

HA SERIES

Compact standard connector



HA SERIES The slim inserts

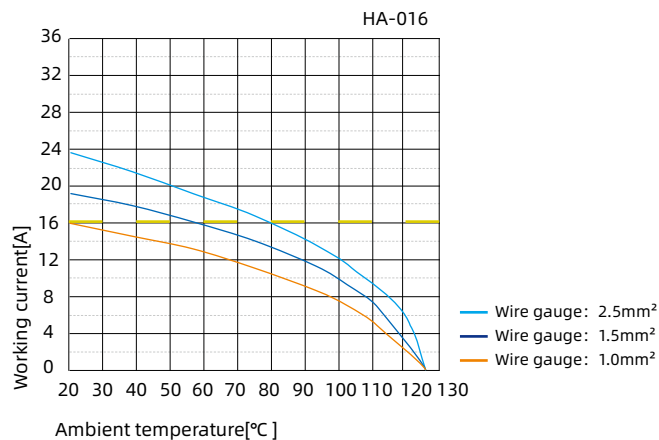
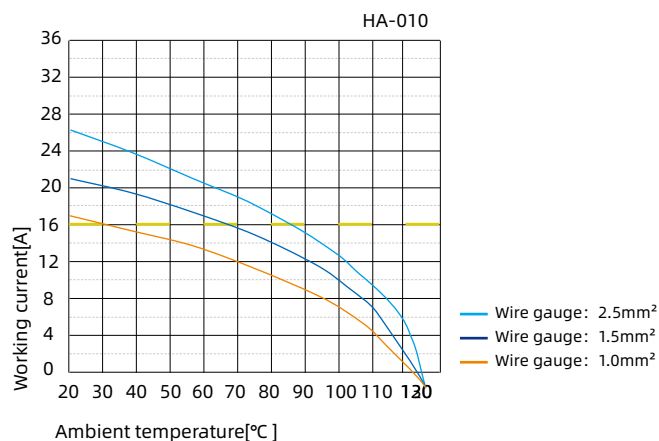
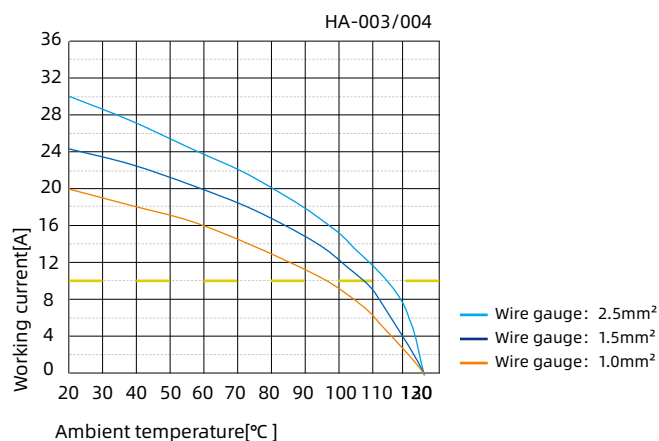
Technical characteristics

Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	
Number of contacts	3,4,10,16,32(2X16)+PE
Electrical data acc. to EN 61 984	
HA-002/HA-003/HA-004	
-Rated current	10A
-Rated voltage conductor-ground	230V
-Rated voltage conductor-conductor	400V
-Rated impulse voltage	4kV
-Pollution degree	3
-or	10A 250V 4kV 3
HA-010/HA-016	
-Rated current	16A
-Rated voltage	250V
-Rated impulse voltage	4kV
-Pollution degree	3
-Pollution degree 2 also	16A 250V/400V 4kV 2
Rated voltage acc. to UL	600V
Insulation resistance	$\geq 10^{10} \Omega$
Material	polycarbonate
Limiting temperatures	-40°C ...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	≥ 500
Contacts	
Material	copper alloy
Surface	hard-gold plated hard-silver plated
Contact resistance	$\leq 1m\Omega$
Screw terminal	
-Wire gauge	0.75-1.5mm ² (HA-003/004) 0.75-2.5mm ² (HA-010/016) 0.75-2.5mm ² (HA-003-M/F-V2)
- AWG	18-16 (HA-003/004) 18-14 (HA-010/016)
- Tightening/Test torque	0.25Nm (HA-003/004) or 0.5Nm (HA-010/016)
Crimp terminal	
-Wire gauge	0.14-4.0mm ²
-AWG	26-12
Spring terminal	
-Wire gauge	0.14-2.5mm ² (Not suitable for connecting terminal)
	26-14
-AWG	
Spring terminal(Quick-in)	0.5-2.5mm ²
-Wire gauge	20-14
-AWG	10 $\pm$ 0.5mm
-Stripping length	$\leq 3mm$
-Contact resistance	

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



HA-003/004 The slim inserts

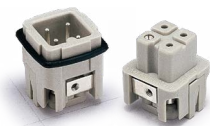
230/400V 10A 3/4+ ⊕



Inserts

Hoods/Housings: size 3A, please find the details on page 15-06~15-16.1.

Screw terminal



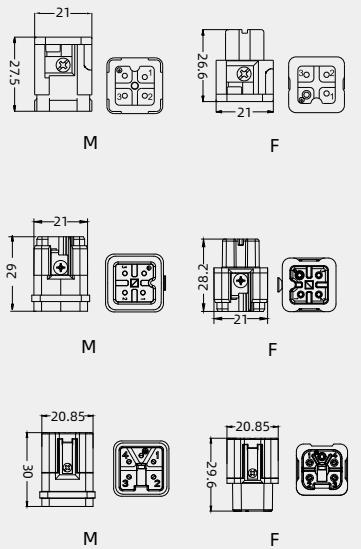
Insert	Designation	Order No.
Male	HA-003-M	121 003 011 0001
Female	HA-003-F	121 003 021 0001



Male	HA-003-M-V2	121 003 011 0505
Female	HA-003-F-V2	121 003 021 0505



Male	HA-004-M-V2	121 004 011 0002
Female	HA-004-F-V2	121 004 021 0002

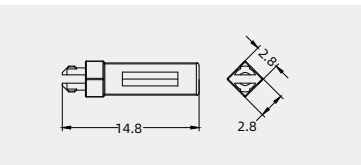


Coding element



Description	Designation	Order No.
coding, pokayoke	CODE-Q3	198 002 005 0034

Suitable for HA-003-M/F-V2



Spring terminal, See P00-14 for the structural characteristics of spring.



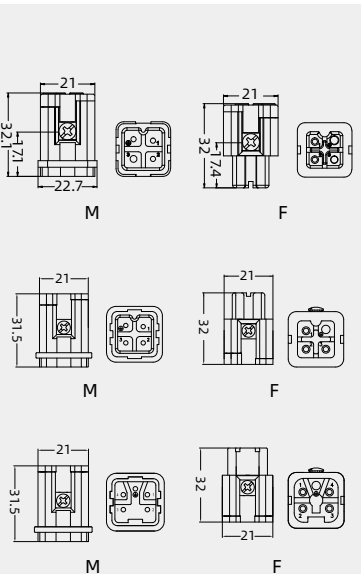
Insert	Designation	Order No.
Male	HA-002-MS	121 002 012 0001
Female	HA-002-FS	121 002 022 0001



Male	HA-003-MS	121 003 012 0001
Female	HA-003-FS	121 003 022 0001



Male	HA-004-MS	121 004 012 0001
Female	HA-004-FS	121 004 022 0001



HA-003/004 Quick-in module

230/400V 10A 3/4+ 

Inserts

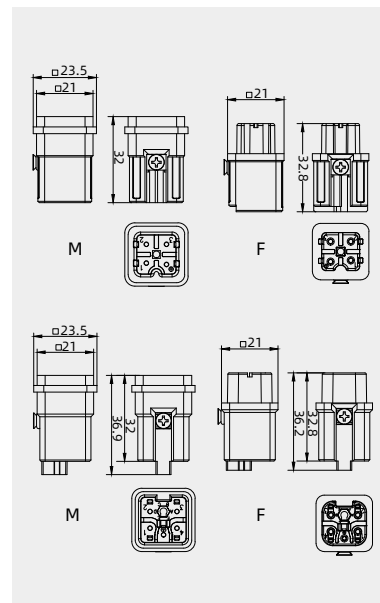
Hoods/Housings: size 3A, please find the details on page 15-06~15-16.1.

Spring terminal(Quick-in) 

Insert	Designation	Order No.
Male	HA-003-MQ	121 003 001 0001
Female	HA-003-FQ	121 003 002 0001



Male	HA-004-MQ	121 004 001 0001
Female	HA-004-FQ	121 004 002 0001

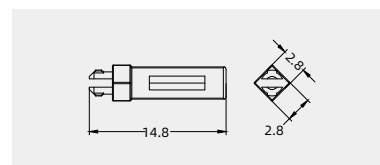


Coding element



Description	Designation	Order No.
coding、pokayoke	CODE-Q3	198 002 005 0034

Suitable for HA-003-MQ/FQ

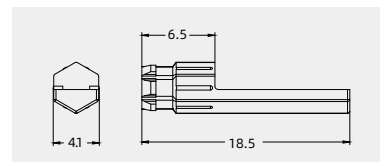


Coding element



Description	Designation	Order No.
coding、pokayoke	CODE-Q5	198 002 005 0036

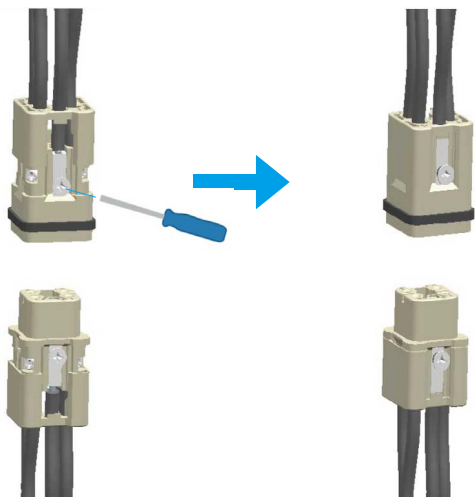
Suitable for HA-004-MQ/FQ



HA-004-M-V2/HA-004-F-V2 Features

Step 1: wire from the top, lock the side screw

Step 2: close the cover



The feature of structure:

- ① .Cover was added;
- ② .Top entry, side screw locking
- ③ .Low insert height

The innovation:

- ① .The insert is separated from the shell by the cover. That ensures enough creepage distance and reliable electrical property;
- ② .When it is side entry, the cable have to be bent to an angle of 90 degree and go upward, the top entry could avoid the bend of cable and have convenient assembly
- ③ .Compact structure saves space.

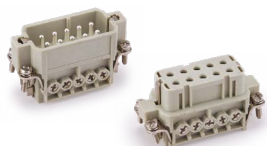
HA-010 The slim inserts

250V 16A 10+ 

Inserts

Hoods/Housings: size 10A, please find the details on page 15-17~15-18.1.

Screw terminal

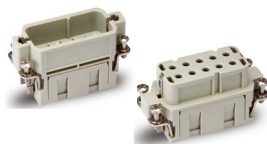


Insert	Designation	Order No.
Male	HA-010-M	121 010 011 0001
Female	HA-010-F	121 010 021 0001
Male	HA-010-M/B ¹⁾	121 010 011 0503
Female	HA-010-F/B ¹⁾	121 010 021 0503

¹⁾ /B stands for wiring with cable protecting(details see page 00-09)

Crimp terminal

Order crimp contacts separately



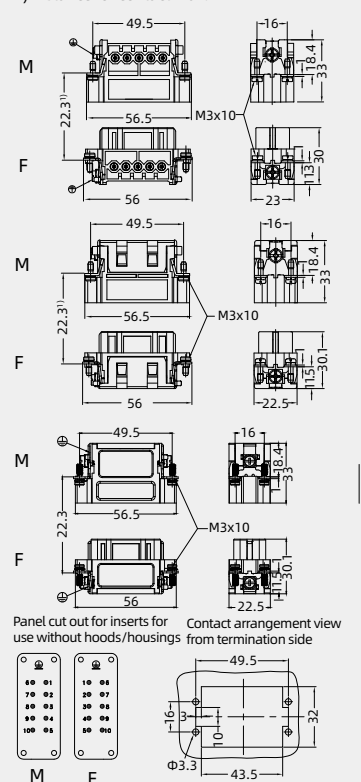
Insert	Designation	Order No.
Male	HA-010-MC	121 010 010 0001
Female	HA-010-FC	121 010 020 0001

Spring terminal, See P00-14 for the structural characteristics of spring.



Insert	Designation	Order No.
Male	HA-010-MS	121 010 012 0001
Female	HA-010-FS	121 010 022 0001

1) Distance for contact max. 24 mm



Crimp contacts

Crimp contacts 16A

Contact resistance $\leq 1\text{m}\Omega$
silver plated

gold plated



More crimp contacts 16A see P13-04.

Tools

Crimping tool



Contact removal tool



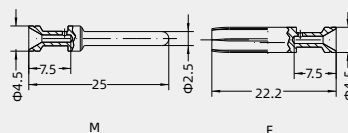
Male	Order No.	Female	Order No.
CESM-0.37	101 019 110 0301	CESF-0.37	101 019 120 0301
CESM-0.50	101 019 110 0401	CESF-0.50	101 019 120 0401
CESM-0.75	101 019 110 0601	CESF-0.75	101 019 120 0601
CESM-1.0	101 019 110 0801	CESF-1.0	101 019 120 0801
CESM-1.5	101 019 110 0901	CESF-1.5	101 019 120 0901
CESM-2.5	101 019 110 1001	CESF-2.5	101 019 120 1001
CESM-3.0	101 019 110 1101	CESF-3.0	101 019 120 1101
CESM-4.0	101 019 110 1201	CESF-4.0	101 019 120 1201
CEGM-0.37	101 019 210 0301	CEGF-0.37	101 019 220 0301
CEGM-0.50	101 019 210 0401	CEGF-0.50	101 019 220 0401
CEGM-0.75	101 019 210 0601	CEGF-0.75	101 019 220 0601
CEGM-1.0	101 019 210 0801	CEGF-1.0	101 019 220 0801
CEGM-1.5	101 019 210 0901	CEGF-1.5	101 019 220 0901
CEGM-2.5	101 019 210 1001	CEGF-2.5	101 019 220 1001
CEGM-3.0	101 019 210 1101	CEGF-3.0	101 019 220 1101
CEGM-4.0	101 019 210 1201	CEGF-4.0	101 019 220 1201

Wire gauge	Designation	Order No.
0.14-4mm ²	TL02G	198 001 001 0011

Wire gauge: 0.14-0.37mm² please select TL02 Crimping tool.

Application	Designation	Order No.
for crimp contacts 16A	TL01	198 001 000 0002

More tools detail please find the page 32-03~32-06.



Identification	Wire gauge	Stripping length
no groove	0.14-0.37 mm ²	AWG 26-22 7.5mm
no groove	0.5 mm ²	AWG 20 7.5mm
1 groove	0.75 mm ²	AWG 18 7.5mm
1 groove	1 mm ²	AWG 18 7.5mm
2 grooves	1.5 mm ²	AWG 16 7.5mm
3 grooves	2.5 mm ²	AWG 14 7.5mm
wide groove	3 mm ²	AWG 12 7.5mm
no groove	4 mm ²	AWG 12 7.5mm

When the wire gauge is less than 0.75mm², it's better to use the auxiliary pin assembly tool TL15.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

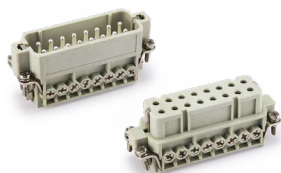
HA-016 The slim inserts

250V 16A 16+ 

Inserts

Hoods/Housings: size 16A, please find the details on page 15-19~15-20.

Screw terminal

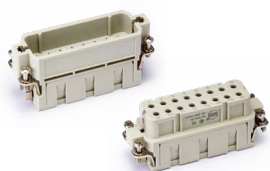


Insert	Designation	Order No.
Male	HA-016-M	121 016 011 0001
Female	HA-016-F	121 016 021 0001
Male	HA-016-M/B ¹⁾	121 016 011 0505
Female	HA-016-F/B ¹⁾	121 016 021 0505

¹⁾ /B stands for wiring with cable protecting(details see page 00-09)

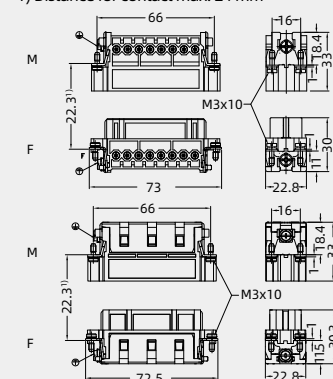
Crimp terminal

Order crimp contacts separately

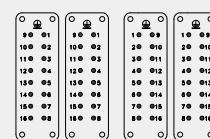


Insert	Designation	Order No.
Male	HA-016-MC	121 016 010 0001
Female	HA-016-FC	121 016 020 0001

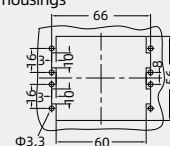
1) Distance for contact max. 24 mm



Contact arrangement view from termination side



Panel cut out for inserts for use without hoods/housings



Crimp contacts

Crimp contacts 16A

Contact resistance ≤ 1mΩ
silver plated

gold plated



More crimp contacts 16A see P13-04.

Tools

Crimping tool



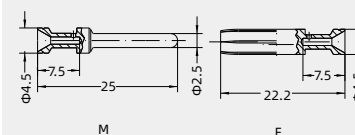
Contact removal tool



Male	Order No.	Female	Order No.
CESM-0.37	101 019 110 0301	CESF-0.37	101 019 120 0301
CESM-0.50	101 019 110 0401	CESF-0.50	101 019 120 0401
CESM-0.75	101 019 110 0601	CESF-0.75	101 019 120 0601
CESM-1.0	101 019 110 0801	CESF-1.0	101 019 120 0801
CESM-1.5	101 019 110 0901	CESF-1.5	101 019 120 0901
CESM-2.5	101 019 110 1001	CESF-2.5	101 019 120 1001
CESM-3.0	101 019 110 1101	CESF-3.0	101 019 120 1101
CESM-4.0	101 019 110 1201	CESF-4.0	101 019 120 1201
CEGM-0.37	101 019 210 0301	CEGF-0.37	101 019 220 0301
CEGM-0.50	101 019 210 0401	CEGF-0.50	101 019 220 0401
CEGM-0.75	101 019 210 0601	CEGF-0.75	101 019 220 0601
CEGM-1.0	101 019 210 0801	CEGF-1.0	101 019 220 0801
CEGM-1.5	101 019 210 0901	CEGF-1.5	101 019 220 0901
CEGM-2.5	101 019 210 1001	CEGF-2.5	101 019 220 1001
CEGM-3.0	101 019 210 1101	CEGF-3.0	101 019 220 1101
CEGM-4.0	101 019 210 1201	CEGF-4.0	101 019 220 1201

Wire gauge	Designation	Order No.
0.14-4mm ²	TL02G	198 001 001 0011
Wire gauge: 0.14-0.37mm ² please select TL02 Crimping tool.		
Application	Designation	Order No.
for crimp contacts 16A	TL01	198 001 000 0002

More tools detail please find the page 32-03~32-06.



Identification	Wire gauge	Stripping length	
no groove	0.14-0.37 mm ²	AWG 26-22	7.5mm
no groove	0.5 mm ²	AWG 20	7.5mm
1 groove	0.75 mm ²	AWG 18	7.5mm
1 groove	1 mm ²	AWG 18	7.5mm
2 grooves	1.5 mm ²	AWG 16	7.5mm
3 grooves	2.5 mm ²	AWG 14	7.5mm
wide groove	3 mm ²	AWG 12	7.5mm
no groove	4 mm ²	AWG 12	7.5mm

When the wire gauge is less than 0.75mm², it's better to use the auxiliary pin assembly tool TL15.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

HA-032 The slim inserts

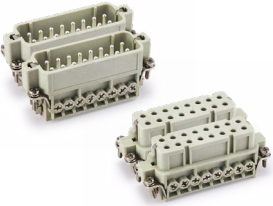
250V 16A 32+ 



Inserts

Hoods/Housings: size 32A, please find the details on page 15-21~15-24.

Screw terminal

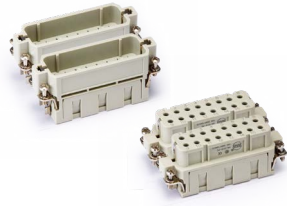


Insert	Designation	Order No.
Male	HA-016-M	121 016 011 0001
	HA-016-M(17-32)	121 016 011 0002
Female	HA-016-F	121 016 021 0001
	HA-016-F(17-32)	121 016 021 0002
Male	HA-016-M/B ¹⁾	121 016 011 0505
	HA-016-M/B(17-32) ¹⁾	121 016 011 0504
Female	HA-016-F/B ¹⁾	121 016 021 0505
	HA-016-F/B(17-32) ¹⁾	121 016 021 0504

1). /B stands for wiring with cable protecting
(details see page 00-09)

Crimp terminal

Order crimp contacts separately



Insert	Designation	Order No.
Male	HA-016-MC	121 016 010 0001
	HA-016-MC(17-32)	121 016 010 0002
Female	HA-016-FC	121 016 020 0001
	HA-016-FC(17-32)	121 016 020 0002

Crimp contacts

Crimp contacts 16A

Contact resistance ≤ 1mΩ
silver plated



gold plated



More crimp contacts 16A see P13-04.

Tools

Crimping tool



Contact removal tool



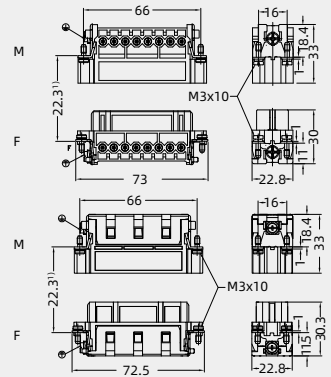
Male	Order No.	Female	Order No.
CESM-0.37	101 019 110 0301	CESF-0.37	101 019 120 0301
CESM-0.50	101 019 110 0401	CESF-0.50	101 019 120 0401
CESM-0.75	101 019 110 0601	CESF-0.75	101 019 120 0601
CESM-1.0	101 019 110 0801	CESF-1.0	101 019 120 0801
CESM-1.5	101 019 110 0901	CESF-1.5	101 019 120 0901
CESM-2.5	101 019 110 1001	CESF-2.5	101 019 120 1001
CESM-3.0	101 019 110 1101	CESF-3.0	101 019 120 1101
CESM-4.0	101 019 110 1201	CESF-4.0	101 019 120 1201
CEGM-0.37	101 019 210 0301	CEGF-0.37	101 019 220 0301
CEGM-0.50	101 019 210 0401	CEGF-0.50	101 019 220 0401
CEGM-0.75	101 019 210 0601	CEGF-0.75	101 019 220 0601
CEGM-1.0	101 019 210 0801	CEGF-1.0	101 019 220 0801
CEGM-1.5	101 019 210 0901	CEGF-1.5	101 019 220 0901
CEGM-2.5	101 019 210 1001	CEGF-2.5	101 019 220 1001
CEGM-3.0	101 019 210 1101	CEGF-3.0	101 019 220 1101
CEGM-4.0	101 019 210 1201	CEGF-4.0	101 019 220 1201

Wire gauge	Designation	Order No.
0.14-4mm ²	TL02G	198 001 001 0011
Wire gauge: 0.14-0.37mm ² please select TL02 Crimping tool.		
Application	Designation	Order No.
for crimp contacts 16A	TL01	198 001 000 0002

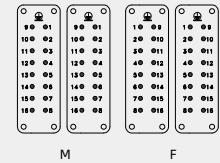
More tools detail please find the page 32-03~32-06.

Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

1) Distance for contact max. 24 mm



Contact arrangement view from termination side



Panel cut out for inserts for use without hoods/housings

