

Network cable - NBC-MS/ 1,0-94B/FS SCO



1407463

<https://www.phoenixcontact.com/gb/products/1407463>

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, shielded, Plug straight M12 SPEEDCON / IP67, coding: A, on Socket straight M12 SPEEDCON / IP67, coding: A, cable length: 1 m

Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 1407463 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales Key | BF1CMI |
| Product Key | BF1CMI |
| Catalog Page | Page 401 (C-2-2019) |
| GTIN | 4046356775847 |
| Weight per Piece (including packing) | 87.6 g |
| Weight per Piece (excluding packing) | 72.99 g |
| Customs tariff number | 85444210 |
| Country of origin | PL |

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Technical Data

Notes

| | |
|---------|---|
| General | Further products with variable cable type and variable cable length can be found in the accessories section |
|---------|---|

Product properties

| | |
|----------------------|-------------------------|
| Product type | Data cable preassembled |
| Number of positions | 8 |
| Application | Standard |
| No. of cable outlets | 1 |
| Shielded | yes |
| Coding | A - standard |

Interfaces

| | |
|----------------------|---|
| Bus system | Ethernet |
| Signal type/category | Ethernet CAT5 (on the basis of IEC 11801), 1 Gbps |

LED signaling

| | |
|------------------------|----|
| Status display | No |
| Status display present | No |

Electrical properties

| | |
|-----------------------|---------|
| Nominal voltage U_N | 48 V AC |
| | 60 V DC |
| Nominal current I_N | 2 A |
| Transmission medium | Copper |

Material specifications

| | |
|--------------------------|---|
| Color Handle area | black |
| Sealing material | NBR |
| Material of grip body | TPU, hardly inflammable, self-extinguishing |
| Contact material | CuSn |
| Contact surface material | Ni/Au |
| Contact carrier material | TPU GF |
| Cable gland material | Zinc die-cast, nickel-plated |

Connector

Header 1

| | |
|---------------------|-----------------------------------|
| Type | Plug straight M12 SPEEDCON / IP67 |
| Number of positions | 8 |
| Coding type | A (Standard) |
| Handle color | black |
| | CuZn (Contact) |

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| | |
|---------------------------------|--|
| Material | Ni/Au (Contact surface) |
| | TPU GF (Contact carriers) |
| | TPU, hardly inflammable, self-extinguishing (Grip) |
| | Zinc die-cast, nickel-plated (Screw connection) |
| Insertion/withdrawal cycles | ≥ 100 |
| Contact resistance | ≤ 5 mΩ |
| Insulation resistance | ≥ 100 MΩ |
| Tightening torque | 0.4 Nm |
| Degree of protection | IP67 |
| Ambient temperature (operation) | -25 °C ... 90 °C |

Head 2

| | | |
|---------------------------------|--|----------|
| Type | Socket straight M12 SPEEDCON / IP67 | |
| Number of positions | 8 | |
| Coding type | A (Standard) | |
| Handle color | black | |
| Material | CuZn (Contact) | |
| | Ni/Au (Contact surface) | |
| | TPU GF (Contact carriers) | |
| | TPU, hardly inflammable, self-extinguishing (Grip) | |
| Material | Zinc die-cast, nickel-plated (Screw connection) | |
| | Insertion/withdrawal cycles | ≥ 100 |
| | Contact resistance | ≤ 5 mΩ |
| | Insulation resistance | ≥ 100 MΩ |
| Tightening torque | 0.4 Nm | |
| Ambient temperature (operation) | -25 °C ... 90 °C | |

Cable / line

| | |
|---------------------------------|--------------------------------------|
| Cable length | 1 m |
| Cable weight | 47 kg/km |
| UL AWM Style | 20963 (80°C/30 V) |
| Number of positions | 8 |
| Shielded | yes |
| Cable type | Ethernet flexible CAT5, 4-pair [94B] |
| Signal runtime | 5.3 ns/m |
| Conductor structure signal line | 7x 0.16 mm |
| AWG signal line | 26 |
| Conductor cross section | 4x 2x 0.14 mm ² |
| Wire diameter incl. insulation | 0.96 mm |
| External cable diameter | 6.4 mm ±0.2 mm |
| Outer sheath, material | PUR |
| External sheath, color | water blue RAL 5021 |
| Conductor material | Bare Cu litz wires |
| Material wire insulation | Foamed PE |

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| | |
|--|--|
| Single wire, color | white/blue-blue, white/orange-orange, white/green-green, white/brown-brown |
| Thickness, outer sheath | 1.05 mm |
| Twisted pairs | 2 cores to the pair |
| Overall twist | 4 pairs for core |
| Optical shield covering | 70 % |
| Insulation resistance | $\geq 5 \text{ G}\Omega \cdot \text{km}$ |
| Coupling resistance | $\leq 100.00 \text{ m}\Omega/\text{m}$ (at 10 MHz) |
| Loop resistance | $\leq 290.00 \text{ }\Omega/\text{km}$ |
| Wave impedance | $100 \text{ }\Omega \pm 5 \text{ }\Omega$ (at 100 MHz) |
| Cable capacity | 48 nF/km (at 1 kHz) |
| Nominal voltage, cable | $\leq 100 \text{ V}$ |
| Test voltage Core/Core | 700 V (50 Hz, 1 min.) |
| Test voltage Core/Shield | 700 V (50 Hz, 1 min.) |
| Minimum bending radius, fixed installation | 4 x D |
| Minimum bending radius, flexible installation | 8 x D |
| Tensile strength | $\leq 100 \text{ N}$ |
| Near end crosstalk attenuation (NEXT) | 71.3 dB (with 1 MHz) |
| | 62.3 dB (at 4 MHz) |
| | 56.3 dB (at 10 MHz) |
| | 53.2 dB (at 16 MHz) |
| | 51.8 dB (at 20 MHz) |
| | 48.9 dB (at 31.25 MHz) |
| | 44.4 dB (at 62.5 MHz) |
| | 41.3 dB (at 100 MHz) |
| Power-summated near end crosstalk attenuation (PSNEXT) | 62.3 dB (with 1 MHz) |
| | 53.3 dB (at 4 MHz) |
| | 47.3 dB (at 10 MHz) |
| | 44.2 dB (at 16 MHz) |
| | 42.8 dB (at 20 MHz) |
| | 39.9 dB (at 31.25 MHz) |
| | 35.4 dB (at 62.5 MHz) |
| | 32.3 dB (at 100 MHz) |
| Return loss (RL) | 23 dB (at 4 MHz) |
| | 24.1 dB (at 8 MHz) |
| | 25 dB (at 10 MHz) |
| | 25 dB (at 16 MHz) |
| | 25 dB (at 20 MHz) |
| | 23.6 dB (at 31.25 MHz) |
| | 21.5 dB (at 62.5 MHz) |
| | 20.1 dB (at 100 MHz) |
| Shield attenuation | 3.2 dB (with 1 MHz) |
| | 6 dB (at 4 MHz) |
| | 9.5 dB (at 10 MHz) |

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| | |
|------------------------------------|---|
| | 12.1 dB (at 16 MHz) |
| | 13.6 dB (at 20 MHz) |
| | 17.1 dB (at 31.25 MHz) |
| | 24.8 dB (at 62.5 MHz) |
| | 32 dB (at 100 MHz) |
| Halogen-free | according to IEC 60754-1 |
| Flame resistance | according to IEC 60332-1-2 |
| Resistance to oil | according to EN 60811-2-1 |
| Ambient temperature (operation) | -40 °C ... 80 °C (cable, fixed installation) |
| | -20 °C ... 80 °C (Cable, flexible installation) |
| Ambient temperature (installation) | -20 °C ... 80 °C |

Cable structure

| | |
|----------------------|---|
| Signal type/category | Ethernet CAT5 (on the basis of IEC 11801), 1 Gbps |
|----------------------|---|

Ambient conditions

| | |
|---------------------------------|----------------------------------|
| Degree of protection | IP65 |
| | IP67 |
| Degree of protection | IP65/IP67 |
| Ambient temperature (operation) | -25 °C ... 90 °C (M12 connector) |

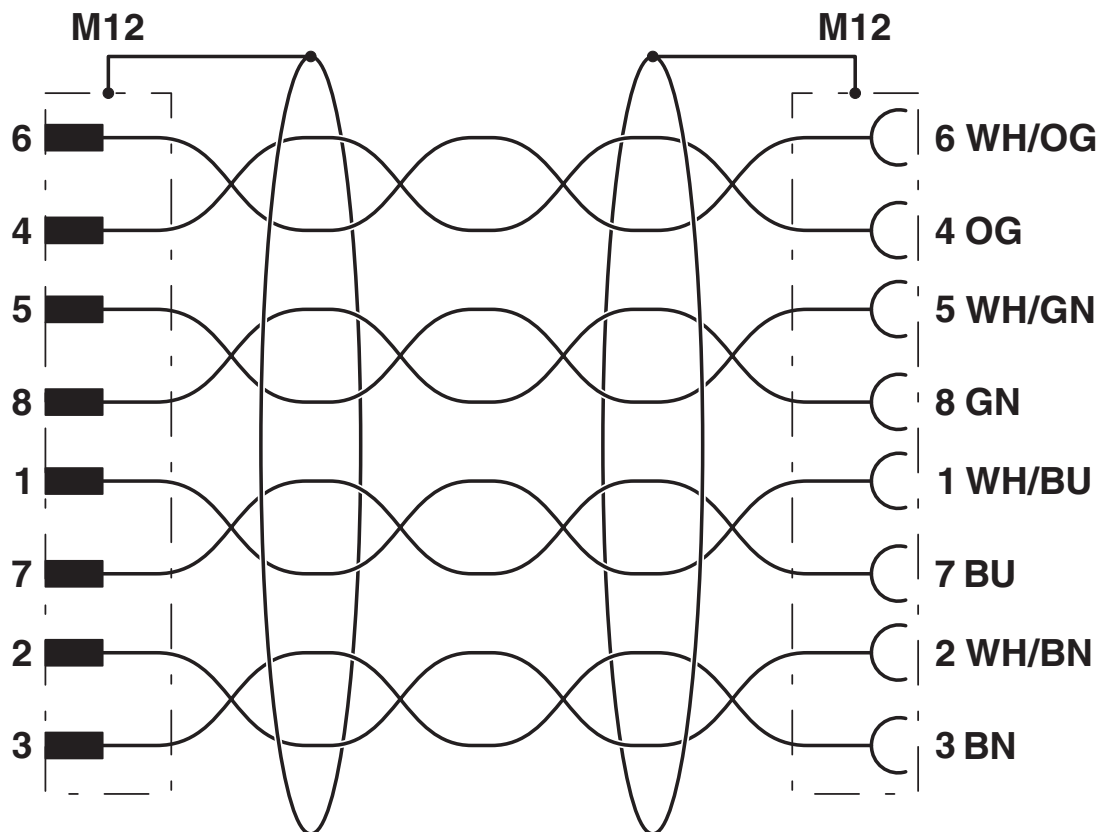
Standards and regulations

M12

| | |
|--------------------------|-----------------|
| Standards/specifications | IEC 61076-2-101 |
|--------------------------|-----------------|

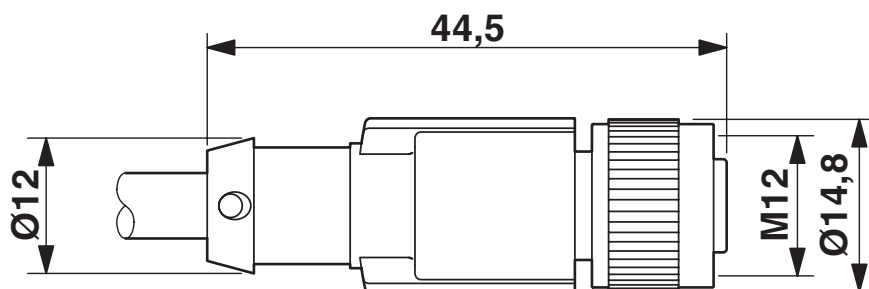
Drawings

Circuit diagram



Contact assignment of the M12 connector and the M12 socket

Dimensional drawing

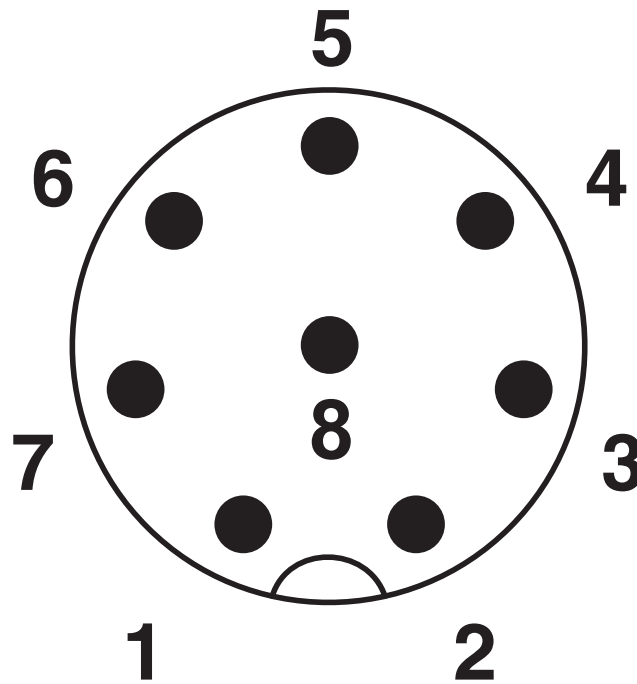


M12 x 1 socket, straight, shielded

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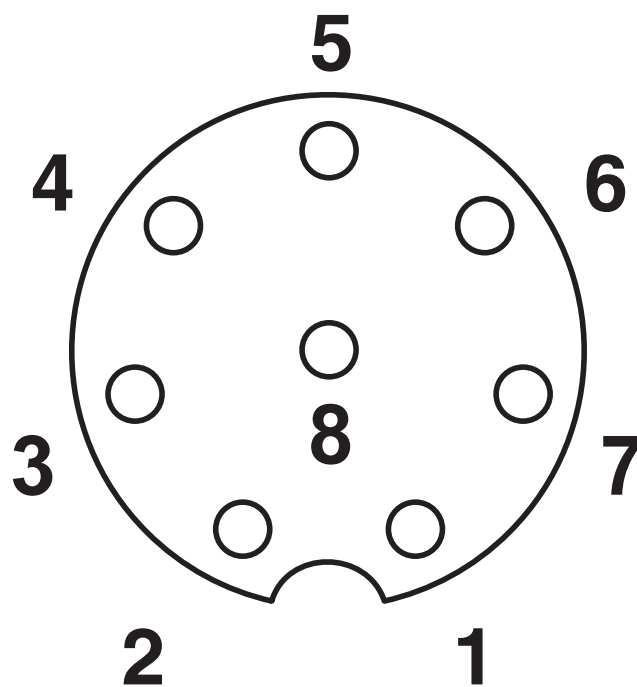
<https://www.phoenixcontact.com/gb/products/1407463>

Schematic diagram



Pin assignment M12 plug, 8-pos., A-coded, view plug side

Schematic diagram



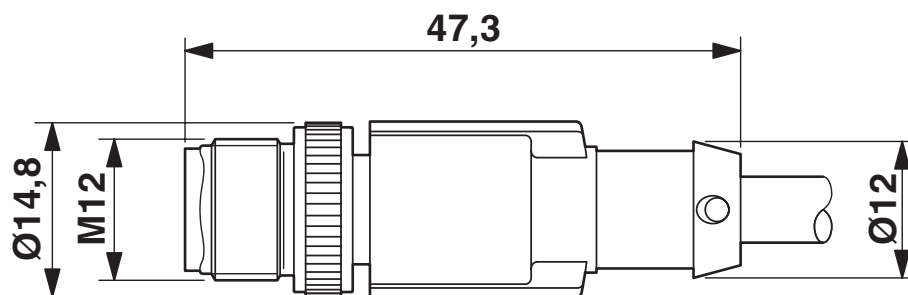
Pin assignment M12 socket, 8-pos., A-coded, view female side

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Dimensional drawing



Plug, M12 x 1, straight, shielded


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Approvals

|  UL Listed Approval ID: FILE E 335024 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 30 V | 1.5 A | - | - |

|  cUL Listed Approval ID: FILE E 335024 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 30 V | 1.5 A | - | - |

|  EAC Approval ID: RU D-DE.HB35.B.00387 | |
|---|--|
|---|--|

| cULus Listed |
|---------------------|
|---------------------|

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Classifications

ECLASS

| | |
|---------------|----------|
| ECLASS-9.0 | 27060308 |
| ECLASS-10.0.1 | 27060308 |
| ECLASS-11.0 | 27060307 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC001855 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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Environmental Product Compliance

| | |
|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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Accessories

Network cable

Network cable - NBC-MS-MS SCO-IE/.../... - 1408676

<https://www.phoenixcontact.com/gb/products/1408676>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: A, on Plug straight M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Torque screwdriver

Torque screwdriver - TSD 04 SAC - 1208429

<https://www.phoenixcontact.com/gb/products/1208429>



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

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Network cable

Network cable - NBC-MS-MR SCO-IE/.../... - 1408667

<https://www.phoenixcontact.com/gb/products/1408667>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: A, on Plug angled M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Torque screwdriver

Torque screwdriver - TSD-M 1,2NM - 1212224

<https://www.phoenixcontact.com/gb/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

Network cable - NBC-MS/ 1,0-94B/FS SCO



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Network cable

Network cable - NBC-MS-FS SCO-IE/.../... - 1408659

<https://www.phoenixcontact.com/gb/products/1408659>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: A, on Socket straight M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Adapter insert

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600

<https://www.phoenixcontact.com/gb/products/1212600>



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

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Network cable

Network cable - NBC-MS-FR SCO-IE/.../... - 1408650

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: A, on Socket angled M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Tool

Tool - SAC BIT M12-D15 - 1208432

<https://www.phoenixcontact.com/gb/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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Network cable

Network cable - NBC-MR-MR SCO-IE/.../... - 1408666

<https://www.phoenixcontact.com/gb/products/1408666>



Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug angled M12 SPEEDCON / IP67, coding: A, on Plug angled M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Sealing cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

<https://www.phoenixcontact.com/gb/products/1430873>



M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs

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Network cable

Network cable - NBC-MR-FS SCO-IE/.../... - 1408658

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug angled M12 SPEEDCON / IP67, coding: A, on Socket straight M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Locking clip

Locking clip - SAC-M12-EXCLIP-M - 1558988

<https://www.phoenixcontact.com/gb/products/1558988>



Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

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Network cable

Network cable - NBC-MR-FR SCO-IE/.../... - 1408649

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Network cable, Ethernet CAT5 (1 Gbps), 8-position, Variable cable type, shielded, Plug angled M12 SPEEDCON / IP67, coding: A, on Socket angled M12 SPEEDCON / IP67, coding: A, cable length: Free input (0.2 ... 40.0 m)

Screw plug

Screw plug - PROT-M12 MS-PA-CHAIN - 1430899

<https://www.phoenixcontact.com/gb/products/1430899>

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



Network cable - NBC-MS/ 1,0-94B/FS SCO



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Locking clip

Locking clip - SAC-M12-EXCLIP-F - 1558991

<https://www.phoenixcontact.com/gb/products/1558991>

Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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