

# Insulation Displacement Connector (IDC)

## for flat ribbon cable

Female connectors size C, 64 and 96-pin similar to DIN 41 612/IEC 60603-2



DIN 41612

### General

**ERNI** insulation displacement connectors similar to DIN 41612/IEC 60603-2 are suitable for assembling flat ribbon cable.

The female connectors are available with the standard pin numbers 64 and 96.

- Female connectors size C, 64-pin, rows a c
- Female connectors size C, 96-pin, rows a b c

Reliable and economic wiring of the flat ribbon cable is performed by a single operation.

The flat ribbon cable fixed in the cable guide is pressed onto the insulation displacement contacts of the female connector using a simple tool (pliers or installed press).

A reliable connection is made via a double insulation displacement contact, the pointed ends of which puncture the insulation of the flat cable and make contact with the conductors at high pressure.

### Main features

- Two-part connector system
- Pitch 2,54 mm (1/10")
- Built according to DIN 41612/IEC 60603-2, the most widespread connector standard with 13 basic sizes
- **Two sided female contacts**
- **Double insulation displacement contacts with four points of contact per conductor (64-pin version only)**
- Accurate locating of the flat ribbon cable in the cable guide
- Numbered openings in the cable guide allow the connection to be inspected visually and checked electrically from the wiring side.
- Connector housings available for 90° and 180° cable entries
- Low-cost parallel back-panel wiring for racks
- With the ERNI interfacing system the connector is suitable for creating links from the front or back panel of the rack.



## Electrical and mechanical characteristics

|                          |                      |       |
|--------------------------|----------------------|-------|
| Max. number of contacts  | 64                   | 96    |
| Contact row designation  | ac                   | abc   |
| Temperature range        | - 65° C...+ 125° C   |       |
| Current rating at        | + 20° C              | 2 A   |
| ambient                  | + 70° C              | 1,5 A |
| temperature              | + 100° C             | 1 A   |
| Test voltage 50 Hz, 1min |                      |       |
| Contact / Contact        | 600 Veff             |       |
| Contact / ground         | 1000 Veff            |       |
| Permissible humidity     | Annualaverage ≤ 80 % |       |
| Test class 65/125/56     | max. 100 %           |       |
| Contact resistance       | ≥ 20 m               |       |
| Insulation resistance    | ≥ 10                 |       |

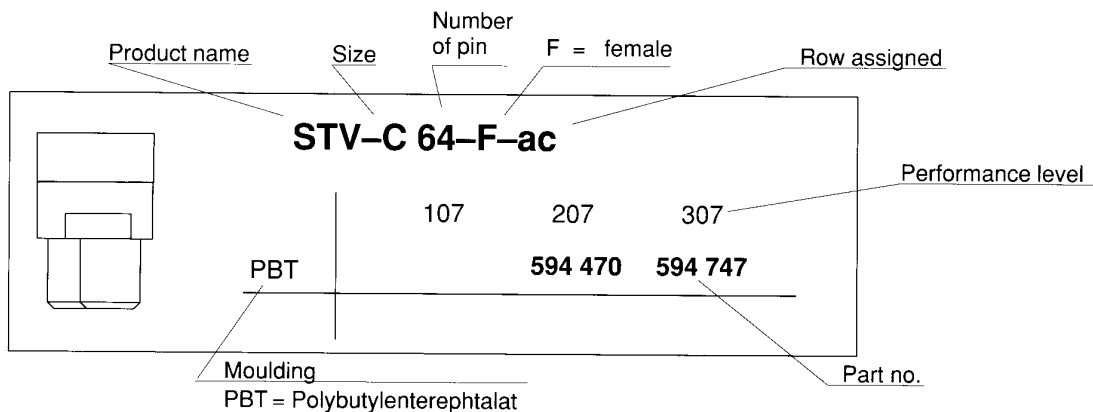
|                                                                |                                                       |             |
|----------------------------------------------------------------|-------------------------------------------------------|-------------|
| Max. number of contacts                                        | 64                                                    | 96          |
| Shock and vibration proofness                                  | No contact breakdown at 20g and 10...2000Hz           |             |
| Service life to DIN 41 612, part 5                             | Performance level 2 ≥ 400<br>Performance level 3 ≥ 50 |             |
| Housing material of female connectors                          | PBT 30% GV                                            |             |
| Contact material                                               | Cu Alloy                                              | Cu Alloy    |
| Mating and withdrawal force for the assembled connectors max N | 64 pin 60 N                                           | 96 pin 90 N |
| Inflammability of the plastic                                  | UL 94 V-0                                             |             |

### Performance level

**207** Conforms to the requirements as per  
DIN 41612/IEC 60603-2  
performance level 2  
400 mating cycles  
Contact zone gold-plated  
Terminal zone tin-plated

**307** Conforms to the requirements as per  
DIN 41612/IEC 60603-2  
performance level 3  
50 mating cycles  
Contact zone gold-plated  
Terminal zone tin-plated

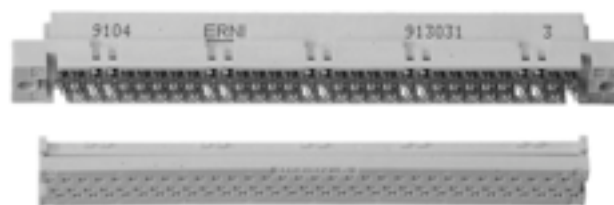
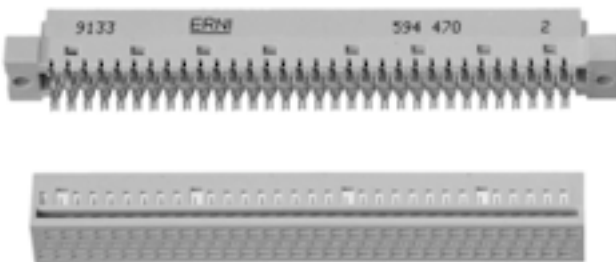
### Example of how to order



## Female connectors size C, 64 and 96-pin

### insulation displacement connectors

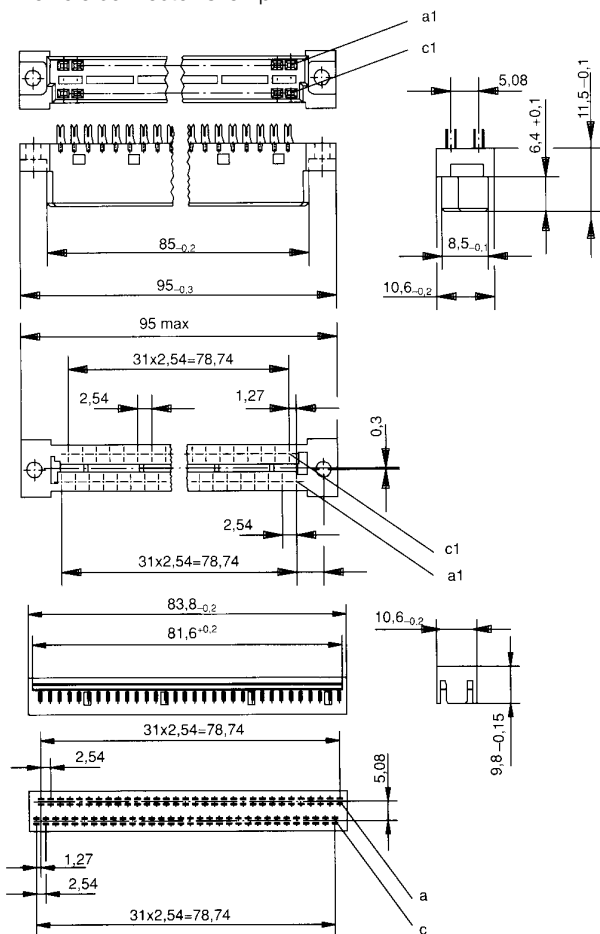
similar to DIN 41 612/IEC 60603-2



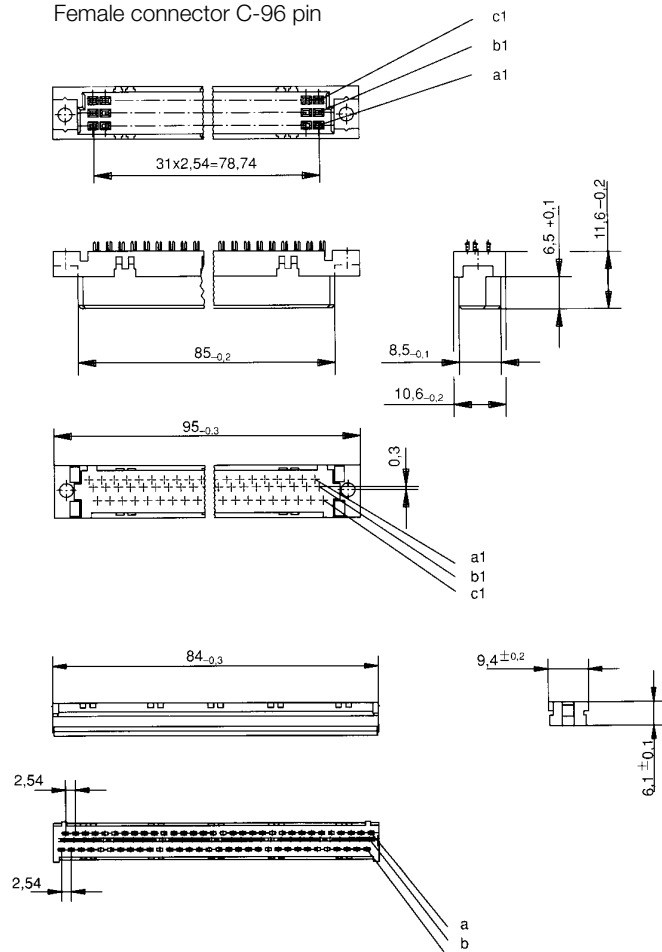
DIN 41612

## Dimensional drawings

Female connector C-64 pin



Female connector C-96 pin

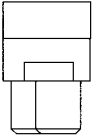


## Ordering details

All female connectors with insulation displacement contacts are supplied with cable guides.

### Female connectors size C, 64-pin

similar to DIN 41 612/IEC 60603-2

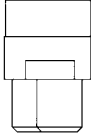
| STV-C-64-F-ac                                                                     |     |     |               |               |
|-----------------------------------------------------------------------------------|-----|-----|---------------|---------------|
|  |     | 107 | 207           | 307           |
|                                                                                   | PBT |     | <b>594470</b> | <b>594747</b> |

A withdrawal lug with a tension relief clamp for a 64-row female connector size C is available on request as an accessory.

Female connectors without mounting flange on request.

### Female connectors size C, 96-pin

similar to DIN 41 612/IEC 60603-2

| STV-C-96-F-abc                                                                    |     |     |               |     |
|-----------------------------------------------------------------------------------|-----|-----|---------------|-----|
|  |     | 107 | 207           | 307 |
|                                                                                   | PBT |     | <b>123905</b> |     |

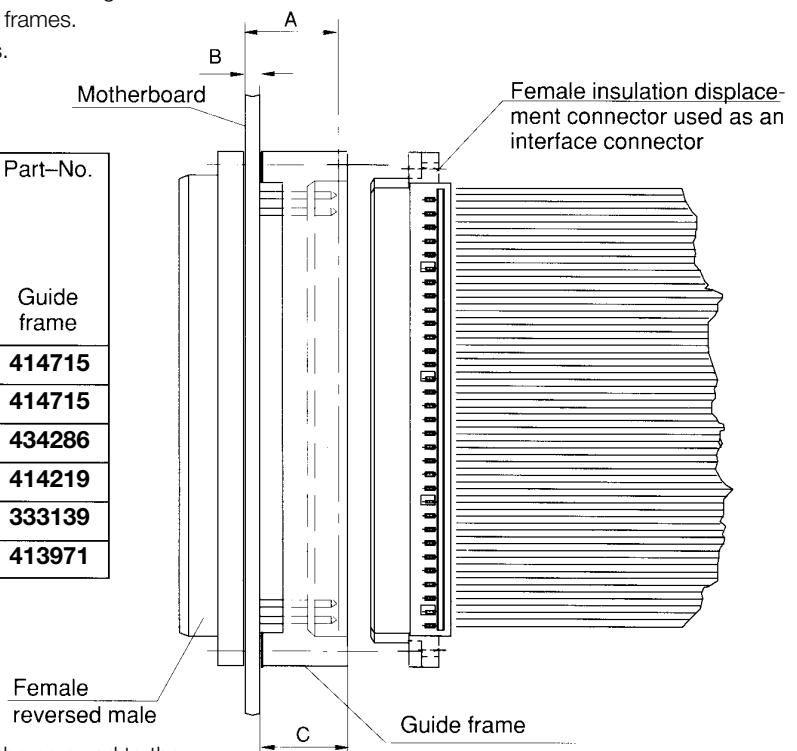
A withdrawal lug with a tension relief clamp for a 96-row female connector size C is available on request as an accessory.

## Application example

To facilitate use of female connectors with insulation displacement contacts as interface connectors from the wiring side of the rack ERNI has developed special guide frames. These guide frames are available in various lengths.

(All dimensions in mm)

| Size | Contact length | Mother board | Guide frame | Part-No.      |
|------|----------------|--------------|-------------|---------------|
|      | A              | B            | C           | Guide frame   |
| C, R | 13             | 1,6          | 12,5        | <b>414715</b> |
|      | 13             | 2,4          | 12,5        | <b>414715</b> |
|      | 13             | 3,2          | 11,4        | <b>434286</b> |
|      | 17             | 2,4          | 16,0        | <b>414219</b> |
|      | 17             | 3,2          | 15,2        | <b>333139</b> |
|      | 20             | 3,2          | 18,2        | <b>413971</b> |



The female insulation displacement connector can be screwed to the guide frame with a cheese-head tapping screw B2.2 x 9.5 DIN 7971.

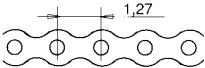
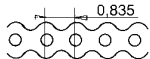


## Ordering details tools

| Description                        | Fig. no. | Part no. |
|------------------------------------|----------|----------|
| Standard assembly tool             |          | 473210   |
| Assembly tool with adjustable stop | 1        | 473188   |

| Description                                             | Fig. no. | Part no. |
|---------------------------------------------------------|----------|----------|
| Bench press                                             | 2        | 473200   |
| Pliers with various accessories. Complete set in a case | 3        | 424623   |

## Ordering details for flat ribbon cables and accessories

| Number of pins                                                                                | Descriptions for flat ribbon cables | Length of a cable reel | Part. no. for 1 meter |
|-----------------------------------------------------------------------------------------------|-------------------------------------|------------------------|-----------------------|
| 64-pin<br> | grey with a red identification wire | 61m                    | 414068                |
|                                                                                               | color coded                         | 61m                    | 414082                |
| 96-pin<br> | grey with a red identification wire | 61m                    | 913049                |

| Description                                                                                                 | Remarks                              | Part.no. |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------|----------|
| Tension relief clamp<br> | for a 96-row female connector size C | 033055   |



System technology

Standard and customized flat cable systems



Apart from various standard systems ERNI also offers customized flat cable systems with insulation displacement connectors.

These systems are manufactured according to your specifications and are subjected to electrical testing.

The connectors used and some other versions are shown in this information leaflet, e. g.:

- Connector series TMC (Sub-D) from 9 to 37-pin
- PCB connector series LPV from 10 to 60-pin
- Modular insulation displacement connectors from 6 to 96-pin
- DIN 41612/IEC 60603-2 connectors with crimp snap-in contacts

| Description                                                                                                                                                                                           | Part no.      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <p>19" rack connection system, 6 height modules, 64-pin grey flat ribbon cable with red identification wire.</p>  | <p>373019</p> |