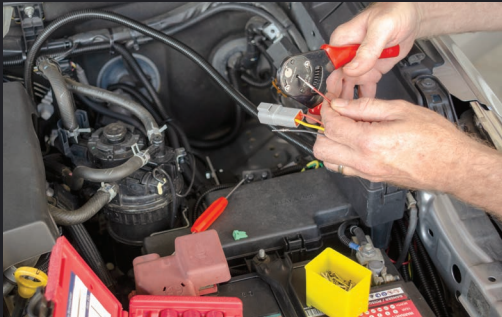

Contacts & Tools



Contacts & Tools



Contacts & Cavity Plugs **98**



Crimping Tools **104**



Removal Tools **108**

Contacts & Tools

Contacts & Cavity Plugs



- Made from high-quality copper alloys, finished with nickel, tin or gold-plating.
- Exceptional durability, performance, corrosion and oxidation resistance.
- Exceed demands of today's industrial electrical systems.
- No retention tangs required, eliminating potential contact damage.
- Solder is not recommended, eliminating potential flux corrosion.
- Pack quantities of varying sizes available.

Material : Copper Alloy
 Plating : Nickel, Tin or Gold

Bulk packaged quantities calculated by weight, a +/- 2% variation acceptable.

Solid Contacts



TE DEUTSCH solid contacts are designed for use with larger wire size and heavy-duty applications. Solid contacts are manufactured using a cold heading process with solid copper wire and are available with either a nickel or gold-plating finish.

Solid contacts terminate wire from 20 AWG to 6 AWG (0.5 – 13mm²) and are available in 5 sizes each of the pin and socket. The applicable contact is determined by the size of the conductor only.

Green & Purple Band Contacts

Size 16 and size 20 solid contacts are both available to suit two wire sizes.

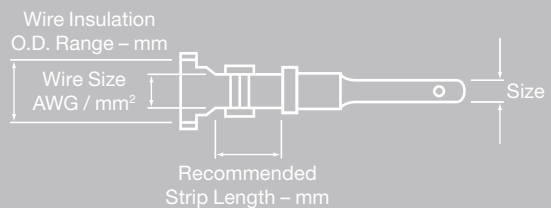
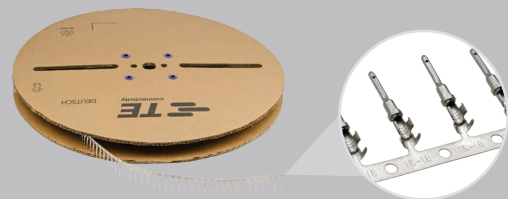
Contacts with the **green** band marking accept the larger wire size of 14 AWG (1.0 – 2.0mm²).

Contacts with the **purple** band marking accept the larger wire size of 18–16 AWG (0.75 – 1.3mm²).



Solid style contacts are sold in bulk.
 Bulk packaged quantities calculated by weight, a +/- 2% variation acceptable.

Stamped & Formed Contacts (F-Crimp)





















TE DEUTSCH stamped & formed contacts are designed for use where wire termination costs are of primary concern without sacrificing reliability of electrical circuits. The stamped & formed contacts are made on a precision stamping machine using flat strip stock, and then a durable and corrosion-proof nickel-plating or optional gold-plating is applied.

The stamped & formed style contacts terminate wire from 22 AWG to 10 AWG (0.35 – 6.0mm²) and are available in multiple sizes to accommodate a wide range of wire insulation.

The specific contact is determined by the outside diameter of wire insulation and conductor size.

Stamped & formed contacts are available as cut strips or in pack quantities including complete reels.

Contacts – Stamped & Formed (F-Crimp)

| Size | Pin | Part No. | Socket | Plating | Wire Size AWG | Wire Size mm ² | Wire Insulation O.D. Range (mm) | Recommended Strip Length (mm) | Max. Rated A @ 125°C Continuous |
|------|---|---------------------|---|------------|------------------|------------------------------|------------------------------------|----------------------------------|------------------------------------|
| 20 |  | 1060-20-0122 |  | Nickel | 22 – 16 | 0.3 – 1.5 | 1.91 – 3.15 | 4.0 – 5.0 | 7.5 |
| |  | 1060-20-0144 |  | Gold | | | | | |
| 16 |  | 1060-16-0622 |  | Nickel | 20 – 16 | 0.5 – 1.0 | 1.40 – 2.54 | 3.8 – 5.0 | 13 |
| |  | 1060-14-0122 |  | Nickel | 18 – 14 | 0.75 – 2.0 | 2.41 – 3.81 | 3.8 – 5.0 | |
| |  | 1060-14-0144 | — | Gold | 18 – 14 | 0.75 – 2.0 | 2.41 – 3.81 | 3.8 – 5.0 | |
| |  | 1060-16-0122 |  | Nickel | 18 – 14 | 0.75 – 2.0 | 1.91 – 3.55 | 3.8 – 5.0 | |
| |  | 1060-16-0144 |  | Gold | 18 – 14 | 0.75 – 2.0 | 1.91 – 3.55 | 3.8 – 5.0 | |
| | — | — |  | Nickel | 16 – 12 | 1.3 – 3.3 | 1.91 – 3.55 | 4.5 – 5.8 | |
| | — | — | 1062-16-1222 | | | | | | |
| 12 |  | 1060-12-0166 |  | Tin/Nickel | 14 – 12 | 2.0 – 3.3 | 2.87 – 4.47 | 5.7 – 6.9 | 25 |
| |  | 1060-12-0222 |  | Nickel | 12 – 10 | 3.3 – 5.2 | 3.56 – 5.18 | 5.8 – 7.0 | |


























Contacts – Stamped & Formed (F-Crimp) – Pack Quantities

| Size | Plating | Part No. | Pins | | Part No. | Sockets | |
|------|---------|---------------------|------|----------|---------------------|---------|----------|
| | | | 100 | Reel Qty | | 100 | Reel Qty |
| 20 | Nickel | 1060-20-0122 | ● | 4000 | 1062-20-0122 | ● | 4000 |
| | Nickel | 1060-16-0122 | ● | 4000 | 1062-16-0122 | ● | 4000 |
| 16 | Gold | 1060-16-0144 | — | 4000 | 1062-16-0144 | ● | 4000 |
| | Nickel | 1060-14-0122 | ● | 3200 | 1062-14-0122 | ● | 4000 |
| 12 | Nickel | 1060-12-0222 | ● | 2000 | 1062-12-0222 | ● | 2000 |



Contacts & Tools

| Contacts – Solid | | | | | | | | |
|----------------------|---|-----------------------|---|---------|------------------|------------------------------|----------------------------------|------------------------------------|
| Size | Pin | Part No. | Socket | Plating | Wire Size AWG | Wire Size mm ² | Recommended Strip Length (mm) | Max. Rated A @ 125°C Continuous |
| 20 |  | 0460-202-2031 |  | Gold | 20 | 0.5 | 4.0 – 5.5 | 7.5 |
| |  | 0460-202-20141 |  | Nickel | | | | |
| 20 Purple Band |  | 0460-010-2031 |  | Gold | 18 – 16 | 0.75 – 1.3 | 3.9 – 5.5 | 7.5 |
| |  | 0460-010-20141 |  | Nickel | | | | |
| 16 |  | 0460-202-1631 |  | Gold | 20 – 16 | 0.5 – 1.0 | 6.4 – 8.0 | 13 |
| |  | 0460-202-16141 |  | Nickel | | | | |
| 16 Green Band |  | 0460-215-1631 |  | Gold | 14 | 1.0 – 2.0 | 6.4 – 8.0 | 13 |
| |  | 0460-215-16141 |  | Nickel | | | | |
| 12 |  | 0460-220-1231 |  | Gold | 14 – 12 | 2.0 – 3.0 | 5.6 – 7.2 | 25 |
| |  | 0460-204-12141 |  | Nickel | | | | |
| 8 |  | 0460-204-08141 |  | Nickel | 10 – 8 | 5.0 – 8.0 | 11.0 – 12.5 | 60 |
| 4 |  | 0460-204-0490 |  | Nickel | 6 | 13.0 | 11.0 – 12.5 | 100 |



Contacts – Solid – Pins – Pack Quantities

| Size | Part No. | Plating | 1 | 25 | 50 | 100 | 400 | 500 | 800 | 1000 | 2.5K | 10K |
|----------------------|----------------|---------|---|----|----|-----|-----|-----|-----|------|------|-----|
| 20 | 0460-202-2031 | Gold | – | ● | ● | ● | – | ● | – | ● | – | ● |
| | 0460-202-20141 | Nickel | – | ● | ● | ● | – | ● | – | ● | – | ● |
| 20 Purple Band | 0460-010-2031 | Gold | – | ● | ● | ● | – | – | – | – | – | – |
| | 0460-010-20141 | Nickel | – | ● | ● | ● | – | ● | – | – | – | – |
| 16 | 0460-202-1631 | Gold | – | ● | ● | ● | – | ● | – | – | ● | – |
| | 0460-202-16141 | Nickel | – | ● | ● | ● | – | ● | – | ● | ● | – |
| 16 Green Band | 0460-215-1631 | Gold | – | ● | ● | ● | – | ● | – | – | ● | – |
| | 0460-215-16141 | Nickel | – | ● | ● | ● | – | ● | – | ● | ● | – |
| 12 | 0460-220-1231 | Gold | – | ● | ● | ● | – | ● | – | – | ● | – |
| | 0460-204-12141 | Nickel | – | ● | ● | ● | – | ● | – | ● | ● | – |
| 8 | 0460-204-08141 | Nickel | ● | ● | – | ● | – | – | ● | – | – | – |
| 4 | 0460-204-0490 | Nickel | ● | – | – | ● | ● | – | – | – | – | – |

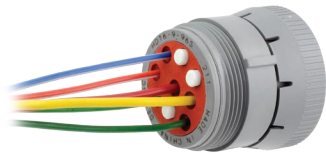


Contacts – Solid – Sockets – Pack Quantities

| Size | Part No. | Plating | 1 | 25 | 50 | 100 | 400 | 500 | 750 | 1000 | 2.5K | 5K | 10K |
|----------------------|----------------|---------|---|----|----|-----|-----|-----|-----|------|------|----|-----|
| 20 | 0462-201-2031 | Gold | – | ● | ● | ● | – | ● | – | ● | – | – | ● |
| | 0462-201-20141 | Nickel | – | ● | ● | ● | – | ● | – | ● | – | – | ● |
| 20 Purple Band | 0462-005-2031 | Gold | – | ● | ● | ● | – | – | – | – | – | – | – |
| | 0462-005-20141 | Nickel | – | ● | ● | ● | – | ● | – | – | – | – | – |
| 16 | 0462-201-1631 | Gold | – | ● | ● | ● | – | ● | – | – | ● | – | – |
| | 0462-201-16141 | Nickel | – | ● | ● | ● | – | ● | – | ● | – | ● | – |
| 16 Green Band | 0462-209-1631 | Gold | – | ● | ● | ● | – | ● | – | – | ● | – | – |
| | 0462-209-16141 | Nickel | – | ● | ● | ● | – | ● | – | ● | ● | – | – |
| 12 | 0462-210-1231 | Gold | – | ● | ● | ● | – | – | – | – | ● | – | – |
| | 0462-203-12141 | Nickel | – | ● | ● | ● | – | ● | – | ● | ● | – | – |
| 8 | 0462-203-08141 | Nickel | ● | ● | – | ● | – | – | ● | – | – | – | – |
| 4 | 0462-203-04141 | Nickel | ● | – | – | ● | ● | – | – | – | – | – | – |



Contacts & Tools



Cavity Plugs are used to seal the connector when a cavity is not used by a wire

Keying Pins are used to help prevent mis-mating of like connectors in close proximity



0413-204-2005



114017



114018



114019



0413-214-1205



Cavity Plugs & Keying Pin

| Part No. | Contact Size | Material | Colour | Pack Quantities | | | | | |
|---|--------------|----------|--------|-----------------|----|----|-----|-----|----|
| | | | | 1 | 20 | 50 | 100 | 500 | 1K |
| 0413-204-2005 | 20 | Plastic | Red | — | ● | — | ● | ● | — |
| 114017 | 16 & 12 | Plastic | White | — | ● | — | ● | ● | ● |
| 114018 | 8 | Plastic | White | ● | — | ● | — | — | — |
| 114019 | 4 | Rubber | Red | ● | — | — | — | — | — |
| 0413-214-1205 NEW | 12 | Plastic | Yellow | ● | — | — | — | — | — |

Contact Insertion

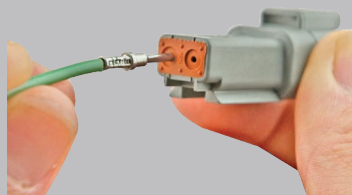
Step 1

Hold crimped contact approximately 25mm behind the contact barrel.



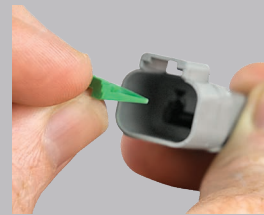
Step 2

Hold connector with rear grommet toward the contact. Push contact into connector grommet until a click is felt. Gently pull back to confirm contact is locked in place.



Step 3

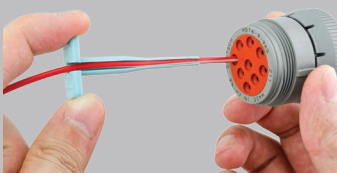
Once all contacts are in place, insert wedgelock. The wedgelock will snap into place securing the contacts.



Contact Removal

Step 1

With the rear insert toward you, snap appropriate size removal tool over the wire of contact to be removed.



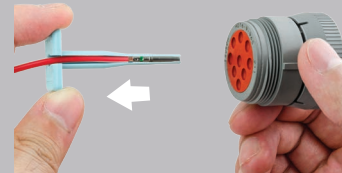
Step 2

Slide tool along the wire into the insert cavity until it engages the contact and resistance is felt.



Step 3

Pull contact wire assembly and removal tool out of connector. Do not twist the removal tool when inside the connector.



For more information on Removal Tools see page 108

Contact Performance Specifications

Current Rating @ 125°C Continuous

| Size | Maximum Current (A) |
|------|---------------------|
| 20 | 7.5 |
| 16 | 13 |
| 12 | 25 |
| 8 | 60 |
| 4 | 100 |

Crimp Tensile Strength

| Size | Tensile Strength (lbs) |
|------|------------------------|
| 20 | 20 |
| 16 | 25 |
| 12 | 70 |
| 8 | 90 |
| 4 | 300 |

Contact Retention

| Size | lbs | N |
|------|-----|-----|
| 20 | 20 | 89 |
| 16 | 25 | 111 |
| 12 | 30 | 133 |
| 8 | 35 | 156 |
| 4 | 35 | 156 |

Contact Millivolt Drop

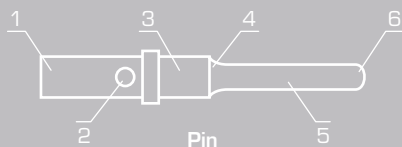
| Size | Test Current (A) | Solid (mV) | Stamped & Formed (mV) |
|------|------------------|------------|-----------------------|
| 20 | 7.5 | 60 | 100 |
| 16 | 13 | 60 | 100 |
| 12 | 25 | 60 | 100 |
| 8 | 60 | 60 | N/A |
| 4 | 100 | 60 | N/A |

Durability

No electrical or mechanical defects after 100 cycles of engagement and disengagement.

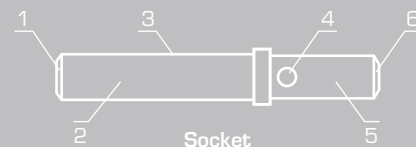
AWG to mm2

| American Wire Gauge (AWG) | Diameter (mm) | Nominal Area (mm ²) | American Wire Gauge (AWG) | Diameter (mm) | Nominal Area (mm ²) | American Wire Gauge (AWG) | Diameter (mm) | Nominal Area (mm ²) |
|---------------------------|---------------|---------------------------------|---------------------------|---------------|---------------------------------|---------------------------|---------------|---------------------------------|
| 4 | 5.19 | 21.14 | 12 | 2.05 | 3.31 | 20 | 0.81 | 0.52 |
| 6 | 4.11 | 13.29 | 14 | 1.63 | 2.08 | 22 | 0.65 | 0.33 |
| 8 | 3.26 | 8.36 | 16 | 1.29 | 1.31 | 24 | 0.51 | 0.20 |
| 10 | 2.59 | 5.26 | 18 | 1.02 | 0.82 | | | |



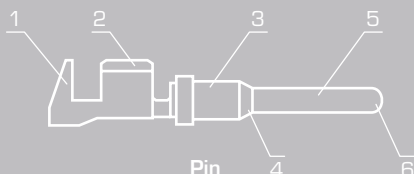
Pin

- 1 – Wire lead-in chamfer to aid wire insertion.
- 2 – Inspection hole.
- 3 – Maximum diameter to prevent bending.
- 4 – Radius for added strength.
- 5 – Smooth finish to minimise mating forces.
- 6 – Radius for smooth engagement and reduced misalignment.



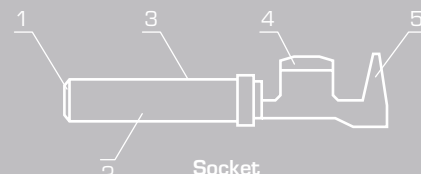
Socket

- 1 – Closed entry to prevent probe damage and prevent misalignment, chamfered lead-in to prevent misalignment.
- 2 – Durable tines for superior electrical performance.
- 3 – Stainless steel sleeve for maximum socket tine protection.
- 4 – Inspection hole.
- 5 – Crimp barrel.
- 6 – Wire lead-in chamfer to aid wire insertion.



Pin

- 1 – Insulation wings for insulation support.
- 2 – Conductor wings for minimal contact resistance.
- 3 – Maximum diameter to prevent bending.
- 4 – Chamfered for added strength.
- 5 – Smooth finish to minimise mating forces.
- 6 – Radius for smooth engagement and reduced misalignment.



Socket

- 1 – Closed entry to prevent probe damage and prevent misalignment, chamfered lead-in to prevent misalignment.
- 2 – Durable tines for superior electrical performance.
- 3 – Stainless steel sleeve for maximum socket tine protection.
- 4 – Conductor wings for minimal contact resistance.
- 5 – Insulation wings for insulation support.



Contacts & Tools

Crimping Tools



HDT-48-00



D2682



DET12

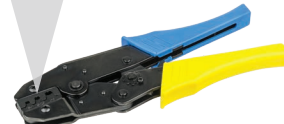
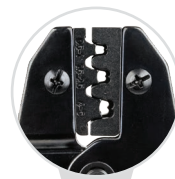
- Wide range of crimping tools to suit both Solid and Stamped & Formed contacts.
- Tight, complete crimp with minimal effort.
- HDT-48-00 crimps a wide range of contact sizes with no need to change out dies or locators.
- Ratcheting tools will not release contact until a full crimp is completed.



Double hinged for parallel crimping



HT-4220



HT-4560



D7000

D7000 6 Removable Dies

| | |
|-------------------------------|-------------------------------|
| Die 1 14, 12AWG | Die 2 10, 12AWG |
| Die 3 18, 16, 14AWG | Die 4 20, 18, 16AWG |
| Die 5 20, 18-16AWG | Die 6 16, 14, 12AWG |

Crimping Tools – Stamped & Formed (F-Crimp) Contacts

| Part No. | Description | Crimp Range |
|----------|---|---------------------------------------|
| HT-4220 | Double hinged. 1 indent crimper "U" crimp | 24–22, 24–20, 20–18, 18–14, 16–14 AWG |
| HT-4560 | Ratcheting. 1 indent crimper "U" crimp | 0.5–1, 1.5–2.5, 4–6mm ² |
| D7000 | Ratcheting crimp tool set with 6 removable dies. 1 indent crimper "U" crimp | |

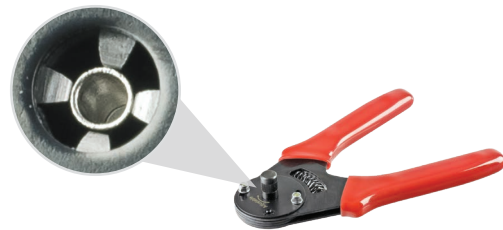
Contacts & Tools



DET48



HDT-04-08



DET12, DET16, DET20



D2682



HDT-48-00



HDT-50-00

Crimping Tools – Solid Contacts

| Part No. | Description | Contact Size (TE DEUTSCH) | Crimp Style | Notes |
|-----------|-------------|---------------------------|-------------|----------------------------------|
| DET48 | Two handed | 8, 4 | 2 indent | |
| HDT-04-08 | Two handed | 8, 4 | 2 indent | |
| DET12 | Ratcheting | 12 | 4 indent | |
| DET16 | Ratcheting | 16 | 4 indent | |
| DET20 | Ratcheting | 20 | 4 indent | |
| D2682 | Ratcheting | 20, 16, 12 | 2 indent | |
| HDT-48-00 | Ratcheting | 20, 16, 12 | 4 indent | HDT-48-00 has a 90 day warranty. |
| HDT-50-00 | Ratcheting | 20, 16, 12 | 1 indent | |



Contacts & Tools

Crimping with the DET12, DET16 & DET20

Step 1

1. Ensure tool is reset by completely depressing handles.
2. Strip insulation from wire.
3. Insert contact into the appropriate size tool barrel up.



Step 2

1. Depress handles until contact is held but not crimped.



Step 3

1. Place the stripped end of the wire in the crimp barrel, ensuring there are no stray wire strands, and fully depress tool handles.



Crimping with the HDT-48-00

Step 1

1. Strip insulation from wire.
2. Raise selector knob and rotate until arrow is aligned with contact size to be crimped.
3. Loosen locknut, turn adjusting screw in until it stops.



Step 2

1. Insert contact with barrel up.
2. Turn adjusting screw counter clockwise until contact is flush with indenter cover. Tighten locknut.



Step 3

1. Insert wire into contact, ensuring there are no stray wire strands. Contact must be centred between indenters. Close handles until crimp cycle is completed.
2. Release handles and remove crimped contact.



Crimping with the HDT-50-00

Step 1

1. Ensure tool is reset by completely depressing handles.
2. Strip insulation from wire.
3. Position the contact into the matching sized groove, see markings 20, 18, 12.



Step 2

1. Make sure the shoulder of the contact is flush on the outside of the crimping tool.
2. Depress handles until contact is held but not crimped.



Step 3

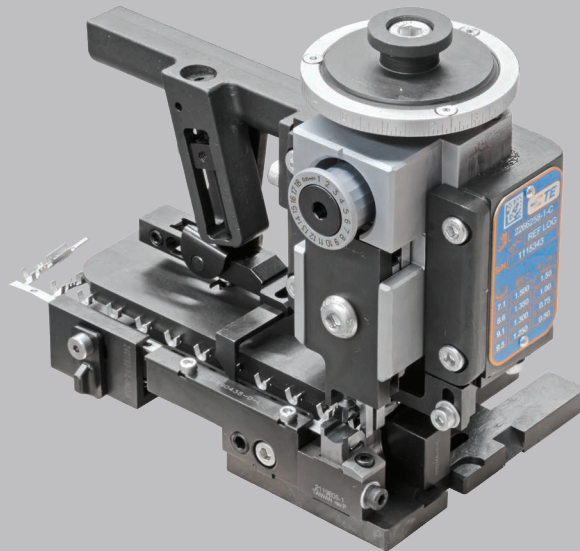
1. Place the stripped end of the wire in the crimp barrel, ensuring there are no stray wire strands, and fully depress tool handles.



Also available on request

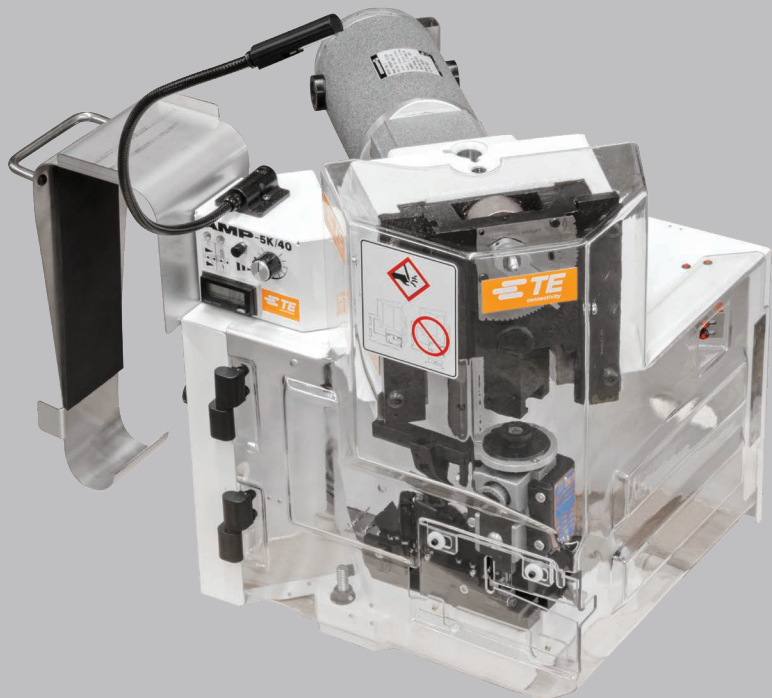
Ocean Series Applicators

- 3 feed options: Mechanical, Pneumatic, and Servo.
- Pre-feed and post-feed cams.
- Cut and no-cut carrier options.
- Adjustable terminal stripper.
- Adjustable spring-loaded terminal hold down.
- Mechanical counter.
- Fine adjust tool-less crimp height mechanisms.
- Robust, reliable construction.
- Same feed units can be used on Side-Feed and End-Feed style applicators.
All units can be easily removed and interchanged for upgrades if desired.



AMP 5K/40 Terminators

- 5000lb (2268kg) max. crimp force.
- Tool-less removal of applicators and guards for quick and simple maintenance and product change over.
- Jog capability.
- Quiet and fast operation: 80/76 dBa and cycle time less than 0.400 seconds.
- Accepts heavy-duty mini style applicators.
- Wide range of optional equipment such as tool-less precision crimp height adjust, batch counter, CQM capability and work light.
- Universal electrical input: 100-240 VAC, 50/60 Hz.
- Cannot be operated during normal production with guards open.
- Produced under an ISO 9001 Certified Quality System.



For further information ask your local reseller or enquire online at ionnic.com

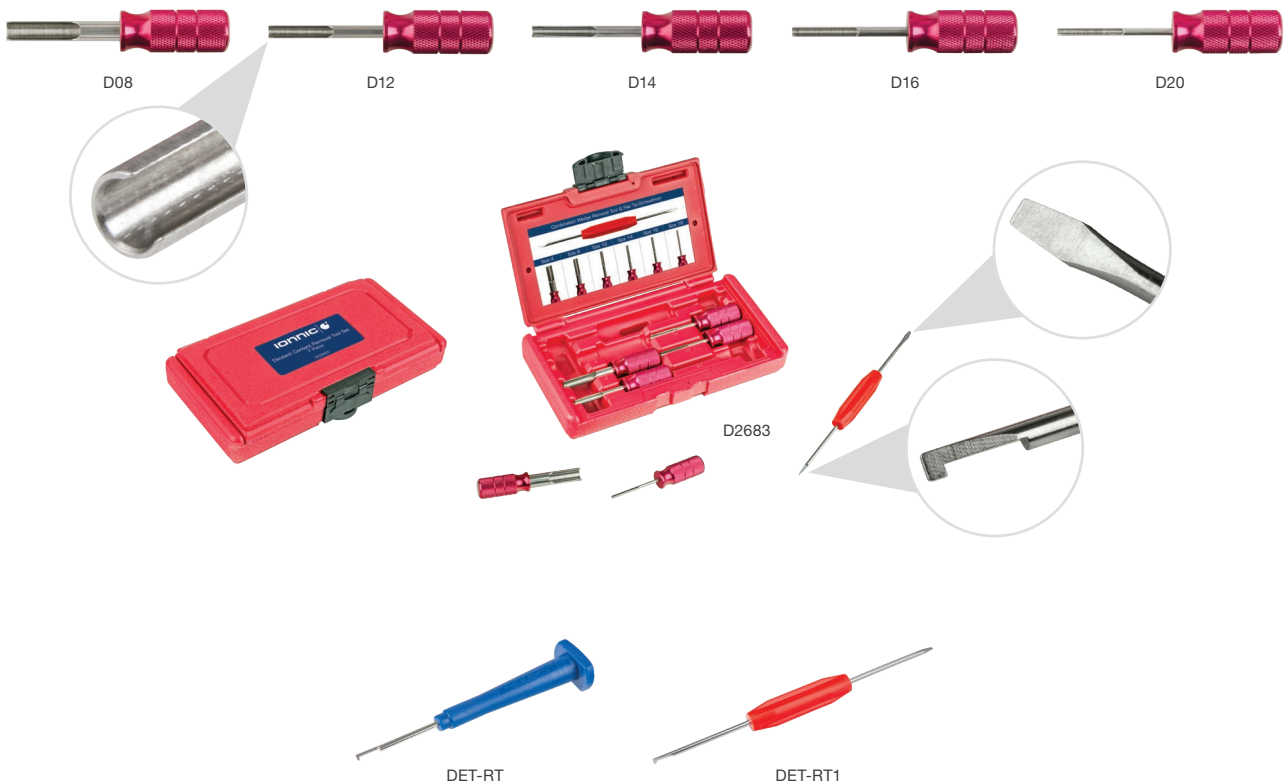


Contacts & Tools

Removal Tools



- Removes contact from connector without damage to the wire, insulation, connector seals, or connector body.
- Removal tools are required for wire removal in the DTHD, HD10, HDP20, HD30 and DRC series.
- Simplifies contact removal and field service repair.
- Usable with all connectors that utilise a round shoulder contact retention system.
- Compact and easy to use.



Heavy-duty Removal Tools & Multi-use Tools

| Size 8 | Size 12 | Size 14 | Size 16 | Size 20 |
|----------------|---|------------|------------|------------|
| D08 | D12 | D14 | D16 | D20 |
| D2683 | Complete removal tool set including multi-use hook tool & flat-head screw driver. Removal tool for sizes 4, 8, 12, 14, 16, 20 | | | |
| DET-RT | Multi-use hook tool | | | |
| DET-RT1 | Multi-use hook tool & flat-head screw driver | | | |

Contacts & Tools



Removal Tools

| Part No. | Contact Size | Wire Gauge Size (AWG) | Colour | Seal Type | Notes |
|----------------------|--------------|-----------------------|------------|--------------------------|-----------------|
| 114009 | 4 | 6 | White | Normal Wall (N-Seal) | |
| 114008 | 8 | 10, 8 | Green | Normal Wall (N-Seal) | |
| 0411-353-0805 | 8 | 10, 8 | Green | Normal Wall (N-Seal) | Extended barrel |
| 114010 | 12 | 12 | Yellow | Normal Wall (N-Seal) | |
| 0411-337-1205 | 12 | 14, 12 | Orange | Extra Thin Wall (E-Seal) | |
| 0411-291-1405 | 16 | 16, 14 | Green | Normal Wall (N-Seal) | |
| 0411-310-1605 | 16 | 18, 16 | Light Blue | Thin Wall (T-Seal) | |
| 0411-204-1605 | 16 | 18, 16 | Dark Blue | Normal Wall (N-Seal) | |
| 0411-336-1605 | 16 | 20, 16 | Blue | Extra Thin Wall (E-Seal) | |
| 0411-240-2005 | 20 | 22, 16 | Red | Normal Wall (N-Seal) | |

Removal Tool Instructions

Step 1

With the rear insert toward you, snap appropriate size removal tool over the wire of contact to be removed.



Step 2

Slide tool along the wire into the insert cavity until it engages the contact and resistance is felt.



Step 3

Pull contact wire assembly and removal tool out of connector. Do not twist the removal tool when inside the connector.



DET-RT Multi-use Tool



Removing Internal Wedgelocks



Removing Individual Contacts

