

HNM series

In and out

Housings (bulkhead-mount or surface mount) equipped with **V-TYPE single locking lever** with special **anti-friction treatment**

to be mated to

Hoods with **riveted anti-friction pegs**, that facilitate the frequent opening and closing.

This **HNM** series of connector enclosures has been developed to be used in combination with the **HNM** series of multipole connector inserts equipped with relevant **HNM** series of removable crimp contacts, to provide the same reliable protection of the standard series but for a consistently extended, **high number of matings**.

When the number of 500 mating cycles guaranteed life of standard connector hoods and housings is insufficient to provide a reasonably long life span in those connector applications that by function are foreseen to be subject to very frequent connections and disconnections, it is necessary to opt for a solution able to increase that guaranteed lifetime.

The **HNM** series of connector enclosures achieves this goal, extending the guaranteed number of matings up to 10.000.

The locking means, comprising both the locking lever and locking pegs are chosen and treated so as to reduce wear due to friction at minimum, thanks to the use of the clever proprietary design of the **V-TYPE locking lever**, that already in standard enclosures is able to provide extremely reduced wear on the corresponding locking pegs, producing a very limited friction, furtherly reduced by the application of a special anti-friction lubrication treatment.

The counterpart hoods for locking on the long side are already provided by riveted anti-friction rolling pegs, as well furtherly improved by the special anti-friction lubrication treatment.



RV - RVA HNM (High Number of Matings)

inserts		page:
RDD	24 poles + ⊕	210
RCE	6 poles + ⊕	214
MIXO HNM	2 modules	321 - 333

bulkhead mounting housings
with single lever in stainless steel



Q 10.000 MATINGS WITH HNM
INSERTS

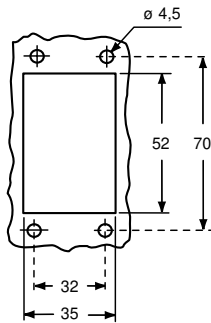
surface mounting housings
with single lever in stainless steel



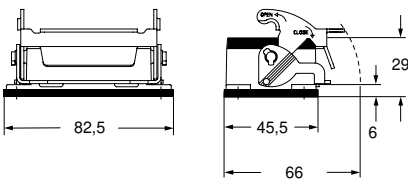
Q 10.000 MATINGS WITH HNM
INSERTS

description	part No.	part No.	entry M
with lever and gasket, size “44.27”	RVI 06 L		
with lever, size “44.27”		RVP 06 L20	20
with lever, size “44.27”		RVP 06 L220	20 x 2
with lever, high construction, size “44.27”		RVAP 06 L32	32
with lever, high construction, size “44.27”		RVAP 06 L232	32 x 2

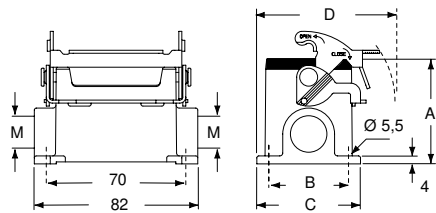
panel cut-out for bulkhead mounting housings



RVI L



RVP L - RVAP L



type	A	B	C	D
RVP 06 L	53	40	52	70
RVAP 06 L	74	45	57	72,5

CALUS Type 4/4X/12



insulating cable gland or fittings
without gasket



cable gland
with O-Ring gasket



RH - RF HNM (High Number of Matings)

inserts		page:
RDD	24 poles + ⊕	210
RCE	6 poles + ⊕	214
MIXO HNM	2 modules	321 - 333

hoods with 2 pegs



Q 10.000 MATINGS WITH HNM INSERTS

hoods with 2 pegs

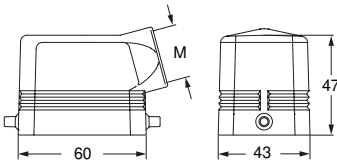


Q 10.000 MATINGS WITH HNM INSERTS

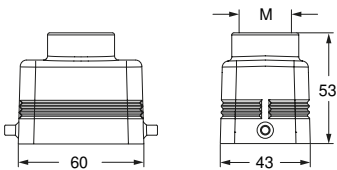
description	part No.	entry M	part No.	entry M
with pegs, side entry	RHO 06 L25	25	RFO 06 L32	32
with pegs, top entry ¹⁾	RHV 06 L25	25	RFV 06 L32	32
with pegs, side entry, high construction, without adapter ²⁾				
with pegs, top entry, high construction, without adapter ²⁾				

¹⁾ cannot be used with MIXO series.
²⁾ enclosure without adapter, threaded on the body, to be used only with a complete cable gland.

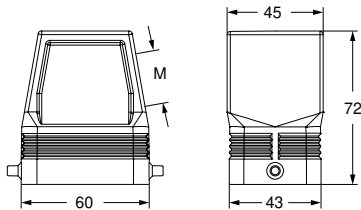
RHO L



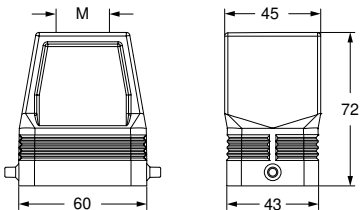
RHV L



RFO L



RFV L



CALUS[®] Type 4/4X/12



insulating cable gland or fittings without gasket



cable gland with O-Ring gasket

RV - RVA HNM (High Number of Matings)

inserts		page:
RDD	42 poles + ⊕	211
RCE	10 poles + ⊕	215
MIXO HNM	3 modules	321 - 333

**bulkhead mounting housings
with single lever in stainless steel**



Q 10.000 MATINGS WITH HNM INSERTS

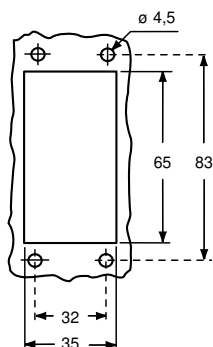
**surface mounting housings
with single lever in stainless steel**



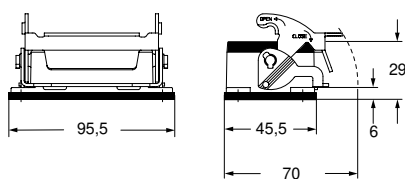
Q 10.000 MATINGS WITH HNM INSERTS

description	part No.	part No.	entry M
with lever, size “57.27”	RVI 10 L		
with lever, size “57.27”		RVP 10 L20	20
with lever, size “57.27”		RVP 10 L220	20 x 2
with lever, high construction, size “57.27”		RVAP 10 L32	32
with lever, high construction, size “57.27”		RVAP 10 L232	32 x 2

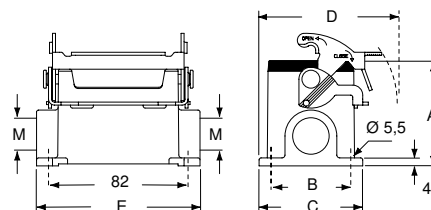
panel cut-out for bulkhead mounting housings



RVI L



RVP L - RVAP L



type	A	B	C	D	E
RVP 10 L	57	40	52	73	93,5
RVAP 10 L	74	45	57	75,5	94

CAUS® Type 4/4X/12



insulating cable gland or fittings
without gasket



cable gland
with O-Ring gasket



RH - RF HNM (High Number of Matings)

inserts		page:
RDD	42 poles + ⊕	211
RCE	10 poles + ⊕	215
MIXO HNM	3 modules	321 - 333

hoods with 2 pegs



Q 10.000 MATINGS WITH HNM INSERTS

hoods with 2 pegs

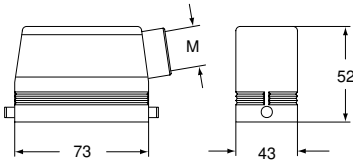


Q 10.000 MATINGS WITH HNM INSERTS

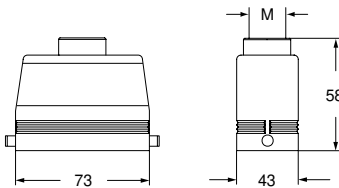
description	part No.	entry M	part No.	entry M
with pegs, side entry	RHO 10 L25	25	RFO 10 L32	32
with pegs, top entry	RHV 10 L25	25	RFV 10 L32	32
with pegs, side entry, high construction, without adapter ¹⁾				
with pegs, top entry, high construction, without adapter ¹⁾				

¹⁾ enclosure without adapter, threaded on the body, to be used only with a complete cable gland.

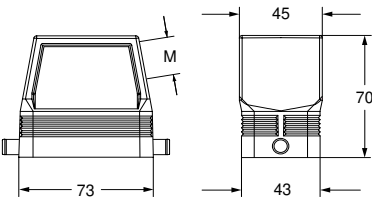
RHO L



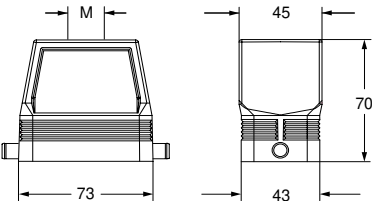
RHV L



RFO L



RFV L



CALUS[®] Type 4/4X/12



insulating cable gland or fittings without gasket



cable gland with O-Ring gasket

RV - RVA HNM (High Number of Matings)

inserts		page:
RD	40 poles + ⊕	208
RDD	72 poles + ⊕	212
RCE	16 poles + ⊕	216
RQEE	40 poles + ⊕	218
RX	12 poles + 2 poles + ⊕	221
MIXO HNM	4 modules	321 - 333

bulkhead mounting housings
with single lever in stainless steel



Q 10.000 MATINGS WITH HNM
INSERTS

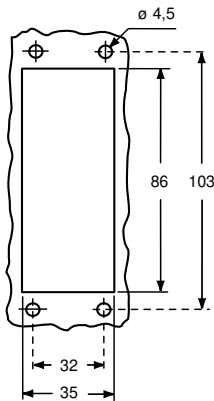
surface mounting housings
with single lever in stainless steel



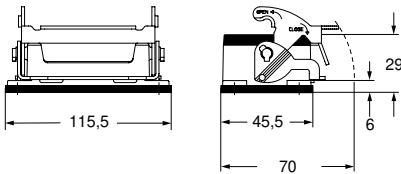
Q 10.000 MATINGS WITH HNM
INSERTS

description	part No.	part No.	entry M
with lever, size “77.27”	RVI 16 L		
with lever, size “77.27”		RVP 16 L25	25
with lever, size “77.27”		RVP 16 L225	25 x 2
with lever, high construction, size “77.27”		RVAP 16 L32	32
with lever, high construction, size “77.27”		RVAP 16 L232	32 x 2

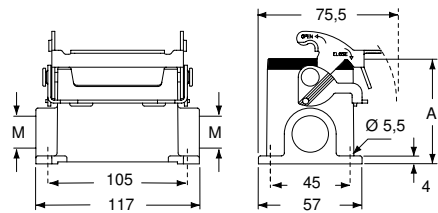
panel cut-out for bulkhead mounting housings



RVI L



RVP L - RVAP L



type	A
RVP 16 L	63
RVAP 16 L	81

CU[®] Type
4/4X/12



insulating cable gland or fittings
without gasket



cable gland
with O-Ring gasket



RH - RF HNM (High Number of Matings)

inserts		page:
RD	40 poles + ⊕	208
RDD	72 poles + ⊕	212
RCE	16 poles + ⊕	216
RQEE	40 poles + ⊕	218
RX	12 poles + 2 poles + ⊕	221
MIXO HNM	4 modules	321 - 333

hoods with 2 pegs



Q 10.000 MATINGS WITH HNM INSERTS

hoods with 2 pegs

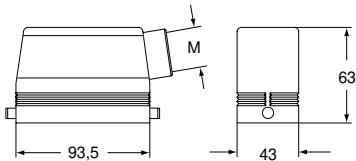


Q 10.000 MATINGS WITH HNM INSERTS

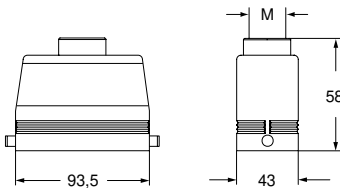
description	part No.	entry M	part No.	entry M
with pegs, side entry	RHO 16 L32	32	RFO 16 L32	32
with pegs, top entry	RHV 16 L32	32	RFV 16 L32	32
with pegs, side entry, high construction, without adapter ¹⁾				
with pegs, top entry, high construction, without adapter ¹⁾				

¹⁾ enclosure without adapter, threaded on the body, to be used only with a complete cable gland.

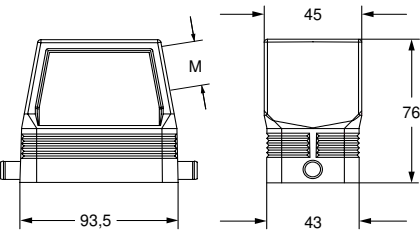
RHO L



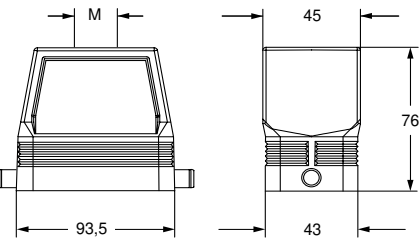
RHV L



RFO L



RFV L



CALUS[®] Type 4/4X/12



insulating cable gland or fittings without gasket



cable gland with O-Ring gasket

RV - RVA HNM (High Number of Matings)

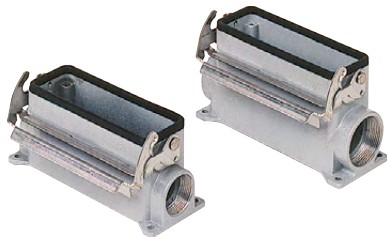
inserts		page:
RD	64 poles + ⊕	209
RDD	108 poles + ⊕	213
RCE	24 poles + ⊕	217
RQEE	64 poles + ⊕	219
MIXO HNM	6 modules	321 - 333

bulkhead mounting housings
with single lever in stainless steel



Q 10.000 MATINGS WITH HNM
INSERTS

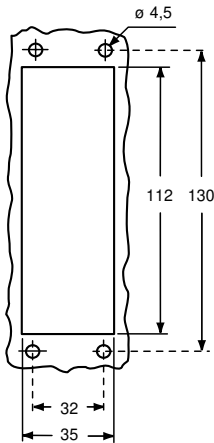
surface mounting housings
with single lever in stainless steel



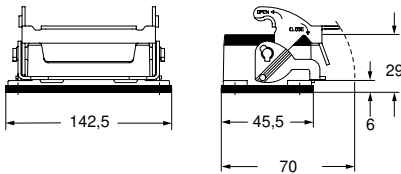
Q 10.000 MATINGS WITH HNM
INSERTS

description	part No.	part No.	entry M
with lever, size “104.27”	RVI 24 L		
with lever, size “104.27”		RVP 24 L25	25
with lever, size “104.27”		RVP 24 L225	25 x 2
with lever, high construction, size “104.27”		RVAP 24 L32	32
with lever, high construction, size “104.27”		RVAP 24 L232	32 x 2

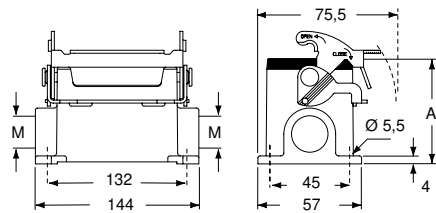
panel cut-out for bulkhead mounting housings



RVI L



RVP L - RVAP L



type	A
RVP 24 L	63
RVAP 24 L	81

CU[®]US Type
4/4X/12



insulating cable gland or fittings
without gasket



cable gland
with O-Ring gasket



RH - RF HNM (High Number of Matings)

inserts		page:
RD	64 poles + ⊕	209
RDD	108 poles + ⊕	213
RCE	24 poles + ⊕	217
RQEE	64 poles + ⊕	219
MIXO HNM	6 modules	321 - 333

hoods with 2 pegs



Q 10.000 MATINGS WITH HNM INSERTS

hoods with 2 pegs

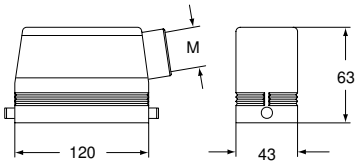


Q 10.000 MATINGS WITH HNM INSERTS

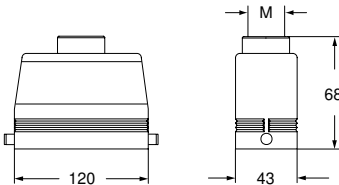
description	part No.	entry M	part No.	entry M
with pegs, side entry	RHO 24 L32	32	RFO 24 L40	40
with pegs, top entry	RHV 24 L32	32	RFV 24 L40	40
with pegs, side entry, high construction, without adapter ¹⁾				
with pegs, top entry, high construction, without adapter ¹⁾				

¹⁾ enclosure without adapter, threaded on the body, to be used only with a complete cable gland.

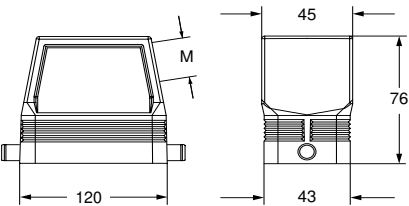
RHO L



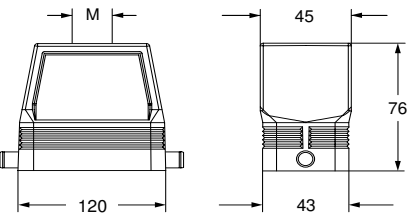
RHV L



RFO L



RFV L



CALUS[®] Type 4/4X/12

- insulating cable gland or fittings without gasket
- cable gland with O-Ring gasket



RAC dummy hoods HNM (High Number of Matings)

enclosures

size "44.27"
size "57.27"
size "77.27"
size "104.27"

page:

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hoods without entry, to be pierced



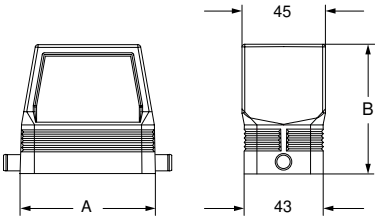
Q 10.000 MATINGS WITH HNM INSERTS

description

part No.
with 2 pegs

with pegs for levers
used with enclosures size "44.27"
used with enclosures size "57.27"
used with enclosures size "77.27"
used with enclosures size "104.27"

RAC 06 L
RAC 10 L
RAC 16 L
RAC 24 L



part No.	A	B
RAC 06 L	60	72
RAC 10 L	73	70
RAC 16 L	93,5	76
RAC 24 L	120	76

CAVUS® Type 4/4X/12



insulating cable gland or fittings
without gasket



cable gland
with O-Ring gasket

Q CAUTION: As the frames are floating, the **PE earthing connection of the metal surfaces on which they are mounted** (mounting bases) **must be performed separately** and cannot be done by connecting the PE earthing contact to the corresponding connector inserts.

NOTE: The supply includes 1 frame and 4 shoulder screws with cylindrical head and notch to fix the frame in place.

For use with MIXO inserts CX 04 X, please contact ILME S.p.A.

self-centring floating frame



Q 10.000 MATINGS WITH HNM INSERTS

description

part No.

in stainless steel, to be mounted on:
inserts size "44.27"¹⁾ and MIXO frames for 2 inserts
inserts size "57.27"¹⁾ and MIXO frames for 3 inserts
inserts size "77.27"¹⁾ and MIXO frames for 4 inserts
inserts size "104.27"¹⁾ and MIXO frames for 6 inserts

CR 06 DF
CR 10 DF
CR 16 DF
CR 24 DF

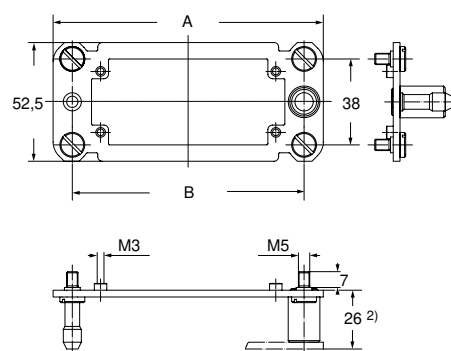
¹⁾ Except CT, CTS and CTSE

Technical specifications

- materials:
 - floating frame, inserts: stainless steel
 - fixing screws: zinc-plated steel
- mechanical endurance: up to 10.000 cycles with HNM inserts
- compensation range:
 - x axis: $\pm 1,5$ mm
 - y axis: $\pm 1,5$ mm

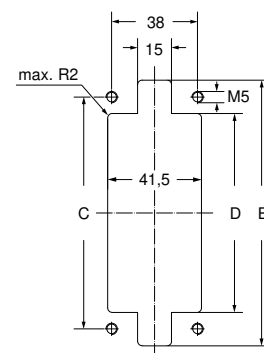
Characteristics

- Suitable, depending on size, for all standard and MIXO connector inserts and frames, except series CT, CTS and CTSE.
- Designed to be used in the transportation, printing and power electronic industries (for example boxes for rack cabinets) and in all industrial applications that require, during assembly or maintenance, the connection of connectors without possibility of controlling the alignment.
- Enables the **self-centring coupling of two corresponding** connectors without the use of enclosures; they freely move on their base plate ($\pm 1,5$ mm on both axes) ensuring the **alignment of the coupling**.

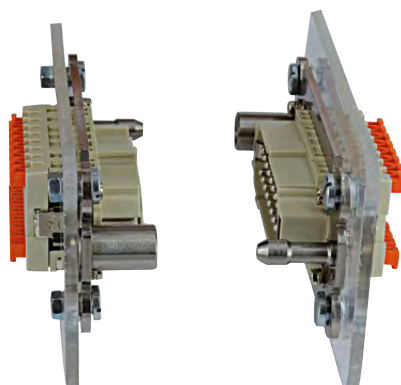


²⁾ distance for electric and fibre optic contacts:
max 27 mm;
distance for pneumatic contacts:
max 26,5 mm.

panel cut-out

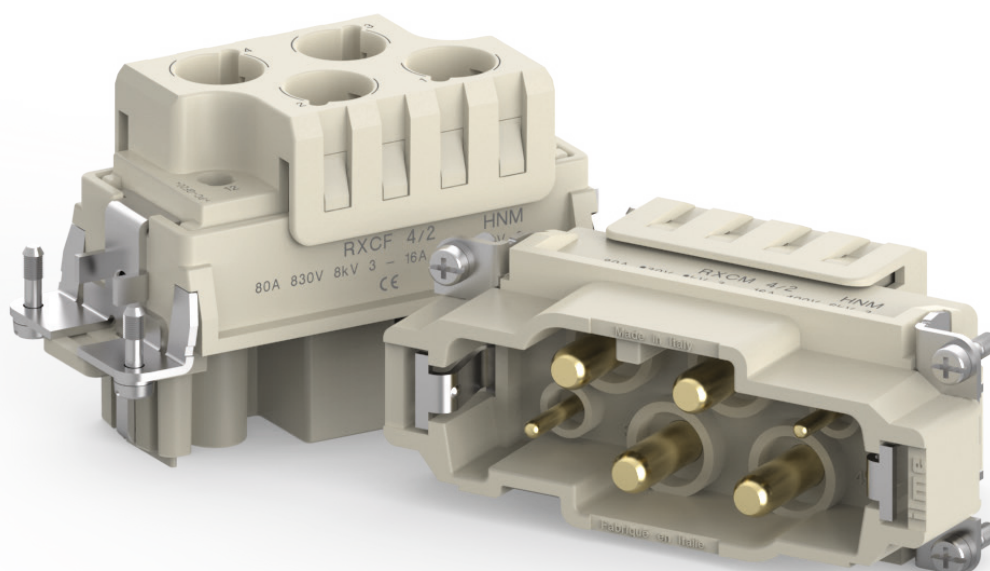


part No.	A	B	C	D	E
CR 06 DF	86	69	69	54,5	84
CR 10 DF	99	82	82	67,5	97
CR 16 DF	119,5	102,5	102,5	88	117,5
CR 24 DF	146	129	129	114,5	144



RXC SERIES COMBINED CRIMP CONNECTOR

HNM VERSION



**RXCF /M 4/2 Combined power/auxiliaries
crimp connector**

(HNM version of CXC)

4 P + ⊕: 80 A 830 V 8 kV 3

2 P + ⊕: 16 A 400 V 6 kV 3



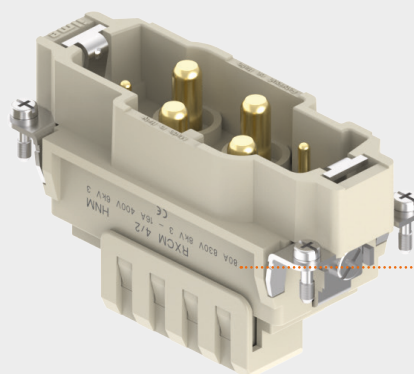
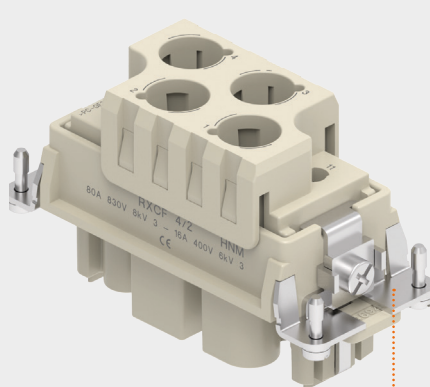
Find out more
www.ilme.com

TECHNICAL FEATURES

The new combined connectors **RXC 4/2** are the **HNM version** of the recently introduced CXC 4/2 inserts with 4× 80 A power crimp contact seats and 2× 16 A auxiliary crimp contact seats.

- Q Thanks to the **HNM treatment** (PE plates lubrication and RX7..2D and RC..2D HNM series crimp contacts with special gold plating, rated current 80 A and 16 A respectively), the mechanical life, when used in combination with dedicated HNM enclosures, extends from 500 to **10 000 mating cycles** ensuring optimal performance.
- Q The connectors are ideal for **applications** requiring frequent **disconnection** use: test benches, charging systems, and removable tooling equipment.

- To be used with HNM crimp contacts series RX7 (70 A / 80 A) and RC (16 A) in HNM enclosures, for up to 10 000 matings



► Lubricated PE plates for HNM purposes

► Laser-marked article part number and HNM indication

✎ HNM crimp contacts RX7 and RC series are separately available

RXCF /M 4/2 4 poles (80 A - 830 V) + 2 poles (16 A - 400 V) + ⊕ HNM (High Number of Matings)

enclosures:
size "77.27"

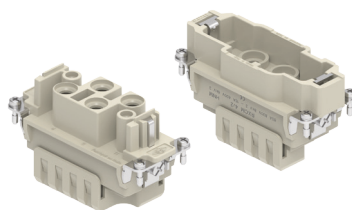
page:

HNM

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Enclosures: bulkhead mounting housings, high construction housings or high construction hoods

HNM inserts, crimp connections



Q 10 000 MATINGS
WITH HNM ENCLOSURES

RATING 830V

FROM MARCH 2022

80 A HNM crimp contacts
gold plated



FROM MARCH 2022

refer to CN.19 pages

description

part No.

part No.

without contacts (to be ordered separately)
female insert for female contacts
male insert for male contacts

RXCF 4/2
RXCM 4/2

80 A female crimp contacts

6 mm ²	(Class 5)	AWG 10
10 mm ²	(Class 5)	AWG 8 - 7
16 mm ²	(Class 5)	AWG 6 - 5
16 mm ²	(Class 6)	AWG 6 - 5
25 mm ²	(Class 5)	AWG 4 - 3

80 A male crimp contacts

6 mm ²	(Class 5)	AWG 10
10 mm ²	(Class 5)	AWG 8 - 7
16 mm ²	(Class 5)	AWG 6 - 5
16 mm ²	(Class 6)	AWG 6 - 5
25 mm ²	(Class 5)	AWG 4 - 3

RX7F2D 6.0
RX7F2D 10
RX7F2D 16
RX7F2D 16 XF
RX7F2D 25

RX7M2D 6.0
RX7M2D 10
RX7M2D 16
RX7M2D 16 XF
RX7M2D 25

gold plated

- characteristics according to EN/IEC 61984 ratings:

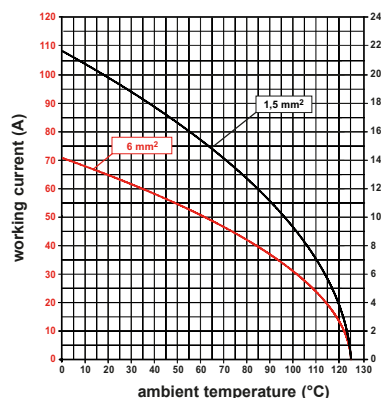
80 A 830 V 8 kV 3
16 A 400 V 6 kV 3

- cURus, CSA, CQC, DNV-GL, BV, EAC pending
- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 GΩ
- Lower and Upper Limiting Temperatures (LLT ... ULT):
-40 °C ... +125 °C
- made by UL 94V-0 glass reinforced polycarbonate,
EN 45545-2:2015 compliant
- mechanical life: ≥ 10.000 cycles
- contact resistance: $\leq 0,3$ mΩ (4 power poles)
 ≤ 1 mΩ (2 auxiliary poles)

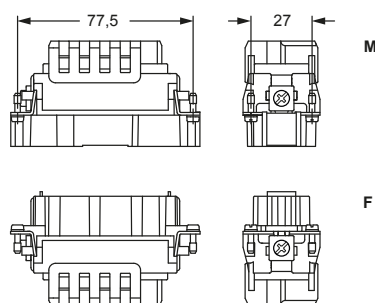
- it is recommended to crimp the contacts with crimping tools homologated by ILME (please see the crimping tool section 70 A contacts RX7F2D and RX7M2D series and 16 A contacts RCF2D, RCM2D series, on pages 708 - 741 of CN.19 catalogue)

- for max. current load see the connector inserts derating diagrams below; for more information see page 28 of CN.19 catalogue

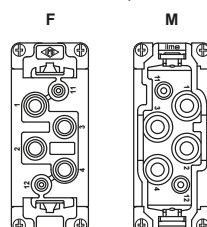
RXC 4/2 poles connector inserts
Maximum current load derating diagram



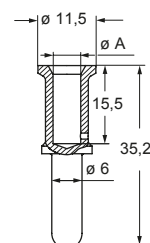
RXC 4/2



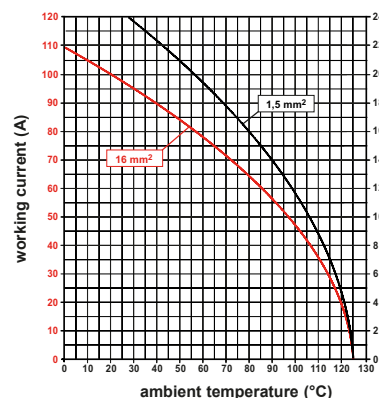
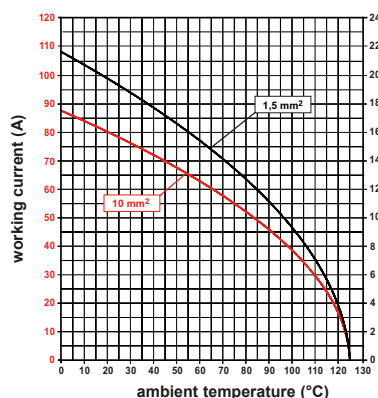
contacts side (front view)



RX7F2D, RX7M2D and
RX7F2D 16 XF, RX7M2D 16 XF



RX7F2D and RX7M2D contacts		
conductor section (mm ²)	conductor slot ø A (mm)	conductor stripping length (mm)
6	3,5	15
10	4,3	15
16	5,5	15
16 (XF)	6,1	15
25	7,0	15



16 A HNM crimp contacts gold plated



removal tools



description

part No.

part No.

16 A female contacts, HNM gold plated

0,14-0,37 mm ²	AWG 26-22	one groove
0,5 mm ²	AWG 20	with no grooves
0,75 mm ²	AWG 18	one groove (back side)
1 mm ²	AWG 18	one groove
1,5 mm ²	AWG 16	two grooves
2,5 mm ²	AWG 14	three grooves
3 mm ²	AWG 12	one wide groove
4 mm ²	AWG 12	with no grooves

RCF2D 0.3
RCF2D 0.5
RCF2D 0.7
RCF2D 1.0
RCF2D 1.5
RCF2D 2.5
RCF2D 3.0
RCF2D 4.0

gold plated

16 A male contacts, HNM gold plated

0,14-0,37 mm ²	AWG 26-22	one groove
0,5 mm ²	AWG 20	with no grooves
0,75 mm ²	AWG 18	one groove (back side)
1 mm ²	AWG 18	one groove
1,5 mm ²	AWG 16	two grooves
2,5 mm ²	AWG 14	three grooves
3 mm ²	AWG 12	one wide groove
4 mm ²	AWG 12	with no grooves

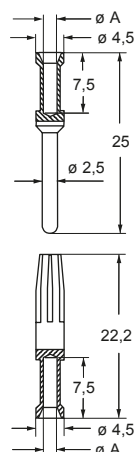
RCM2D 0.3
RCM2D 0.5
RCM2D 0.7
RCM2D 1.0
RCM2D 1.5
RCM2D 2.5
RCM2D 3.0
RCM2D 4.0

removal tools

for **RX7F2D** and **RX7M2D** series contacts
for **RCF2D** and **RCM2D** series contacts

CX7ES
CQES

RCF2D and RCM2D

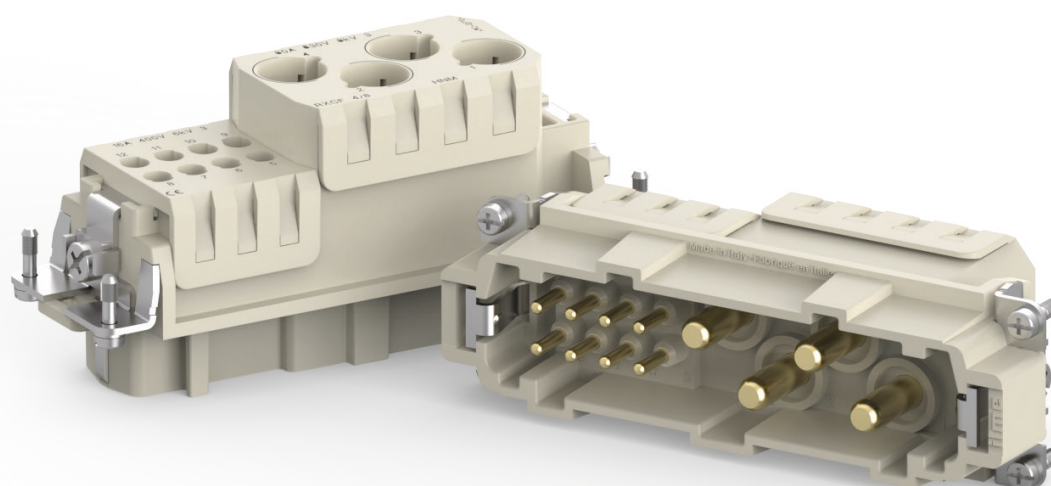


RCF2D and RCM2D contacts

conductor section mm ²	conductor slot ø A (mm)	conductors stripping length (mm)
0,14-0,37	0,9	7,5
0,5	1,1	7,5
0,75	1,3	7,5
1,0	1,45	7,5
1,5	1,8	7,5
2,5	2,2	7,5
3	2,55	7,5
4	2,85	7,5

RXC SERIES COMBINED CRIMP CONNECTOR

HNM VERSION



**RXCF /M 4/8 Combined power/auxiliaries
crimp connector**

(HNM version of CXC)

4 P + ⊕: 80 A 400 V 6 kV 3

8 P + ⊕: 16 A 230/400 V 4 kV 3



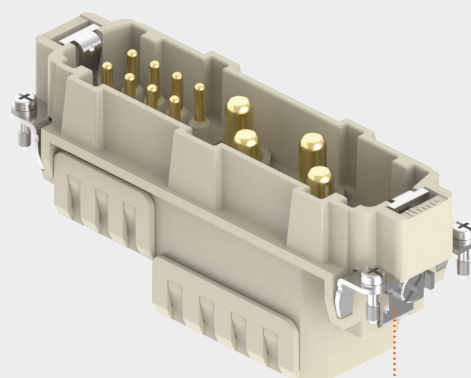
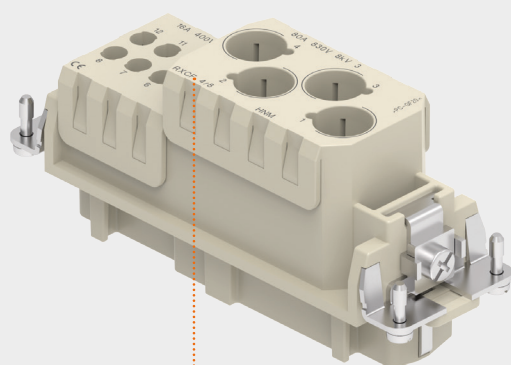
Find out more
www.ilme.com

TECHNICAL FEATURES

The new combined crimp connectors **RXC 4/8** are the **HNM version** of the recently introduced CXC 4/8 inserts with 4× 80 A power crimp contact seats and 8× 16 A auxiliary crimp contact seats.

- Q Thanks to the **HNM treatment** (PE plates lubrication and RX7..2D and RC..2D HNM series crimp contacts with special gold plating, rated current 80 A and 16 A respectively), the mechanical life, when used in combination with dedicated HNM enclosures, extends from 500 to **10 000 mating cycles** ensuring optimal performance.
- Q The connectors are ideal for **applications** requiring frequent **disconnection** use: test benches, charging systems, and removable tooling equipment.

- To be used with HNM crimp contacts series RX7 (70 A / 80 A) and RC (16 A) in HNM enclosures, for up to 10 000 matings



✎ HNM crimp contacts RX7 and RC series are separately available

► Laser-marked article part number and HNM indication

► Lubricated PE plates for HNM purposes

CXCF /M 4/8 4 poles (80 A - 400 V) + 8 poles (16 A - 230/400 V) + ⊕ HNM (High Number of Matings)

enclosures:
size "104.27"

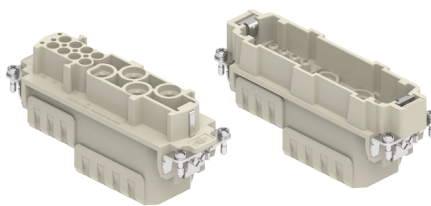
page:

HNM

598 - 599

Enclosures: bulkhead mounting housings, high construction housings or high construction hoods

HNM inserts, crimp connections



Q 10 000 MATINGS
WITH HNM ENCLOSURES

RATING 830V

FROM MARCH 2022

80 A HNM crimp contacts
gold plated



FROM MARCH 2022

refer to CN.19 pages

description

part No.

part No.

without contacts (to be ordered separately)
female inserts for female contacts
male inserts for male contacts

RXCF 4/8
RXCM 4/8

80 A female crimp contacts

6 mm ²	(Class 5)	AWG 10
10 mm ²	(Class 5)	AWG 8 - 7
16 mm ²	(Class 5)	AWG 6 - 5
16 mm ²	(Class 6)	AWG 6 - 5
25 mm ²	(Class 5)	AWG 4 - 3

80 A male crimp contacts

6 mm ²	(Class 5)	AWG 10
10 mm ²	(Class 5)	AWG 8 - 7
16 mm ²	(Class 5)	AWG 6 - 5
16 mm ²	(Class 6)	AWG 6 - 5
25 mm ²	(Class 5)	AWG 4 - 3

RX7F2D 6.0
RX7F2D 10
RX7F2D 16
RX7F2D 16 XF
RX7F2D 25

gold plated

RX7M2D 6.0
RX7M2D 10
RX7M2D 16
RX7M2D 16 XF
RX7M2D 25

- characteristics according to EN/IEC 61984 ratings:

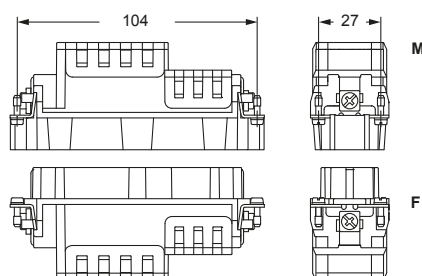
80 A 400 V 6 kV 3
16 A 230/400 V 4 kV 3

- cURus, CSA, CQC, DNV-GL, BV, EAC pending
- rated voltage according to UL/CSA: 600 V
- insulation resistance: ≥ 10 G Ω
- ambient temperature limit: -40 °C ... +125 °C
- made by UL 94V-0 glass reinforced polycarbonate, EN 45545-2:2015 compliant
- mechanical life: ≥ 500 cycles
- contact resistance: $\leq 0,3$ m Ω (4 power poles)
 ≤ 1 m Ω (8 auxiliary poles)

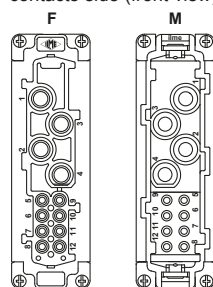
- it is recommended to crimp the contacts with crimping tools homologated by ILME (please see the crimping tool section 70 A contacts RX7F2D and RX7M2D series and 16 A contacts RCF2D, RCM2D series, on pages 708 - 741 of CN.19 catalogue)

- for max. current load see the connector inserts derating diagrams below; for more information see page 28 of CN.19 catalogue

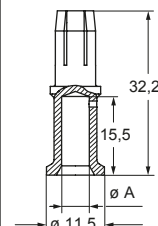
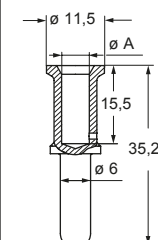
RXC 4/8



contacts side (front view)

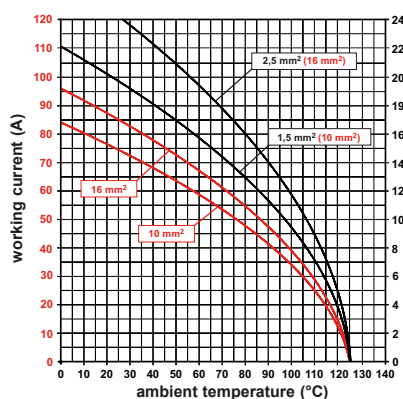
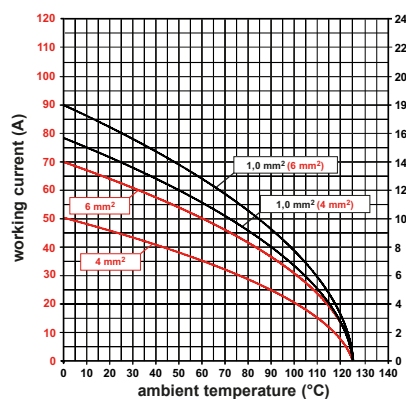


RX7F2D, RX7M2D and
RX7F2D 16 XF, RX7M2D 16 XF



RXC 4/8 poles connector inserts

Maximum current load derating diagram

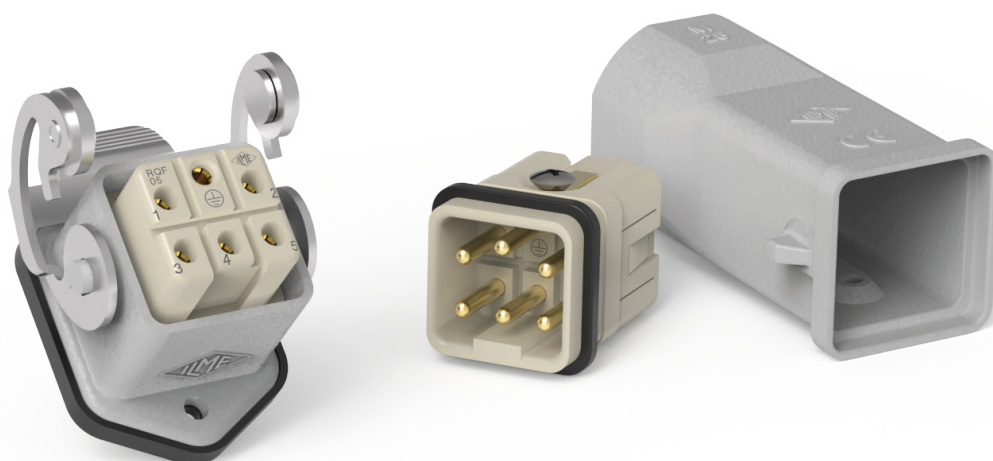


RX7F2D and RX7M2D contacts

conductor section (mm ²)	conductor slot \varnothing A (mm)	conductor stripping length (mm)
6	3,5	15
10	4,3	15
16	5,5	15
16 (XF)	6,1	15
25	7,0	15

SIZE “21.21” ENCLOSURES

HNM VERSION



**Size “21.21” metallic housings
(bulkhead and surface mounting)
and hoods with CLASS lever,
suitable for up to 5 000 mating cycles**



Find out more
www.ilme.com

TECHNICAL FEATURES

Housings (bulkhead-mounting or surface mounting) size “21.21” equipped with **CLASS single locking lever**, made by stainless-steel with sintered stainless-steel rolls with special **anti-friction treatment**

Q *to be mated to standard hoods* “size 21.21”.

This **HNM** series of connector housings has been developed to be used in combination with the **HNM** series of size “21.21” multipole connector inserts, equipped with the relevant **HNM** series of removable crimp contacts, to provide the same reliable protection of the standard series but for a consistently extended, **high number of matings**.

The CLASS locking lever has been chosen and treated so as to reduce wear due to friction at minimum.

Even mated on standard hoods, it is able to provide extremely reduced wear on the corresponding locking pegs, producing virtually no friction by the application of special lubrication on the hinged rolls.

The counterpart hoods are therefore standard metallic types, with fused pegs.

Currently (see next pages) the **suitable HNM inserts size “21.21”** for these new HNM housings are:

- Q **CQF /M 21** inserts
with **5 A HNM** crimp contacts series **RI**
- Q **CDF /M 08** inserts
with **10 A HNM** crimp contacts series **RD**
- Q **New RQF /M 05** inserts,
special **HNM** screw-type PE terminal,
with **16 A HNM** crimp contacts series **RC**
- Q **CQ4F /M 03**
with **40 A HNM** crimp contacts series **RX**

NOTE – Series CKSH (SQUICH®), as well as all MIXO BUS multi-axial and coaxial inserts for use within the size “21.21” CX 1/2 BDF /BDM adapter are not foreseen in HNM version. For requests of other size “21.21” connector inserts in HNM version (e.g.: RK, RQ 12, RQ 07), please contact ILME Commercial Offices.

When the number of 500 mating cycles guaranteed life of standard connector hoods and housings is insufficient to provide a reasonably long lifespan in those connector applications that by inherent function are foreseen to be subject to very frequent connections and disconnections, it is necessary to opt for a solution able to increase that guaranteed lifetime.

- Q The **HNM size “21.21”** series of connector enclosures achieves this goal, extending the guaranteed number of matings **up to 5 000**.

- **Original design, ILME exclusive**
in the market for rectangular connectors

Special
lubrication
of the lever
rolls



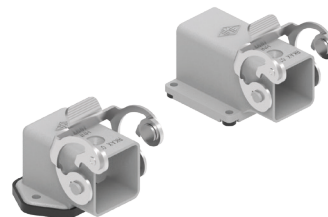
► **Special gold plating and lubrication** to reduce the wear of the contacts during frequently repeated mating/unmating operations



inserts		page:	bulkhead mounting housings straight, stainless steel lever	bulkhead mounting housings angled, stainless steel lever
CQ	21 poles	82		
CD	8 poles	83		
RQ	5 poles + ⊕	84		
CQ4 03	3 poles + ⊕	85		



FROM JUNE 2022



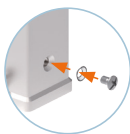
FROM JUNE 2022

description	part No.	part No.
with stainless steel lever	RKAX 03 I	RKAX 03 IA
without cable entry ¹⁾		RKAX 03 IA4
without cable entry, fixing by 4 screws		CKR 65
gasket and screw kit	CKR 65	CKR 65
for IP66 ²⁾		
gasket and screw kit for IP66 ²⁾	CKR 65 D	CKR 65 D
specific for CD 07/08 inserts		

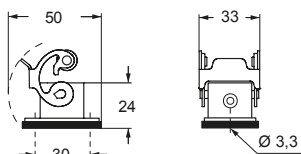
¹⁾ Not suitable for CQ4 series inserts

²⁾ To obtain the IP66 degree of protection it is necessary to replace the fixing screw supplied with the above listed inserts, with the one with gasket included in the kit (to be purchased separately).

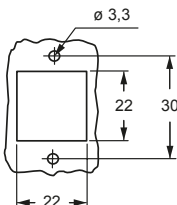
NOTE: The enclosure shown here is an example. The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



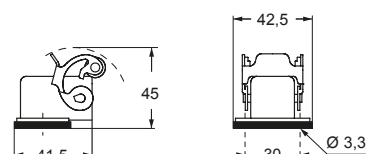
RKAX 03 I



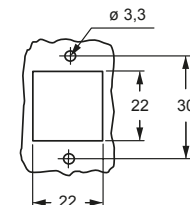
panel cut-out for enclosures



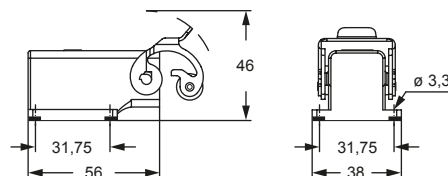
RKAX 03 IA



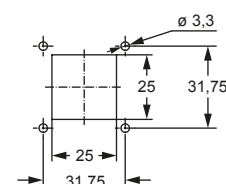
panel cut-out for enclosures



RKAX 03 IA4



panel cut-out for enclosures



cURus
Type 12 pending
Type 4/4X only with CKR 65 (D) pending



IP66 with CKR 65 (D) ²⁾

RKAX VG

HNM (High Number of Matings)

inserts

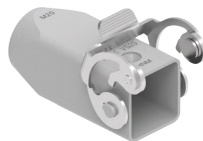
CQ	21 poles
CD	8 poles
RQ	5 poles + ⊕
CQ4 03	3 poles + ⊕

page:

82
83
84
85

hoods

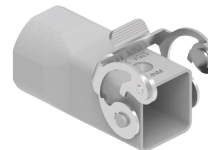
stainless steel lever



FROM JUNE 2022

hoods

stainless steel lever



FROM JUNE 2022

description

part No.
(entry M20)part No.
(entry M25)top entry ¹⁾

RKAX VG20

top entry

RKAX VG25

gasket and screw kit
for IP66 ²⁾

CKR 65

CKR 65

gasket and screw kit for IP66 ²⁾
specific for CD 08 inserts

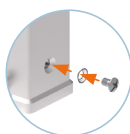
CKR 65 D

CKR 65 D

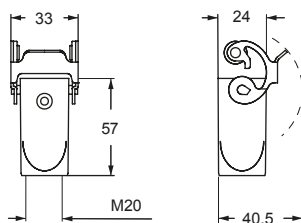
¹⁾ Not suitable for CQ4 series inserts

²⁾ To obtain the IP66 degree of protection it is necessary to replace the fixing screw supplied with the above listed inserts, with the one with gasket included in the kit (to be purchased separately).

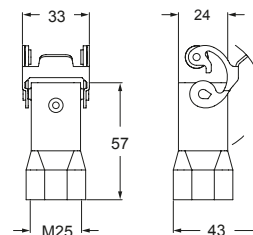
NOTE: The enclosure shown here is an example. The screw and sealing gasket kit can be used with all enclosures' part nos. in this page.



RKAX VG20



RKAX VG25

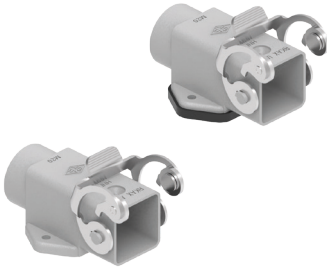


cURus
Type 12 pending
Type 4/4X only with CKR 65 (D) pending

IP66 with CKR 65 (D) ²⁾

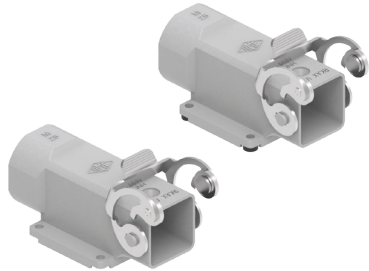
inserts		page:
CQ	21 poles	82
CD	8 poles	83
RQ	5 poles + ⊕	84
CQ4 03	3 poles + ⊕	85

bulkhead mounting housings
straight and angled, stainless steel lever



 FROM JUNE 2022

angled surface mounting housings
stainless steel lever



 FROM JUNE 2022

description

part No.
(entry M20)

part No.
(entry M25)

with cable entry ¹⁾
with cable entry, bulkhead hole closed, without gasket ¹⁾

RKAX IAP20
RKAX AP20

with cable entry, fixing by 4 screws
with cable entry, fixing by 4 screws,
bulkhead hole closed, without gasket

RKAX IAP25
RKAX AP25

gasket and screw kit
for IP66 ²⁾

CKR 65

CKR 65


gasket and screw kit for IP66 ²⁾
specific for CD 07/08 inserts

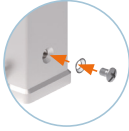
CKR 65 D

CKR 65 D

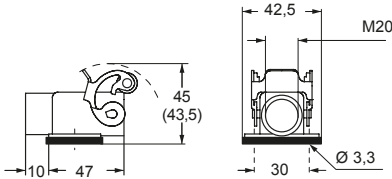
¹⁾ Not suitable for CQ4 series inserts

²⁾ To obtain the IP66 degree of protection
it is necessary to replace the fixing screw supplied
with the above listed inserts, with the one with gasket
included in the kit (to be purchased separately).

 **NOTE:** The enclosure
shown here is an example.
The screw and sealing
gasket kit can be used with
all enclosures' part nos. in
this page.

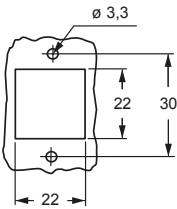


RKAX IAP20 (RKAX AP20*)

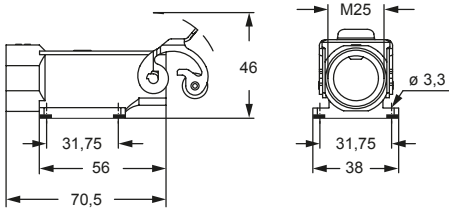


*AP... without gasket

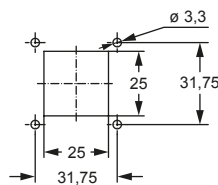
panel cut-out for enclosures



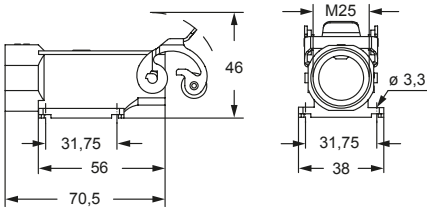
RKAX IAP25



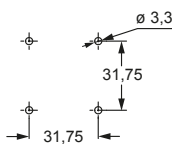
panel cut-out for enclosures



RKAX AP25



panel cut-out for enclosures



cURus
Type 12 pending
Type 4/4X only with CKR 65 (D) pending



IP66 with CKR 65 (D) ²⁾

RKAX IF – IAF

HNM (High Number of Matings)

inserts

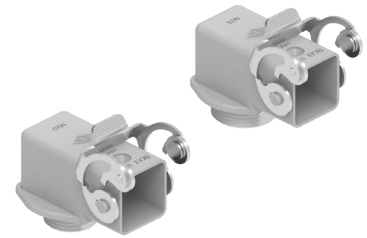
CQ	21 poles
CD	8 poles
RQ	5 poles + ⊕
CQ4 03	3 poles + ⊕

page:

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bulkhead mounting housings
stainless steel lever

FROM JUNE 2022

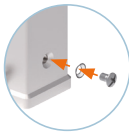
angled bulkhead mounting housings
stainless steel lever

FROM JUNE 2022

description	part No.	entry M	part No.	entry M
with O-ring gasket ^{1) (1)}	RKAX IF	32		
with flange gasket ¹⁾	RKAX IFC	32		
with O-ring gasket ^{1) 2) (1)}			RKAX IAF20	20
with O-ring gasket ^{1) 2) (1)}			RKAX IAF25	25
gasket and screw kit for IP66 ²⁾	CKR 65		CKR 65	
gasket and screw kit for IP66 ²⁾ specific for CD 07/08 inserts	CKR 65 D		CKR 65 D	

¹⁾ To obtain the IP66 degree of protection it is necessary to replace the fixing screw supplied with the above listed inserts, with the one with gasket included in the kit (to be purchased separately).

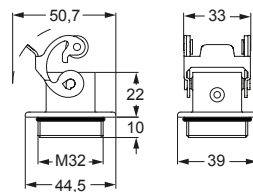
NOTE: The enclosure shown here is an example. The screw and sealing gasket kit can be used with all enclosures' part nos. in this page



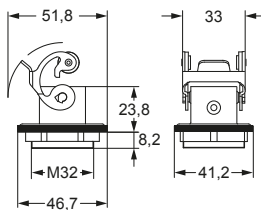
²⁾ Not suitable for CQ4 series inserts

⁽¹⁾ Locknut supplied on request, see Cable glands catalogue (article AS M32N metallic).

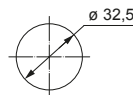
RKAX IF



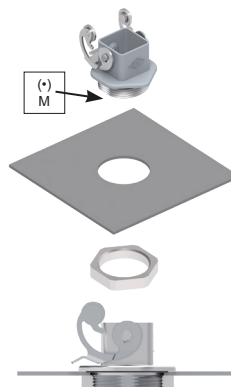
RKAX IFC



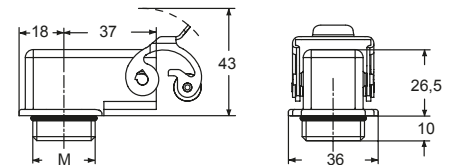
panel cut-out for enclosures



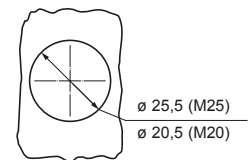
USE OF THE LOCKNUT



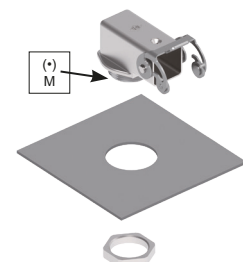
MKAX IAF



panel cut-out



USE OF THE LOCKNUT



cURus
Type 12 pending
Type 4/4X only with CKR 65 (D) pending



IP66 with CKR 65 (D) ²⁾

enclosures:
size "21.21"

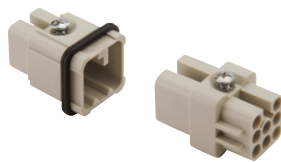
page:

HNM

78 - 81

inserts, crimp connections

10 A HNM crimp contacts
gold plated



description

part No.

part No..

without contacts (to be ordered separately)

female insert for female contacts ¹⁾

male insert for male contacts

CDF 08
CDM 08

10 A female contacts

0,14-0,37 mm ²	AWG 26-22	identification No. 1
0,5 mm ²	AWG 20	identification No. 2
0,75 mm ²	AWG 18	identification No. ②
1 mm ²	AWG 18	identification No. 3
1,5 mm ²	AWG 16	identification No. 4
2,5 mm ²	AWG 14	identification No. 5

RDF2D 0.3
RDF2D 0.5
RDF2D 0.7
RDF2D 1.0
RDF2D 1.5
RDF2D 2.5

gold plated

10 A male contacts

0,14-0,37 mm ²	AWG 26-22	identification No. 1
0,5 mm ²	AWG 20	identification No. 2
0,75 mm ²	AWG 18	identification No. ②
1 mm ²	AWG 18	identification No. 3
1,5 mm ²	AWG 16	identification No. 4
2,5 mm ²	AWG 14	identification No. 5

RDM2D 0.3
RDM2D 0.5
RDM2D 0.7
RDM2D 1.0
RDM2D 1.5
RDM2D 2.5

1) the female inserts can be mounted into the straight bulkhead housings CK I from the rear

- characteristics according to EN 61984:

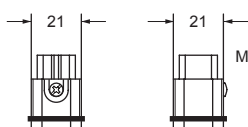
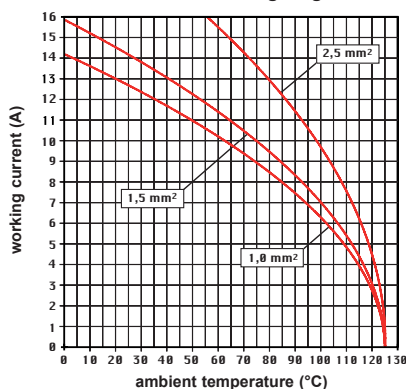
10A 50 Vac / 120 Vdc 0,8 kV 3

- cULus (UL for USA and Canada), certified

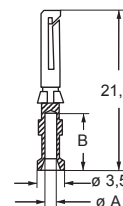
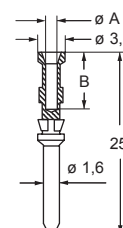
- rated voltage according to UL/CSA: 50V ac / 120V dc
- insulation resistance: $\geq 10 \text{ G}\Omega$
- ambient temperature limit: -40 °C ... +125 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: $\geq 5 \text{ 000 cycles}$
- contact resistance: $\leq 3 \text{ m}\Omega$
- for applications requiring higher voltages, please see the special voltage application section refer to C.19 catalogue on page 65
- it is recommended to crimp the contacts with crimping tools homologated by ILME (please see the crimping tool section 10 A contacts, CDF and CDM series see pages 708 - 741 on CN.19)
- for max. current load see the connector inserts derating diagram below; for more information see page 28 of CN.19 catalogue

CD 08 poles connector inserts

Maximum current load derating diagram



contacts side (front view)



RDF2D and RDM2D contacts

conductor section mm ²	conductor slot Ø A (mm)	conductors stripping length B (mm)
0,14-0,37	0,9	8
0,5	1,1	8
0,75	1,3	8
1,0	1,45	8
1,5	1,8	8
2,5	2,2	6

CR CP coding pin with loss of one contact (refer to CN.19, page 689)



enclosures:
size "21.21"

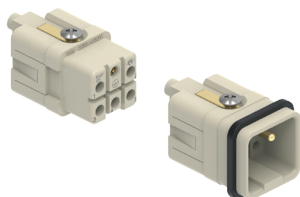
page:

HNM

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HNM inserts, crimp connections

16 A HNM crimp contacts
gold plated



FROM JUNE 2022

description

part No.

part No.

without contacts (to be ordered separately)
female insert for female contacts
male insert for male contacts

RQF 05
RQM 05

16 A female contacts

0,14-0,37 mm ²	AWG 26-22	one groove
0,5 mm ²	AWG 20	with no grooves
0,75 mm ²	AWG 18	one groove (back side)
1 mm ²	AWG 18	one groove
1,5 mm ²	AWG 16	two grooves
2,5 mm ²	AWG 14	three grooves
3 mm ²	AWG 12	one wide groove
4 mm ²	AWG 12	with no grooves

RCF2D 0.3
RCF2D 0.5
RCF2D 0.7
RCF2D 1.0
RCF2D 1.5
RCF2D 2.5
RCF2D 3.0
RCF2D 4.0

gold plated

16 A male contacts

0,14-0,37 mm ²	AWG 26-22	one groove
0,5 mm ²	AWG 20	with no grooves
0,75 mm ²	AWG 18	one groove (back side)
1 mm ²	AWG 18	one groove
1,5 mm ²	AWG 16	two grooves
2,5 mm ²	AWG 14	three grooves
3 mm ²	AWG 12	one wide groove
4 mm ²	AWG 12	with no grooves

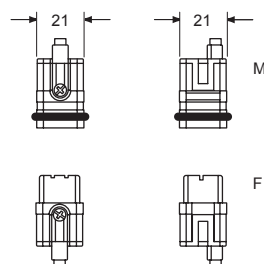
RCM2D 0.3
RCM2D 0.5
RCM2D 0.7
RCM2D 1.0
RCM2D 1.5
RCM2D 2.5
RCM2D 3.0
RCM2D 4.0

- characteristics according to EN 61984:

16 A 230/400 V 4 kV 3

16 A 320/500 V 4 kV 2

- cURus (UL for USA and Canada) pending
- CQC, DNV-GL, BV, EAC will follow
- rated voltage according to UL/CSA: 600V
- insulation resistance: $\geq 10 \text{ G}\Omega$
- ambient temperature limit: $-40^\circ\text{C} \dots +125^\circ\text{C}$
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: $\geq 5\,000$ cycles
- contact resistance: $\leq 1 \text{ m}\Omega$
- it is recommended to crimp the contacts with crimping tools homologated by ILME (please see the crimping tool section 16 A contacts, RC series see pages 708 - 741 on CN.19 catalogue)
- can also be used partially fitted with 4 mm² section contacts
- for max. current load see the connector inserts derating diagram below; for more information see page 28 of CN.19 catalogue



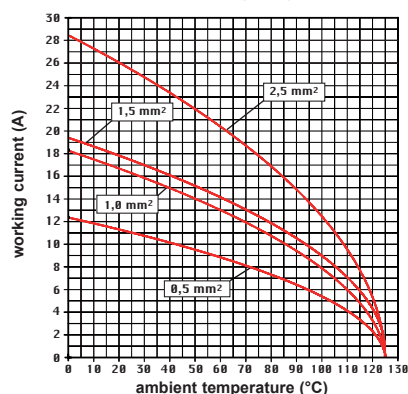
contacts side (front view)



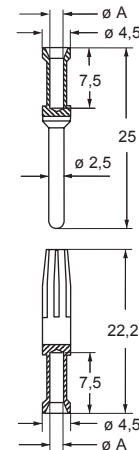
NOTE: PE screw connection for unprepared wires only

RQ 05 poles connector inserts

Maximum current load derating diagram



Coding pins
CR CPQ
(refer to CN.19,
page 689)



RCF2D and RCM2D contacts

conductor section mm ²	conductor slot Ø A (mm)	conductors stripping length (mm)
0,14-0,37	0,9	7,5
0,5	1,1	7,5
0,75	1,3	7,5
1,0	1,45	7,5
1,5	1,8	7,5
2,5	2,2	7,5
3	2,55	7,5
4	2,85	7,5

enclosures:
size "21.21"

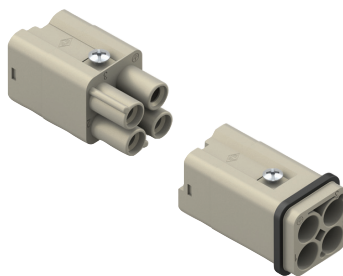
HNM

page:

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HNM inserts, crimp connections

40 A HNM crimp contacts
gold plated



description

part No.

part No.

without contacts (to be ordered separately)

female inserts for female contacts *

male inserts for male contacts *

CQ4F 03
CQ4M 03

40 A female crimp contacts

1,5 mm² AWG 16

2,5 mm² AWG 14

4 mm² AWG 12

6 mm² AWG 10

RXF2D 1.5

RXF2D 2.5

RXF2D 4.0

RXF2D 6.0

gold plated

40 A male crimp contacts

1,5 mm² AWG 16

2,5 mm² AWG 14

4 mm² AWG 12

6 mm² AWG 10

RXM2D 1.5

RXM2D 2.5

RXM2D 4.0

RXM2D 6.0

* wire diameter: up to 7,5 mm, contact section: up to 10 mm²

☑ the female insert **CQ4F 03** is finger proof (IP2X or IPXXB) even if not coupled, while the male insert **CQ4M 03** in this circumstance is protected from access with the back of the hand (IP1X or IPXXA)

☑ cannot be used in angled enclosures (IA/IAP/VA version)

- characteristics according to EN 61984:

40 A 400 V 6 kV 3

- (UL for USA and Canada), certified

- insulation resistance: ≥ 10 G Ω

- ambient temperature limit: -40 °C ... +125 °C

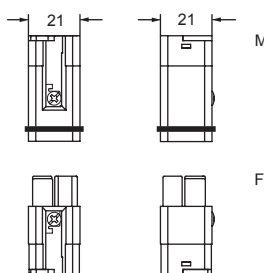
- made of self-extinguishing thermoplastic resin UL 94V-0

- mechanical life: ≥ 5 000 cycles

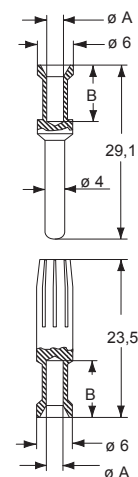
- contact resistance: $\leq 0,3$ m Ω

- it is recommended to crimp the contacts with crimping tools homologated by ILME (please see the crimping tool section 40 A contacts RX series, pages 708 - 741 on CN.19 catalogue)

- for max. current load see the connector inserts derating diagram below; for more information see page 28 of CN.19 catalogue



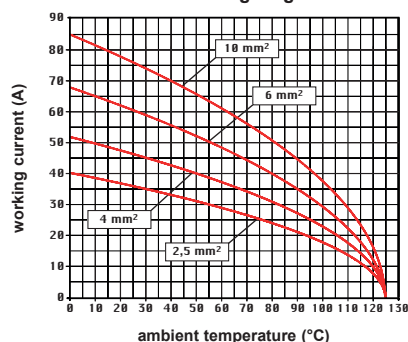
contacts side (front view)



RXF2D and RXM2D contacts

conductor cross-sectional area mm ²	conductor slot ϕA (mm)	conductor stripping length B (mm)
1,5	1,8	9
2,5	2,2	9
4	2,85	9,6
6	3,5	9,6

CQ4 03 poles connector inserts
Maximum current load derating diagram



Coding pins
CR Q03, 4 possible
positions
(refer to CN.19,
page 692)

