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.

3/00  Electrically-conductive connections not otherwise provided for

3/08  . . for making connection to a liquid { (slip rings with liquid contacts H01R 39/30, H01R 39/646) }

4/00  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

4/01  . . Connections using shape memory materials, e.g. shape memory metal

4/02  . . Soldered or welded connections { (H01R 4/625, H01R 4/723, H01R 12/59 take precedence) }

4/021 . . . [between two or more cables or wires]

4/022 . . . [comprising preapplied solder]

4/023 . . . [between cables or wires and terminals]

4/024 . . . [comprising preapplied solder]

4/025 . . . [with built-in heat generating elements]

4/026 . . . [comprising means for eliminating an insulative layer prior to soldering or welding]

4/027 . . . [comprising means for positioning or holding the parts to be soldered or welded]

4/028 . . . [comprising means for preventing flowing or wicking of solder or flux in parts not desired]

4/029 . . . [Welded connections (H01R 4/021 - H01R 4/028 take precedence)]

4/04  . . using electrically conductive adhesives

4/06  . . Riveted connections (by explosion H01R 4/08)

4/08  . . effected by an explosion

4/10  . . effected solely by twisting, wrapping, bending, crimping, or other permanent deformation

4/12  . . by twisting

4/14  . . by wrapping

4/16  . . by bending

4/18  . . by crimping { (H01R 4/01, H01R 4/2495 take precedence; for coaxial cables H01R 9/0518) }

4/182 . . . [for flat conductive elements, e.g. flat cables (H01R 4/01 takes precedence)]
cutting insulation or cable strands
Connections using contact members penetrating or wires entering the cap from the same end for covering or maintaining connections between
End caps, i.e. of insulating or conductive material being actuated by screws, nuts or bolts
the contact members penetrating the insulation being actuated by springs
the contact members having additional means acting on the insulation or the wire, e.g. additional insulation penetrating means, strain relief means or wire cutting knives
the additional means having two or more slotted flat portions
in serial configuration, e.g. opposing folded slots
forming a U-shape with slotted branches
forming a slotted bight
in parallel configuration
the contact members being in a slotted tubular configuration, e.g. slotted tube-end
the contact members being in a slotted bent configuration, e.g. slotted bight
the contact members having a channel-shaped part, the opposite sidewalls of which comprise insulation-cutting means
the contact members penetrating the insulation being actuated by springs
the contact members penetrating the insulation being actuated by screws, nuts or bolts
penetrating the area under the screw head
penetrating the area under the screw tip
penetrating by means of the screw thread
the contact members penetrating the insulation being actuated by conductive cams or wedges
Insulation penetration combined with permanent deformation of the contact member, e.g. crimping
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
Clamped connections, spring connections (made by means of terminals specially adapted for contact with, or insertion into, printed circuits H01R 12/00)
utilising a screw or nut clamping member (H01R 4/50 takes precedence; utilising a clamping member acted on by screw or nut H01R 4/38; (for coaxial cables H01R 9/0521))
having means for preventing complete unscrewing of screw or nut
having means for preventing loosening of screw or nut, e.g. vibration-proof connection
having means for improving contact
having means for facilitating engagement of conductive member or for holding it in position
characterised by the thread of the screw or nut
Conductive members located parallel to axis of screw
Conductive members located in slot or hole in screw
Conductive members located under head of screw
Conductive members located under tip of screw
with intermediate part between tip and conductive member
utilising a clamping member acted on by screw or nut (H01R 4/50 takes precedence)
Pivotal clamping member
Clamping area to one side of screw only
Clamping areas on both sides of screw
Clamping area between two screws placed side by side
utilising a spring, clip, or other resilient member (H01R 4/52 takes precedence)
using a leaf spring
adapted for axial insertion of a wire end
(with an opening in the housing for insertion of a release tool)
with integral release means
insertion of a wire only possible by pressing on the spring
using a wire spring
(Coil spring)
(axially compressed to retain wire end)
(using a louver type spring)
[spring force increased by screw, cam, wedge, or other fastening means]
utilising a cam, wedge, cone or ball [also combined with a screw]
using rotatable cam
using a cone
Bases therefor terminal strips or terminal blocks; Terminals or insulated electrical connecting elements, e.g. 

Connections with the terrestrial mass, e.g. earth frame, casing, rail having primarily a non-electric function, e.g. 

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

Connections between or to or between superconductive connectors 

Insulation of connections (end caps H01R 4/22) 

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 

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; 

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

[for multiphase cables, e.g. with contact members penetrating insulation of a plurality of conductors (insulation penetrating contact members in general H01R 4/24)] 

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 

Connection to outer conductor by action of a nut 

Connection to outer conductor by action of a clamping member, e.g. screw fastening means (H01R 9/0515 takes precedence) 

Connection to outer conductor by action of a resilient member, e.g. spring 

using contact members penetrating insulation 

End pieces for multiconductor cables supported by the cable and for facilitating connections to other conductive members [, e.g. for liquid cooled welding cables] 

Connectors for wire wrapping 

Fastening of connecting parts to base or case; Insulating connecting parts from base or case 

Fastening by means of screw or nut 

Fastening by means of rivet or eyelet 

Bases, e.g. strip, block, panel [for printed circuits H01R 12/50] 

[insulating enclosures for terminals (for switches H01H 9/0241)] 

[comprising a plurality of conductive flat strips providing connection between wires or components (H01R 9/2425 takes precedence)] 

Terminal blocks 

Modular blocks (H01R 9/26 takes precedence) 

[Means for guiding or retaining wires or cables connected to terminal blocks] 

[Structural association with built-in components (for coupling parts H01R 13/66)] 

[with built-in switch] 

[with built-in overvoltage protection] 

[with built-in fuse] 

[Electrical interconnections between terminal blocks] 

[using a planar conductive structure, e.g. printed circuit board] 

[Means facilitating correct wiring, e.g. marking plates, identification tags] 

[specially adapted for ground connection] 

[Terminal blocks structurally associated with plugs or sockets] 

Clip-on terminal blocks for side-by-side rail- or strip-mounting 

[Fastening means for mounting on support rail or strip (H01R 9/2691 takes precedence; for switch or other electrical device H02B 1/042)] 

[End clamping members] 

[with built-in electrical component] 

[with built-in switch] 

[with built-in overvoltage protection] 

[with built-in fuse] 

[with built-in data-bus connection] 

[with built-in test-points] 

[Electrical interconnections between two blocks, e.g. by means of busbars] 

[Marking plates or tabs] 

[with ground wire connection to the rail] 

Terminal boards
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

Characterised by the form or arrangement of the conductive interconnection between the connecting locations

Characterised by the relationship between the connecting locations (H01R 11/11 takes precedence)

The connecting locations having different types of direct connections

The connecting locations being of the same type but different sizes

The connecting locations being identical

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)

End pieces terminating in an eye, hook, or fork

The hook being adapted for hanging on overhead or other suspended lines, e.g. hot line clamp

Hook in the form of a screw clamp

End pieces terminating in a soldering tip or socket

End pieces terminating in a probe

End pieces terminating in a needle point or analogous contact for penetrating insulation or cable strands

End pieces terminating in a spring clip

With gripping jaws, e.g. crocodile clip

End pieces terminating in a screw clamp, screw or nut

End pieces consisting of a ferrule or sleeve

{for connections to batteries}

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

{Bolt, screw or threaded ferrule parallel to the battery post}

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

{Battery post and cable secured by the same locking means}

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

{Intermediate parts between battery post and cable end piece}

{Interconnections between batteries}

{characterised by the shape or the structure of the battery post}

End pieces held in contact by a magnet

End pieces with two or more terminations

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)

Fixed connections

For rigid printed circuits or like structures

{Terminal blocks providing connections to wires or cables}

Connecting to other rigid printed circuits or like structures

{by interconnection through aligned holes in the boards or multilayer board}

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

Connecting to cables except for flat or ribbon cables

Characterised by the terminals

Surface mounting terminals

Terminals for insertion into holes

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

For flexible printed circuits, flat or ribbon cables or like structures

{connections to contact elements}

{for shielded flat cable}

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

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

Connecting to flexible printed circuits, flat or ribbon cables or like structures

{by means of interconnecting elements}

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

Connecting to rigid printed circuits or like structures

Connecting to another shape cable

Characterised by the terminal

Insulation penetrating terminals

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

Comprising deformable portions

Deformable terminals, e.g. crimping terminals

Coupling devices

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

{Locking or fixing a connector to a PCB}

{Snap means}

{integral with the coupling device}

{not integral with the coupling device}
or like structures
{ Arrangements for power supply } with PCB
e.g. display
{ for connection between PCB and component,
{ Coupling device supported only by cooperation
{ Arrangements for power supply}
{ with switch operated by engagement of PCB}
{ for rigid printing circuits or like structures
{ co-operating with the surface of the printed
circuit or with a coupling device exclusively
provided on the surface of the printed circuit
{ without an insulating housing (contacts for
abutting H01R 12/714)}
{ coupling with the edge of the rigid printed
circuits or like structures
{ cooperating directly with the edge of the
rigid printed circuits}
{ coupling devices mounted on the edge of the
printed circuits}
{ containing contact members forming a
right angle}
{ containing contact members presenting a
contact carrying strip, e.g. edge-like strip
{ Coupling devices presenting arrays of
contacts}
{ Coupling devices presenting without an insulating
housing provided on the edge of the PCB}
{ connecting to other rigid printed circuits or
like structures
{ Printed circuits being in the same plane}
{ Printed circuits including an angle
between each other]
{ Printed circuits being substantially
perpendicular to each other (for printed
connections H05K 3/366)
{ connecting to cables except for flat or ribbon
cables
{ for flexible printed circuits, flat or ribbon cables
{ like structures
{ Details]
{ Strain relieving means]
{ Retainers]
{ Ground or shield arrangements
{ 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

Moulding, riveting

Securing in non-demountable manner, e.g. with either round or flat pin types of contact member, e.g. socket co-operating for non-simultaneous co-operation with different contact members made of resilient wire shaped contact, e.g. for hermaphroditic coupling takes precedence

Securing in base or case composed of a formed with resilient locking means

Securing in resilient one-piece base or case, e.g. socket co-operating by abutting to together

Securing in resilient one-piece base or case, e.g. socket co-operating by abutting to

Means for preventing access to live contacts (making use of a switch actuated by engagement of counterpart H01R 13/70(36))

Bases; Cases

Means for holding or embracing insulating body, between them contact members or holding contact members composed of co-operating parts provided with either round or flat pin

Securing contact members in or to a base or case; Insulating of contact members

Securing in non-demountable manner, e.g. moulding, riveting

by frictional grip in grommet, panel or base

by permanent deformation of contact member

in a demountable manner

Securing in resilient one-piece base or case, e.g. by friction; One-piece base or case formed with resilient locking means

comprising integral flexible contact retaining fingers

comprising two or more integral flexible retaining fingers acting on a single contact

Securing in base or case composed of a plurality of insulating parts having at least one resilient insulating part

Securing by a separate resilient retaining piece supported by base or case, e.g. collar [or metal contact-retention clip]

by resilient locking means on the contact members; by locking means on resilient contact members

by stamped-out resilient tongue snapping behind shoulder in base or case
Means for facilitating engagement or disengagement of coupling parts or for holding them in engagement by a magnet

Bolt, set screw or screw clamp

[using one or more bolts]

Screw-ring or screw-casing (H01R 13/623 takes precedence)

Casing or ring with helicoidal groove

Casing or ring with bayonet engagement

Snap or like fastening

[Latching means integral with the housing (H01R 13/6276, H01R 13/6277, H01R 13/6278 take precedence)]

[comprising a single latching arm]

[comprising two latching arms]

[Latching arms not integral with the housing (H01R 13/6276, H01R 13/6277, H01R 13/6278 take precedence)]

[comprising one or more balls engaging in a hole or a groove]

[comprising annular latching means, e.g. ring snapping in an annular groove]

[comprising a pin snapping into a recess]

Additional means for facilitating engagement or disengagement of coupling parts, e.g. aligning or guiding means, levers, gas pressure {electrical locking indicators, manufacturing tolerances (separate tools or apparatus H01R 43/26)}

[comprising a camming member (H01R 13/62933 and H01R 13/641 take precedence)]

[U-shaped sliding element]

[Single camming plate]

[Pair of camming plates]

[Comprising supplementary or additional locking means]

[Comprising exclusively pivoting lever]

[Pivoting lever comprising own camming means]

[Pivoting lever comprising gear teeth]

[Pivoting lever comprising means indicating incorrect coupling of mating connectors]

[Pivoting lever comprising supplementary/additional locking means]

[Pivoting lever having extendable handle]

[Comprising two pivoting levers]

[Wherein the pivoting levers are two lever plates]

[Pivoting levers actuating linearly camming means]

[Linear camming means or pivoting lever for connectors for flexible or rigid printed circuit boards, flat or ribbon cables]

[Lever acting directly on flexible or rigid printed circuit boards, flat or ribbon cables, e.g. recess provided to this purpose on the surface or edge of the flexible or rigid printed circuit boards, flat or ribbon cables]

[Lever acting on a connector mounted onto the flexible or rigid printed circuit boards, flat or ribbon cables]

[for engagement only]
13/6315 . . . . (allowing relative movement between coupling parts, e.g. floating connection
for coupling devices specially adapted for printed circuits, flat or ribbon cables, or like generally planar structures, H01R 12/91
takes precedence)

13/633 . . . . for disengagement only [(in combination with safety switch H01R 13/7132)]

13/6335 . . . . (comprising a handle)

13/6335 . . . . by mechanical pressure, e.g. spring force

13/6337 . . . . by fluid pressure, e.g. explosion

13/6339 . . . . Additional means for holding or locking coupling parts together, after engagement, [e.g. separate keylock, retainer strap]

13/6392 . . . . [for extension cord]

13/6393 . . . . [for wall or panel outlets]

13/6397 . . . . [with means for preventing unauthorised use]

13/64 . . . . Means for preventing incorrect coupling

13/641 . . . . by indicating incorrect coupling; by indicating correct or full engagement

13/642 . . . . by position or shape of contact members

13/645 . . . . by exchangeable elements on case or base

13/6453 . . . . [comprising pin-shaped elements, capable of being orientated in different angular positions around their own longitudinal axes, e.g. pins with hexagonal base]

13/6456 . . . . [comprising keying elements at different positions along the periphery of the connector]

13/646 . . . . specially adapted for high-frequency, e.g. structures providing an impedance match or phase match (non-coaxial protective earth or shield arrangements, H01R 13/648; coaxial connectors specially adapted for high frequency H01R 24/40)

13/6461 . . . . Means for preventing cross-talk

13/6463 . . . . using twisted pairs of wires

13/6464 . . . . by adding capacitive elements

13/6466 . . . . on substrates, e.g. PCBs [Printed Circuit Boards]

13/6467 . . . . by cross-over of signal conductors

13/6469 . . . . on substrates

13/6471 . . . . by special arrangement of ground and signal conductors, e.g. GSGS [Ground-Signal-Ground-Signal]

13/6473 . . . . Impedance matching

13/6474 . . . . by variation of conductive properties, e.g. by dimension variations

13/6476 . . . . by making an aperture, e.g. a hole

13/6477 . . . . by variation of dielectric properties

13/648 . . . . Protective earth or shield arrangements on coupling devices [e.g. anti-static shielding] (coaxially arranged shields H01R 24/38)

13/6485 . . . . (Electrostatic discharge protection (in general H05E 106, for electric apparatus H05K 9/0067))

13/652 . . . . with earth pin, blade or socket

13/655 . . . . with earth brace

13/658 . . . . High frequency shielding arrangements, e.g. against EMI [Electric-Magnetic Interference] or EMP [Electric-Magnetic Pulse] (coaxial coupling devices specially adapted for high frequency H01R 24/40; for flat or ribbon cable connectors H01R 12/774; for coaxial cable H01R 9/05)

13/6581 . . . . Shield structure

13/6582 . . . . with resilient means for engaging mating connector

13/6583 . . . . with separate conductive resilient members between mating shield members

13/6584 . . . . formed by conductive elastomeric members, e.g. flat gaskets or O-rings

13/6585 . . . . 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 . . . . (wherein 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

13/6594 . . . . the shield being mounted on a PCB and connected to conductive members

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)

13/6633 . . . . (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
are not required after mechanical engagement of the switch (e.g., linear or rotational movement of contact members) operating the switch to establish different circuits,

- Turnable housing part
- the fuse being integral with the terminal, e.g., pin or socket

- means for facilitating engagement of contact members or securing the coupling part with coding means
- the switch being in series with coupling parts
- making use of a separate bridging element directly cooperating with the terminals
- making use of elastic extensions of the terminals
- the terminals being in direct electric contact separated by double sided connecting element (for printed circuit boards H01R 12/7094)

- means for accommodating flexible lead within the holder
- Means for mounting coupling parts to apparatus or structures, e.g., to a wall
- Means for mounting coupling parts in openings of a panel

- [using snap fastening means]
- [integral with the housing]
- [separate from the housing]
- [using a screw ring]

- with one or more screws (H01R 13/746 takes precedence)

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

- [requiring successive relative motions to complete the coupling, e.g., bayonet type]
- Coupling parts carrying sockets, clips or analogous contacts and secured only to wire or cable
- with additional earth or shield contacts
- Coupling parts carrying pins, blades or analogous contacts and secured only to wire or cable
- with additional earth or shield contacts
- having concentrically or coaxially arranged contacts
- specially adapted for high frequency
- comprising impedance matching means or electrical components, e.g., filters or switches
- comprising impedance matching means
- comprising switches
- comprising protection devices, e.g., overvoltage protection
- mounted on a PCB [Printed Circuit Board]
- mounted in or to a panel or structure
- [Outlets]
- Intermediate parts, e.g., adapters, splitters or elbows
- [Adapters]
- [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)

25/00 · Contacts spaced along longitudinal axis of engagement
24/62 · Sliding engagements with one side only, e.g. modular jack coupling devices
24/64 · for high frequency, e.g. RJ 45
24/66 · with pins, blades or analogous contacts and secured to apparatus or structure, e.g. to a wall
24/68 · mounted on directly pluggable apparatus
24/70 · with additional earth or shield contacts
24/72 · with sockets, clips or analogous contacts and secured to apparatus or structure, e.g. to a wall
24/78 · with additional earth or shield contacts
24/84 · Hermaphroditic coupling devices
24/86 · Parallel contacts arranged about a common axis

Coupling parts adapted for selective co-operation with a counterpart in different ways to establish different circuits, e.g. for voltage selection, for series-parallel selection, (programmable connectors)

31/00 · Coupling parts supported only by co-operation with counterpart
31/005 · [Intermediate parts for distributing signals]
31/01 · 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 33/92)
31/06 · Intermediate parts for linking two coupling parts, e.g. adapter (with a holder adapted for supporting apparatus to which its counterpart is attached H01R 33/94)
31/065 · [with built-in electric apparatus]
31/08 · Short-circuiting members for bridging contacts in a counterpart
31/085 · [Short circuiting bus-strips]

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

33/02 · Single-pole devices, e.g. holder for supporting one end of a tubular incandescent or neon lamp
33/05 · Two-pole devices
33/06 · with two current-carrying pins, blades or analogous contacts, having their axes parallel to each other
33/065 · [for supporting starter switches]
33/08 · for supporting tubular fluorescent lamp
33/0809 · [having contacts on one side only]
33/0818 · [for a plurality of lamps]
33/0827 · [characterised by the contacts]
33/0836 · [characterised by the lamp holding means]
33/0845 · [with axially resilient member]
33/0854 · [with lamp rotating means]
33/0863 · [characterised by the mounting means]
33/0872 · [for mounting in an opening of a structure]
33/0881 · [composed of different pieces]
33/089 · [integral with starter holding structure (H01R 33/065 for starters only)]
33/09 · for baseless lamp bulb
33/18 · having only abutting contacts
33/20 · having concentrically or coaxially arranged contacts
33/205 · [secured to structure or printed circuit board]
33/22 · for screw type base, e.g. for lamp
33/225 · [secured to structure or printed circuit board]
33/46 · for bayonet type base
33/465 · [secured to structure or printed circuit board]
33/72 . Three-pole devices
33/74 . Devices having four or more poles {, e.g. holders for compact fluorescent lamps}
33/76 . Holders with sockets, clips, or analogous contacts adapted for axially-sliding engagement with parallelly-arranged pins, blades, or analogous contacts on counterpart, e.g. electronic tube socket
33/7607 . . . [the parallel terminal pins having a circular disposition]
33/7614 . . . . . . [the terminals being connected to individual wires]
33/7621 . . . . . . [the wires being connected using screw, clamp, wrap or spring connection]
33/7628 . . . . . . [the wires being connected using solder]
33/7635 . . . . . . [the terminals being collectively connected, e.g. to a PCB]
33/7642 . . . . . . [socket snap fastened in an opening of a PCB]
33/765 . . . . . . [the terminal pins having a non-circular disposition]
33/7657 . . . . . . [characterised by keying or marking means]
33/7664 . . . . . . [having additional guiding, adapting, shielding, anti-vibration or mounting means]
33/7671 . . . . . . [having multiple positions or sockets, e.g. stacked sockets while mounting]
33/7678 . . . . . . [having a separated part for spark preventing means]
33/7685 . . . . . . [having internal socket contact by abutting]
33/7692 . . . . . . [for supporting a tubular fluorescent lamp (for two-pole devices H01R 33/06)]
33/88 . adapted for simultaneous co-operation with two or more identical counterparts
33/90 . adapted for co-operation with two or more dissimilar counterparts
33/92 . Holders formed as intermediate parts for distributing energy in parallel through two or more counterparts at least one of which is attached to apparatus to be held
33/94 . Holders formed as intermediate parts for linking a counter-part to a coupling part
33/942 . . . . . . [for tubular fluorescent lamps]
33/945 . . . . . . Holders with built-in electrical component
33/9453 . . . . . . [for screw type coupling devices]
33/9456 . . . . . . [for bayonet type coupling devices]
33/95 . with fuse; with thermal switch
33/955 . . . . . . with switch operated manually and independent of engagement or disengagement of coupling
33/9555 . . . . . . [for screw type coupling devices]
33/96 . with switch operated by engagement or disengagement of coupling
33/962 . . . . . . [for screw type coupling devices]
33/965 . Dustproof, splashproof, drip-proof, waterproof, or flameproof holders
33/9651 . . . . . . [for screw type coupling devices]
33/9653 . . . . . . [neither pole becoming electrically connected until the coupling parts are substantially engaged]
33/9655 . . . . . . [for bayonet type coupling devices]
33/9656 . . . . . . [neither pole becoming electrically connected until the coupling parts are substantially engaged]
33/9658 . . . . . . [for tubular fluorescent lamps]
33/97 . Holders with separate means to prevent loosening of the coupling or unauthorised removal of apparatus held
33/971 . . . . . . [for screw type coupling devices]
33/973 . . . . . . [for bayonet type coupling devices]
33/975 . . . . . . Holders with resilient means for protecting apparatus against vibrations or shocks
33/9753 . . . . . . [for screw type coupling devices]
33/9756 . . . . . . [for bayonet type coupling devices]
35/00 Flexible or turnable line connectors {, i.e. the rotation angle being limited} (rotary current collectors, distributors H01R 39/00)
35/02 . Flexible line connectors [without frictional contact members]
35/025 . . . . . . [having a flexible conductor wound around a rotation axis]
35/04 . Turnable line connectors with limited rotation angle [with frictional contact members]
39/00 Rotary current collectors, distributors or interrupters
39/02 . Details [for dynamo electric machines (for current collectors not particularly for dynamo electric machines H01R 39/60, H01R 39/64)]
39/022 . . . . . . [characterised by the materials used, e.g. ceramics]
39/025 . . . . . . [Conductive materials]
39/027 . . . . . . [Insulating materials]
39/04 . Commutators (wherein the segments are formed by extensions of dynamo-electric machine winding 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]
43/00 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).

43/002 . . . [Maintenance of line connectors, e.g. cleaning]
43/005 . . . [for making dustproof, splashproof, drip-proof, waterproof, or flameproof connection, coupling, or casing]
43/007 . . . [for elastomeric connecting elements]
43/01 . . . for connecting unstripped conductors to contact members having insulation cutting edges
43/015 . . . [Handtools]
43/02 . . . for soldered or welded connections
43/0207 . . . [Ultrasonic-, H.F.-, cold- or impact welding]
43/0214 . . . [Resistance welding (H01R 43/0228 takes precedence)]

43/021 . . . [Laser welding (H01R 43/0228 takes precedence)]
43/0228 . . . [without preliminary removing of insulation before soldering or welding]
43/0235 . . . [for applying solder (H01R 43/0228 takes precedence)]
43/0242 . . . [comprising means for controlling the temperature, e.g. making use of the curie point]
43/0249 . . . [for simultaneous welding or soldering of a plurality of wires to contact elements]
43/0256 . . . [for soldering or welding connectors to a printed circuit board]
43/0263 . . . [for positioning or holding parts during soldering or welding process]
43/027 . . . for connecting conductors by clips
43/0275 . . . [by using explosive force]
43/033 . . . for wrapping or unwrapping wire connections
43/0335 . . . [for unwrapping]
43/04 . . . for forming connections by deformation, e.g. crimping tool
43/042 . . . Hand tools for crimping
43/0421 . . . [combined with other functions, e.g. cutting]
43/0422 . . . [operated by an explosive force]
43/0424 . . . [with more than two radially actuated mandrels]
43/0425 . . . [with mandrels actuated in axial direction to the wire]
43/0427 . . . [fluid actuated hand crimping tools]
43/0428 . . . [Power-driven hand crimping tools]
43/045 . . . [with contact member feeding mechanism]
43/048 . . . [Crimping apparatus or processes (H01R 43/042 takes precedence)]
43/0482 . . . [combined with contact member manufacturing mechanism]
43/0484 . . . [for eyelet contact members]
43/0486 . . . [with force measuring means]
43/0488 . . . [with crimp height adjusting means]
43/05 . . . with wire-insulation stripping
43/052 . . . with wire-feeding mechanism
43/055 . . . [with contact member feeding mechanism]
43/058 . . . [Crimping mandrels]
43/0585 . . . [for crimping apparatus with more than two radially actuated mandrels]
43/06 . . . Manufacture of commutators
43/08 . . . [in which segments are not separated until after assembly]
43/10 . . . Manufacture of slip-rings
43/12 . . . Manufacture of brushes
43/14 . . . Maintenance of current collectors, e.g. reshaping of brushes, cleaning of commutators
43/16 . . . [for manufacturing contact members, e.g. by punching and by bending]
43/18 . . . [for manufacturing bases or cases for contact members]
43/20 . . . [for assembling or disassembling contact members with insulating base, case or sleeve]
43/205 . . . [with a panel or printed circuit board]
43/22 . . . Hand tools
43/24 . . . Assembling by moulding on contact members
43/26 . . . [for engaging or disengaging the two parts of a coupling device (structural association with two-part coupling device H01R 13/629)]
43/28  for wire processing before connecting to contact members, not provided for in groups

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>2101/00</td>
<td>One pole</td>
</tr>
<tr>
<td>2103/00</td>
<td>Two poles</td>
</tr>
<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>
</tr>
<tr>
<td>2201/04</td>
<td>for network, e.g. LAN connectors</td>
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<tr>
<td>2201/06</td>
<td>for computer periphery</td>
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<td>for halogen lamps</td>
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<tr>
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<td>for dynamoelectric machines</td>
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<td>for medicine and surgery</td>
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<td>for transformers or coils</td>
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<td>for radio transmission</td>
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<td>for vehicles</td>
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