FR 1,27/ 20-FWL - IDC female connectors

1378546

https://www.phoenixcontact.com/us/products/1378546

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IDC female connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 20, pitch: 1.27 mm, color: black, contact surface: Gold, 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	1378546
Packing unit	121 pc
Minimum order quantity	121 pc
Sales key	AA24
Product key	AAXMAA
GTIN	4063151747244
Weight per piece (including packing)	1.66 g
Weight per piece (excluding packing)	1.66 g
Customs tariff number	85366990
Country of origin	CN

Technical data

Notes

Note regarding documentation	Current documents such as 3D models, products family drawings, data sheets or packaging drawings are available in the Download Center.

Product properties

Product type	IDC female connector
Product family	FR 1,27/...-FWL
Number of positions	20
Pitch	1.27 mm
Number of rows	2

Electrical 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

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]	19.05 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

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)
Metal surface soldering area (top layer)	Tin (Sn)
Metal surface soldering area (middle layer)	Nickel (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

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 ... 58 Hz)
Acceleration	200 m/s² (58 Hz ... 2000 Hz)
Test duration per axis	1 h

Durability test

Specification	IEC 60512-9-1:2010-03 (following)
Contact resistance R_1	10 mΩ
Contact resistance R_2	12 mΩ
Insertion/withdrawal cycles	500
Insulation resistance, neighboring positions	≥ 5 GΩ

Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	490 m/s²
Shock duration	11 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

Ambient conditions

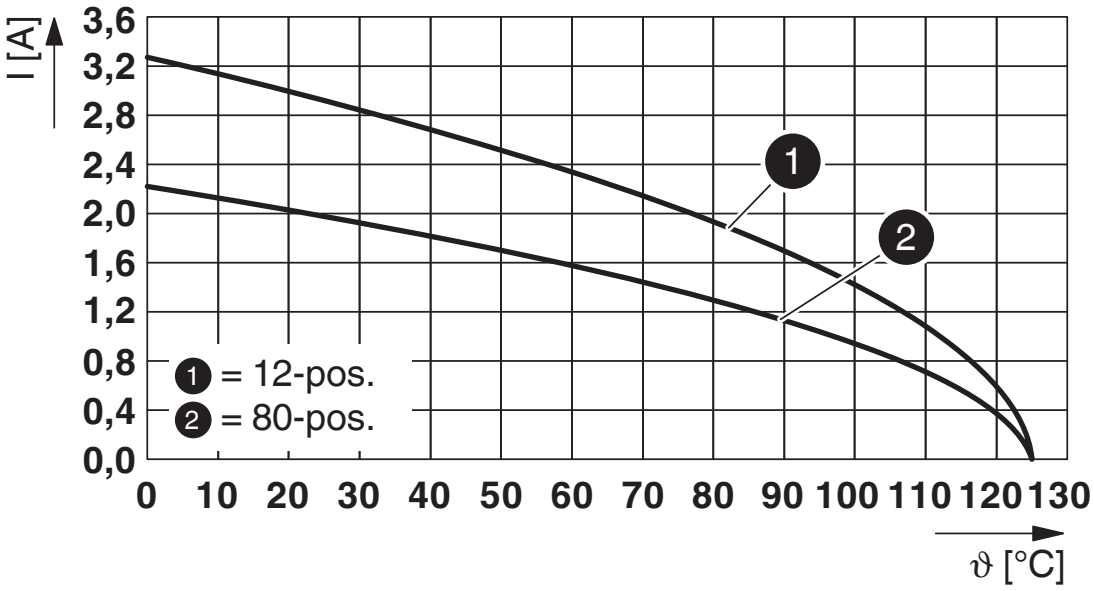
Ambient temperature (operation)	-55 °C ... 125 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	Tray
Outer packaging type	Carton

Drawings

Diagram



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

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1378546

cUL Recognized
Approval ID: E118976-20230317

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Only flexible conductors	29.9 V	1.4 A	- 30	-

UL Recognized
Approval ID: E118976-20230317

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Only flexible conductors	29.9 V	2 A	- 30	-

cULus Recognized

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC002638

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%

Mandatory accessories

FR 1,27/ 20-MV 3,25 - SMD male connectors

1337140

https://www.phoenixcontact.com/us/products/1337140



SMD male connector, nominal current: 2.2 A, Test voltage: 840 V AC, number of positions: 20, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

FR 1,27/ 20-MH - SMD male connectors

1377299

https://www.phoenixcontact.com/us/products/1377299



SMD male connector, nominal current: 2 A, Test voltage: 500 V AC, number of positions: 20, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

FR 1,27/ 20-MV 1,75 - SMD male connectors

1373866

https://www.phoenixcontact.com/us/products/1373866



SMD male connector, nominal current: 2.2 A, Test voltage: 840 V AC, number of positions: 20, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

Accessories

FR 1,27/ 20-SR - Strain relief

1399642

https://www.phoenixcontact.com/us/products/1399642



Strain relief, number of positions: 20, pitch: 1.27 mm, color: black

FR 1,27 CA - Preassembled IDC female connector

1498845

https://www.phoenixcontact.com/us/products/1498845



Assembled IDC female connector, rated current: 1.4 A, cable length: Free input (0.05 ... 0.95 m). For preassembled samples, see the “Accessories” tab.

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