

# FP 1,27/ 12-FWL - IDC female connectors



1714902

<https://www.phoenixcontact.com/us/products/1714902>

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IDC female connector, nominal current: 1.2 A, Test voltage: 500 V AC, number of positions: 12, pitch: 1.27 mm, number of rows: 2, connection method: IDC connection, color: black, contact surface: Gold, contact connection type: Socket, For preassembled samples, see the "Accessories" tab.

## Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Compact, high-position board-to-board or wire-to-board connectors for space-saving device designs
- Can be ordered pre-assembled: IDC female connectors with flat-ribbon cable enable immediate use in the device

## Commercial data

Item number	1714902
Packing unit	1 pc
Minimum order quantity	480 pc
Sales key	AA24
Product key	AAXMAA
GTIN	4055626402826
Weight per piece (including packing)	1.55 g
Weight per piece (excluding packing)	1.439 g
Customs tariff number	85366990
Country of origin	CZ

## Technical data

### Notes

Note on application	Please observe the application note on self-assembly in the download area.
Note regarding documentation	Current documents such as 3D models, products family drawings, data sheets or packaging drawings are available in the Download Center.
Notes on operation	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.

### Product properties

Product type	IDC female connector
Product family	FR 1,27/...-FWL
Number of positions	12
Pitch	1.27 mm
Number of rows	2
Number of potentials	12

### Electrical properties

Nominal current $I_N$	1.2 A IEC 60512-5-2:2002-02 (at 20°C 50-pos.)
Nominal voltage $U_N$	AC
Degree of pollution	3
Contact resistance	10 mΩ
Test voltage	500 V AC IEC 60512-4-1:2003
Rated voltage (III/3)	500 V
Rated voltage (II/2)	10 V
Rated surge voltage (II/2)	0.8 kV

### Connection data

#### Conductor connection

Connection method	Displacement connection
Conductor cross section AWG	30

#### Interlock

Locking type	Snap-in locking
Mounting flange	Self-locking flange

### Dimensions

Pitch	1.27 mm
Width [w]	13.78 mm
Height [h]	4.2 mm
Length [l]	13.65 mm

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## Application

Center offset	± 0.7 mm in longitudinal and transverse direction
Angular tolerance	± 4 ° in longitudinal direction
	± 2 ° in transverse direction

## Material specifications

### 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 contact area (top layer)	Gold (Au)
Metal surface contact area (middle layer)	Nickel (Ni) Palladium nickel, (PdNi)

### Material data - housing

Color (Housing)	black (9005)
Insulating material	LCP
Insulating material group	IIIb
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

## Connector

### Connection 1

Insulating material	LCP
CTI according to IEC 60112	175

## Cable/line

### Flat cable [PVC]

Note	Coded wire: red
UL AWM Style	2678
Shielded	no
Cable type	Flat cable [PVC]
Conductor structure	12 x 7 x 0.102 mm
Conductor structure signal line	7x 0.10 mm
AWG signal line	30
Conductor cross section	0.06 mm <sup>2</sup>
Wire diameter incl. insulation	0.66 mm
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PVC
Single wire, color	gray
Pitch	0.635 mm
Max. conductor resistance	≤ 354 Ω/m
Insulation resistance	≥ 20 MΩ*km

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Test voltage Core/Core	1500 V
Flame resistance	UL VW-1
Ambient temperature (mobile installation)	-10 °C 105 °C
Ambient temperature (installation)	-30 °C ... 105 °C
Note	Coded wire: blue
Shielded	no
Conductor structure	12 x 7 x 0.102 mm
Conductor structure signal line	7x 0.10 mm
AWG signal line	30
Conductor cross section	0.06 mm <sup>2</sup>
Conductor material	Tin-plated Cu litz wires
Material wire insulation	TPE-0
Single wire, color	gray
Pitch	0.635 mm
Max. conductor resistance	≤ 354 Ω/m
Insulation resistance	≥ 20 MΩ*km
Test voltage Core/Core	800 V
Halogen-free	yes
Flame resistance	in accordance with UL 1581 (horizontal flame test)
Ambient temperature (mobile installation)	-20 °C 105 °C
Ambient temperature (installation)	-40 °C ... 105 °C
Note	Coded wire: green
Shielded	no
Conductor structure	12 x 7 x 0.102 mm
Conductor structure signal line	7x 0.10 mm
AWG signal line	30
Conductor cross section	0.06 mm <sup>2</sup>
Conductor material	Tin-plated Cu litz wires
Material wire insulation	TPE-S
Single wire, color	gray
Pitch	0.635 mm
Max. conductor resistance	≤ 354 Ω/m
Insulation resistance	≥ 20 MΩ*km
Test voltage Core/Core	1000 V
Flame resistance	IEC 60332-1-2
Ambient temperature (mobile installation)	-40 °C 125 °C
Ambient temperature (installation)	-60 °C ... 125 °C

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-2:2002-02
Tested number of positions	50

### Insulation resistance

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Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	$\geq 10 \text{ G}\Omega$

## Air clearances and creepage distances |

Insulating material group	IIIb
Rated insulation voltage (III/3)	500 V
Rated insulation voltage (II/2)	10 V
Rated surge voltage (II/2)	0.8 kV

## Mechanical tests

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	500
Insertion strength per pos. approx.	0.5 N
Withdraw strength per pos. approx.	0.5 N

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 2000 - 10 Hz
Sweep speed	1 octave/min
Amplitude	1.5 mm (10 Hz ... 60.1 Hz)
Sweep speed	20g (60.1 Hz ... 2000 Hz)
Test duration per axis	2.5 h

### Durability test

Specification	IEC 60512-9-1:2010-03 (following)
Impulse withstand voltage at sea level	0.8 kV
Contact resistance $R_1$	10 m $\Omega$
Contact resistance $R_2$	10 m $\Omega$
Insertion/withdrawal cycles	500
Insulation resistance, neighboring positions	$\geq 10 \text{ G}\Omega$

### Climatic test

Specification	IEC 60512-11-7:2003-05
Corrosive stress	Method 1, 10 days
Power-frequency withstand voltage	500 V AC

### Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	50g
Shock duration	11 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

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## 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

## Mounting

Connection method	IDC connection
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## Packaging specifications

Type of packaging	Tray
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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1714902>



**cULus Recognized**

Approval ID: E118976-20170331

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## Classifications

### ECLASS

ECLASS-11.0	27460202
ECLASS-12.0	27460202
ECLASS-13.0	27460202

### ETIM

ETIM 8.0	EC002638
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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## Accessories

### SAMPLE FP 1,27/12-FWL-11/P/0,1 - IDC female connectors

1026949

<https://www.phoenixcontact.com/us/products/1026949>



Assembled IDC female connector, rated current: 1.2 A, Cable 1: cable length: 0.1 m, Color: gray, Cable type: Flat cable, Flat cable

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### FP 1,27/ 12-MV 3,25 - SMD male connectors

1714924

<https://www.phoenixcontact.com/us/products/1714924>



SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 12, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

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## FP 1,27/ 12-MV 1,75 - SMD male connectors

1714934

<https://www.phoenixcontact.com/us/products/1714934>



SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 12, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

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## FP 1,27/ 12-MH - SMD male connectors

1714912

<https://www.phoenixcontact.com/us/products/1714912>



SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 12, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

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