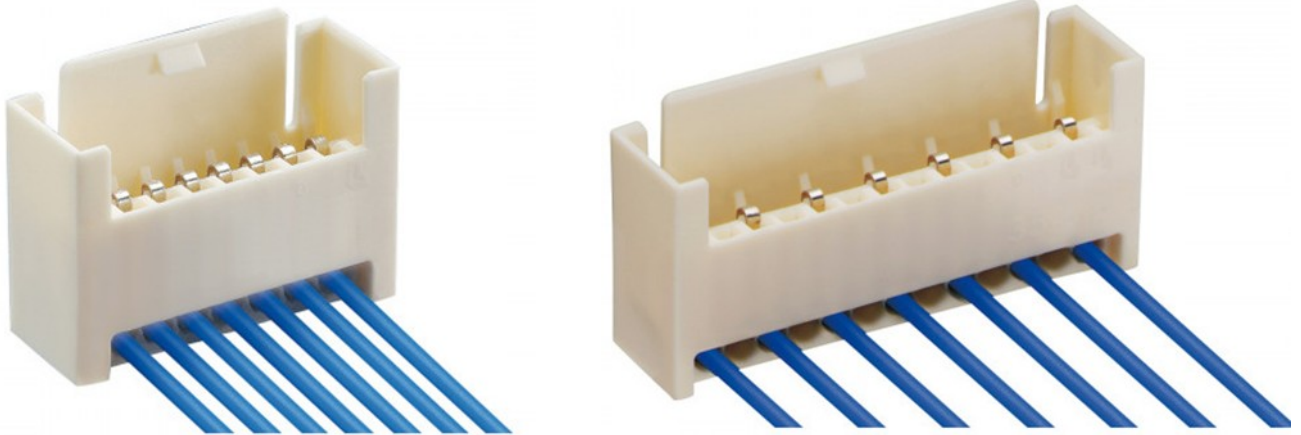
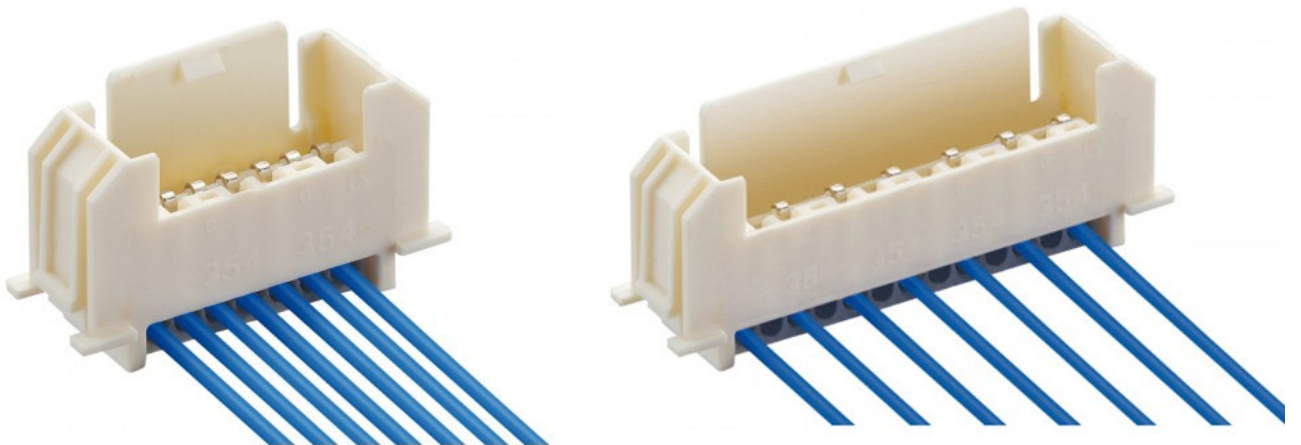


## 3541 / 3542



## 3545 / 3546



	Date	Name	Edition	1	2	3	4	5	6
Author	03.01.03	pfa	Name	dg	fs	jham	jvoss		
Checked	15.01.25	ritsch	Date	21.02.07	21.11.19	26.08.24	15.01.25		



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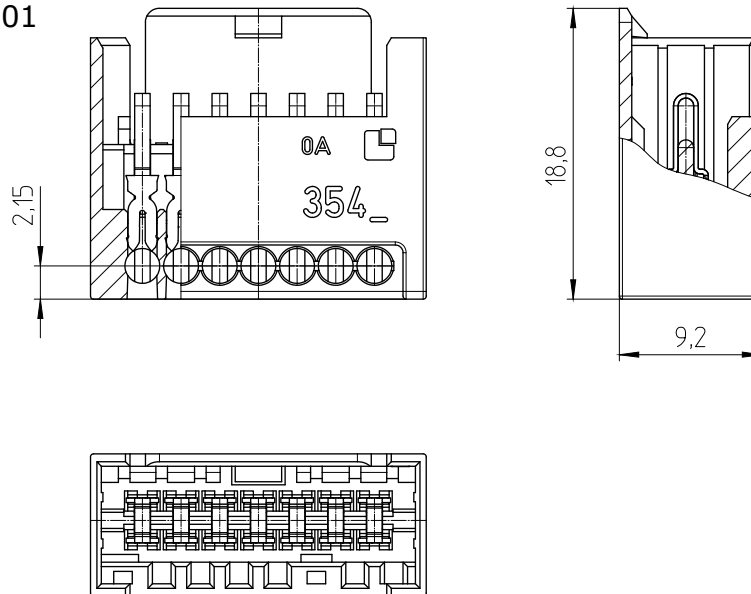
## 1. Product description

Pin header / chassis pin header in insulation displacement technique (IDT) with locking Latch

### 1.1. Product types

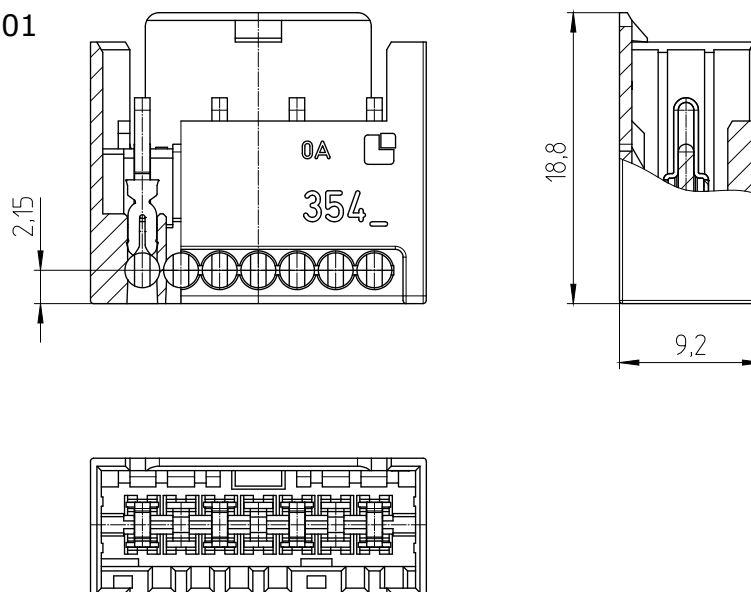
#### Pin header 3541

Pitch 2,5 mm  
acc. to data sheet 3541 01



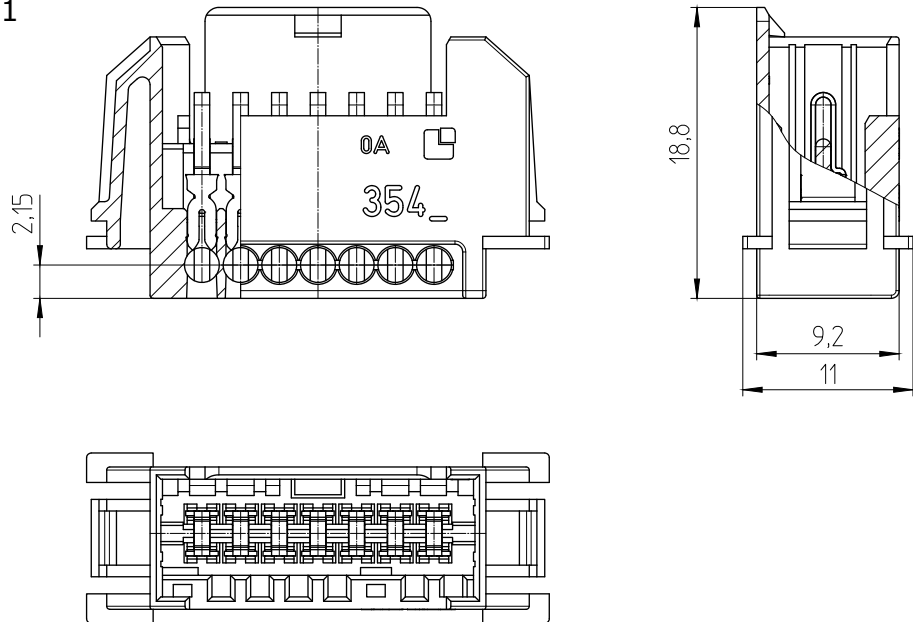
#### Pin header 3542

Pitch 5,0 mm  
acc. to data sheet 3542 01



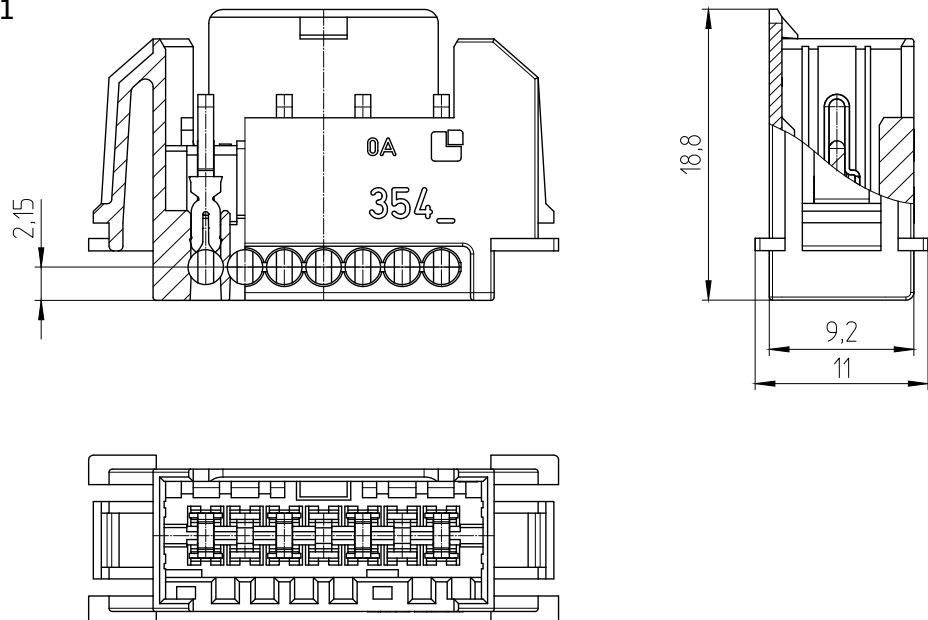
### Chassis pin header 3545

Pitch 2,5 mm  
acc. to data sheet 3545 01



### Chassis pin header 3546

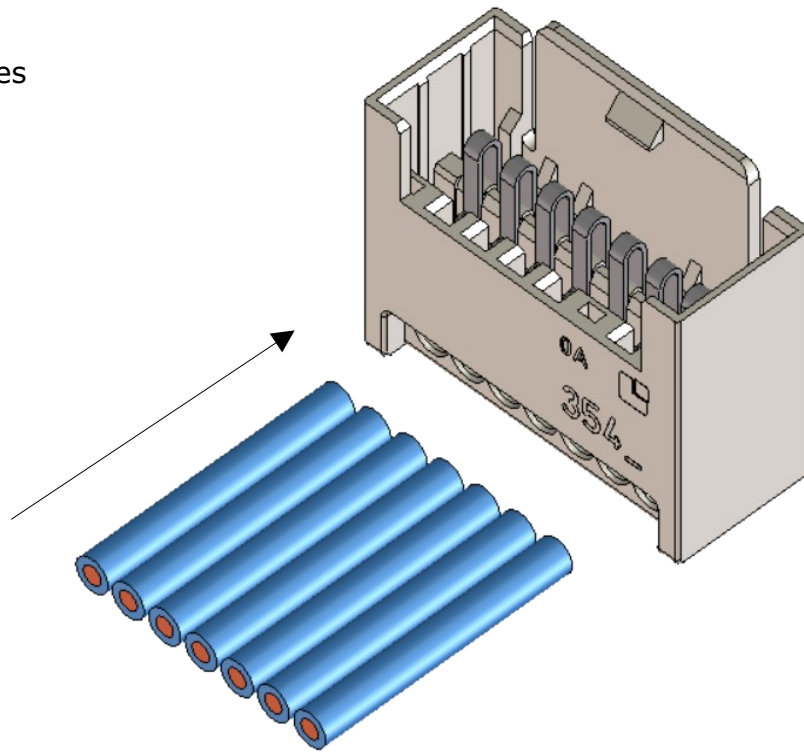
Pitch 5,0 mm  
acc. to data sheet 3546 01



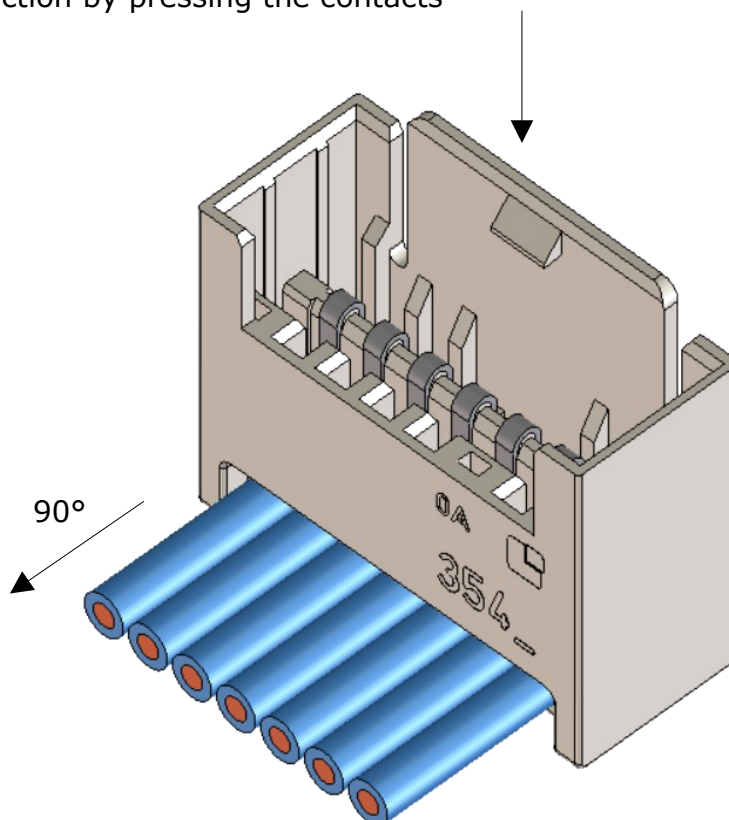
## 2. System features

One-piece body  
Delivered in bar stock carries

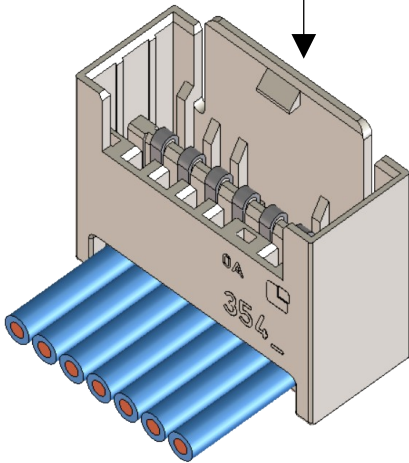
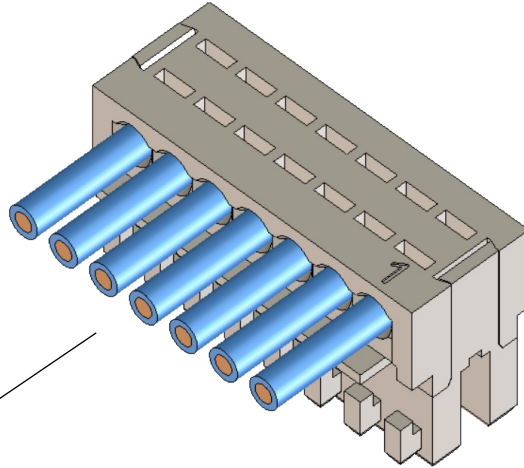
Wire termination



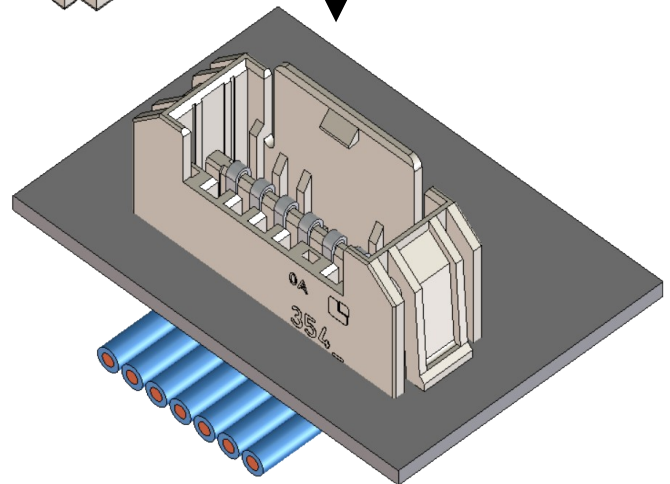
Insulation displacement connection by pressing the contacts  
Wire exit 90°



Connector according to RAST 2.5

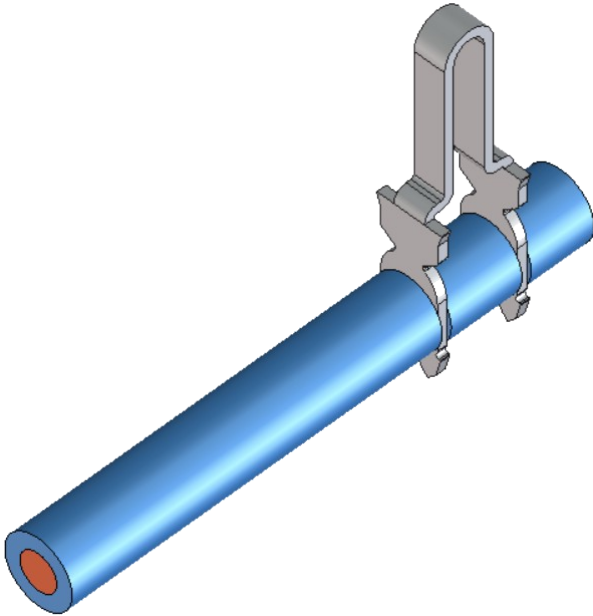


Pin header



Chassis pin header

## 3. Contact principle



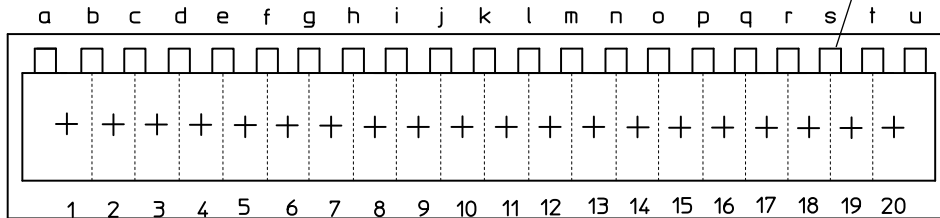
Insulation displacement connection  
(test according to DIN EN 60352-4 / IEC 60352-4)



## 4. Coding according to RAST 2.5

Basic plug in mating direction

Coding openings



## 5. Application tooling machines

The 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.

### Manual processing tool

For assembling connectors designed for single-unit and small series production.

### Manual processing device

For assembling connectors designed for small series production.

### Pneumatic processing device

Pneumatically assisted processing device with manual wire feed and connector feed. Designed for small and middle series production.

### Semi-automatic processing device

For cost-effective assembling of automatic connector feed and manual wire feed. Designed for serial production.

### Automatic processing device

For cost-effective assembly of large manufacturing series with automatic wire feed for specific wire set configurations, with automatic connector feed and with continuity test and wire end position test; also with further options such as cutting coding, high voltage test or bending of the wire outlet direction.

## 6. Wire specification

The wire specifications must be kept. Any deviation must be discussed and approved by Lumberg.

### 6.1. Wire specification cross section for connection 0,20...0,22 mm<sup>2</sup>

Technical data sheet 902 01 flat wire	=0,09 mm <sup>2</sup>
Technical data sheet 901 02 flat wire	=0,09 mm <sup>2</sup>
Technical data sheet 901 04 flat wire	=0,135 mm <sup>2</sup>

### 6.2. Wire specification cross section for connection 0,38 mm<sup>2</sup>

Technical data sheet 908 14 PVC-stranded wire	=0,38 mm <sup>2</sup>
---	-----------------------

### 6.3. Wire specification cross section for connection 0,50 mm<sup>2</sup>

Technical data sheet 908 15 PVC-stranded wire	=0,50 mm <sup>2</sup>
---	-----------------------

Other approved wire see Lumberg release list in the internet at [www.lumberg.com](http://www.lumberg.com)

## 7. Assembly

The wires are mated with the contact equipped connection.

### 7.1. 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.

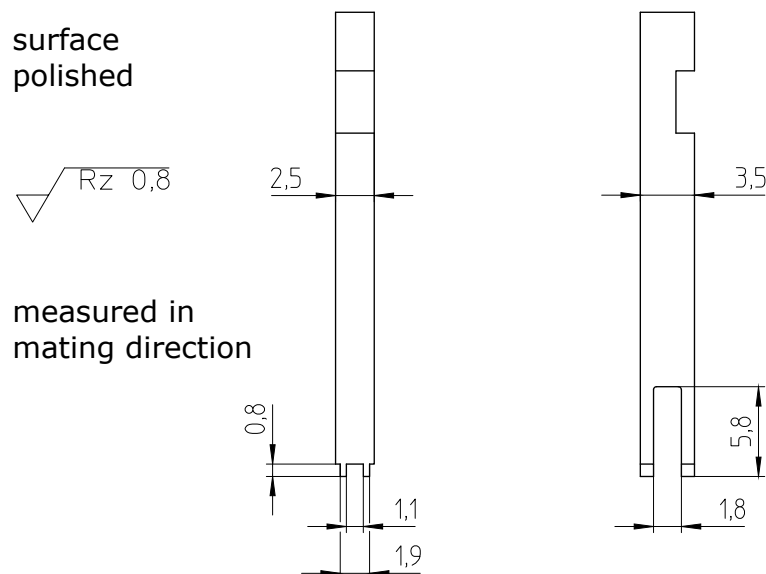
### 7.2. Cutting clearance

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

## 7.3. Termination head

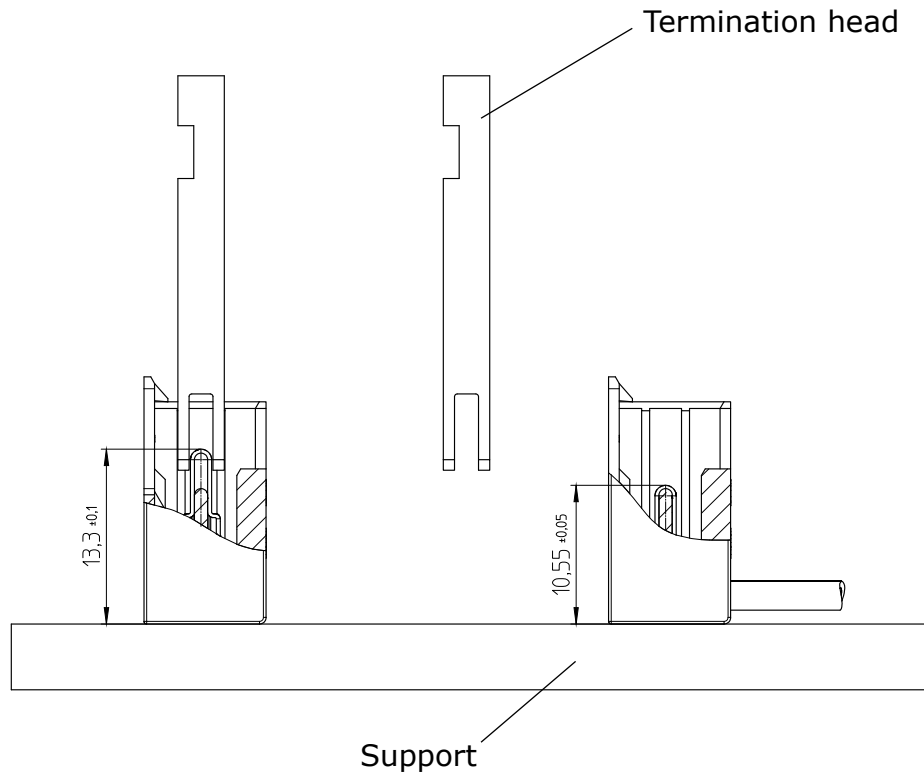
Termination head according to Lumberg specification.

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.



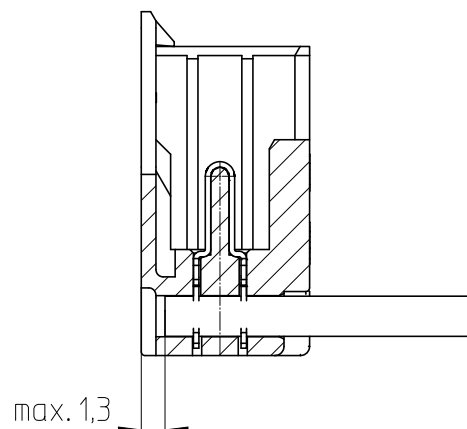
## 7.4. Setting dimension of the termination machine and contact pins

An important 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 wire an adjustment of the shut height dimension could be required in order to keep the contact pin height.



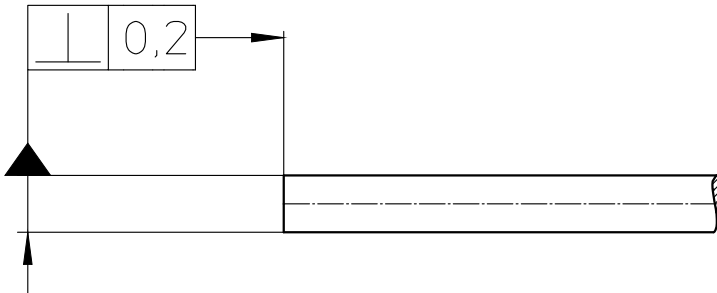
## 7.5. Wire protrusion

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

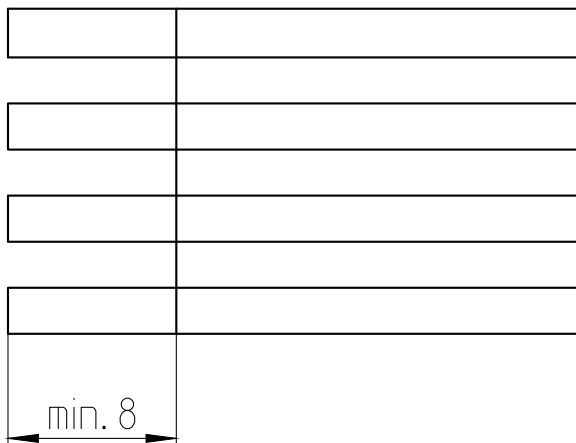


## 7.6. Wire

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



Flat wires must be punched out.



## 7.7. 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).

## 8. Quality assurance

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

### 8.1. Quality features

The following quality features must be taken into consideration:

### 8.2. Quality features / IDC

- Width of the ID slot (insulation displacement terminal)
- Symmetry of the ID slot (insulation displacement terminal)
- Wire quality
- Contact insertion depth
- Wire protrusion

### 8.3. Width of the ID slot

Lumberg guarantees correct ID slot.

### 8.4. Symmetry of the ID slot

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

### 8.5. Wire quality

The wire must meet Lumberg specification acc. to point 6.

Customized wires, which are listed in the release lists, have to correspond with the available data sheets.

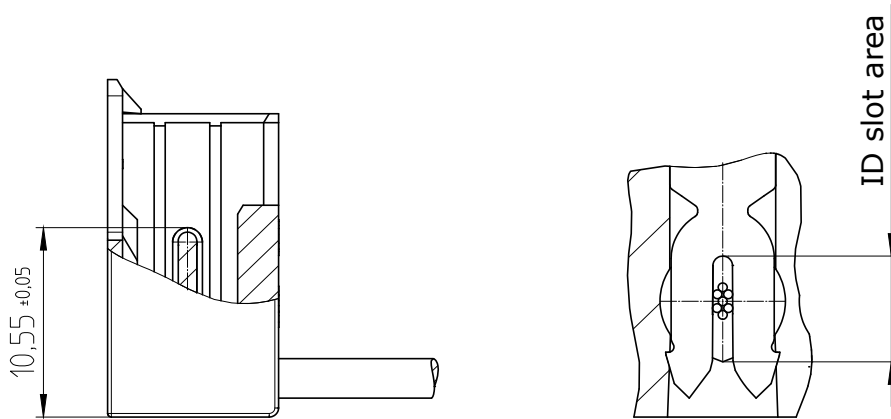
Only Lumberg released wires have to be used. The customer bears full responsibility for the correct mating when wires are used which are not listed in the release lists.

The user must ensure that all approved wires are delivered in an adequate quality. The wire cross-section, concentricity, micro Shore hardness and the termination (lay) length should all be checked



## 8.6. Contact insertion depth

The wire 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.



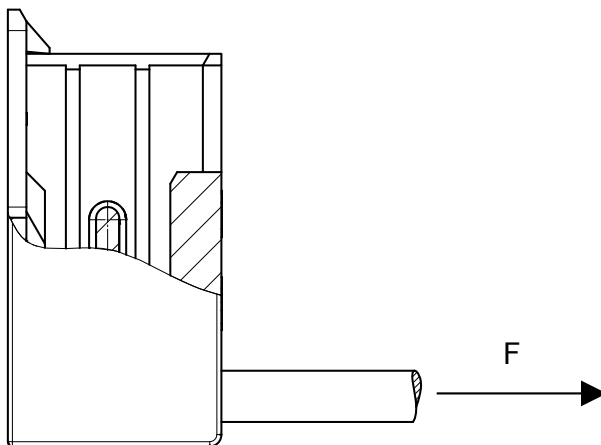
## 8.7. Wire protrusion

The wire protrusion according to point 7.5 must be kept. a protrusion of the wire in the housing leads to an incorrect mating.

## 8.8. Retention force of the wire

Minimal retention force of the wire:

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



The stated value for the conductor's pull-out force is the typical value established during a test carried out with a standard  $0,38 \text{ mm}^2$  line. All values were determined under laboratory conditions and serve as a reference.

## 9. Storage

Due to physical processes, surface finished components are subject to aging processes, which can have a negative effect on further processability. To ensure optimum processability, the following instructions should be observed and ensured during further processing steps:

Storage conditions:

The parts should ideally be stored in the closed original packaging, at a constant temperature of 21 – 25° C and with a relative humidity of no more than 55%. The components should not be exposed to direct light. They should also be protected from any extreme ambient conditions (such as air pollution).

Due to the physical properties of the parts the storage times should be reduced as short as possible. Silver-plated components have to be processed within half a year and tin-plated components within one year after delivery.

For components that are soldered due to their application, it is necessary to use a commercially available suitable flux.

These specifications are based on experience, using components stored under optimal conditions. They do not constitute a binding commitment for the fulfillment of any characteristics.

Ask Lumberg for more information about alternative packaging options for other temperatures and environmental conditions.