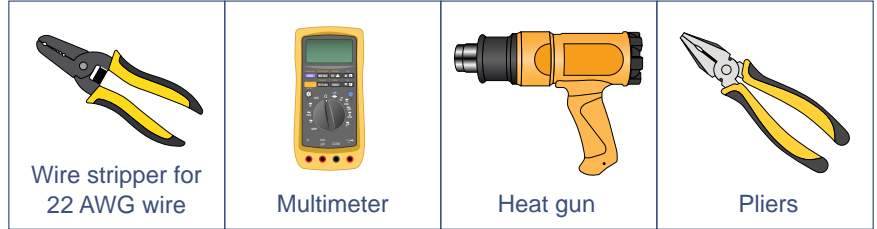
Cable Sharp Posts

Metal Clips

Cable Connectors Instructions



Tools Required



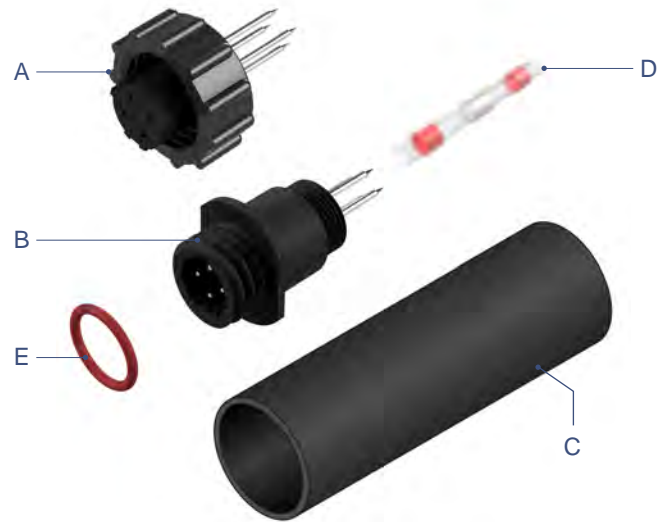
- Do not use an open flame heating tool.
- The pin connector should always be installed on the cable end going to the alarm module.

KIT CONTENTS (5 Male and 5 Female Connectors)

Item	Description	Qty
A	Female connector	5
B	Male connector	5
C	Heat-shrink tubing	12
D	Solder Tube (5 extra)	45
E	O-rings	5

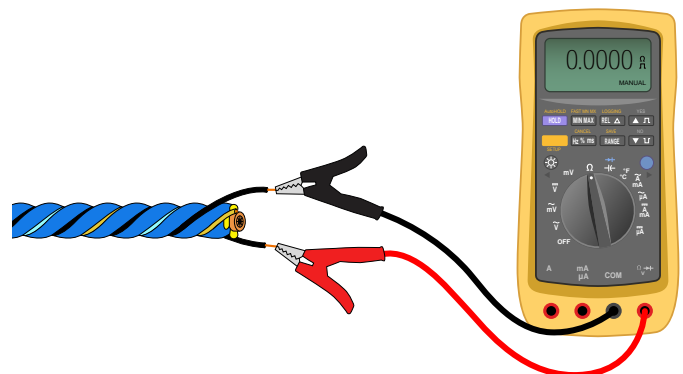
KIT CONTENTS (20 Male and 20 Female Connectors)

Item	Description	Qty
A	Female connector	20
B	Male connector	20
C	Heat-shrink tubing	24
D	Solder Tube (5 extra)	165
E	O-rings	20



Electrical Test

- Connect the ohmmeter in order to measure the resistance between the two black wires. The resistance must be greater than 20 megohm (meter may read: ∞, O.L., etc.).
- If the measurement is less than 20 megohm, check that the cable is not wet or contaminated, and make sure the wires are not touching each other. Repeat measurement.



1

- Slide heat shrink over cable
- Pull back individual wires

2

- Cut core cable

3

- Strip 1/4" inch

4

- Keep wires in the same order the cable end.
- Slide a SolderSleeve splice (small end first) onto each wire, all the way to the cable end.

Ensure insulator passes heat shrink

Ensure bare wire passes solder ring

5

White 1 White 1

Large tab Large keyway

Black 2 Black 3 Black 3 Black 2

Red 4 Red 4

Ensure wires match Pin Location

6

Female Connector

White 1

Black 2 Black 3

Red 4

White 1

Black Black

Red

Male Connector

White 1 Large keyway

Black 3 Black 2

Red 4

White 1

Black Black

Red

7

Ensure pins pass solder ring



Health Hazard. Overheating heat-shrinkable tubing or Solder Sleeves will produce fumes that may cause irritation. Use adequate ventilation and avoid charring or burning.

<p>8</p> <p>Apply hot air to melt solder and glue ring</p>	<p>9</p> <p>Slid heat shrink over solder sleeves</p>	<p>10</p> <p>Apply Heat Gun</p>
<p>11</p> <p>Start Here</p> <p>Heat Shrink</p>	<p>12</p> <p>Note: 4mm Space Do Not Force</p> <p>4mm Space</p>	
<p>14</p>	<p>15</p> <p>Apply hot air to melt solder and glue ring</p>	<p>16</p>

Terminal Connector Assembly Field Instructions

<p>1</p>  <p>Male Pin 1 Pin 2 Pin 3 Pin 4</p> <p>Female Pin 1 Large tab Pin 3 Pin 2 Pin 4</p> <p>Ensure pins & Bare wire pass solder ring</p> <ol style="list-style-type: none"> 1. Slide solder sleeves over pins 2. 2" jumper wire (stripped) 3. Jump Pin 1 + Pin 2 4. Jump Pin 3 + Pin 4 	<p>2</p> 
<p>3</p>  <p>Slide heat shrink over solder sleeves</p>	<p>4</p>  <p>Apply heat to shrink over solder sleeves</p>
<p>5</p>  <p>Pinch heat shrink to seal</p>	<p>6</p> 

Install Connector Information

- Examine the mating end of the connected large plastic tab (socket connector) or the large key way (pin connector) corresponds to the yellow wire. Each pin/socket position is numbered on the front and back of the connector body. Once the yellow wire is aligned correctly to pin #1, the other wires are aligned also.
- The wires must be in the order that they exit the cable end.

CAUTION : Health Hazard Overheating heat-shrinkable tubing or Solder Sleeves will produce fumes that may cause irritation. Use adequate ventilation and avoid charring or burning.

- Finish shrinking the tube, starting at the end opposite the connector.
- Heat the tubing end until adhesive melts and beads at tubing end.
- If a void is visible, use a glove or rag to squeeze the tube slightly and fill the void with molten adhesive.
- Keep heating the tubing section in the middle of tube until fully recovered.
- Avoid reheating the already shrunk section on the connector body.
- Proceed to the next step before the tube cools.

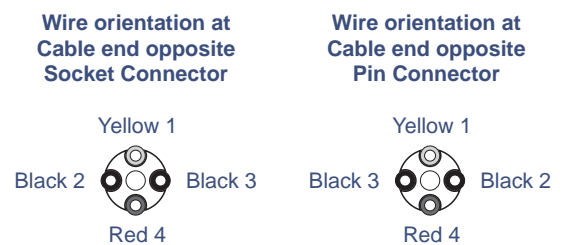
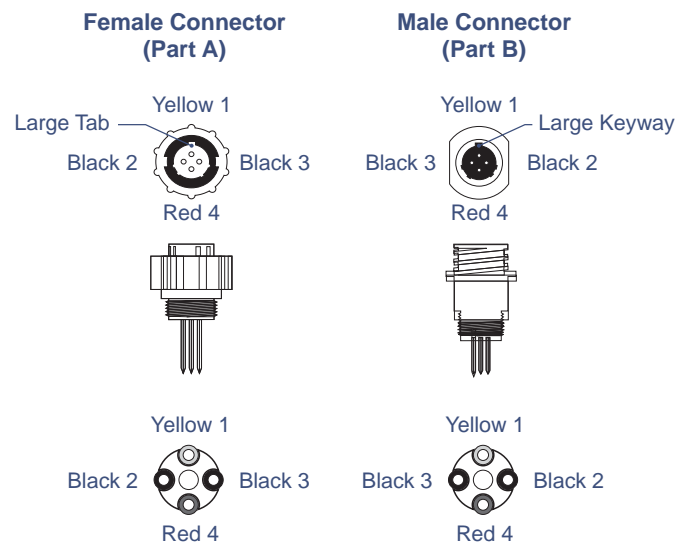
CAUTION : Burn Hazard Do not get hot adhesive on your bare skin. The hot adhesive will burn your skin.

- While the tubing is still hot, place tubing in the smaller opening of the crimp tool. Align opening with SolderSleeve/cable area. Crimp SCT tubing to cool and seal. Open and rotate crimp tool 90 degrees and crimp again to ensure proper adherence to the cable.
- If the tubing has moved more than 1/8 inch (3 mm) off the threaded connector, push the hot tubing back to the original position while supporting assembly using “holder” connector. You may have to reheat the tube. Hold the crimp tool in place while it cools the tube.
- Apply heat to tubing one last time to soften the creases made by the crimp tool. Do not overheat.
- Remove the crimp tool and let the assembly finish cooling.
- Remove the “holder” connector and for the pin connector, insert the silicone washer.

Electrical Test

- Attach the mating connector with posts to the connector to be tested.
- If both cable ends have connectors, attach a mating end termination at the opposite end. If there is no connector on the opposite cable end, prepare it according to steps 1 thru 3. Then twist together wires 1 & 2 and wires 3 & 4.
- Use an ohmmeter to measure the resistance between the connector posts.
- The resistance between post 1 & 2, or 3 & 4 should be about 4000Ω per 1000 feet (303 m) of cable length (i.e. a 100 ft. (30 m) cable should measure approximately 400Ω between the posts).
- The resistance between post 2 and 3 should be greater than 20 megohms.
- If the assembly fails any of the resistance tests;
 - Check that the wires are not touching at the opposite cable
 - If necessary, cut off and discard the connector and install a new one.

Note: Do not leave connector open to environment. If the connector becomes wet or contaminated, it will need to be replaced.



Warranty, Returns & Limitations

Warranty

Icon Process Controls Ltd warrants to the original purchaser of its products that such products will be free from defects in material and workmanship under normal use and service in accordance with instructions furnished by Icon Process Controls Ltd for a period of one year from the date of sale of such products. **Icon Process Controls Ltd** obligation under this warranty is solely and exclusively limited to the repair or replacement, at **Icon Process Controls Ltd** option, of the products or components, which **Icon Process Controls Ltd** examination determines to its satisfaction to be defective in material or workmanship within the warranty period. Icon Process Controls Ltd must be notified pursuant to the instructions below of any claim under this warranty within thirty (30) days of any claimed lack of conformity of the product. Any product repaired under this warranty will be warranted only for the remainder of the original warranty period. Any product provided as a replacement under this warranty will be warranted for the one year from the date of replacement.

Returns

Products cannot be returned to **Icon Process Controls Ltd** without prior authorization. To return a product that is thought to be defective, go to www.iconprocon.com, and submit a customer return (MRA) request form and follow the instructions therein. All warranty and non-warranty product returns to **Icon Process Controls Ltd** must be shipped prepaid and insured. **Icon Process Controls Ltd** will not be responsible for any products lost or damaged in shipment.

Limitations

This warranty does not apply to products which: 1) are beyond the warranty period or are products for which the original purchaser does not follow the warranty procedures outlined above; 2) have been subjected to electrical, mechanical or chemical damage due to improper, accidental or negligent use; 3) have been modified or altered; 4) anyone other than service personnel authorized by Icon Process Controls Ltd have attempted to repair; 5) have been involved in accidents or natural disasters; or 6) are damaged during return shipment to **Icon Process Controls Ltd** reserves the right to unilaterally waive this warranty and dispose of any product returned to **Icon Process Controls Ltd** where: 1) there is evidence of a potentially hazardous material present with the product; or 2) the product has remained unclaimed at Icon Process Controls Ltd for more than 30 days after Icon Process Controls Ltd has dutifully requested disposition. This warranty contains the sole express warranty made by **Icon Process Controls Ltd** in connection with its products. **ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY DISCLAIMED.** The remedies of repair or replacement as stated above are the exclusive remedies for the breach of this warranty. **IN NO EVENT SHALL Icon Process Controls Ltd BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING PERSONAL OR REAL PROPERTY OR FOR INJURY TO ANY PERSON. THIS WARRANTY CONSTITUTES THE FINAL, COMPLETE AND EXCLUSIVE STATEMENT OF WARRANTY TERMS AND NO PERSON IS AUTHORIZED TO MAKE ANY OTHER WARRANTIES OR REPRESENTATIONS ON BEHALF OF Icon Process Controls Ltd.** This warranty will be interpreted pursuant to the laws of the province of Ontario, Canada.

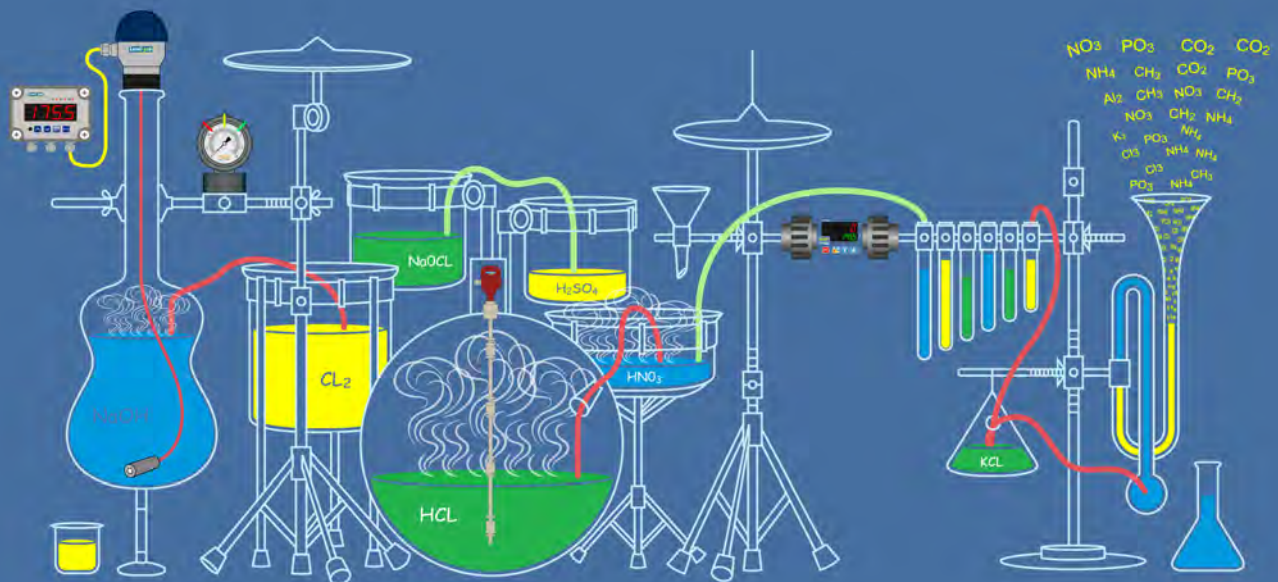
If any portion of this warranty is held to be invalid or unenforceable for any reason, such finding will not invalidate any other provision of this warranty

For additional product documentation and technical support visit www.iconprocon.com | e-mail: sales@iconprocon.com | support@iconprocon.com | Ph: 905.469.9283



Corrosion-Free
Instrumentation Equipment

CORROSION



We Measure & Control
All Kinds of Corrosive Liquid S#*o%

'Industry's Most Extensive Line of
Corrosion-Free Instrumentation' Equipment'



Corrosion-Free
Instrumentation Equipment