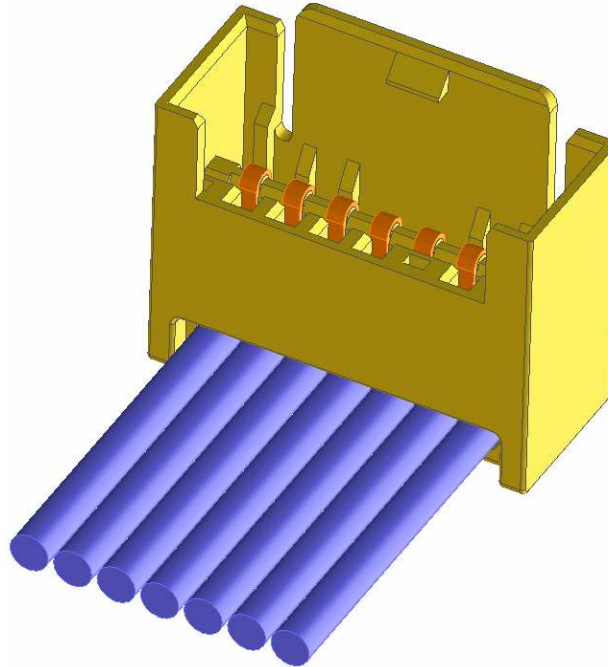


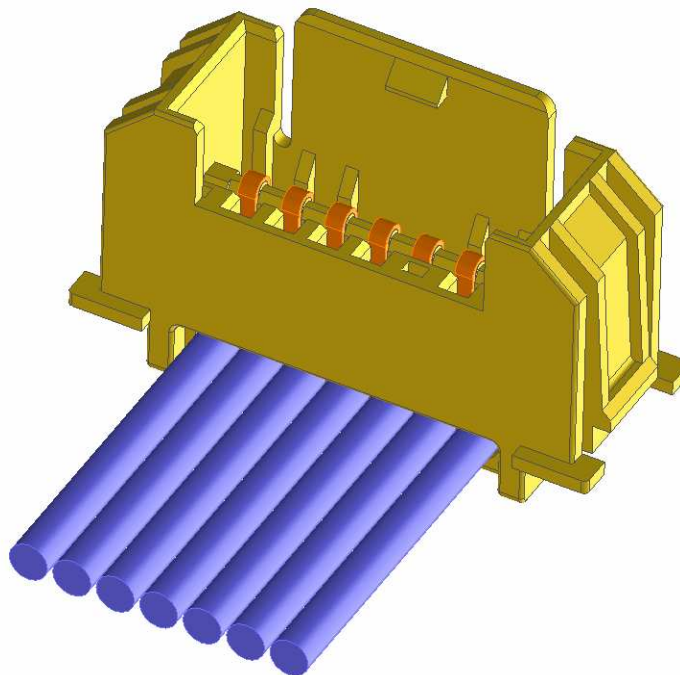
Processing Instruction

Pin header / chassis pin header in insulation displacement technique

3541 / 3542



3545 / 3546



EW	1
QM	1
PT/PP	1
VK-PMO	1
QWS2	1
EW-L	1
M1	1
M2K	1
PO	1

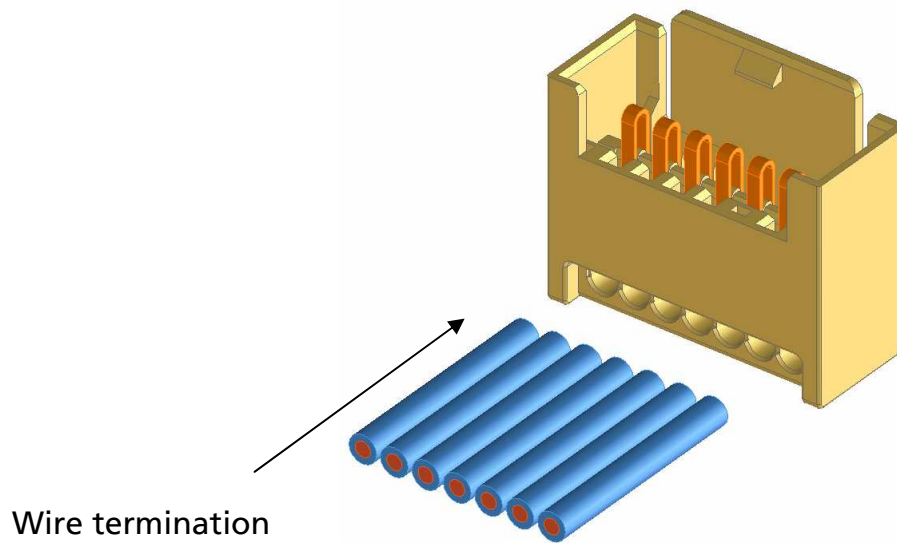
	Date	Name	Edition	1	2	3	4	5	6	7	8
Author	03.01.2003	Pfaffenbach	Name	Gazke							
Checked			Datum	21.02.2007							

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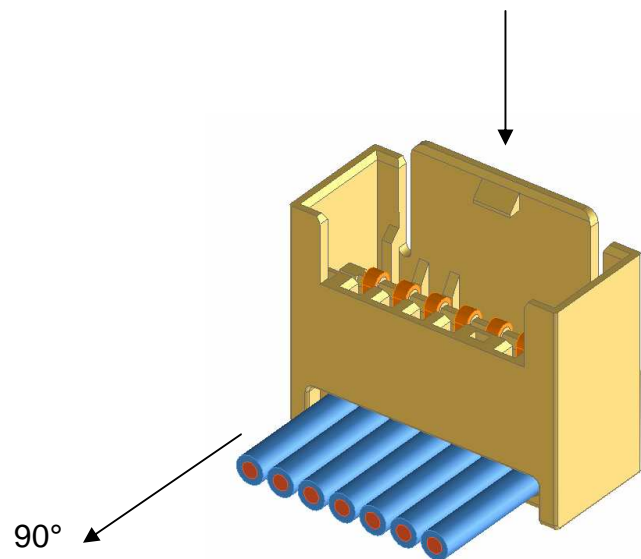
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1 System features

One-piece body
Delivered in bar stock carriers



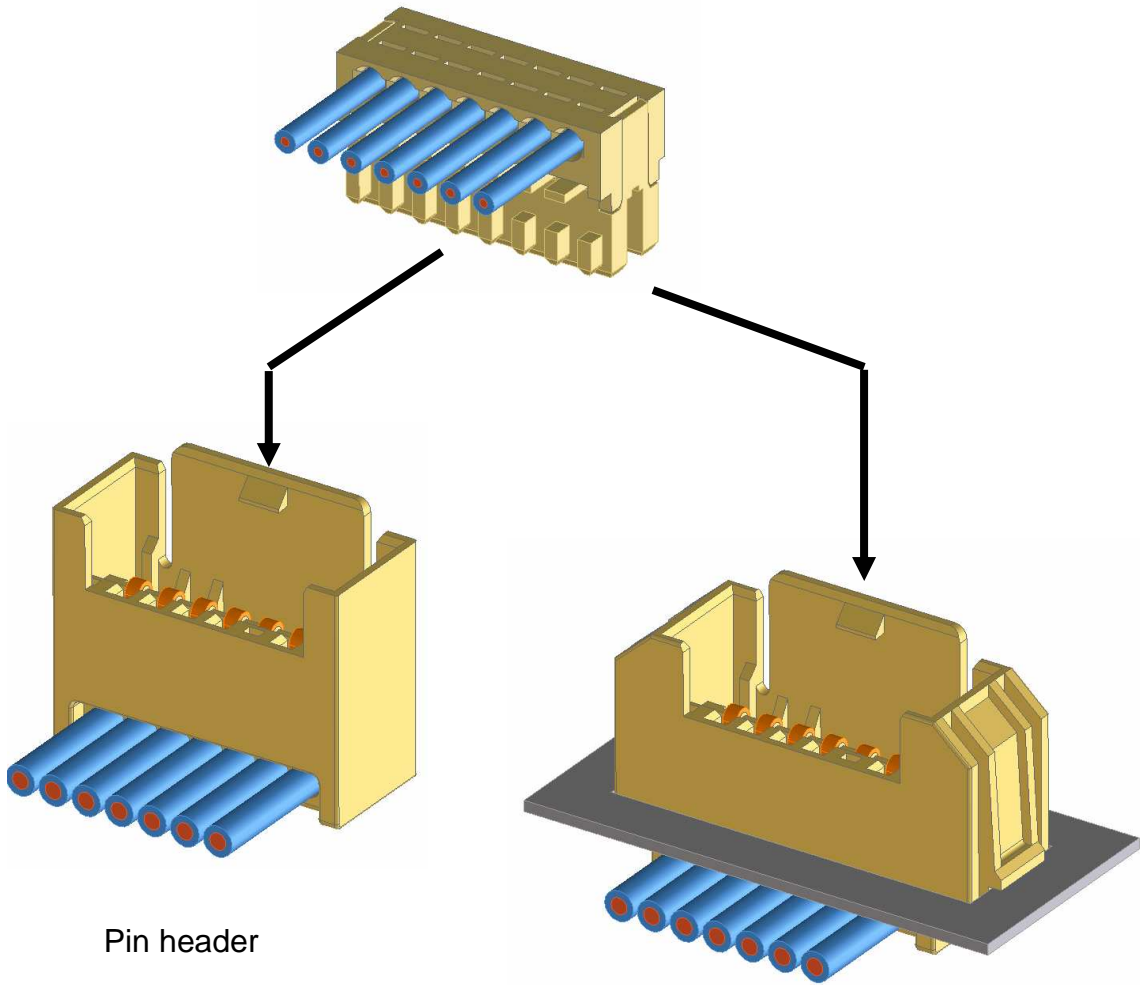
Insulation displacement connection
by pressing the contacts
Wire exit 90°



Processing Instruction

Pin header / chassis pin header in insulation displacement technique

Connector according to RAST2,5



Pin header

Chassis pin header

1.1 Product types

Pin headers in insulation displacement technique (IDT) pitch 2,5mm

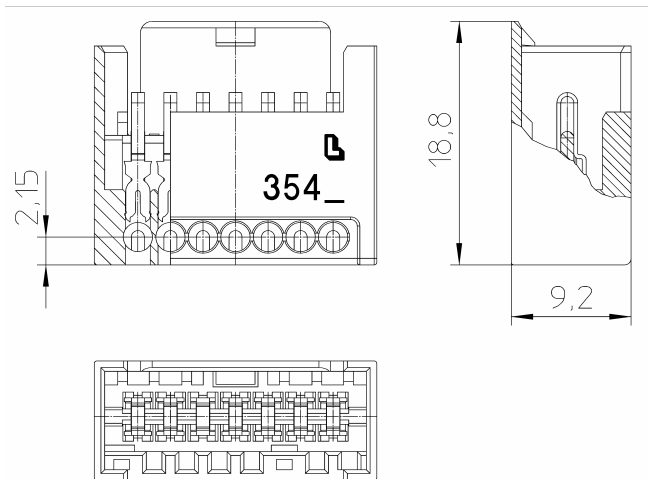
for 4A
2....12-pole

354x cross section for connection 0,22mm²....0,38mm²
354x..S01 cross section for connection 0,34mm² (7-wire)
max. insulation diameter \varnothing 1,65mm

354x-1 S01 cross section for connection 0,50mm²
max. insulation diameter \varnothing 2,20mm

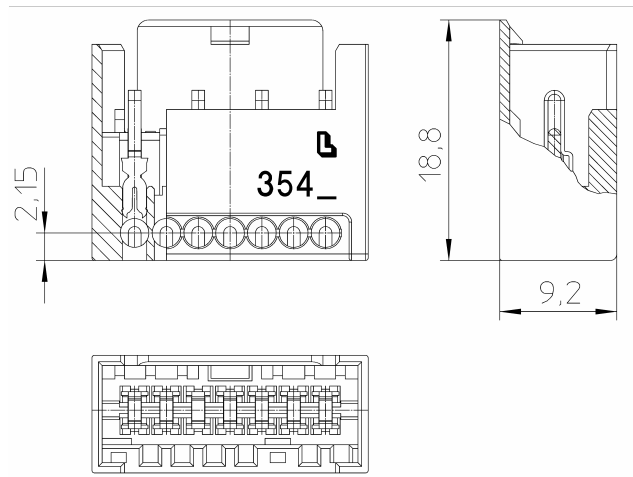
Pin header 3541

Partition 2,5mm
acc. to spec sheet 3541 01



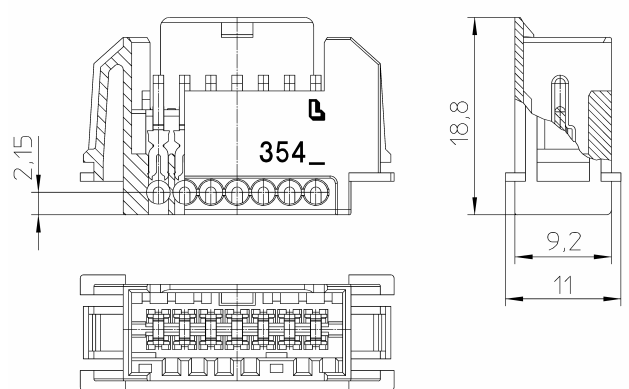
Pin header 3542

Partition 5mm
acc. to spec sheet 3542 01

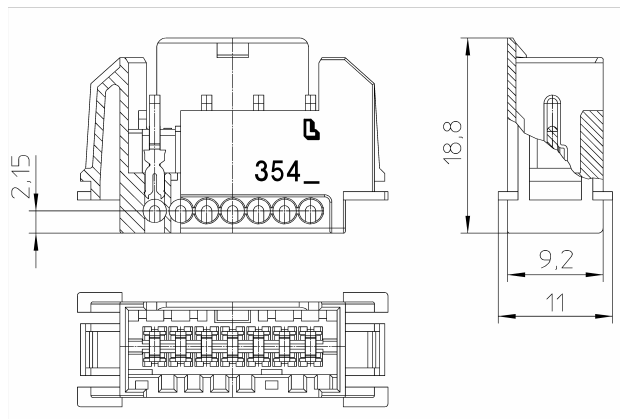


Pin header 3545

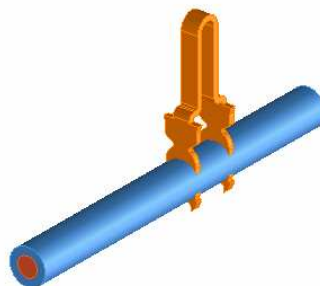
Partition 2,5mm
acc. to spec sheet 3545 01

**Pin header 3546**

Partition 5mm
acc. to spec sheet 3546 01

**2 Contact principle**

Insulation displacement connection
(test according to DIN EN/IEC 60352-4)



3 Application tooling and machines

Function, safety and quality of the connectors are only guaranteed by using of LUMBERG processing equipment. It has to be taken into account that the connectors aren't checked electrically before the processing / assembling. Because of that an electrical test should be carried out after processing / assembling.

The user bears full responsibility if any other processing equipment is used.

In case of using any lubricants or sliding agents in the feed and press areas residues (impurities) must not come into contact with the connectors.

3.1 Tools

3.1.1 Hand press KHP 354

For cost-effective termination of single wires or ribbon cables.
For single and small series.

3.2 Machines

3.2.1 Semi-automatic termination machine HA 354

For cost-effective termination of single wires or ribbon cables to automatic-feed connectors with process monitoring through stop position control for series manufacture.

3.2.2 Fully-automatic termination machine basis type Varicon 6000

Termination of connections with multiple cable pulling and automatic magazine bar feed. After termination an electric continuity check and a short circuit test is carried out. According to the test results the connectors are sorted. For large-scale industrial series production.

4 Cable specification

The cable specifications must be kept. Any deviation must be discussed and approved by LUMBERG.

4.1 Cable specifications cross section for connection 0,20...0,22 mm²

Technical specification sheet 902 01 flat cable	=0,20mm ²
Technical specification sheet 902 03 flat cable	=0,22mm ²
Technical specification sheet 902 04 flat cable	=0,22mm ²

4.2 Cable specifications cross section for connection 0,38mm²

Technical specification sheet 908 14 PVC-stranded wire	=0,38mm ²
--	----------------------

4.3 Cable specifications cross section for connection 0,50mm²

Technical specification sheet 908 15 PVC-stranded wire	=0,50mm ²
--	----------------------

Other cables see Lumberg – release list.

5 Assembly

The cables are mated with the contact equipped connectors.

5.1 Pin header feed

Depending on the kind of delivery the pin header feed is as follows:

- to the hand press
The as bulk material delivered pin headers are put in the hand press by hand.
- to the machine
The as bar stock carrier of transparent PVC delivered pin headers are fed to the termination machine.

5.2 Cutting clearance

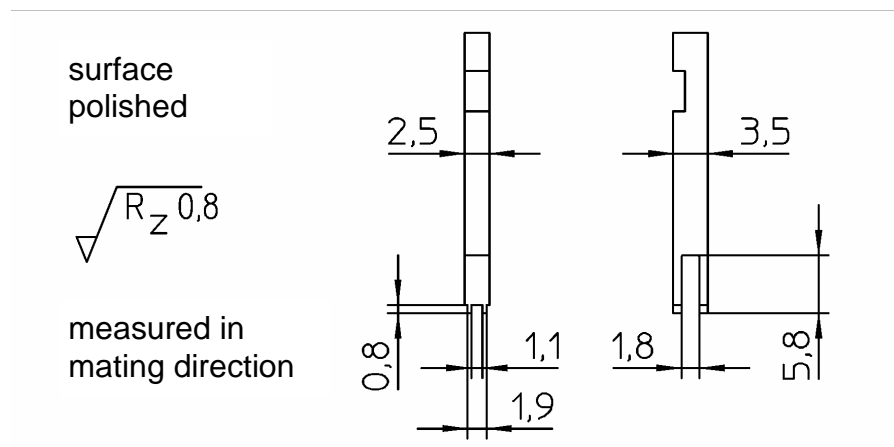
Wire cross section for connection (conductor) and insulation displacement area (ID slots) have to correspond. Only released cables are to be used for the ID slots.

5.3 Termination head

Termination head according to Lumberg specification.

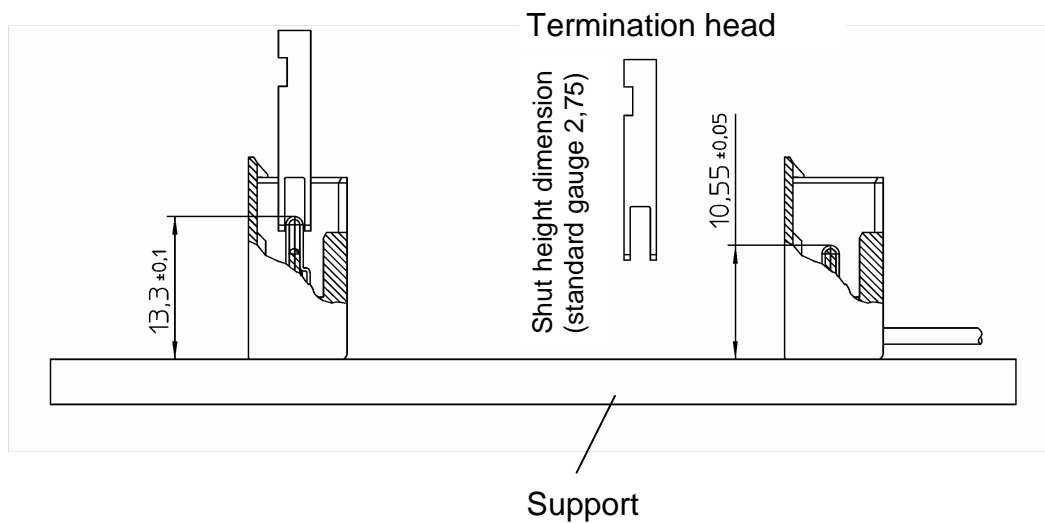
In order to guarantee a correct positioning of the contacts and not to damage the bodies during the termination of the contacts, termination head, contact and connector have to correspond. The termination heads are part of the application machines.

Termination head must be free from lubricants.



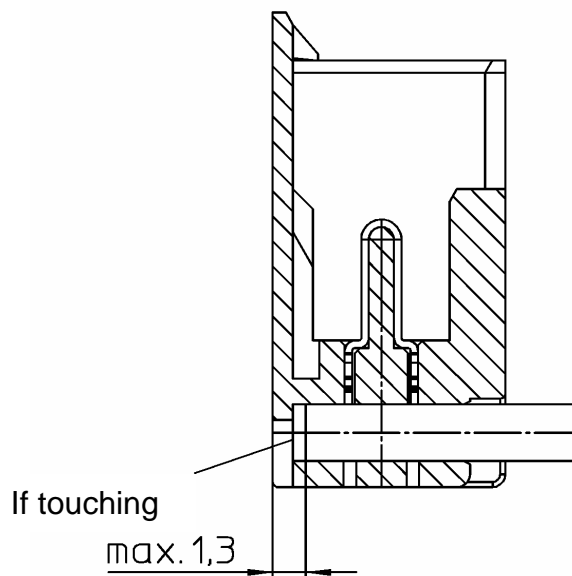
5.4 Shut height dimension of the termination machine and contact pins

An essential feature for the function of the pin header is the contact pin height after the termination. This is determined by the shut height dimension at the termination head. Depending on the used pin header and cable an adjustment of the shut height dimension could be required in order to keep the contact pin height.



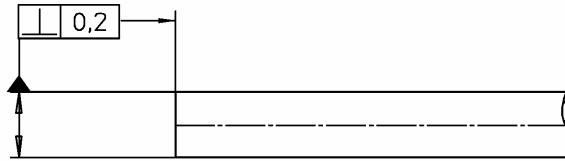
5.5 Cable protrusion

There must be the correct cable protrusion to guarantee good wire termination in the ID slots. After termination the cable protrusion must be visually checked.

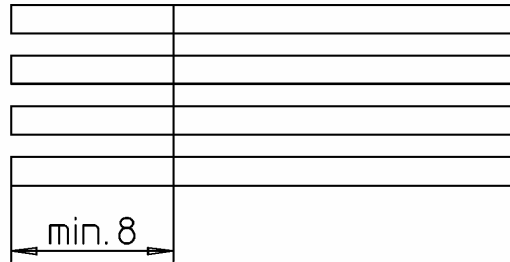


5.6 Cable

No damaged insulation of the cable in direction wire exit is allowed (visual check).
The ends of the cable must be cut off without burr and deformity.



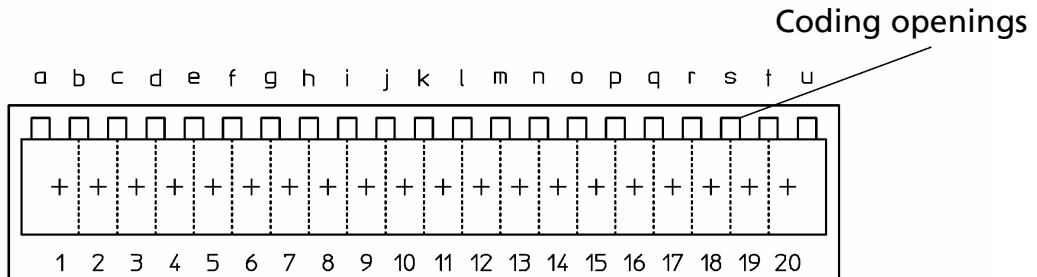
Flat cables must be punched out.

**5.7 Housing**

After the termination no visual damages of the housing are allowed (visual check).
The mating function must be guaranteed (functional check).
The contact must be in correct position in the housing (visual check).
The contact insertion height must be kept (dimensional inspection).

6 Coding according to RAST2,5

Basic plug in mating direction



7 Quality assurance

For all working and processing steps and alterations (e. g. product launch, changes of the cable, changes of the tool or machine ...), which can affect the product quality, the responsible departments have to take care for appropriate quality assurance steps.

7.1 Quality features

The following quality features must be taken into consideration.

7.2 Quality features / IDC

- ID slot width
- Symmetry of ID slot
- Cable quality
- Contact insertion depth
- Cable protrusion

7.2.1 ID slot width

LUMBERG guarantees correct ID slot.

7.2.2 Symmetry of the ID slot

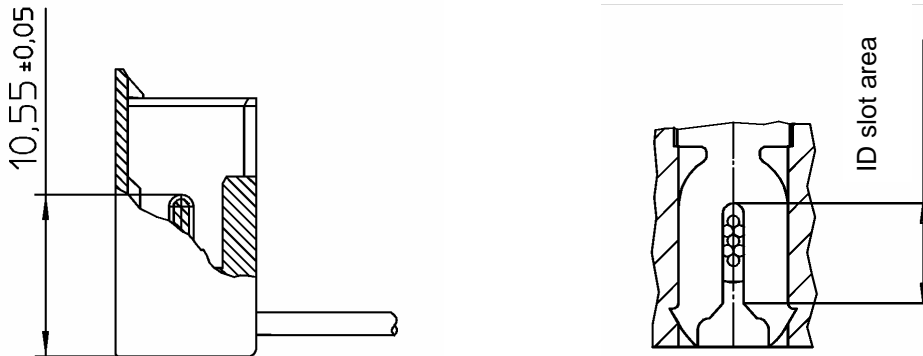
Symmetry of ID slot and cable tolerance, $\pm 0,1$, is guaranteed by the body.

7.2.3 Cable quality

The cable must meet LUMBERG specifications according to point 4.1, 4.2 and 4.3. Customized cables, which are listed in the release lists, have to correspond with the available specification sheets.

7.2.4 Contact insertion depth

The cable insertion depth must be kept, it determines the position of the conductors in the ID slot area. All single conductors must be in the ID slot area.

**7.2.5 Cable protrusion**

The cable protrusion according to point 5.5 must be kept. A protrusion of the cable in the housing leads to an incorrect mating.

7.3 Retention force of the wire

Minimal retention force of the wire:

PVC – stranded wire: $0,38\text{mm}^2 > 50\text{N}$.

