

# SPE-T1-M12FSF-180 - SPE PCB connector



1363337

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SPE PCB connector, design: SPE, degree of protection: IP65/IP67, number of positions: 2, material: LCP, connection method: THR solder connection, cable outlet: straight, color: black, Single Pair Ethernet

## Your advantages

- Easily integrated: M12 male and female versions for established inductive sensors and flying leads
- Cross-application: range of up to 1000 m, data rates of up to 1 Gbps, and power of up to 50 W
- Totally protected: Advanced Shielding Technology provides a reliable shield connection for network cables, even under extreme environmental conditions
- Future-proof: standardized connectors and cables in accordance with IEC 63171-5

## Commercial data

Item number	1363337
Packing unit	80 pc
Minimum order quantity	80 pc
Sales key	AB13
Product key	ABNBEA
GTIN	4063151707859
Weight per piece (including packing)	6.468 g
Weight per piece (excluding packing)	2.333 g
Customs tariff number	85366930
Country of origin	DE

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## Technical data

### Product properties

Product type	Data connector (device side)
Type	SPE
Sensor type	Single Pair Ethernet
Number of positions	2
Type of packaging	Tape and Reel
[W] tape width	44.00 mm
[A] coil diameter	330.00 mm
[W2] coil overall dimension	38.40 mm
Number of slots	1
Cable outlet	straight
Thread type	M12

### Insulation characteristics

Overvoltage category	II
Degree of pollution	2

### Electrical properties

Maximum load current	4 A
Rated voltage (III/2)	72 V DC
Rated surge voltage	2250 V DC
Rated surge voltage (III/2)	1500 V
Rated current	4 A
Frequency range	600 MHz
Insulation resistance	min. 1 TΩ
Contact resistance	20 mΩ
Transmission medium	Copper
Transmission characteristics (category)	CAT B (IEC 63171)
Transmission speed	1 Gbps
Power transmission	PoDL in accordance with IEEE standard 802.3bt

### Output data

Transmission frequency	600.00 MHz
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### Connection data

Connection technology	
Connection method	THR solder connection

### Interfaces

Transmission speed	1 Gbps
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### Dimensions

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Width	12.4 mm
Height	19.4 mm
Length	13.7 mm
Installed height	21.60 mm
Orientation to PCB	180.00 °

## Material specifications

Color	black
Color of the housing part	black
Flammability rating according to UL 94	V0
Housing material	LCP
Housing surface material	LCP
Contact material	Cu alloy
Contact surface material	Au/Ni

## Cable/line

Test voltage Core/Core	1000 V DC
Test voltage Core/Shield	2250.00 V DC
Test voltage, cable	300 V

## Mechanical properties

Mechanical data	
Insertion/withdrawal cycles	> 100
Insertion force per signal contact	< 30.00 N (in accordance with IEC 63171)
Extraction force per signal contact	< 30 N (in accordance with IEC 63171)
Smallest bending radius	21,2 mm

## Environmental and real-life conditions

Test specification	
Type of test	Vibration test
Specification	IEC 60068-2-6
Frequency	10-500 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm
Acceleration	50.00 m/s <sup>2</sup>
Test duration	2.00 h

Test specification	
Specification	IEC 63171
Corrosive stress	IEC 60512-11-7
Contact resistance R <sub>1</sub>	20.00 mΩ

Test specification	
Type of test	Mechanical service life with corrosion test

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Specification	DIN EN 60512-9-1
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## Test specification

Type of test	Shock testing
Specification	IEC 60068-2-27
Acceleration	150.00 m/s <sup>2</sup>
Number of shocks per direction	2000.00

## Ambient conditions

Degree of protection	IP65/IP67
Ambient temperature (operation)	-40 °C ... 85 °C (Harsh environment)
Ambient temperature (storage/transport)	-40 °C ... 85 °C (DIN EN 60512-6-3)
Resistance to UV radiation	yes

## Mounting

Mounting type	PCB mounting
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## Processing notes

Process	Reflow
Moisture Sensitive Level	MSL 1
Classification temperature T <sub>c</sub>	260 °C
Solder cycles in the reflow	3

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## Classifications

### ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

### ETIM

ETIM 9.0	EC002637
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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%
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