**CPC  COOPERATIVE PATENT CLASSIFICATION**

**H  ELECTRICITY**  
*(NOTE omitted)*

**H01  BASIC ELECTRIC ELEMENTS**  
*(NOTES omitted)*

**H01R  ELECTRICALLY-CONDUCTIVE CONNECTIONS; STRUCTURAL ASSOCIATIONS OF A PLURALITY OF MUTUALLY-INSULATED ELECTRICAL CONNECTING ELEMENTS; COUPLING DEVICES; CURRENT COLLECTORS**

**NOTES**

1. This subclass covers:
   - all kinds of contact-making disconnectible and non-disconnectible electric line connectors, coupling devices, lamp or similar holders or current collectors for all kinds of electric lines, cables or apparatus;
   - non-printed means for electric connections to or between printed circuits.

2. This subclass does not cover mounting of connections in or specified apparatus. Such mounting is covered by the relevant subclass for such apparatus, e.g. mounting in junction or distribution boxes is covered by subclass H02B or H02G, high-temperature connections for heating elements is covered by group H05B 3/08. Structural association of one part of a two-part coupling device with specific electric apparatus is classified with the apparatus e.g. association of cap with incandescent lamp is covered by subclass H01K.

3. In this subclass, the following expressions are used with the meaning indicated:
   - "pin" is a rigid or flexible conductor for engagement with an appropriately shaped socket to establish contact therewith;
   - "socket" is a rigid or flexible conductor for receiving an appropriate pin to establish electrical contact therewith;
   - "coupling devices" are devices having two or more parts specially adapted so as to be capable of ready and repeated physical engagement or disengagement, without the use of a tool, for the purpose of establishing or breaking an electrical path. Examples of such devices having more than two parts are:
     a. adapters for linking two coupling parts;
     b. rails or bus-bars provided with a plurality of discrete connecting locations for counterparts.

4. General details are classified in groups H01R 4/00, H01R 9/00, H01R 11/00.

5. [In this subclass, a contact in a coupling device is regarded as an additional earth contact only if this contact is clearly designed for that purpose.]

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<table>
<thead>
<tr>
<th>3/00</th>
<th>Electrically-conductive connections not otherwise provided for</th>
</tr>
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<tbody>
<tr>
<td>3/08</td>
<td>, for making connection to a liquid <em>(slip rings with liquid contacts H01R 39/30, H01R 39/646)</em></td>
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</table>

<table>
<thead>
<tr>
<th>4/00</th>
<th>Electrically-conductive connections between two or more conductive members in direct contact, i.e. touching one another; Means for effecting or maintaining such contact; Electrically-conductive connections having two or more spaced connecting locations for conductors and using contact members penetrating insulation</th>
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<tbody>
<tr>
<td>4/01</td>
<td>. Connections using shape memory materials, e.g. shape memory metal</td>
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<tr>
<td>4/02</td>
<td>. Soldered or welded connections <em>(H01R 4/625, H01R 4/723, H01R 12/59 take precedence)</em></td>
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<tr>
<td>4/021</td>
<td>. [between two or more cables or wires]</td>
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<tr>
<td>4/022</td>
<td>. . [comprising preapplied solder]</td>
</tr>
<tr>
<td>4/023</td>
<td>. [between cables or wires and terminals]</td>
</tr>
<tr>
<td>4/024</td>
<td>. . [comprising preapplied solder]</td>
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<tr>
<td>4/025</td>
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<tr>
<td>4/026</td>
<td>. . [comprising means for eliminating an insulative layer prior to soldering or welding]</td>
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<td>. . [comprising means for positioning or holding the parts to be soldered or welded]</td>
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<tr>
<td>4/028</td>
<td>. . [comprising means for preventing flowing or wicking of solder or flux in parts not desired]</td>
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<tr>
<td>4/029</td>
<td>. . [Welded connections <em>(H01R 4/021 - H01R 4/028 take precedence)</em>]</td>
</tr>
<tr>
<td>4/04</td>
<td>. using electrically conductive adhesives</td>
</tr>
<tr>
<td>4/06</td>
<td>. Riveted connections <em>(by explosion H01R 4/08)</em></td>
</tr>
<tr>
<td>4/08</td>
<td>. effected by an explosion</td>
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<tr>
<td>4/10</td>
<td>. effected solely by twisting, wrapping, bending, crimping, or other permanent deformation</td>
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<td>4/12</td>
<td>. by twisting</td>
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<tr>
<td>4/14</td>
<td>. by wrapping</td>
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<tr>
<td>4/16</td>
<td>. by bending</td>
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<tr>
<td>4/18</td>
<td>. by crimping <em>(H01R 4/01, H01R 4/2495 take precedence; for coaxial cables H01R 9/0518)</em></td>
</tr>
<tr>
<td>4/182</td>
<td>. . [for flat conductive elements, e.g. flat cables <em>(H01R 4/01 takes precedence)</em>]</td>
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</tbody>
</table>

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4/491 . . . the contact members penetrating the insulation being actuated by conductive cams or wedges
4/495 . . . Insulation penetration combined with permanent deformation of the contact member, e.g. crimping
4/26 . . . Connections in which at least one of the connecting parts has projections which bite into or engage the other connecting part in order to improve the contact ((H01R 4/188; H01R 4/203; H01R 4/5075 take precedence); using shape memory materials H01R 4/01)
4/28 . . . Clamped connections, spring connections (made by means of terminals specially adapted for contact with, or insertion into, printed circuits H01R 12/00)
4/30 . . . utilising a screw or nut clamping member (H01R 4/50 takes precedence; using a clamping member acted on by screw or nut H01R 4/38; (for coaxial cables H01R 90521))
4/301 . . . { having means for preventing complete unscrewing of screw or nut
4/302 . . . { having means for preventing loosening of screw or nut, e.g. vibration-proof connection
4/304 . . . { having means for improving contact
4/305 . . . { having means for facilitating engagement of conductive member or for holding it in position
4/307 . . . { characterised by the thread of the screw or nut
4/308 . . . { Conductive members located parallel to axis of screw
4/32 . . . { Conductive members located in slot or hole in screw
4/34 . . . { Conductive members located under head of screw
4/36 . . . { Conductive members located under tip of screw
4/363 . . . { with intermediate part between tip and conductive member
4/366 . . . { intermediate part attached to the tip of the screw
4/38 . . . utilising a clamping member acted on by screw or nut (H01R 4/50 takes precedence)
4/40 . . . Pivotable clamping member
4/42 . . . Clamping area to one side of screw only
4/44 . . . Clamping areas on both sides of screw
4/46 . . . Clamping area between two screws placed side by side
4/48 . . . utilising a spring, clip, or other resilient member (H01R 4/52 takes precedence)
4/4809 . . . { using a leaf spring
4/4818 . . . { adapted for axial insertion of a wire end
4/4827 . . . { with an opening in the housing for insertion of a release tool
4/4836 . . . { with integral release means
4/4845 . . . { insertion of a wire only possible by pressing on the spring
4/4854 . . . { using a wire spring
4/4863 . . . { Coil spring
4/4872 . . . { axially compressed to retain wire end
4/4881 . . . { using a louver type spring
4/489 . . . { spring force increased by screw, cam, wedge, or other fastening means
4/50 . . . { utilising a cam, wedge, cone or ball (also combined with a screw)
4/5008 . . . { using rotatable cam
4/5016 . . . { using a cone

Clamped connections, spring connections (made by means of terminals specially adapted for contact with, or insertion into, printed circuits H01R 12/00)
Structural associations of a plurality of mutually-insulated electrical connecting elements, e.g. terminal strips or terminal blocks; Terminals or binding posts mounted upon a base or in a case; Bases therefor

Connectors arranged to contact a plurality of the conductors of a multiconductor cable [, e.g. tapping connections]

for coaxial cables

Connection between two cable ends

Connection between three or more cable ends

Tapping connections

Connections to an additional grounding conductor

Connection to a rigid planar substrate, e.g. printed circuit board

Connection to outer conductor by crimping or by crimping ferrule

[combined with a threaded ferrule operating in a direction parallel to the conductor]

[using wedge or pin penetrating into the end of a wire in axial direction of the wire]

[using a tapered groove]

[using an eccentric element]

[using a ball]

mounted in an insulating housing having a cover providing clamping force

having an uneven wire receiving surface to improve the contact

[using a wedge]

[combined with a screw]

which is spring loaded

. one conductor screwing into another

. characterised by the form or material of the contacting members (H01R 4/01 takes precedence)

Connections between or with tubular conductors (H01R 4/56 takes precedence)

Connections between conductors of different materials; Connections between or with aluminium or steel-core aluminium conductors (H01R 4/68 takes precedence)

[Soldered or welded connections]

Connections between or with conductive parts having primarily a non-electric function, e.g. frame, casing, rail

[for rigid cylindrical bodies]

[for cables or flexible cylindrical bodies]

Connections with the terrestrial mass, e.g. earth plate, earth pin

Connections to or between superconductive connectors

Insulation of connections (end caps H01R 4/22)

[using a heat shrinking insulating sleeve]

[Making a soldered electrical connection simultaneously with the heat shrinking]

[Making a non-soldered electrical connection simultaneously with the heat shrinking]

9/03

9/031

9/05

9/0503

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9/2625

9/2633

9/2658

9/2666

9/2675

9/2683

9/2691

9/28
11/00 Individual connecting elements providing two or more spaced connecting locations for conductive members which are, or may be, thereby interconnected, e.g. end pieces for wires or cables supported by the wire or cable and having means for facilitating electrical connection to some other wire, terminal, or conductive member, blocks of binding posts

11/01 . . characterised by the form or arrangement of the conductive interconnection between the connecting locations

11/03 . . characterised by the relationship between the connecting locations (H01R 11/11 takes precedence)

11/05 . . the connecting locations having different types of direct connections

11/07 . . the connecting locations being of the same type but different sizes

11/09 . . the connecting locations being identical

11/11 . . End pieces or tapping pieces for wires, supported by the wire and for facilitating electrical connection to some other wire, terminal or conductive member (H01R 11/01 takes precedence)

11/12 . . End pieces terminating in an eye, hook, or fork

11/14 . . the hook being adapted for hanging on overhead or other suspended lines, e.g. hot line clamp

11/15 . . . Hook in the form of a screw clamp

11/16 . . End pieces terminating in a soldering tip or socket

11/18 . . End pieces terminating in a probe

11/20 . . End pieces terminating in a needle point or analogous contact for penetrating insulation or cable strands

11/22 . . End pieces terminating in a spring clip

11/24 . . . with gripping jaws, e.g. crocodile clip

11/26 . . . End pieces terminating in a screw clamp, screw or nut

11/28 . . End pieces consisting of a ferrule or sleeve

11/281 . . . . {for connections to batteries}

11/282 . . . . {comprising means for facilitating engagement or disengagement, e.g. quick release terminal}

11/283 . . . . {Bolt, screw or threaded ferrule parallel to the battery post}

11/284 . . . . {comprising means for preventing corrosion, e.g. covers, enclosures filled with gel}

11/285 . . . . {Battery post and cable secured by the same locking means}

11/286 . . . . {having means for improving contact between battery post and clamping member, e.g. uneven interior surface}

11/287 . . . . {Intermediate parts between battery post and cable end piece}

11/288 . . . . {Interconnections between batteries}

11/289 . . . . {characterised by the shape or the structure of the battery post}

11/30 . . End pieces held in contact by a magnet

11/32 . . End pieces with two or more terminations

12/00 Structural associations of a plurality of mutually-insulated electrical connecting elements, specially adapted for printed circuits, e.g. printed circuit boards [PCBs], flat or ribbon cables, or like generally planar structures, e.g. terminal strips, terminal blocks; Coupling devices specially adapted for printed circuits, flat or ribbon cables, or like generally planar structures; Terminals specially adapted for contact with, or insertion into, printed circuits, flat or ribbon cables, or like generally planar structures (printed connections to, or between, printed circuits H05K 1/11)

12/01 . . Fixed connections

12/05 . . . for rigid printed circuits or like structures

12/015 . . . {Terminal blocks providing connections to wires or cables}

12/052 . . . connecting to other rigid printed circuits or like structures

12/023 . . . . {by interconnection through aligned holes in the boards or multilayer board}

12/026 . . . . {the printed circuits being on the same board (with plated through holes H05K 3/42)}

12/053 . . . connecting to cables except for flat or ribbon cables

12/055 . . . characterised by the terminals

12/057 . . . surface mounting terminals

12/058 . . . terminals for insertion into holes

12/0585 . . . . {Terminals having a press fit or a compliant portion and a shank passing through a hole in the printed circuit board}

12/059 . . . for flexible printed circuits, flat or ribbon cables or like structures

12/0592 . . . {connections to contact elements}

12/0594 . . . {for shielded flat cable}

12/0596 . . . {Connection of the shield to an additional grounding conductor, e.g. drain wire}

12/0598 . . . {Each conductor being individually surrounded by shield, e.g. multiple coaxial cables in flat structure}

12/061 . . . connecting to flexible printed circuits, flat or ribbon cables or like structures

12/0613 . . . . {by means of interconnecting elements}

12/0616 . . . . {having contacts penetrating insulation for making contact with conductors, e.g. needle points}

12/062 . . . connecting to rigid printed circuits or like structures

12/063 . . . connecting to another shape cable

12/065 . . . characterised by the terminal

12/067 . . . . insulation penetrating terminals

12/0675 . . . . {with contacts having at least a slotted plate for penetration of cable insulation, e.g. insulation displacement contacts for round conductor flat cables}

12/068 . . . . comprising deformable portions

12/069 . . . . deformable terminals, e.g. crimping terminals

12/070 . . Coupling devices

12/07005 . . . {Guiding, mounting, polarizing or locking means; Extractors (for printed circuit boards H05K)}

12/07011 . . . {Locking or fixing a connector to a PCB}

12/07017 . . . {Snap means}

12/07023 . . . . {integral with the coupling device}

12/07029 . . . . {not integral with the coupling device}
12/7035 . . . . [involving non-elastic deformation, e.g. plastic deformation, melting (H01R 12/7064 takes precedence)]
12/7041 . . . . [Gluing or taping]
12/7047 . . . . [with a fastener through a screw hole in the coupling device]
12/7052 . . . . [characterised by the locating members]
12/7058 . . . . [characterised by the movement, e.g. pivoting, camming or translating parallel to the PCB]
12/7064 . . . . [Press fitting]
12/707 . . . . [Soldering or welding]
12/7076 . . . . [for connection between PCB and component, e.g. display]
12/7082 . . . . [Coupling device supported only by cooperation with PCB]
12/7088 . . . . [Arrangements for power supply]
12/7094 . . . . [with switch operated by engagement of PCB]
12/71 . . . . . . . . for rigid printing circuits or like structures
12/712 . . . . [co-operating with the surface of the printed circuit or with a coupling device exclusively provided on the surface of the printed circuit (H01R 12/72 takes precedence)]
12/714 . . . . [with contacts abutting directly the printed circuit; Button contacts therefore provided on the printed circuit]
12/716 . . . . [Coupling device provided on the PCB]
12/718 . . . . . . . . (Contact members provided on the PCB without an insulating housing (contacts for abutting H01R 12/714))
12/72 . . . . coupling with the edge of the rigid printed circuits or like structures
12/721 . . . . [cooperating directly with the edge of the rigid printed circuits]
12/722 . . . . [coupling devices mounted on the edge of the printed circuits]
12/724 . . . . [containing contact members forming a right angle]
12/725 . . . . [containing contact members presenting a contact carrying strip, e.g. edge-like strip]
12/727 . . . . [Coupling devices presenting arrays of contacts]
12/728 . . . . [Coupling devices presenting arrays of contacts]
12/729 . . . . [Coupling devices without an insulating housing provided on the edge of the PCB]
12/73 . . . . connecting to other rigid printed circuits or like structures
12/732 . . . . [Printed circuits being in the same plane]
12/735 . . . . [Printed circuits including an angle between each other]
12/737 . . . . [Printed circuits being substantially perpendicular to each other (for printed connections H05K 3/366)]
12/75 . . . . connecting to cables except for flat or ribbon cables
12/77 . . . . . . . . for flexible printed circuits, flat or ribbon cables or like structures
12/771 . . . . [Details]
12/772 . . . . [Strain relieving means]
12/774 . . . . [Retainers]
12/775 . . . . [Ground or shield arrangements]
12/777 . . . . [Coupling parts carrying pins, blades or analogous contacts (H01R 12/78, H01R 12/79 take precedence)]
12/778 . . . . [Coupling parts carrying sockets, clips or analogous counter-contacts (H01R 12/78, H01R 12/79 take precedence)]
12/78 . . . . connecting to other flexible printed circuits, flat or ribbon cables or like structures
12/79 . . . . connecting to rigid printed circuits or like structures
12/81 . . . . connecting to another cable except for flat or ribbon cable
12/82 . . . . connected with low or zero insertion force
12/83 . . . . connected with pivoting of printed circuits or like after insertion
12/85 . . . . contact pressure producing means, contacts activated after insertion of printed circuits or like structures
12/853 . . . . [Fluid activated]
12/856 . . . . [activated by shape memory material]
12/87 . . . . . . . . acting automatically by insertion of rigid printed or like structures
12/88 . . . . . . . . acting manually by rotating or pivoting connector housing parts
12/89 . . . . . . . . acting manually by moving connector housing parts linearly, e.g. slider
12/91 . . . . allowing relative movement between coupling parts, e.g. floating or self aligning (for coupling devices not specially adapted for printed circuits, flat or ribbon cables, or like generally planar structures, H01R 13/6315 takes precedence)
13/00 Details of coupling devices of the kinds covered by groups H01R 12/70 or H01R 24/00 - H01R 33/00
13/005 . . . . [Electrical coupling combined with fluidic coupling]
13/02 . . . . Contact members
13/025 . . . . [formed by the conductors of a cable end]
13/03 . . . . characterised by the material, e.g. plating, or coating materials
13/035 . . . . [Plated dielectric material]
13/04 . . . . Pins or blades for co-operation with sockets
13/05 . . . . Resilient pins or blades (carrying separate resilient parts H01R 13/15)
13/052 . . . . [co-operating with sockets having a circular transverse section]
13/055 . . . . [co-operating with sockets having a rectangular transverse section]
13/057 . . . . [co-operating with sockets having a square transverse section]
13/08 . . . . Resiliently-mounted rigid pins or blades
13/10 . . . . Sockets for co-operation with pins or blades
13/11 . . . . Resilient sockets (carrying separate resilient parts H01R 13/15)
13/111 . . . . [co-operating with pins having a circular transverse section]
13/112 . . . . [forked sockets having two legs]
13/113 . . . . [co-operating with pins or blades having a rectangular transverse section]
13/114 . . . . [co-operating with pins or blades having a square transverse section]
13/115 . . . . U-shaped sockets having inwardly bent legs, e.g. spade type
13/14 . . . . Resiliently-mounted rigid sockets
13/15 . . . . Pins, blades or sockets having separate spring member for producing or increasing contact pressure
Insulating of contact members

Securing contact members in or to a base or case;

Securing in a demountable manner

Securing in non-demountable manner, e.g. socket co-operating

Contact members made of resilient wire

Shaped contact, e.g. for hermaphroditic coupling

Contacts for sliding cooperation with identically-

one side only { ( for modular jack type connectors

H01R 13/514 }

Contact members co-operating

covered with resilient locking means

on contact member, e.g. retainer collar or ring

around contact member

Securing a plurality of contact members by one

locking piece { or operation }

[Insertion of locking piece perpendicular to
direction of contact insertion]

[comprising a temporary and a final
locking position]

[Insertion of locking piece from the front]

[comprising a temporary and a final
locking position]

[Insertion of locking piece from the rear]

[comprising a temporary and a final
locking position]

Means for preventing access to live contacts

[making use of a switch actuated by engagement of
counterpart H01R 13/7036]

Dummy plugs

Shutter or cover plate

Shutter or cover plate opened by engagement of
counterpart

[Rotating shutter]

[Laterally sliding shutter]

[Inwardly pivoting shutter]

[ Covers sliding or withdrawing in the
direction of engagement]

Bases; Cases

[Identification means, e.g. labels, tags, markings
(H01R 9/2475, H01R 9/2683 take precedence)]

formed as an integral body ( H01R 13/514 takes precedence)

[ comprising an integral hinge or a frangible
part]

composed of different pieces ( H01R 13/514 takes precedence)

[one or more pieces being of resilient material]

different pieces being moulded, cemented,
welded, e.g. ultrasonic, or swaged together

[ different pieces being assembled by press-fit]

assembled by snap action of the parts

assembled by ( a separate ) clip or spring

assembled by screw or screws

assembled as a modular blocks or assembly, i.e.
composed of co-operating parts provided with
contact members or holding contact members
between them

Means for holding or embracing insulating body,
e.g. casing { . hoods }

for holding or embracing several coupling
parts, e.g. frames

Dustproof, splashproof, drip-proof, waterproof, or
flameproof cases

[Sealing means between parts of housing or
between housing part and a wall, e.g. sealing
rings]

[Sealing means between cable and housing,
e.g. grommet ( H01R 13/5221 takes precedence)]

[ having at least two cable receiving
openings]

[Sealing between parts of housing or
housing, e.g. sealing insert]
Means for facilitating engagement or disengagement of coupling parts or for holding them in engagement (H01R 13/62 takes precedence)

Means for supporting coupling part when not engaged (H01R 13/625 takes precedence)

Bolt, set screw or screw clamp (H01R 13/621 takes precedence)

Casing or ring with helicoidal groove (H01R 13/623 takes precedence)

Casing or ring with bayonet engagement (H01R 13/625 takes precedence)

Snap or like fastening (H01R 13/627 takes precedence)

Latching means integral with the housing (H01R 13/6277, H01R 13/6278, H01R 13/6279, H01R 13/6280 takes precedence)

Latching arms not integral with the housing (H01R 13/6277, H01R 13/6278, H01R 13/6279, H01R 13/6280 takes precedence)

Latching means integral with the housing (H01R 13/6277, H01R 13/6278, H01R 13/6279, H01R 13/6280 takes precedence)

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Latching means integral with the housing (H01R 13/6277, H01R 13/6278, H01R 13/6279, H01R 13/6280 takes precedence)

Means for relieving strain on wire connection, e.g. leads at outlet from coupling part (H01R 13/582 takes precedence)

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Shielding material individually surrounding or interposed between mutually spaced contacts

13/6586 . . . . for separating multiple connector modules
13/6587 . . . . . for mounting on PCBs
13/6588 . . . . with through openings for individual contacts
13/6589 . . . . with wires separated by conductive housing parts
13/659 . . . . with plural ports for distinct connectors
13/6591 . . . . Specific features or arrangements of connection of shield to conductive members
13/65912 . . . . . [for shielded multiconductor cable (coaxial cables with one conductor surrounded by shield H01R 9/05; flat shielded cables H01R 12/594)]
13/65914 . . . . . [Connection of shield to additional grounding conductors]
13/65915 . . . . . [Twisted pair of conductors surrounded by shield]
13/65917 . . . . . [Connection to shield by means of resilient members]
13/65918 . . . . . [in which each conductor is individually surrounded by shield]
13/6592 . . . . . the conductive member being a shielded cable
13/6593 . . . . . the shield being composed of different pieces
13/6595 . . . . . with separate members fixing the shield to the PCB
13/6596 . . . . . the conductive member being a metal grounding panel
13/6597 . . . . . the conductive member being a contact of the connector
13/6598 . . . . . Shield material
13/6599 . . . . . Dielectric material made conductive, e.g. plastic material coated with metal
13/66 . . . . . Structural association with built-in electrical component (coupling devices having concentrically or coaxially-arranged contacts H01R 24/38)

13/6608 . . . . . [with built-in single component (H01R 13/68, H01R 13/70 take precedence)]
13/6616 . . . . . [with resistor]
13/6625 . . . . . [with capacitive component]
13/663 . . . . . . [with inductive component, e.g. transformer]
13/6641 . . . . . [with diode (with LED H01R 13/7175)]
13/665 . . . . . [with built-in electronic circuit (H01R 13/70, H01R 13/719 take precedence)]
13/6658 . . . . . [on printed circuit board (H01R 13/6666 - H01R 13/6691 take precedence)]

**WARNING**

This group is no longer used for the classification of new documents as from January 1, 2011. The backlog of this group is being continuously reclassified to H01R 13/6466 and H01R 13/6469
WARNING

The subgroups of H01R 13/68 are not complete pending completion of a reclassification, see also H01R 13/719 and the respective subgroups

13/719 . . . specially adapted for high frequency, e.g. with filters

WARNING

The subgroups of H01R 13/719 are not complete pending completion of a reclassification, see also H01R 13/646 and the respective subgroups

13/7193 . . . with ferrite filters
13/7195 . . . with planar filters with openings for contacts
13/7197 . . . with filters integral with or fitted onto contacts, e.g. tubular filters
13/72 . . . Means for accommodating flexible lead within the holder
13/73 . . . Means for mounting coupling parts to apparatus or structures, e.g. to a wall
13/74 . . . Means for mounting coupling parts in openings of a panel

24/00 Two-part coupling devices, or either of their cooperating parts, characterised by their overall structure (contact members H01R 13/402; securing contact members in or to a base or case or insulating of contact members H01R 13/40; bases or cases H01R 13/46; means for supporting coupling part when not engaged H01R 13/60; means for facilitating engagement or disengagement of coupling parts or for holding them in engagement H01R 13/62; means for preventing, inhibiting or avoiding incorrect coupling H01R 13/64)

NOTE

In this group, it is desirable to add the indexing codes of groups H01R 2101/00 - H01R 2107/00

24/005 . . . [requiring successive relative motions to complete the coupling, e.g. bayonet type]
24/20 . . . Coupling parts carrying sockets, clips or analogous contacts and secured only to wire or cable
24/22 . . . with additional earth or shield contacts
24/28 . . . Coupling parts carrying pins, blades or analogous contacts and secured only to wire or cable
24/30 . . . with additional earth or shield contacts
24/38 . . . having concentrically or coaxially arranged contacts
24/40 . . . specially adapted for high frequency
24/42 . . . comprising impedance matching means or electrical components, e.g. filters or switches
24/44 . . . comprising impedance matching means
24/46 . . . comprising switches
24/48 . . . comprising protection devices, e.g. overvoltage protection
24/50 . . . mounted on a PCB [Printed Circuit Board]
24/52 . . . mounted in or to a panel or structure
24/525 . . . [Outlets]
24/54 . . . Intermediate parts, e.g. adapters, splitters or elbows
24/542 . . . [Adapters]
24/545 . . . [Elbows]
Coupling parts adapted for simultaneous co-operation with two or more identical counterparts, e.g. for distributing energy to two or more circuits (supported only by co-operation with a counterpart (H01R 31/00); with a holder adapted for supporting apparatus to which its counterpart is attached (H01R 33/90)).

Coupling parts supported only by co-operation with a counterpart (H01R 31/005).

Coupling devices specially adapted for supporting apparatus and having one part acting as a holder providing support and electrical connection via a counterpart which is structurally associated with the apparatus, e.g. lamp holders; Separate parts thereof.

Intermediate parts for distributing energy to two or more circuits in parallel, e.g. splitter (with a holder adapted for supporting apparatus to which its counterpart is attached (H01R 33/94)).

Short-circuiting members for bridging contacts in a counterpart (H01R 31/08).

Short-circuiting bus-strips (H01R 31/085).

For dissipaters (H01R 32/00).

For dissipaters (H01R 33/065).

For supporting starter switches (H01R 33/065).
Flexible or turnable line connectors \{ i.e. the rotation angle being limited \} (rotary current collectors, distributors \textit{H01R 39/00})

35/02 Flexible line connectors \{ without frictional contact members \}

35/04 Turnable line connectors \{ with limited rotation angle \}

39/00 Rotary current collectors, distributors or interrupters

39/02 Details \{ for dynamo electric machines \} (for current collectors not particularly for dynamo electric machines \textit{H01R 39/60}, \textit{H01R 39/64})

39/022 \{ characterised by the materials used, e.g. ceramics \}

39/027 \{ Insulating materials \}

39/04 Commutators \{ wherein the segments are formed by extensions of dynamo-electric machine winding \textit{H02K} \}

39/045 \{ the commutators being made of carbon \}

39/06 \{ other than with external cylindrical contact surface, e.g. flat commutators \}

39/08 Slip-rings

39/085 \{ the slip-rings being made of carbon \}

39/10 \{ other than with external cylindrical contact surface, e.g. flat slip-rings \}

39/12 \{ using bearing or shaft surface as contact surface \}

39/14 \{ Fastenings of commutators or slip-rings to shafts \}

39/16 \{ by means of moulded or cast material applied during or after assembly \}

39/18 \{ Contacts for co-operation with commutator or slip-ring, e.g. contact brush \}

39/20 \{ characterised by the material thereof \}

39/22 \{ incorporating lubricating or polishing ingredient \}

39/24 \{ Laminated contacts; Wire contacts, e.g. metallic brush, carbon fibres \}

39/26 \{ Solid sliding contacts, e.g. carbon brush \}

39/27 \{ End caps on carbon brushes to transmit spring pressure \}

39/28 \{ Roller contacts; Ball contacts \}

39/30 \{ Liquid contacts \}

39/32 \{ Connections of conductor to commutator segment \}

39/34 \{ Connections of conductor to slip-ring \}

39/36 \{ Connections of cable or wire to brush \}

39/38 \{ Brush holders \}

39/381 \{ characterised by the application of pressure to brush \}

39/383 \{ characterised by the electrical connection to the brush holder \}
[Means for mechanical fixation of the brush holder]

[Electrically insulated bolts]

(characterised by the material of the brush holder]

wherein the brush is fixedly mounted in the holder

enabling brush movement within holder during current collection

cartridge type

with self-recoiling spring

Devices for lifting brushes

Devices for shifting brushes

Auxiliary means for improving current transfer, or for reducing or preventing sparking or arcing

by air blast; by surrounding collector with non-conducting liquid or gas

Barriers placed between brushes

by use of magnets

by use of impedance between brushes or segments

Means for lubricating or polishing slip-rings or commutators during operation of the collector

Means structurally associated with the current collector for indicating condition thereof, e.g. for indicating brush wear

Means structurally associated with the brushes for interrupting current (H01R 39/58 takes precedence)

Devices for interrupted current collection, e.g. commutating device, distributor, interrupter (self-interrupters H01H, e.g. H01H 51/34)

with more than one brush co-operating with the same set of segments

Devices for uninterrupted current collection

[through ball or roller bearing]

[through an electrical conductive fluid]

Non-rotary current collectors for maintaining contact between moving and stationary parts of an electric circuit (end pieces terminating in a hook or the like H01R 11/12; current collectors for power supply lines of electrically-propelled vehicles B60L 5/00)

Devices for interrupted current collection, e.g. distributor (electrically-operated selector switches H01H 67/00)

Apparatus or processes specially adapted for manufacturing, assembling, maintaining, or repairing of line connectors or current collectors or for joining electric conductors (of trolley lines B60M 1/28)

(Maintenance of line connectors, e.g. cleaning)

(for making dustproof, splashproof, drip-proof, waterproof, or flameproof connection, coupling, or casing)

(for elastomeric connecting elements)

for connecting unstripped conductors to contact members having insulation cutting edges

Hand tools

for soldered or welded connections

(Ultrasonic-, H.F.-, cold- or impact welding]

(Resistance welding (H01R 43/0228 takes precedence)

(Laser welding (H01R 43/0228 takes precedence)]

(without preliminary removing of insulation before soldering or welding]

(for applying solder (H01R 43/0228 takes precedence]

(comprising means for controlling the temperature, e.g. making use of the curie point]

(for simultaneous welding or soldering of a plurality of wires to contact elements]

(for soldering or welding connectors to a printed circuit board]

(for positioning or holding parts during soldering or welding process]

for connecting conductors by clips

(by using explosive force]

for wrapping or unwrapping wire connections

(for unwrapping]

for forming connections by deformation, e.g. crimping tool

Hand tools for crimping

(combined with other functions, e.g. cutting]

(operated by an explosive force]

(with more than two radially actuated mandrels]

(with mandrels actuated in axial direction to the wire]

(fluid actuated hand crimping tools]

(Power-driven hand crimping tools]

with contact member feeding mechanism

Crimping apparatus or processes (H01R 43/042 takes precedence]

(combined with contact member manufacturing mechanism]

(for eyelet contact members]

(with force measuring means]

(with crimp height adjusting means]

with wire-insulation stripping

with wire-feeding mechanism

with contact member feeding mechanism

Crimping mandrels

Crimping apparatus with more than two radially actuated mandrels]

Manufacture of commutators

in which segments are not separated until after assembly

Manufacture of slip-rings

Manufacture of brushes

Maintenance of current collectors, e.g. reshaping of brushes, cleaning of commutators

for manufacturing contact members, e.g. by punching and by bending

for manufacturing bases or cases for contact members

for assembling or disassembling contact members with insulating base, case or sleeve

(with a panel or printed circuit board]

Hand tools

Assembling by moulding on contact members

for engaging or disengaging the two parts of a coupling device (structural association with two-part coupling device H01R 13/629)
for wire processing before connecting to contact members, not provided for in groups

<table>
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<th>Group</th>
<th>Description</th>
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<td>Two poles</td>
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<tr>
<td>2105/00</td>
<td>Three poles</td>
</tr>
<tr>
<td>2107/00</td>
<td>Four or more poles</td>
</tr>
<tr>
<td>2201/00</td>
<td>Connectors or connections adapted for particular applications</td>
</tr>
<tr>
<td>2201/02</td>
<td>for antennas</td>
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<tr>
<td>2201/04</td>
<td>for network, e.g. LAN connectors</td>
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<td>2201/06</td>
<td>for computer periphery</td>
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<td>2201/26</td>
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