302299

	Date	Name	Edition	1	2	3	4	5	6
Author	08.06.06	heg	Name	dg	jas	fs	jvoss	fs	
released	22.04.25	jas	Date	21.02.07	27.07.12	09.04.20	12.07.24	22.04.25	

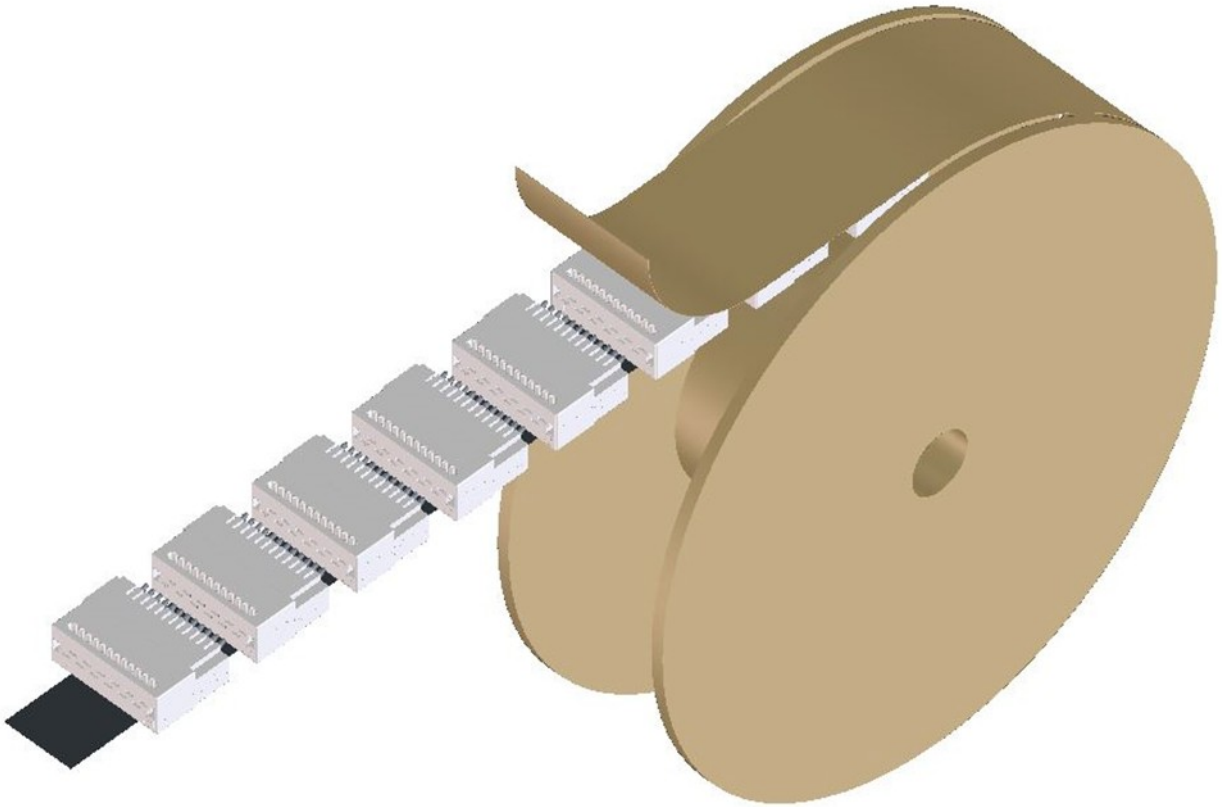
Alteration Description

Edition	Alterations carried out
1	Change of name and inspection note added
2	Contact with big chamfer, coding rib omitted, storage added
3	Updated text layout and Lumberg logo, Updated graphics, Updated Section 3 Processing tools and machinery, Text supplemented in Section 7.5 and Section 8.
4	Storage text updated, general text corrections
5	Terms of storage replaced by reference to website

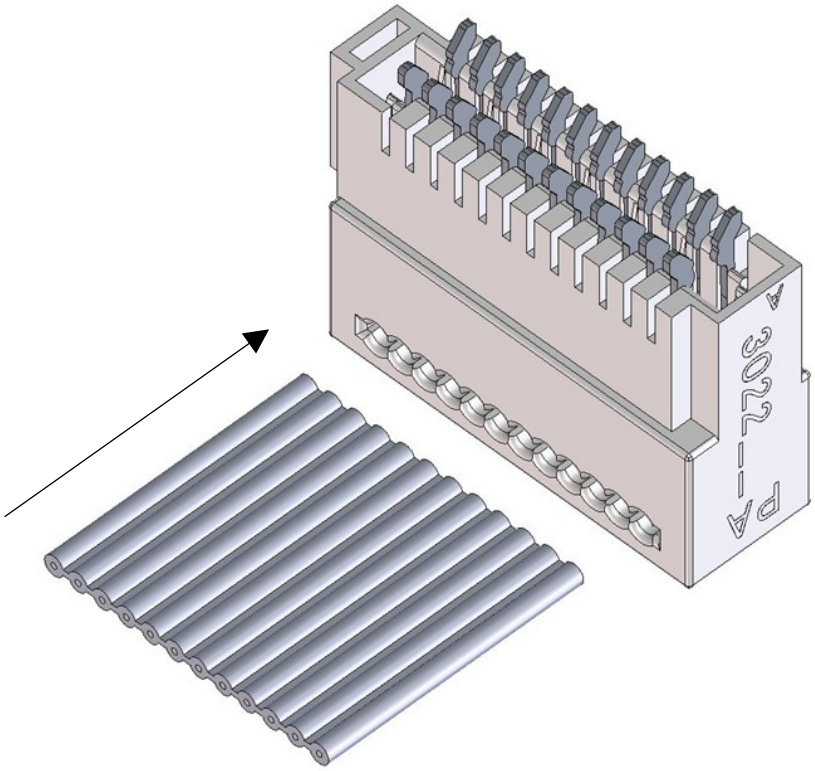
Contents

1. System features

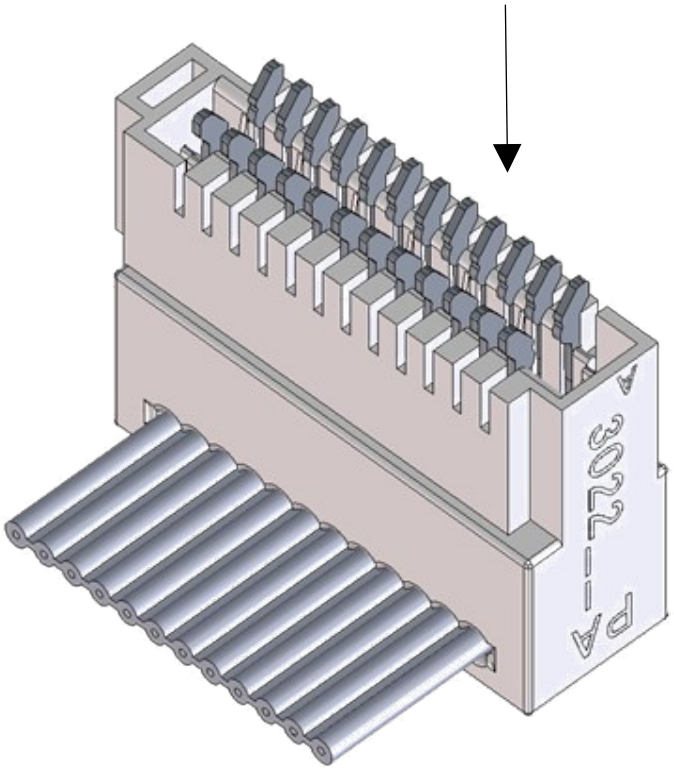
One-piece contact carrier
pre-assembled with contact spring in pre-hooked position
delivery as tape on reel
pitch 1,27 mm



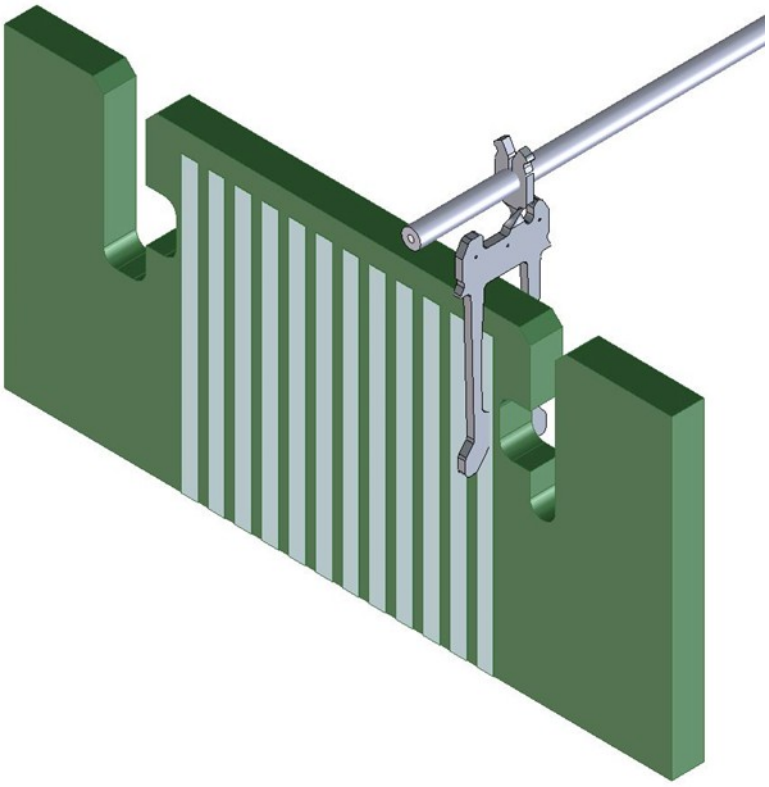
Wire termination



Insulation displacement connection by shoving the contact spring
Wire exit 90°



2. Contact principle



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

3. Application tooling and 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 is solely responsible for other processing systems that have not been manufactured by Lumberg.

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. Manual processing device – toggle lever press

For fitting ribbon cables. For single and small series.

3.2. Semi-automatic processing device

For cost-economic termination of ribbon cables to automatic-feed connectors with process monitoring via final position control for serial production.

3.3. Automatic processing device

A fully-automatic machine which cuts the ribbon wires and connects them on both sides with the connectors. An electrical continuity check and short circuit test can be integrated optionally. Termination version 1 to 1 and 1 to n are available.
The automatic machine is designed for large-sale industrial serial production.

4. Wire specifications

The wire specification must be kept. Any deviation must be discussed and proved by Lumberg.

4.1. Wire specifications cross section for connection 0,09 – 0,14 mm²

Technical specification sheet 901 01 Flat cable AWG28 (7 x Ø0,127 mm)	= 0,09 mm²
Technical specification sheet 901 02 Flat cable AWG28 (Ø0,32 mm)	= 0,09 mm²
Technical specification sheet 901 04 Flat cable AWG26 (69 x Ø0,05 mm)	= 0,135 mm²
Technical specification sheet 901 11 Flat cable AWG26 (7 x Ø0,16 mm)	= 0,14 mm²
Stranded hook-up wire AWG28 (7x Ø0,127 mm)	= 0,09 mm²
Stranded hook-up wire AWG26 (69xØ0,05 mm)	= 0,135 mm²

Other approved wire see Lumberg release list in the internet at www.lumberg.com

5. Assembly

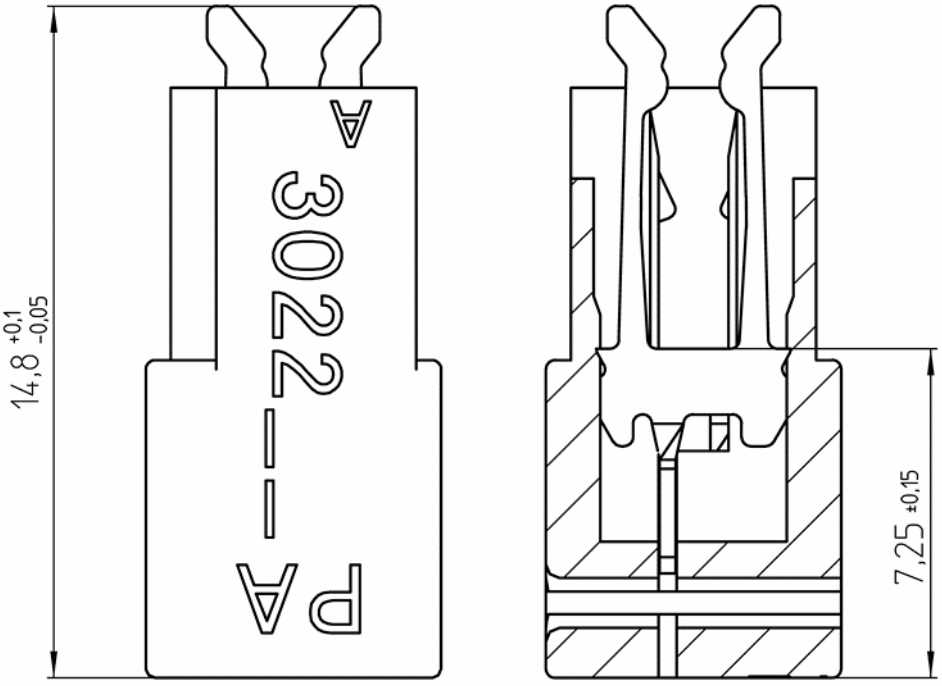
5.1. Connector feed

The connectors pre-assembled with contact springs are delivered as tape on reel. The connectors will be fed into the assembly machine from the reel.

5.2. Height of pre-assembled connectors

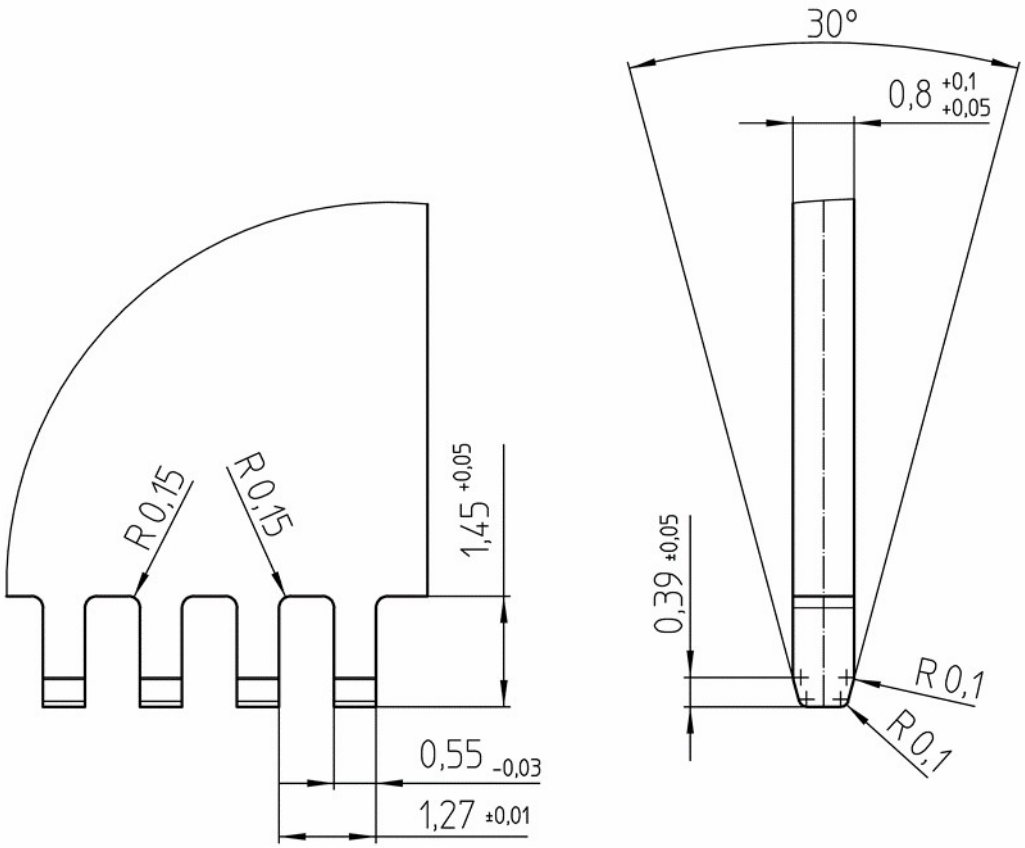
The height of the pre-assembled connectors before assembly is 14,8 +0,1/0,05mm measured from the bearing face of the connector to the upper edge of the contact spring.

The height from the bearing face of the contact carrier to the insertion edge of the contact spring is 7,25 ±0,15 mm in pre-hooked position.



5.3. Termination head

The assembly is carried out via the termination head which goes trough the round ends of the contact springs. The termination head has to be according to Lumberg specifications.



Die hardened: 58 +2 HRC

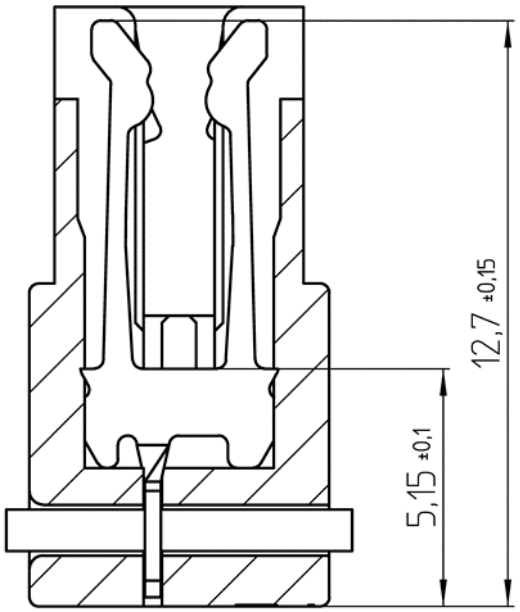
Surface polished: $\sqrt{Rz1}$ measured in mating direction

5.4. Shut height dimension of the termination machine

An important feature for the correct function of the connector is the engraving depth of the contact springs after assembly. It is determined by the shut height dimension of the termination machine.
The shut height of the machine has to be slightly below the engraving depth of the contact springs because of the restoring spring force of the contact carrier and the wire. In order to avoid damages to the part, the under-usage has to be as small as possible.

The shut height of the machine from the bearing face to the contact carrier to the insertion edge of the contact spring amounts to 5,15 ±0,1 mm.

The test dimension from bearing face to upper edge of the contact spring's is:
12,7 ±0,15 mm.

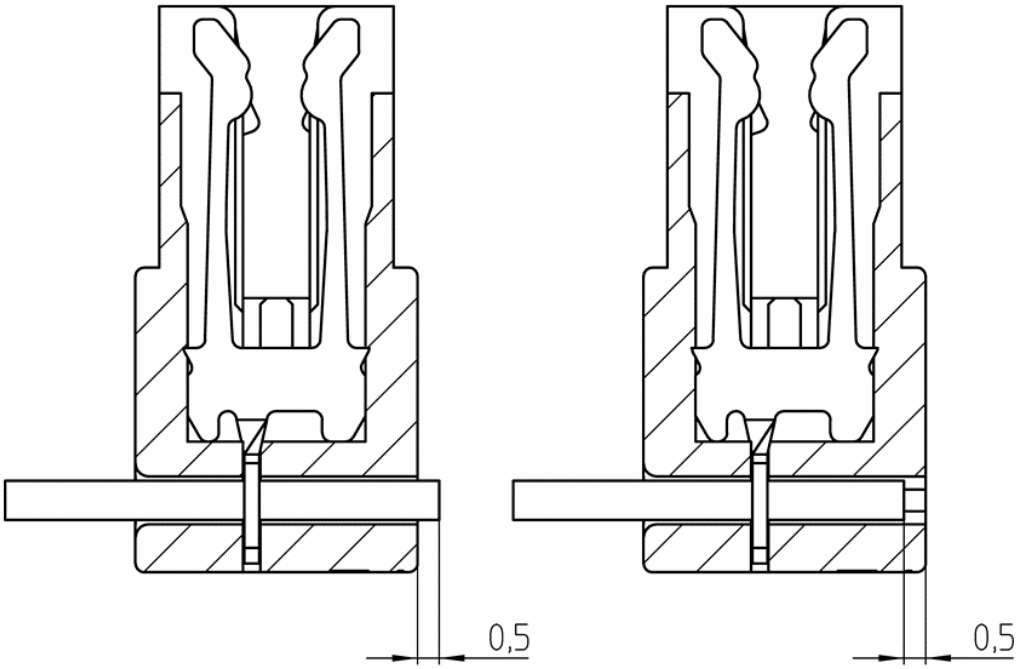


5.5. Wire

The wires must be cut off without burrs and deformity. No cuts in the insulation are allowed in wire exit direction (visual check).

5.6. Wire protrusion

The wire should be flush with the contact carrier. Wires being too short by up to 0,5 mm as well as wires protruding by up to 0,5 mm are allowed.



5.7. Housing

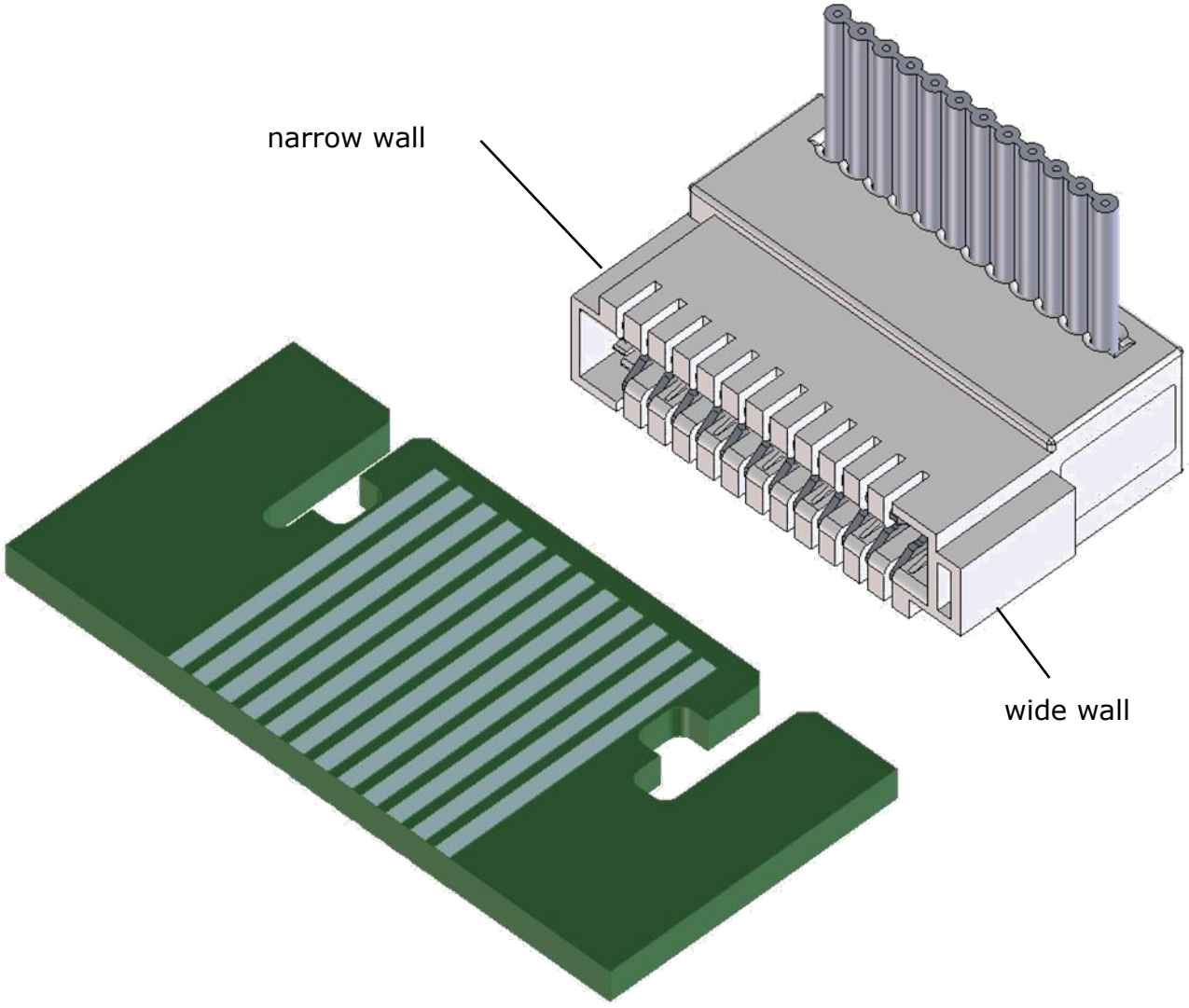
After termination no visual damages of the housing are allowed (visual check).
The mating function must be guaranteed (functional test).
The contact must be in correct position in the housing (visual check).

6. Security against incorrect mating

6.1. Anti-turn protection

available

An incorrect mating of the connector to the PCB is prevented by different width of the side walls within the mating area, which requires slots on the PCB that is to be connected (see specifications of the PCB in the data sheet).



6.2. Colour marking

not available

7. Quality assurance

For all working and processing steps and alterations (e.g. product launch, change 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.

7.1. Quality features

The following quality features must be taken into consideration:

7.2. Quality features / IDC

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

7.3. Width of the ID slot

Lumberg guarantees correct ID slot.

7.4. Symmetry of the ID slot

The symmetry of ID slot and wire (tolerance ±0,1 mm) is guaranteed by the body.

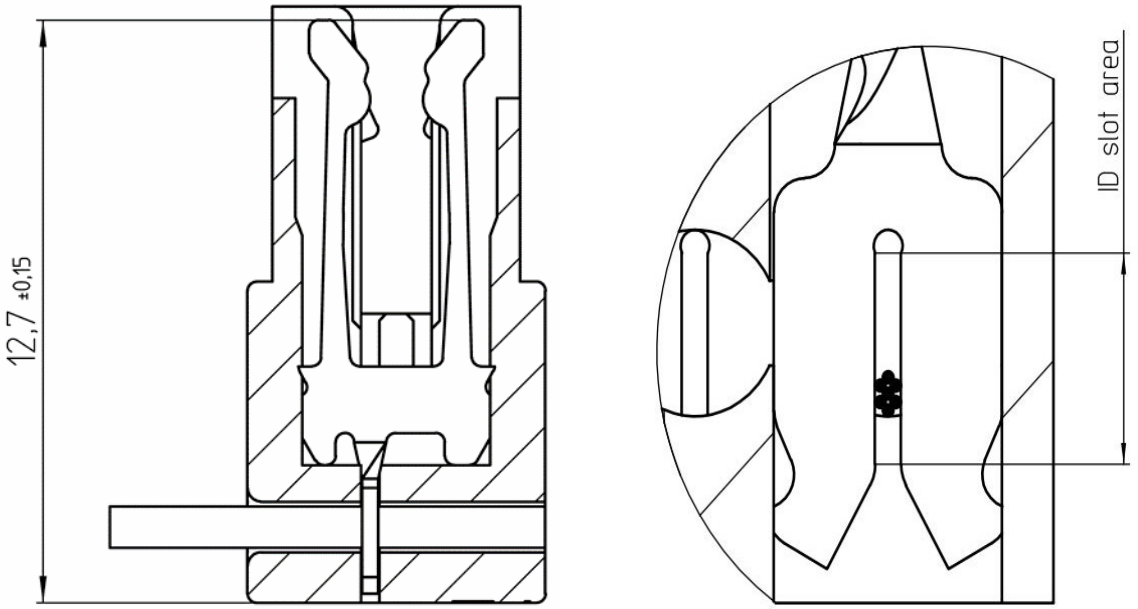
7.5. Wire quality

The wire must meet Lumberg specification acc. to point 4.1. Customized wires, which are listed in the release lists, have to correspond with the available specification sheets. Only Lumberg released wires are 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.

7.6. Contact insertion depth

The contact 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.



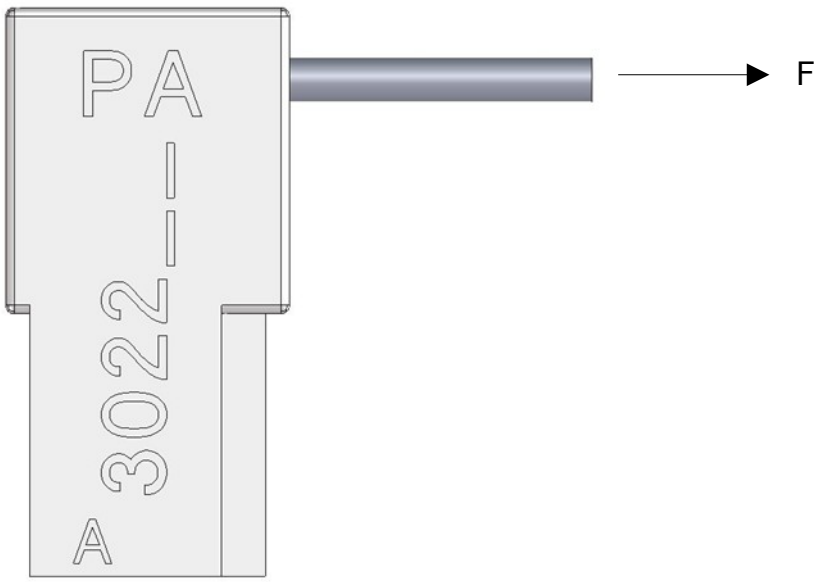
7.7. Wire protrusion

The wire protrusion as per point 5.6 must be kept.

7.8. Retention force of the wire

Minimal retention force of the wire from the insulation displacement contact:

F > 50 N



8. Terms of storage

The general terms and conditions of storage are available on the internet under Downloads at www.lumberg.com. The specified terms of storage must be complied with.