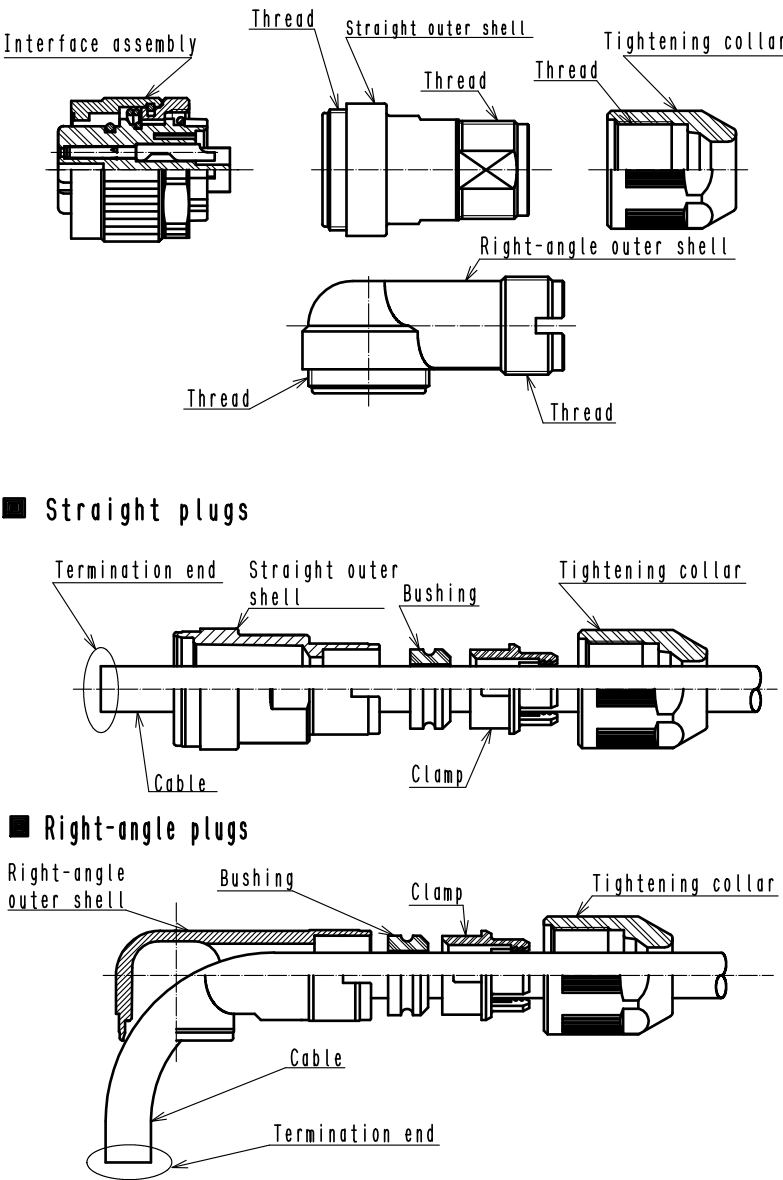
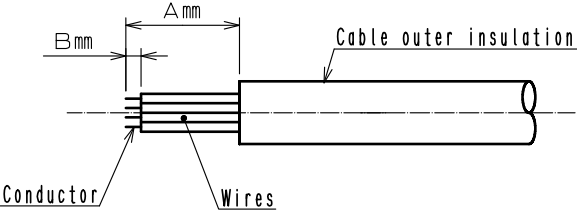


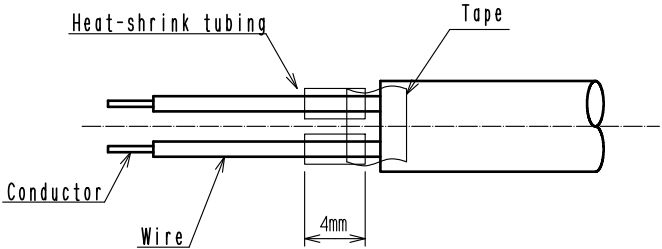
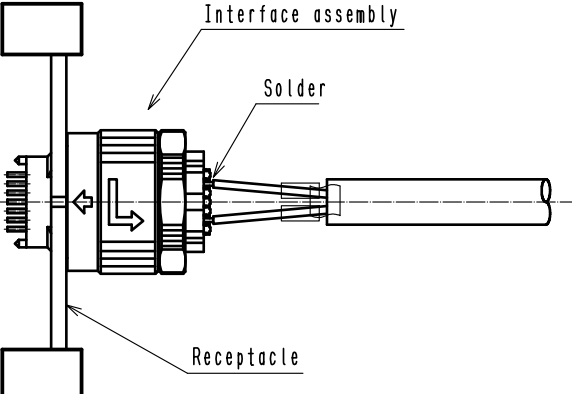
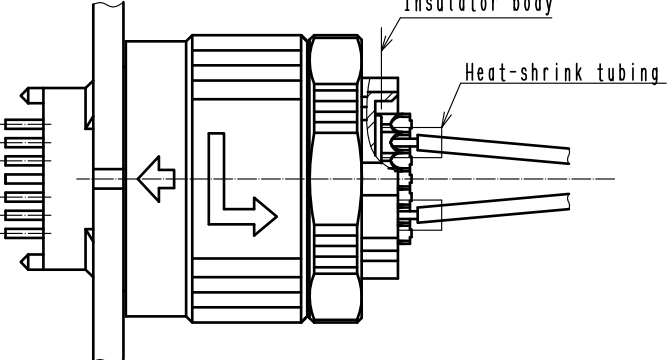

1. Scope

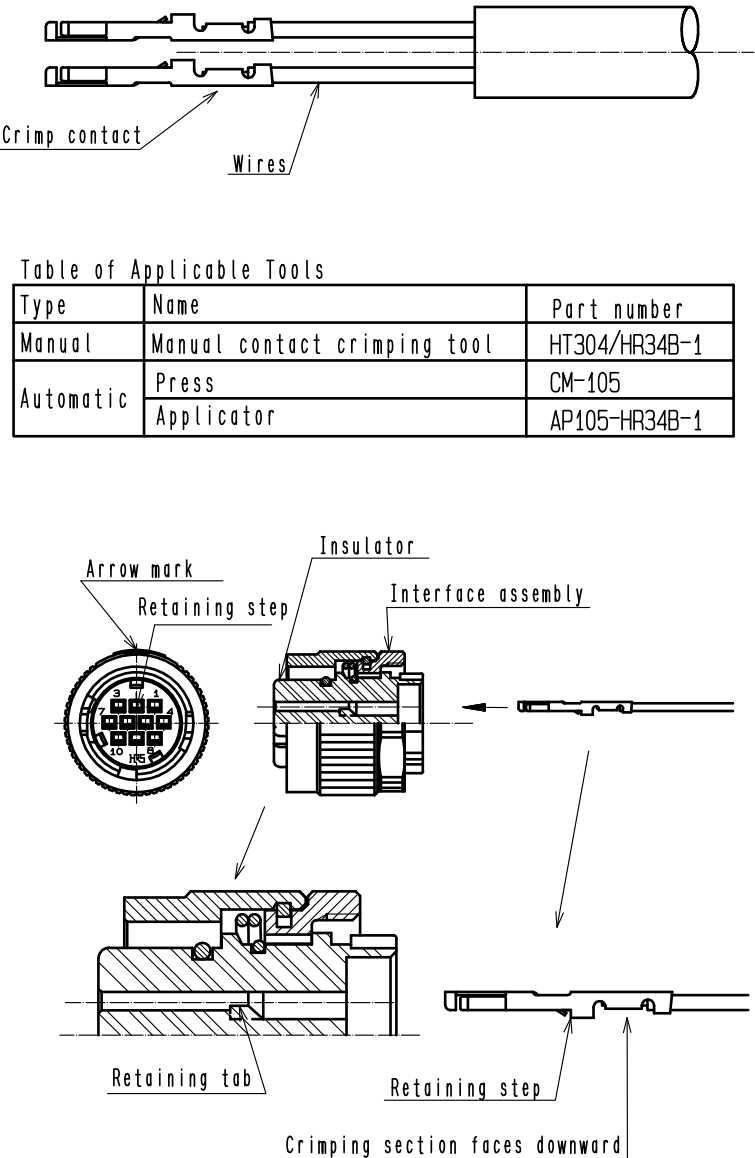

This document provides instructions for the cable assembly of HR34B plug connectors.

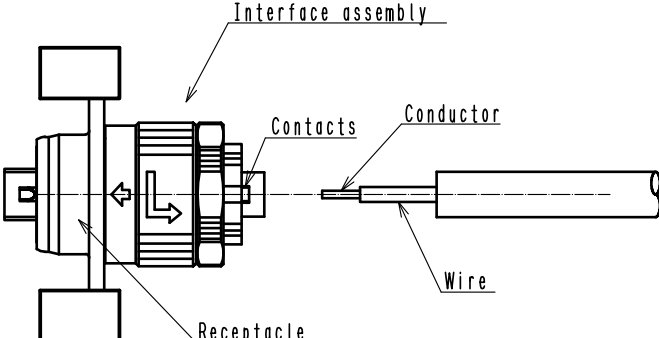
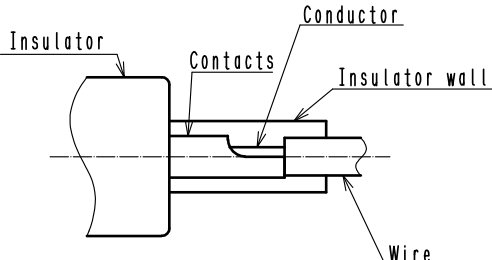
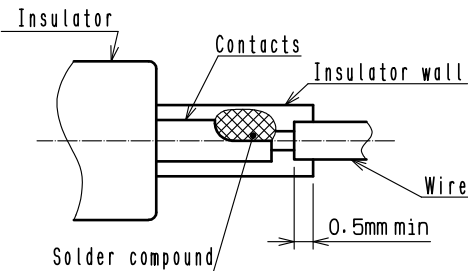
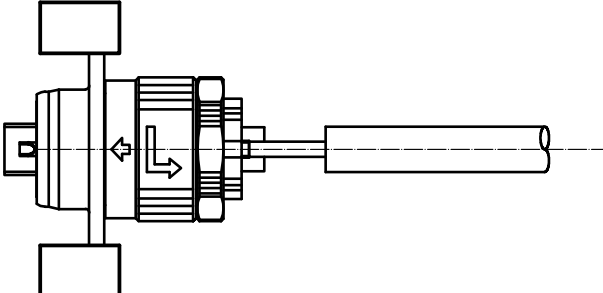
2. Termination procedures

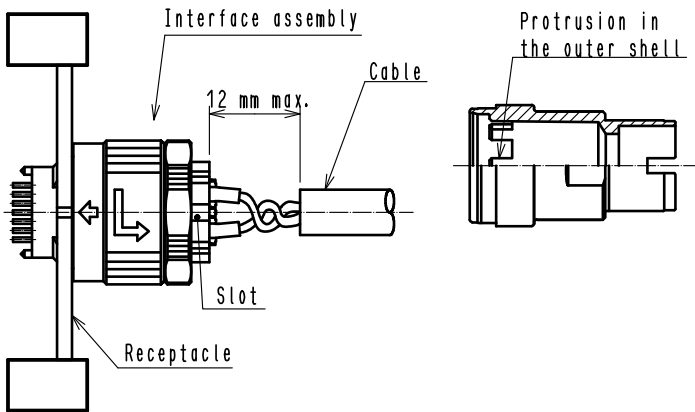
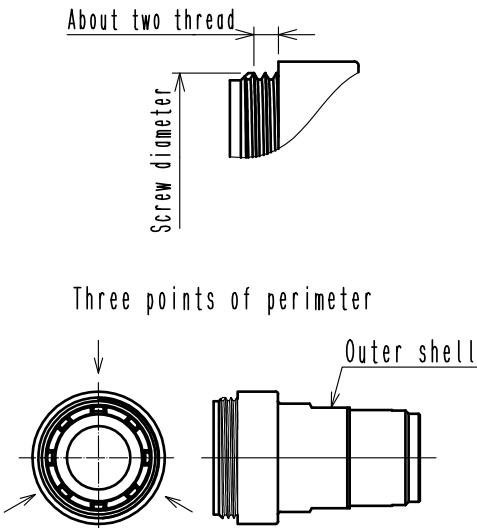
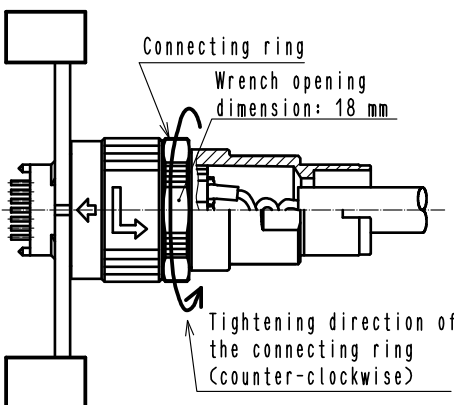
No.	Illustration	Operation
1	<div><p>■ Straight plugs</p><p>■ Right-angle plugs</p><p>◆ Disassembly of connectors</p><p>After mating to an applicable receptacle, carefully loosen the connecting ring (rotate clockwise) and remove the straight (or right angle) outer shell.</p><p>CAUTION</p><p>When loosening the connecting ring, be careful not to accidentally rotate the lock collar together. Rotating the lock collar forcefully can damage the rotation stopper (protruding part from the housing) which render the connector unusable.</p></div>	
<div><div><div>COUNT</div><div>17</div></div><div><div>DESCRIPTION OF REVISIONS</div><div>DIS-C-00004060</div></div></div> <div><div>DESIGNED</div><div>KN. IKEHARA</div></div> <div><div>CHECKED</div><div>HY. KOBAYASHI</div></div> <div><div>DATE</div><div>20200814</div></div>	<div><div>名称</div><div>TITLE</div></div> <div><div>TERMINATION PROCEDURE FOR HR34B PLUG CONNECTORS.</div></div> <div><div>技術指定書</div><div>TECHNICAL SPECIFICATION</div></div>	<div><div><div><div>APPROVED</div><div>SU. OBARA</div><div>20100114</div></div><div><div>CHECKED</div><div>SU. OBARA</div><div>20100114</div></div><div><div>CHARGED</div><div>HT. ZENBA</div><div>20100114</div></div><div><div>WRITTEN</div><div>HT. ZENBA</div><div>20100114</div></div></div><div><div><div>ETAD-C0116</div><div>1</div><div>8</div></div></div></div>

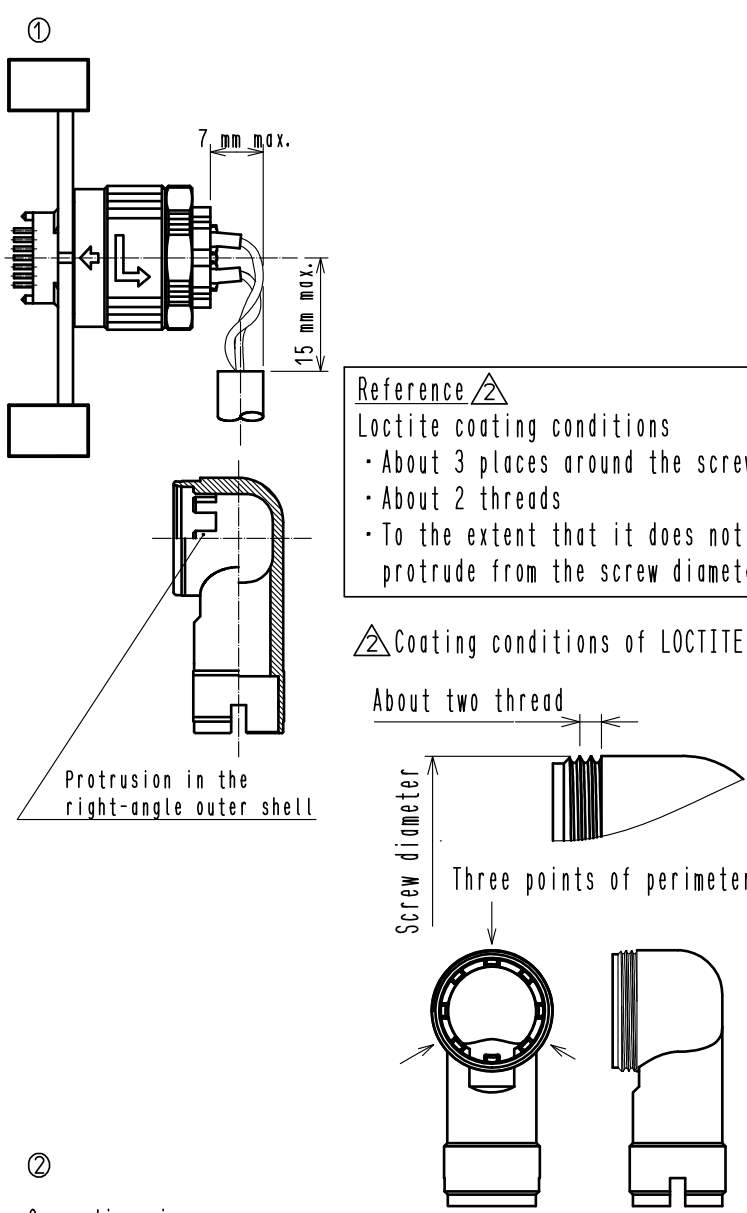






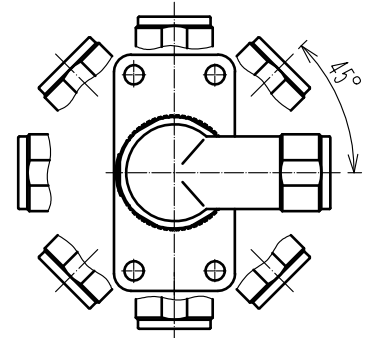
No.	Illustration	Operation															
2	 <p>■ Straight plugs</p> <p>■ Right-angle plugs</p>	<p>◆Connector assembly furnishings</p> <p>Using spray, brush or another method, coat all threads of the following parts with Loctite 7649 (primer) (or equivalent) manufactured by Henkel Japan Ltd.</p> <p>(1) Straight (or right angle) outer shell (outerthreads)</p> <p>(2) Tightening collar (inner thread)</p> <p>Allow for full drying in a well ventilated area (30 to 70 seconds), assuring that there is NO contamination of the coated areas.</p> <p>Passing of the cable through connector parts</p> <p>Pass the cable through the individual parts as shown on the illustration (in the correct order) making sure that the termination end is on the correct side.</p> <p>◆Termination of the cable</p> <p>Using correct tools strip the cable and individual wires per the dimensions shown in the table. Observe the allowed tolerances and avoid damage to the insulation or conductors.</p> <table border="1" data-bbox="293 1574 1021 1765"> <thead> <tr> <th></th><th>A</th><th>B</th></tr> </thead> <tbody> <tr> <td>10-position, wire solder</td><td>15 $\frac{+0}{-0}$</td><td>2\pm0.5</td></tr> <tr> <td>10-position, crimp</td><td>20 $\frac{+0}{-0}$</td><td>3.2\pm0.3</td></tr> <tr> <td>4-position, wire solder straight</td><td>16 $\frac{+0}{-0}$</td><td>5\pm0.5</td></tr> <tr> <td>4-position, wire solder right-angle</td><td>20 $\frac{+0}{-0}$</td><td>5\pm0.5</td></tr> </tbody> </table>		A	B	10-position, wire solder	15 $\frac{+0}{-0}$	2 \pm 0.5	10-position, crimp	20 $\frac{+0}{-0}$	3.2 \pm 0.3	4-position, wire solder straight	16 $\frac{+0}{-0}$	5 \pm 0.5	4-position, wire solder right-angle	20 $\frac{+0}{-0}$	5 \pm 0.5
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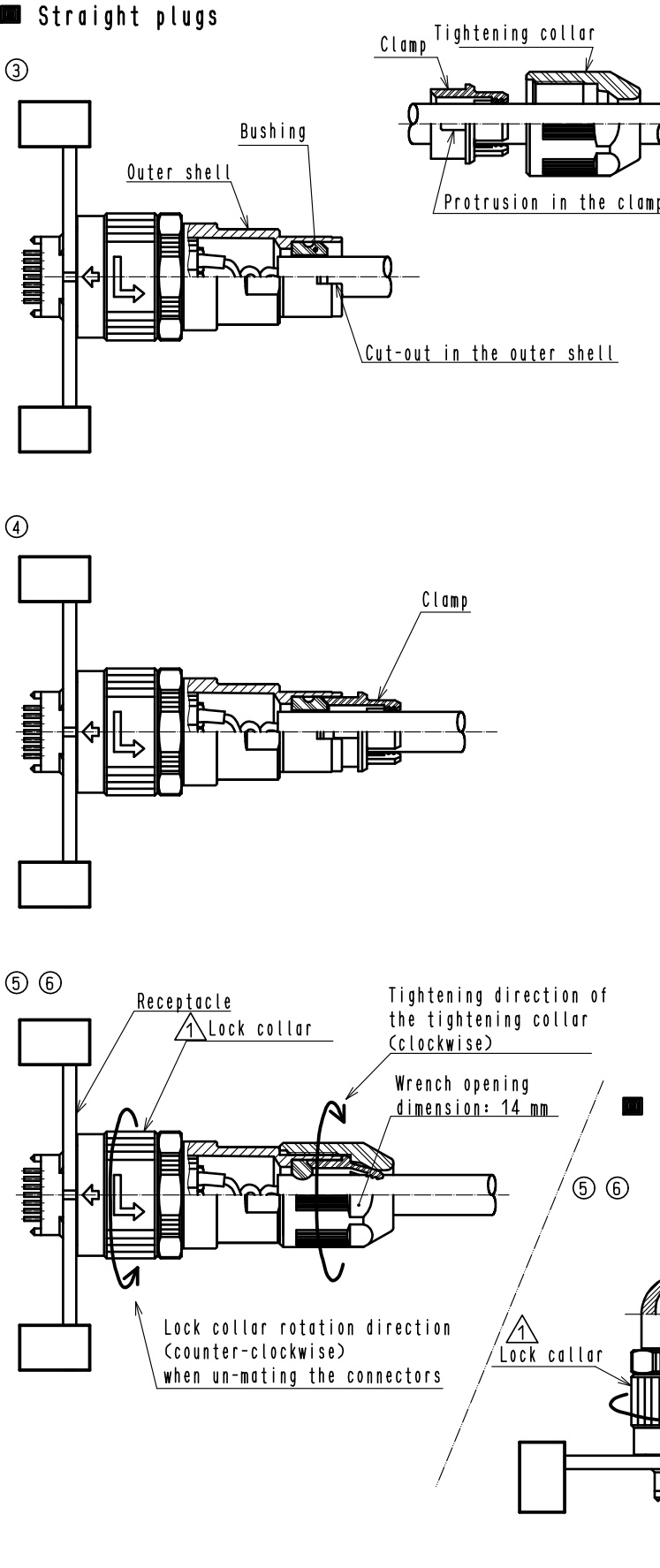
No.	Illustration	Operation
4	<p data-bbox="292 219 363 246">① ②</p>  <p data-bbox="292 645 319 672">③</p>  <p data-bbox="292 1243 319 1270">④</p> 	<p data-bbox="1074 136 1509 203">◆Wire termination of the connector 4-1 10-position wire solder</p> <p data-bbox="1074 226 1509 304">① Pre-solder the exposed conductors making sure that no individual strands are protruding.</p> <p data-bbox="1074 338 1509 562">② Prepare 4 mm long pieces of appropriate heat-shrink tubing and pass each over the wires toward the outer insulation of the cable, as shown on the illustration. Secure each of them temporary to the outer insulation.</p> <p data-bbox="1074 595 1509 730">Note: The heat-shrink tubing will need to be moved over the solder joints after the completion of the soldering process.</p> <p data-bbox="1074 763 1509 898">③ Mate the Interface assembly with the corresponding receptacle secured in a holding fixture (not supplied) or secure it by other means.</p> <p data-bbox="1106 931 1509 987">Assure correct orientation and complete lock.</p> <p data-bbox="1106 1021 1509 1133">Fully insert individual conductors in the corresponding solder cups and solder one at the time.</p> <p data-bbox="1106 1167 1509 1245">Assure that the solder compound has melted sufficiently and the solder joints are secure.</p> <p data-bbox="1074 1279 1509 1379">Solder connection conditions • Soldering temperature : $350 \pm 10^{\circ}\text{C}$ • Soldering time : Within 3 seconds</p> <p data-bbox="1074 1435 1174 1462">Notes </p> <p data-bbox="1074 1469 1509 1570">1) Make sure that the solder is fully fused in the solder connection between the wire and the contacts.</p> <p data-bbox="1074 1603 1509 1738">2) Please strictly observe the soldering conditions. Otherwise, the insulator may melt or the contacts may come off.</p> <p data-bbox="1074 1794 1509 1962">④ Slide forward each of the heat-shrink tubing over the solder joints making sure that it rests against the surface of the insulator. Using a heat gun shrink each over the solder joints.</p> <p data-bbox="1090 1995 1509 2074">Exercise caution not to damage the wire and cable insulation or other components.</p>

No.	Illustration	Operation											
4	<p data-bbox="292 219 363 253">① ②</p>  <table border="1" data-bbox="296 584 1019 763"> <caption>Table of Applicable Tools</caption> <thead> <tr> <th>Type</th><th>Name</th><th>Part number</th></tr> </thead> <tbody> <tr> <td>Manual</td><td>Manual contact crimping tool</td><td>HT304/HR34B-1</td></tr> <tr> <td rowspan="2">Automatic</td><td>Press</td><td>CM-105</td></tr> <tr> <td>Applicator</td><td>AP105-HR34B-1</td></tr> </tbody> </table>	Type	Name	Part number	Manual	Manual contact crimping tool	HT304/HR34B-1	Automatic	Press	CM-105	Applicator	AP105-HR34B-1	<p data-bbox="1074 136 1382 170">4-2 10-position crimping</p> <p data-bbox="1074 203 1517 398">① Following the instructions enclosed with the applicable tool crimp the contacts to the wires. ② Verify the crimp height and configuration per the Crimp Condition Table supplied with the tools</p> <p data-bbox="1074 477 1457 611">Insert contact in the insulator with the retaining tab facing downward and the retaining step oriented as shown on the illustration.</p> <p data-bbox="1074 645 1517 701">Full insertion will be confirmed with audible click and tactile feel.</p> <p data-bbox="1074 723 1517 813">Verify full insertion with a slight pull on the wire (pull force of 3 N max.)</p> <p data-bbox="1074 835 1177 869">Notes </p> <p data-bbox="1074 880 1517 992">1) Incorrect orientation of the contact will result in damaged contacts.</p> <p data-bbox="1074 992 1517 1104">2) Do NOT push contacts further than needed to retain in the insulator body.</p> <p data-bbox="1074 1104 1517 1238">3) Please note that pulling the lead wire with a force of 20 N or more after insertion will damage the insulator of the P case.</p> <p data-bbox="1074 1238 1517 1350">4) When inserting the contacts, be careful not to deform the contacts. If the contacts are deformed, it may cause poor contact or disconnection.</p> <p data-bbox="1074 1350 1517 1608">5) If the cable is soft, it may be difficult to insert the contacts. In this case, insert the contacts by holding the part near the contacts of the cable.</p>
Type	Name	Part number											
Manual	Manual contact crimping tool	HT304/HR34B-1											
Automatic	Press	CM-105											
	Applicator	AP105-HR34B-1											

No.	Illustration	Operation
4	<p>①</p>  <p>②</p>   	<p>4-3 4-position wire solder</p> <p>① Pre-solder the exposed conductors making sure that no individual strands are protruding.</p> <p>Mate the Interface assembly with the corresponding receptacle secured in a holding fixture (not supplied) or secured by other means. Assure correct orientation and complete lock.</p> <p>② Fully insert individual conductors in the corresponding solder cups and solder one at the time, assuring the correct position in relation to the insulator walls (as illustrated), with the wire insulation 0.5 mm min. below the edge of the insulator wall.</p> <p>Assure that the solder compound melted sufficiently and the solder joints are secure.</p> <p>Note: Secure that the solder compound has melted sufficiently and the solder joints are secure.</p>

No.	Illustration	Operation
51	<p>■ Straight plugs</p> <p>①</p>  <p>② Coating conditions of LOCTITE</p>  <p>②</p>  <p>⚠ Caution ⚠ Be sure to stop the fixing of the receptacle so that it will not move even with the torque to assemble the connector. If not properly secured, the connector may tilt during assembly, resulting in damage to the connector or tightening with the specified torque.</p>	<p>◆ Assembly of connectors</p> <p>① Bring the insulation edge of the cable to the dimensions shown on the illustrations (12mm max. for the straight outer shell, 7 mm max. and 15mm max. for the right angle outer shell) by forming of the wires. Make sure that there is no force applied to the individual solder or crimp joints.</p> <p>It is critical that the 12 mm max. or 7 mm and 15 mm max. dimensions (as applicable) are maintained through the completion of the assembly.</p> <p>Failure to do so may result in failure of the cable strain relief and waterproof performance.</p> <p>② Coat the threads on outer shell with a Loctite 243® (or equivalent) compound.</p> <p>Align the protrusion in the outer shell with the corresponding slot on the back of the Interface assembly, insert and tighten the connecting ring, rotating it counterclockwise (0.9N.m to 1N.m torque).</p> <p>③ Loctite coating conditions (reference)</p> <ul style="list-style-type: none"> • About 3 places around the screw • About 2 threads • To the extent that it does not protrude from the screw diameter <p>Notes</p> <p>1) Position the right angle outer shell as required at intervals of 45° with respect to the Interface assembly.</p> <p>2) Be sure to assemble the outer shell straight into the P case block. If the outer shell is installed at an angle, the O-ring built into the P case block may fall off or get caught, resulting in poor waterproofing.</p>

No.	Illustration	Operation
51	<p>■ Right-angle plugs</p> <p>①</p>  <p>7 mm max.</p> <p>15 mm max.</p> <p>Reference </p> <p>Loctite coating conditions</p> <ul style="list-style-type: none"> • About 3 places around the screw • About 2 threads • To the extent that it does not protrude from the screw diameter. <p> Coating conditions of LOCTITE</p> <p>About two thread</p> <p>Screw diameter</p> <p>Three points of perimeter</p> <p>Protrusion in the right-angle outer shell</p> <p>②</p> <p>Connecting ring</p> <p>Spanner width dimension: 3.4mm</p> <p>Wrench opening dimension: 18 mm</p> <p>Tightening direction of the connecting ring (counter-clockwise)</p> <p> Caution </p> <p>Be sure to stop the fixing of the receptacle so that it will not move even with the torque to assemble the connector.</p> <p>If not properly secured, the connector may tilt during assembly, resulting in damage to the connector or tightening with the specified torque.</p>	<p>◆ Assembly of connectors</p> <p>① Bring the insulation edge of the cable to the dimensions shown on the illustrations (12mm max. for the straight outer shell, 7 mm max. and 15mm max. for the right angle outer shell) by forming of the wires. Make sure that there is no force applied to the individual solder or crimp joints.</p> <p>It is critical that the 12 mm max. or 7 mm and 15 mm max. dimensions (as applicable) are maintained through the completion of the assembly.</p> <p>Failure to do so may result in failure of the cable strain relief and waterproof performance.</p> <p> Coat the threads on outer shell with a Loctite 243® (or equivalent) compound.</p> <p>Align the protrusion in the outer shell with the corresponding slot on the back of the Interface assembly, insert and tighten the connecting ring, rotating it counterclockwise (0.9N.m to 1N.m torque).</p> <p>Notes</p> <p>1) Position the right angle outer shell as required at intervals of 45° with respect to the Interface assembly.</p> <p> 2) Be sure to assemble the outer shell straight into the P case block.</p> <p>If the outer shell is installed at an angle, the O-ring built into the P case block may fall off or get caught, resulting in poor waterproofing.</p> <p>Installation positions for the right-angle outer shell</p> 

No.	Illustration	Operation
51	<p>■ Straight plugs</p>  <p>▲ CAUTION ▲</p> <p>Depending on the hardness of the cable, a gap may be visible between the tightening collar and the outer shell, but be careful not to tighten further. Tightening until there is no gap may cause damage or deterioration of performance.</p>	<p>◆ Assembly of connectors (continued)</p> <p>③ Install the bushing at the specified position as indicated in the illustration on the left.</p> <p>④ Install the clamp, making sure that the protrusion fits into the corresponding slot in the outer shell.</p> <p>⑤ Coat the threads on outer shell with a Loctite 243 (or equivalent) compound and attach the tightening collar (0.9N.m to 1N.m torque), making sure that the clamp remains in the correct position.</p> <p>Failure to do so may result in failure of the cable strain relief and waterproof performance.</p> <p>▲ Note</p> <p>When tightening, hold the cable and tighten so that the rib of the clamp and the groove of the outer shell are not misaligned. If the ribs of the clamp and the groove of the outer shell are misaligned or the cable rotates, problems such as inability to obtain waterproofness, reduced cable clamp strength, and broken wires may occur.</p> <p>⑥ Turn the lock collar in the direction shown and separate the plug from the receptacle. In addition, it is recommended to perform a waterproof test and an electrical test by any method.</p> <p>■ Right-angle plugs</p> <p>Tightening direction of the tightening collar (clockwise)</p> <p>Wrench opening dimension: 14 mm</p> <p>⑤ ⑥</p> <p>Lock collar rotation direction (counter-clockwise) when un-mating the connectors</p>
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