

# FR 1,27/ 16-FWL - IDC female connectors

1378544

<https://www.phoenixcontact.com/us/products/1378544>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



IDC female connector, nominal current: 1.4 A, test voltage: 500 V AC, number of positions: 16, pitch: 1.27 mm, color: black, contact surface: Au, contact connection type: Socket

## Your advantages

- Time savings during the development process with customer-specific simulations for data integrity
- Design-in support during device development using MCAD/ECAD data and a free sample service
- Can be ordered pre-assembled: IDC female connectors with flat-ribbon cable enable immediate use in the device
- Gold-plated contacts ensure transfer quality remains stable over the long term

## Commercial data

Item number	1378544
Packing unit	132 pc
Minimum order quantity	132 pc
Sales key	AA24
Product key	AAXMAA
GTIN	4063151747312
Weight per piece (including packing)	1.4 g
Weight per piece (excluding packing)	1.01 g
Customs tariff number	85366990
Country of origin	CN

## Technical data

### Notes

Notes on operation	<p>The permissible voltage during operation depends on the application, taking into consideration the air clearances and creepage distances within the scope of insulation requirements in accordance with IEC 60664-1.</p> <p>The possible data transmission rate of an FR 1,27 cable assembly is influenced by various factors, such as the cable length. Up to 1 Gbps is possible.</p>
--------------------	---

### Product properties

Product type	IDC female connector
Product family	FR 1,27/...-FWL
Number of positions	16
Pitch	1.27 mm
Number of rows	2

### Electrical properties

#### Properties

Nominal current $I_N$	1.4 A IEC 60512-5-2:2002-02 (at 20°C 50-pos.)
Contact resistance	10 mΩ
Test voltage	500 V AC IEC 60512-4-1:2003-05

### Connection data

#### Conductor connection

Connection method	Displacement connection
Conductor cross-section AWG	30

#### Interlock

Locking type	Snap-in locking
Mounting type	Latching flange

### Dimensions

Pitch	1.27 mm
Width [w]	16.51 mm
Height [h]	14.55 mm
Length [l]	5 mm

#### Application

Contact cover	0.9 mm
Center offset	± 0.7 mm in longitudinal and transverse direction
Angular tolerance	± 5 ° in longitudinal and transverse direction

### Material specifications

# FR 1,27/ 16-FWL - IDC female connectors



1378544

<https://www.phoenixcontact.com/us/products/1378544>

## Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	Selective coating
Metal surface terminal point (top layer)	Tin (3 µm - 6 µm Sn)
Metal surface terminal point (middle layer)	Nickel (1.27 µm - 4 µm Ni)
Metal surface contact area (top layer)	Gold (min. 0.5 µm Au)
Metal surface contact area (middle layer)	Nickel (1.27 µm - 4 µm Ni)

## Material data - housing

Color (Housing)	black (9005)
Insulating material	LCP
Insulating material group	IIIb
CTI according to IEC 60112	150
Flammability rating according to UL 94	V0

## Connector

### Connection 1

Insulating material	LCP
CTI according to IEC 60112	150

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-2:2002-02
---------------	-----------------------

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	≥ 5 GΩ

### Air clearances and creepage distances |

Insulating material group	IIIb
Minimum value for clearance and creepage distance	0.32 mm

## Environmental and real-life conditions

### Durability test

Specification	IEC 60512-9-1:2010-03 (following)
Contact resistance R <sub>1</sub>	10 mΩ
Contact resistance R <sub>2</sub>	12 mΩ
Insertion/withdrawal cycles	500
Insulation resistance, neighboring positions	≥ 5 GΩ

### Vibration test

Specification	IEC 60068-2-6:2007-12
---------------	-----------------------

# FR 1,27/ 16-FWL - IDC female connectors



1378544

<https://www.phoenixcontact.com/us/products/1378544>

Frequency	10 - 2000 - 10 Hz
Sweep speed	1 octave/min
Amplitude	1.5 mm (10 Hz ... 58 Hz)
Acceleration	200 m/s <sup>2</sup> (58 Hz ... 2000 Hz)
Test duration per axis	1 h
Test directions	X-, Y- and Z-axis

## Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	490 m/s <sup>2</sup>
Shock duration	11 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

## Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-55 °C ... 125 °C

## Ambient conditions

Ambient temperature (operation)	-55 °C ... 125 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

Type of packaging	Tray
Outer packaging type	Carton

# FR 1,27/ 16-FWL - IDC female connectors

1378544

<https://www.phoenixcontact.com/us/products/1378544>

## Drawings

Diagram



Type: FR 1,27/...-FWL with FR 1,27/...-MV 3,25

# FR 1,27/ 16-FWL - IDC female connectors



1378544

<https://www.phoenixcontact.com/us/products/1378544>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1378544>

 <b>cUL Recognized</b> Approval ID: E118976-20230317				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
Only flexible conductors	29.9 V	1.4 A	- 30	-

 <b>UL Recognized</b> Approval ID: E118976-20230317				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
Only flexible conductors	29.9 V	2 A	- 30	-

# FR 1,27/ 16-FWL - IDC female connectors



1378544

<https://www.phoenixcontact.com/us/products/1378544>

## Classifications

### ECLASS

ECLASS-13.0	27460202
ECLASS-15.0	27460202

### ETIM

ETIM 10.0	EC002638
-----------	----------

### UNSPSC

UNSPSC 21.0	39121400
-------------	----------

1378544

<https://www.phoenixcontact.com/us/products/1378544>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

### EF3.1 Climate Change

CO2e kg	0.208 kg CO2e
---------	---------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)