



RJ1 MF-PN RJ45plug Cat5, 4p IDC straight



General information

Design RJ45 connector for Ethernet communication

Product standard IEC 600603-7

No. of contacts 8 / (4)

Transmission rate 10 / 100 Mbit/s and 1 / 2.5 / 5 / 10 Gbit/s

Note: 4-pole version only 10 / 100 Mbit/s

Transmission performance 8-pole versions 0945 151 1570 / 1571

Category 6A / Class EA up to 500 MHz

acc. to ISO/IEC 11801:2002, EN 50173-1

Transmission performance 4-pole versions 0945 151 1140 / 1141

Category 5 / Class D up to 100 MHz

acc. to ISO/IEC 11801:2002, EN 50173-1

Shielding Fully shielded, 360° shielding contact

Termination Field termination IDC with cutting function of the single wires

Degree of protection IP20

Mating cycles min. 750

UL certification under preparation

RoHS - compliant

yes

Lead free

yes

Cable specification

Cable diameter 4,5 to 9 mm

Conductor cross section AWG 26 to AWG 22 (solid and stranded)

Conductor diameter 0,8 - 1,6 mm

Electrical specification

Rated current 1,76 A (all pins) values at 0°C / 1,1 A (all pins) values at 55°C

Rated voltage 50 V AC / 60 V DC

Contact Resistance contact: 20 mΩ max.

(100 mA max. (DC or 1000 Hz)) shield: 100 mΩ max.

Insulation Resistance 500 MΩ min. (500 V DC)

Voltage Proof 1.000 V DC pin to pin

1.500 V DC pin to shielding

(for 1 min. current leakage max. 2 mA)

Mechanical operation with electrical load unmating under electrical load with: 1,2 A / 50 V
(IEC 60512 - test 9c)
50 cycles for each polarity

Power over Ethernet (PoE)

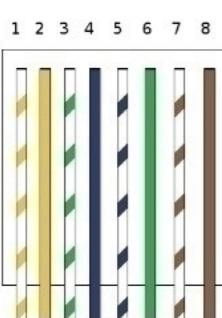
PoE IEEE 802.3af

PoE+ IEEE 802.3at

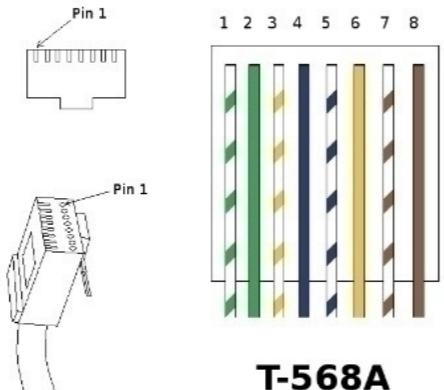
4PPoE IEEE 802.3bt

Pin and pair grouping assignment

pin assignment (front view)



T-568B



T-568A

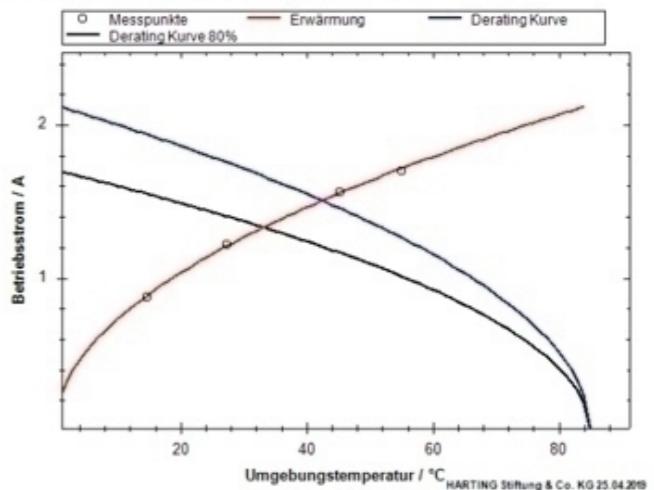
Pin No. ix	10BASE-T 100BASE-TX	1/10GBASE-T	EIA/TIA 568A	EIA/TIA 568B	Industrial (PROFINET)
1	TX+	BI_DA+	white/green	white/orange	yellow
2	TX-	BI_DA-	green	orange	orange
3	RX+	BI_DB+	white/orange	white/green	white
4	N.C	BI_DC+	blue	blue	--
5	N.C	BI_DC-	white/blue	white/blue	--
6	RX-	BI_DB-	orange	green	blue
7	N.C	BI_DD+	white/brown	white/brown	--
8	N.C	BI_DD-	brown	brown	--

Derating diagram acc. to IEC512 (Current carrying capacity)

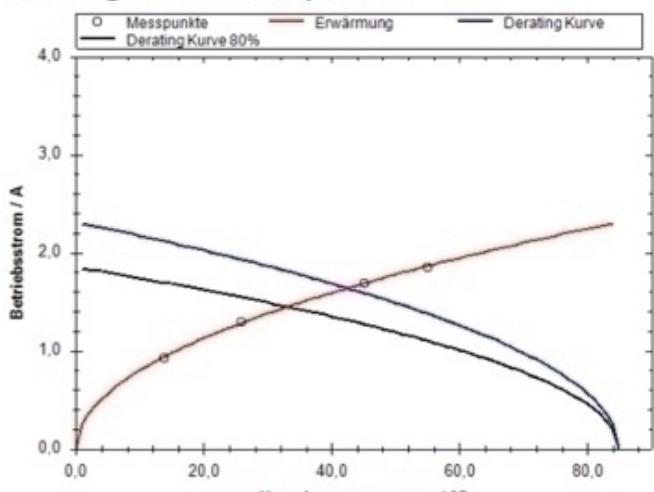
Current-carrying capacity

min. 1,0 A @ 55°C

Derating with AWG 26/7 wire:



Derating with AWG 23/1 wire:



Coating	A= mm ²	V= mm ³	m= g	Mat.	Ref.
	All Dimensions in mm Original Size DIN A3	Scale 1:1	Free size tol.		Sub.
	All rights reserved	Created by BALSAN	Inspected by PREOTU	Standardisation HOFFMANN	Date 2020-07-16 State Final Release
	Department EL PD				
		Title RJ1 MF-PN RJ45plug Cat5, 4p IDC straight			Doc-Key / ECM-Nr. 100905128/UGD/000/A 500000176510
	Type DS	Number 09451511140			Rev. A
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Mechanical specification

Insertion force	Max. 25 N
Withdrawal force	Max. 25 N
Mechanical Operation	750 times insertions and extractions mating speed: 10 mm/s max. rest: 5s, min.(unmated)
Lock Strength	Min. 50 N (for the mating axis direction in state in fitted with applicable connector)

Environment specification

Storage temperature range	-40°C to +85°C (95% RH max.)
Operating temperature range	-40°C to +85°C (95% RH max.)
Rapid change of temperature (IEC 60512-11-4)	5 cycles between -40°C and 85°C with 30 minutes dwell at temp. extremes and 1 minute transition between temperatures
Dry heat (IEC 60512-11-9)	Temperature 85°C, duration 500 h

Damp heat cyclic (IEC 60512-11-12)	5 cycles at test temperature +55°C; Variant 2
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Cyclic damp heat (IEC 60068-2-38)	25°C to 65°C; cold sub-cycle - 10°C; humidity 93 % RH 21 cycles, 1 cycle/24 h
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Cold (IEC 60512-11-10)	-40°C duration 2 h
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Flow mixed gas test (IEC 60512-11-7)	Duration 4 d, Method 4 (mated and unmated)
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Vibration Sine (IEC 60512-6-4)	10 - 500 Hz; 0.35 mm; 50 m/s ² 10 cycles / 2 h / 3 axis No contact disturbances \geq 1 μ s
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Mechanical shock (IEC 60512-test 6c)	Half sine shock 300 m/s ² , duration 11 ms 3 shocks / both directions / 3 axis - totally 18 shocks No contact disturbances \geq 1 μ s
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Mechanical shock (DIN EN 61373 Class 1 cat b) Additional test to fulfill DIN EN 50155 for railway equipment	Categroy 1 / Class B Half sine shock 5 g, duration 30 ms 5 shocks / both directions / 3 axis - totally 30 shocks No contact disturbances \geq 1 μ s
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Random vibration (DIN EN 61373 Class 1 cat b) Additional test to fulfill DIN EN 50155 for railway equipment	Categroy 1 / Class B 5 - 150 Hz / a_{eff} = 5,72 m/s ² / ASD-Level: 0.964 (m/s ²) ² /Hz Duration 5 h No contact disturbances \geq 1 μ s
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E

E

F

Coating	A=	mm ²	V=	mm ³	m=	g	Mat.
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A Material specification

Isolator material plug

Material	Insulation housing Wire Manager	PC (8-pol. yellow / 4-pol. black) PC (white)
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B Housing material

Material	Zink-die-cast (connector housing)
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Color	silver
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Plating	Housing: 20 µm Ni
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C Contact

Contact material	CuSn6
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Plating	RJ45 contact mating area: 1,27 µm (50 µinch) Au over Ni IDC contact: 2,54 µm (100 µinch) tin
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D Packaging specification

Packaging specification	Carton box with one piece
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E Versions:

0945 151 1570	RJ1 MF RJ45 plug Cat6A, 8p IDC straight
0945 151 1571	RJ1 MF RJ45 plug Cat6A, 8p IDC angled
0945 151 1140	RJ1 MF-PN RJ45 plug Cat5, 4p IDC straight
0945 151 1141	RJ1 MF-PN RJ45 plug Cat5, 4p IDC angled

Coating	A=	mm ²	V=	mm ³	m=	g	Mat.	Ref.
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		Type	DS	Number	09451511140		Rev.	A
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