Technical overview

ITT has been manufacturing Trident contacts for decades. These contacts have enjoyed a rich history in many Industrial and Transportation applications. Now, ITT ICS expands its contact innovation by enhancing the historical design and providing superior performance with our new, T2P contact system.

The T2P (two piece) contact system represents an innovative stamped and formed contact created for use in the Trident product range including the APD 6 / 7 way connectors. Noting its extensive benefits, the T2P also represents an excellent choice for higher density solutions in other product ranges.

Performance specifications, materials & finishes

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>High conductivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body material</td>
<td>Brass</td>
<td>Copper Alloy</td>
</tr>
<tr>
<td>Retention spring material</td>
<td>Stainless Steel</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Contact retention force (min)</td>
<td>67N</td>
<td>67N</td>
</tr>
<tr>
<td>Current rating*</td>
<td>13 A</td>
<td>16 A</td>
</tr>
<tr>
<td>Contact resistance (initial)</td>
<td>5mOhm</td>
<td>5mOhm</td>
</tr>
<tr>
<td>Wire sizes</td>
<td>AWG 14 - 26</td>
<td>AWG 14 - 26</td>
</tr>
<tr>
<td>Mechanical endurance (max.)**</td>
<td>200 mating cycles</td>
<td>200 mating cycles</td>
</tr>
<tr>
<td>Plating options</td>
<td>Tin, gold flash, gold</td>
<td>Tin, gold flash, gold</td>
</tr>
</tbody>
</table>

* this data is for individual contacts in isolation, when more contacts are used a derating factor must be applied. Due to the multiplicity of connector layouts and cables usable each case needs to be considered individually

** depending on plating used

Applications

Industrial:
- wire to board (PCB) connections
- test equipment
- coin operated machines
- industrial electronics
- robotic systems
- manufacturing equipment
- outdoor electronics
- communication equipment
- ... others

Transportation:
- cabin applications
- cabin & fire wall
- lighting
- cooling & heating systems
- ... others in trucks / busses / Off-road, agricultural and construction vehicles

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Trident T2P contact system

Features & Benefits

ITT introduces a new design and enhanced version of the well known T2P stamped and formed contact system. New contact features lead to significantly improved performance while the contacts remain fully intermateable and interchangeable to all connectors using T2P contacts. Existing Trident extraction tools will fully support the new contact design. In order to achieve optimum performance in terms of contact fit and alignment, the crimp tool for AWG 14 and AWG 16-18 contacts must be updated.

Along with all Trident products (Ringlock, Neptune, Neptune Metal, Slimline, Snap Together and Multiway) the new contact is used in APD 6/7 way connectors and it is also an interesting choice for other connector solutions.

Tin & gold plated versions in standard & high conductivity materials

- up to 200 mating cycles
- up to 16A current rating

Clip made of stainless steel material

- reduced insertion forces for ease of assembly
- higher retention forces for even higher reliability

Material choice and improved design with three prongs

- smooth and easy disassembly with extraction tool

Stainless steel clip with improved design

- greatly improved capability to replace contacts without the loss of sealing

Contact clip with three prongs and optimized body shape

- excellent contact alignment leading to secure connector mating
e.g. T2P20MC1LT = AWG 20-22, pin, standard (13 A), packed in bags of 100 pcs, tin plating

### Part number details – standard contacts:

<table>
<thead>
<tr>
<th>Wire Range mm²</th>
<th>Wire Size</th>
<th>Contact</th>
<th>Tin Plating</th>
<th>Gold Flash</th>
<th>Part Number - Pack (100)</th>
<th>Part Number - Reeled (3000)</th>
<th>Insulation Diameter</th>
<th>Strip Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,08-0,25</td>
<td>26-24 AWG</td>
<td>Pin</td>
<td>192990-0020</td>
<td>192990-0448</td>
<td>192990-0048</td>
<td>192990-0406</td>
<td>0,89 (.35)-1,58 (.062)</td>
<td>3,95 (.155)-0,25 (.009)</td>
</tr>
<tr>
<td>0,25-0,50</td>
<td>22-20 AWG</td>
<td>Pin</td>
<td>192990-0012</td>
<td>192990-0424</td>
<td>192990-0424</td>
<td>192990-0380</td>
<td>1,17 (.046)-2,08 (.081)</td>
<td>3,95 (.155)-0,25 (.009)</td>
</tr>
<tr>
<td>0,75-1,50</td>
<td>18-16 AWG</td>
<td>Pin</td>
<td>192990-0002</td>
<td>192990-0300</td>
<td>192990-0300</td>
<td>192990-0250</td>
<td>2,00 (.078)-3,00 (.118)</td>
<td>3,95 (.155)-0,25 (.009)</td>
</tr>
<tr>
<td>1,50-2,50</td>
<td>16-14 AWG</td>
<td>Pin</td>
<td>192990-0006</td>
<td>192990-0250</td>
<td>192990-0250</td>
<td>192990-0200</td>
<td>3,95 (.155)-0,25 (.009)</td>
<td>3,95 (.155)-0,25 (.009)</td>
</tr>
</tbody>
</table>

### Part number details – high conductivity contacts:

<table>
<thead>
<tr>
<th>Wire Range mm²</th>
<th>Wire Size</th>
<th>Contact</th>
<th>Tin Plating</th>
<th>Gold Flash</th>
<th>Insulation Diameter</th>
<th>Strip Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,08-0,25</td>
<td>26-24 AWG</td>
<td>Pin</td>
<td>192990-0020</td>
<td>192990-0448</td>
<td>0,89 (.35)-1,58 (.062)</td>
<td>3,95 (.155)-0,25 (.009)</td>
</tr>
<tr>
<td>0,25-0,50</td>
<td>22-20 AWG</td>
<td>Pin</td>
<td>192990-0012</td>
<td>192990-0424</td>
<td>1,17 (.046)-2,08 (.081)</td>
<td>3,95 (.155)-0,25 (.009)</td>
</tr>
<tr>
<td>0,75-1,50</td>
<td>18-16 AWG</td>
<td>Pin</td>
<td>192990-0002</td>
<td>192990-0300</td>
<td>2,00 (.078)-3,00 (.118)</td>
<td>3,95 (.155)-0,25 (.009)</td>
</tr>
<tr>
<td>1,50-2,50</td>
<td>16-14 AWG</td>
<td>Pin</td>
<td>192990-0006</td>
<td>192990-0250</td>
<td>Without insulation support</td>
<td>5,60 (.220)-0,25 (.009)</td>
</tr>
</tbody>
</table>
Ordering information - tooling

Contact dimensions:

**Size 14 to 16 AWG**, No Insulation Grip

![Image of contact size 14 to 16 AWG]

**Size 16 to 26 AWG**, Insulation Grip

![Image of contact size 16 to 26 AWG]

Full range of customer tooling is available

<table>
<thead>
<tr>
<th>Tool</th>
<th>Contact cross section</th>
<th>Part number 14-16 AWG</th>
<th>Part number 16-18 AWG</th>
<th>Part number 20-26 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ratcheted hand tool</strong></td>
<td>27.36 (1.074)</td>
<td>121586-5238</td>
<td>121586-5237</td>
<td>121586-5236</td>
</tr>
<tr>
<td>Single action hand tool, factory calibrated to support all available crimp sizes. Ideal for low volume applications. For detailed crimp specification CAS25047E consult factory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Contact extraction tool</strong></td>
<td>27.69 (1.090)</td>
<td>192922-1450</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple hand tool readily removes contacts during assembly or if replacement of contacts is required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mini applicator</strong></td>
<td>27.91 (1.095)</td>
<td>121586-5240</td>
<td>121586-5141</td>
<td>121586-5217</td>
</tr>
<tr>
<td>Interchangeable modules that fit into many standard crimping machines. For detailed crimp specification CAS25046E consult factory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adjustment Fixture</strong></td>
<td>17.91 (0.705)</td>
<td>317-8675-133</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support tool to verify correct crimp setting of mini applicator tooling. The crimped contact is inserted in the fixture to check the crimp result. For detailed crimp specification CAS25046E consult factory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contact dimensions:

**Size 14 to 16 AWG**, No Insulation Grip

![Image of contact size 14 to 16 AWG]

**Size 16 to 26 AWG**, Insulation Grip

![Image of contact size 16 to 26 AWG]
Customer Support Locations

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