Installation Instructions

for Connecting ept One27 IDC Connectors with Ribbon Cable

Contents:

These installation instructions describe how to connect ept One27 connectors (ept Item No. 404-59xxx-6x) onto ribbon cable (30 AWG)

ept GmbH | Bergwerkstr. 50 | 86971 Peiting, Germany | Tel. +49 (0) 8861 / 25 01 0 | Fax +49 (0) 8861 / 55 07 | sales@ept.de | **www.ept.de**

Installation Instructions:
Connecting ept One27 IDC Connectors with Ribbon Cable

Table of Contents

Installation Instructions:
Connecting ept One27 IDC Connectors with Ribbon Cable

1. Basic Information

The female One27 IDC is designed to be reused for cable assembly. A cable assembly's suitability for a given application can only be checked and evaluated once the application has been specified. ept is not liable for employees' disregard of the installation instructions.

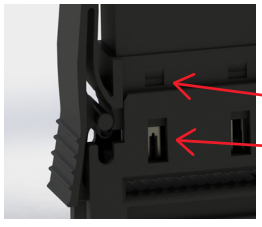
When assembling the ept IDC connector, it is generally recommended that employees follow the acceptance criteria for cable types outlined in the latest revision of IPC/WHMA-A-620B.
ept IDC connectors are designed so that the a1 contact connects to the cable's guide strand!

2. Checking the Components

Checking the delivered components for damage and consistency with the order.

ept IDC connectors are delivered 'ready to connect' in a suitable blister package. It is recommended that employees complete a visual inspection of the delivered connectors.

1. The cable duct on the IDC bridge needs to be free – in other words, the insulation displacement contacts cannot be inside the cable duct. This ensures that the cable can be securely routed through the duct.



2. The position lock on the connect bridge (the component with the cable duct) and on the insulator material on the IDC connector (the upper part of the combination with female contacts) needs to be set to the first level. The insulation displacement contacts are still readily visible in the lock windows!

3. The snap-fits attached to the insulator material should be properly aligned (straight) and free from damage. The snap-fits should also be inside the guide slot provided for this purpose.

ept IDC connectors can only be used with cables approved by ept. ept IDC connectors are designed to only be used with 30/7 AWG ribbon cables!

Installation Instructions:
Connecting ept One27 IDC Connectors with Ribbon Cable

Ribbon cables approved by ept:
Klasing FL R0,635 AWG30 UL 20961 (30V)
Klasing FL R0,635 AWG30 UL 2678 (150V)
Klasing FL-ET R0,635 AWG30 125°C
3M Round Conductor Flat Cable, .025“ 30 AWG Stranded, PVC, 3754/XX, UL AWM Style 20596
3M Round Conductor Flat Cable, .025“ 30 AWG Stranded, FEP, 3609/XX, UL AWM Style 20726

Also check that the cable design and number of pins meet the production order’s requirements.

3. Process: Connecting the Connector onto the Ribbon Cable

Orienting the ribbon cable inside the connector (see also IPC/WHMA-A-620D)

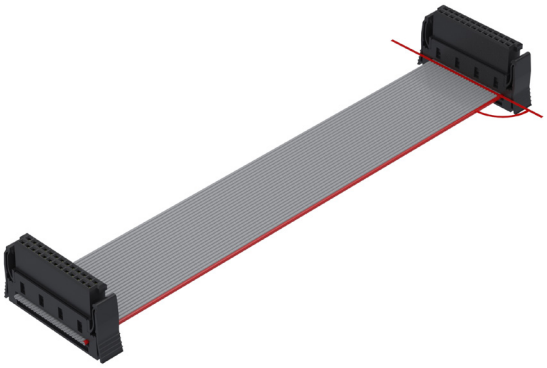
- Perpendicularity

  Make sure that the cable is perpendicular to the connector when routing the ribbon cable.

  The connector’s cable duct helps employees properly orient the ribbon cable.

- Horizontal perpendicularity

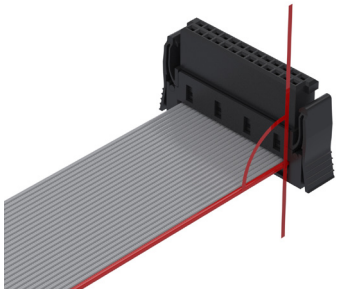
  Make sure to maintain horizontal perpendicularity so that the contacts touch one another after the cable strands have been pushed into the channels in the insulator material intended for this purpose.



max. permissible deviation of the cable’s axis from the connector’s axis:
90° ±1°

- Vertical perpendicularity

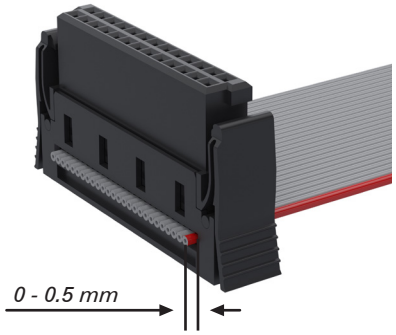
  Make sure to keep the IDC bridge perpendicular to the leads on the ribbon cable to ensure that all of the insulation displacement contacts are correctly connected to the leads.



max. permissible deviation of the cable’s axis from the connector’s axis:
90° ±1°

- Cable flush with the connector

  Aim for the end of the cable to lie flush with the connector. If there is a gap between the ribbon cable and the connector, it means that the connector was improperly measured, or that first insulation displacement contact is too close to the end of the cable.

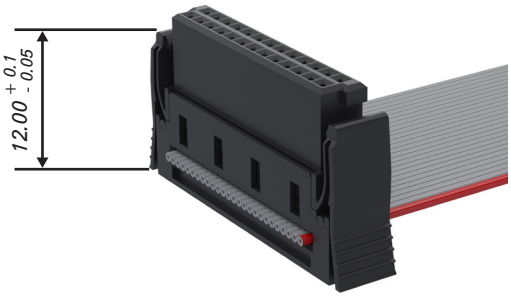


4. Ensuring the Correct Orientation of the Connector to the Ribbon Cable

Employees are responsible for ensuring the correct orientation of the connector during the connecting process.

5. Inspection: Measuring the connected Connector

Inspect the dimension of the connector once it has been connected.
Nominal dimension: 12.00 +0.1 -0.05



Inspecting this dimension is important because it allows employees to determine whether the connector is compressed enough to be securely locked in this position.

Make sure, however, that the connector is not too compressed, since this could cause the female contacts to jam inside the insulator material and function improperly!

Installation Instructions:
Connecting ept One27 IDC Connectors with Ribbon Cable

6. Installation Parameters

Forces to connect ept One27 IDC Connector with ribbon cable:

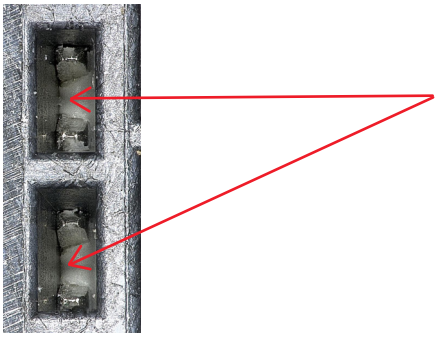
Installing ept IDC connectors requires forces of up to 20 N per contact. Depending on the type of cable used, these forces could go above or below 20 N.

Speed to connect ept One27 IDC Connector with ribbon cable:

ept IDC connectors are proven to have a compression speed of up to 10 mm/s.

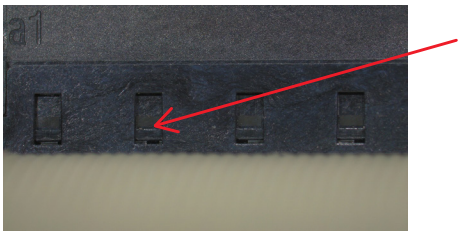
7. Checking a ept One27 IDC Connector assembled with Cable

Visual Inspection



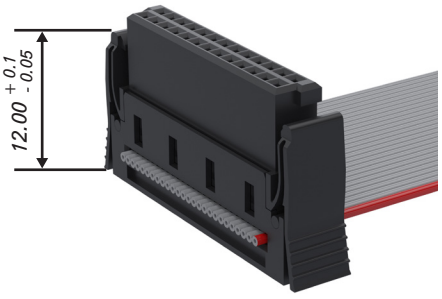
The tips of the insulation displacement contacts that were pushed into the cable need to be visible through the inspection window on the underside of the IDC connector.

You should use a microscope with the proper magnification to complete this inspection.



The locks are engaged.

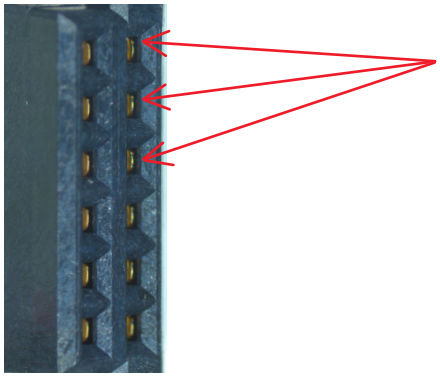
You should use a microscope with the proper magnification to complete this inspection.



Height of the connected connector:
The connected connector measures 12.00 mm.

You should use a slide gauge to complete this inspection.

Installation Instructions:
Connecting ept One27 IDC Connectors with Ribbon Cable



When the connected depth is correct, a small air gap (specification: min. 0.1 mm) is visible between the top of the contact tongue and the insulator material.

If there is no air gap here, then the female contacts might not function correctly!

Recommendation:

This gap can only be inspected by making a cut once the connector has been completely connected.

You should use a microscope with the proper magnification to complete this inspection.

Recommended Electrical Tests (Depending on the Application)

- Continuity test
- Dielectric strength (short circuit):
  Contact – Contact, 500 V recommended
- Correct allocation of the connector's contact positions:
  for example, contact a1 connected to contact a1 on the facing connector

ept is not liable for employees' disregard of the installation instructions.