

CK series with optional coding pins: avoid incorrect connections

The renewed CK series of inserts addresses the need for connector coding with the addition of coding pins CR K03, CR K04R and CR K04G.

Each connector is made to make coupling of inserts from different series impossible, by suitable key and key way. Inserts are also polarized against inadvertent 180° mating. When a number of identical connectors with different functions are mounted close together, the coupling of a free part onto a non-corresponding fixed part must be prevented in order to avoid possible damage and breakdown.

The coding pins added to the renewed CK series **allow the user to safely configure the male and female inserts** to prevent the incorrect connection of identical connectors.

With various combinations of coding pins available, it is possible to safely install up to 4 connectors of the same type but with different functions side-by-side.



SUM UP

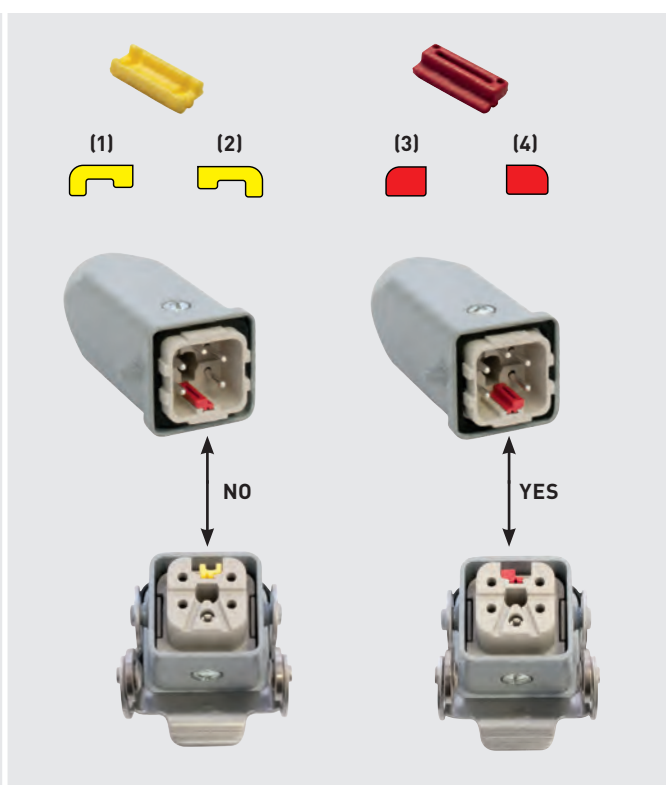
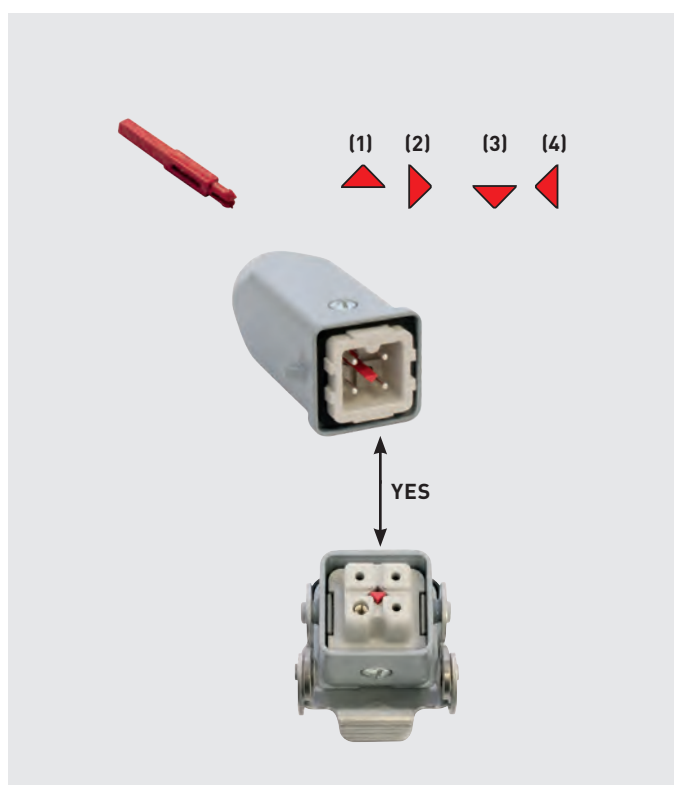
- ☑ Connection up to 2,5 mm²
- ☑ New RAL 7032 colour
- ☑ Bult-in silver or gold plated contacts

CR K03 version, for connectors 3P + ⊕

Inserting the pin in the 4 possible positions by rotating through 90° allows 4 different insert codings to be obtained.

CR K04 version, for connectors 4P + ⊕

2 pin versions available: yellow - red
Each pin has 2 possible specular insertion positions. Alternate use of the pins allows 4 coding combinations to be achieved.



CK 3 and 4 poles + ⊕ 10A - 230/400V

enclosures:
size "21.21"

page:

Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
E-Xtreme® corrosion proof	538 - 539
EMC	564 - 572
IP68	628 - 631

- can be mated with CKSH inserts

inserts, 3 poles + ⊕
screw terminal connections



Q SILVER PLATED CONTACTS

inserts, 4 poles + ⊕
screw terminal connections



Q SILVER PLATED CONTACTS

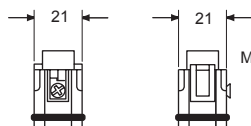
description	part No.	part No.	part No.	part No.
distinctive colour	white	black	white	black
female inserts with female contacts ¹⁾	CKF 03	CKF 03 N	CKF 04	CKF 04 N
male inserts with male contacts	CKM 03	CKM 03 N	CKM 04	CKM 04 N
distinctive colour				
female inserts with female contacts ¹⁾				
male inserts with male contacts				

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

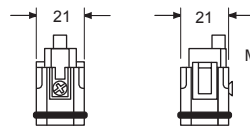
- characteristics according to EN 61984:

10A 230/400V 4kV 3
10A 400/690V 4kV 2

- certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +100 °C
- made of self-extinguishing thermoplastic resin UL 94V-1
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 2 mΩ
- for max. current load see the connector inserts derating diagrams below; for more information see page 28



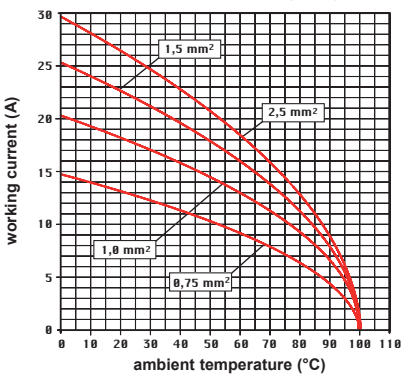
contacts side (front view)



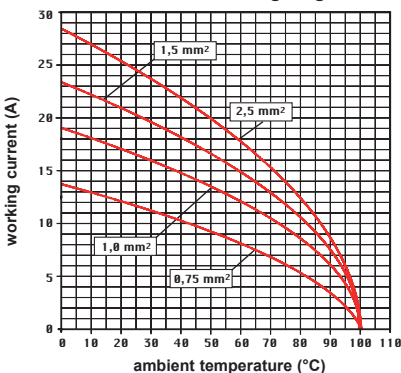
contacts side (front view)



CK 03 poles connector inserts
Maximum current load derating diagram



CK 04 poles connector inserts
Maximum current load derating diagram



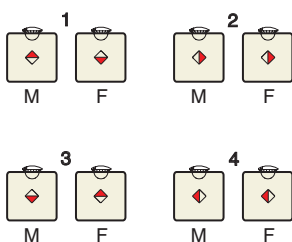
- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
- terminal screw torque: 0,5 Nm (4.4 lb.in), for more information see page 20 and 21

- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
- terminal screw torque: 0,5 Nm (4.4 lb.in), for more information see page 20 and 21

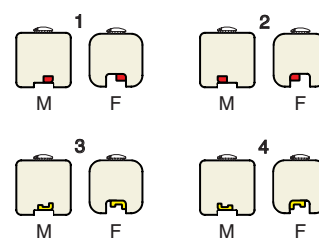
CR K03
coding pins
(page 688)



CR K04R
and CR K04G coding
pins (page 688)



M = male insert
F = female insert



M = male insert
F = female insert

CKD 3 and 4 poles + ⊕ 10A - 230/400V

enclosures: size "21.21"	page:
Insulating type	339 - 348
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inserts, 3 poles + ⊕ screw terminal connections



Q GOLD PLATED CONTACTS

inserts, 4 poles + ⊕ screw terminal connections



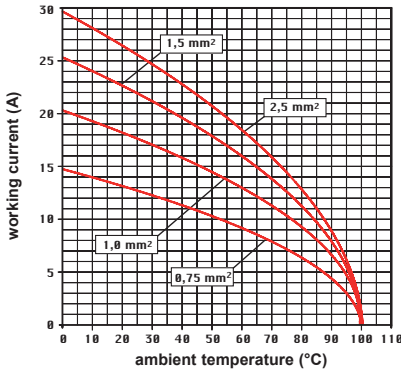
Q GOLD PLATED CONTACTS

description	part No.	part No.
female inserts with female contacts ¹⁾ male inserts with male contacts	CKFD 03 CKMD 03	CKFD 04 CKMD 04
female inserts with female contacts ¹⁾ male inserts with male contacts		

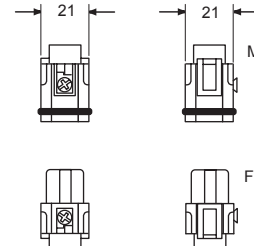
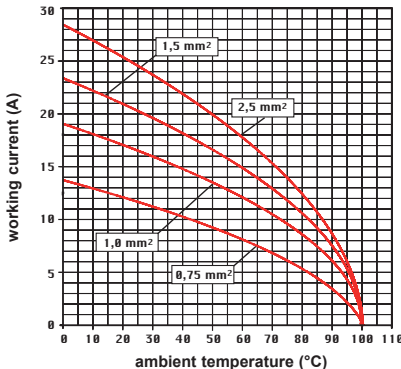
1) the female inserts can be mounted into the straight bulkhead housings CK I from the rear

- characteristics according to EN 61984:
10A 230/400V 4kV 3
10A 400/690V 4kV 2
- certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +100 °C
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- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 2 mΩ
- for max. current load see the connector inserts derating diagrams below; for more information see page 28

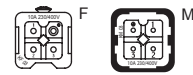
CKD 03 poles connector inserts
Maximum current load derating diagram



CKD 04 poles connector inserts
Maximum current load derating diagram

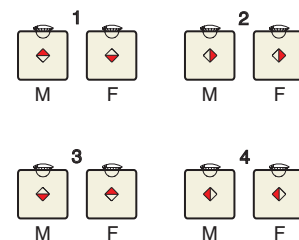


contacts side (front view)

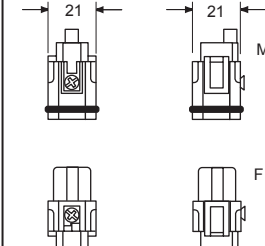


- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
- terminal screw torque: 0,5 Nm (4.4 lb.in), for more information see page 20 and 21

CR K03
coding pins
(page 688)



M = male insert
F = female insert

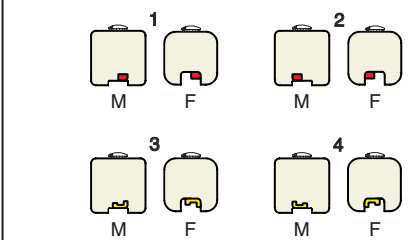


contacts side (front view)



- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
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CR K04R
and **CR K04G** coding pins
(page 688)



M = male insert
F = female insert

CK...RY 3 and 4 poles + ⊕ 10A - 230/400V

enclosures:
size "21.21"

page:

For 180 °C

583 - 586

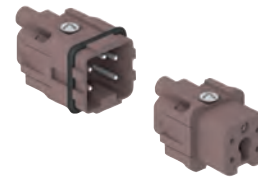
inserts, 3 poles + ⊕
screw terminal connections



🌡️ 180 °C

Q SILVER PLATED CONTACTS

inserts, 4 poles + ⊕
screw terminal connections



🌡️ 180 °C

Q SILVER PLATED CONTACTS

description

part No.

part No.

use at temperatures up to 180 °C
female inserts with female contacts ¹⁾, brown
male inserts with male contacts, brown

CKF 03 RY
CKM 03 RY

use at temperatures up to 180 °C
female inserts with female contacts ¹⁾, brown
male inserts with male contacts, brown

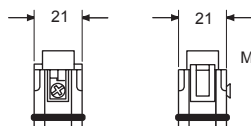
CKF 04 RY
CKM 04 RY

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

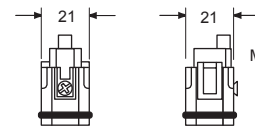
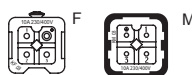
- characteristics according to EN 61984:

10A 230/400V 4kV 3
10A 400/690V 4kV 2

- certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: ≥ 10 GΩ
- ambient temperature limit: -40 °C ... +180 °C
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: ≤ 2 mΩ
- for max. current load see the connector inserts derating diagrams below; for more information see page 28



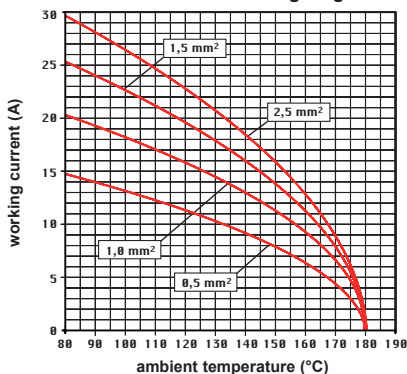
contacts side (front view)



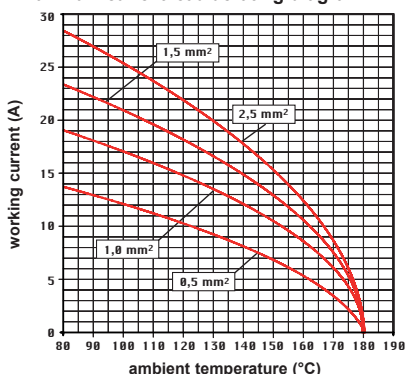
contacts side (front view)



CK...RY 03 poles connector inserts
Maximum current load derating diagram



CK...RY 04 poles connector inserts
Maximum current load derating diagram



- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
- conductor stripping length: 6 mm
- terminal screw torque: 0,5 Nm (4.4 lb.in), for more information see page 20 and 21

- inserts for wires with the following cross-sectional areas:
0,75 - 2,5 mm² - AWG 18 - 14
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CKSH-SQUICH® series

Easy wiring in a compact space

These small but very capable connector inserts sized “21.21” are the evolution of former patented CKS series, still available upon request: thanks to a further step ahead in ILME proprietary solutions, they implement the fast, tool-less and skill-independent SQUICH® technology even in such a narrow space.

Reliable spring clamp contacts are now faster to wire thanks to the presence – also on the protective earth terminal – of the actuator pushbuttons, whose colour coding provides further visual help in identifying their function. Each pushbutton safely allows the insertion of a measuring probe even upon connector wired and under load, and is featured with a side slot for the possible spring terminal re-opening, by using a simple 0,5x3 mm flat blade screwdriver.

The conductor entries are on the top rear of the connector insert, as in former CKS inserts, providing **vertical straight terminations**, whereas screw-type CK inserts have lateral conductor entries and terminal screws on the top rear. CKSH connector inserts are available in the traditional two polarities: 3P+ ⊕ and 4P+ ⊕, for applications with rated voltage up to 400V AC or DC and continuous rated current per pole up to 10A.

These connector inserts inherit the proprietary optional coding system introduced in the recently renewed series CK and CKS, to prevent mismatching in case of multiple connectors installed close to each other. This coding system does not alter the mating face, so connectors not making use of it are fully backwards mating compatible with former products. They are fully interchangeable, with even improved performances, to the legacy much appreciated screw-type series CK (230/400V) and CKS (spring terminals), which they replace.



SUM UP

- ☑ Easy wiring in compact size
- ☑ All the advantages of ILME SQUICH® connection in size 21.21
- ☑ Vertical and straight termination
- ☑ Full 400V voltage rating compared to 230/400V of series CK
- ☑ Built-in silver plated contacts

Requiring no wiring tool and no special wire preparation, they provide **excellent conductor fastening** with great resistance to strong vibrations.

Connecting capacity of terminals is from 0,14 mm² to 2,5 mm² (26 to 14 AWG) for unprepared conductors. Use of prepared conductors (terminated with crimped ferrule) is up to 1,5 mm² /16 AWG, suitable to rated current up to 10A per pole, due to the relatively limited number of poles.



no need of wiring tools



already open terminals



reduced wiring time



quick identification of wired terminals



☑ Easy wiring in compact size



☑ With coding pins

☑ Rear top entry for an easier wiring



☑ For solid or flexible wires and for crimped ferrules



CKSH-SQUICH® series

TECHNICAL FEATURES

Insert series		CKSH-SQUICH®
No. of poles	Main contacts + ⊕	3, 4
	auxiliary contacts	—
Rated current ¹⁾		10A
EN IEC 61984	rated voltage	400V
	rated impulse withstand voltage	4kV
	pollution degree	3
EN IEC 61984	rated voltage	690V
	rated impulse withstand voltage	4kV
	pollution degree	2
UL / CSA certification	rated voltage (a.c./d.c.)	600V
Contact resistance		≤ 3 mΩ
Insulation resistance		≥ 10 GΩ
Ambient temperature limit (°C)	min	-40
	max	125
Degree of protection	with enclosures (according to type)	IP44 , IP66/ IP67 /IP69, IP66/ IP68 /IP69, (according to type and model)
	without enclosures (in mated condition) - termination side on male and female inserts - mating side on female inserts	IP20 (IPXXB)
Conductor connections		spring type with actuator button
Conductor cross-sectional area	mm ²	0,14 - 2,5 unprepared
		0,14 - 1,5 prepared with crimped ferrule
	AWG	26 - 14 unprepared
		26 - 16 prepared with crimped ferrule
Mechanical endurance (mating cycles)		≥ 500

1) Please check the inserts derating diagrams to establish the actual maximum operating current according to the ambient temperature, the conductor cross-sectional area, the polarity of the connector, and any external constraint may derive e.g. by the continuous operating temperature sustained by the chosen conductor sheathing or by end-product safety standards fixing max allowed temperature rise on terminals (e.g. 30 K, 45 K or 50 K)

CKSH-SQUICH® 3 and 4 poles + ⊕ 10A - 400V

enclosures: size "21.21"	page:
Insulating type	339 - 348
Metallic type	349 - 363
W-TYPE for aggressive environments	512 - 518
E-Xtreme® corrosion proof	538 - 539
EMC	564 - 572
IP68	628 - 631

- can be mated with CK inserts

inserts, 3 poles + ⊕ spring terminal connection without tools



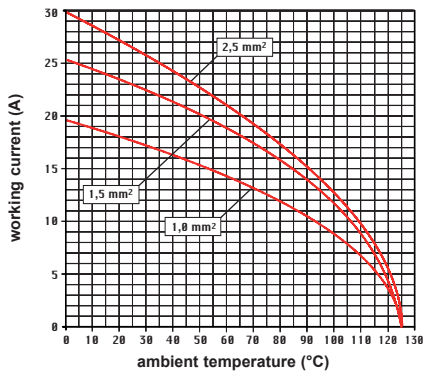
inserts, 4 poles + ⊕ spring terminal connection without tools



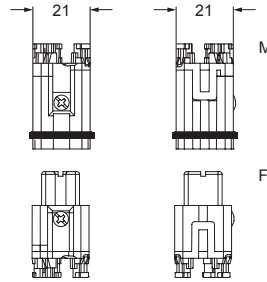
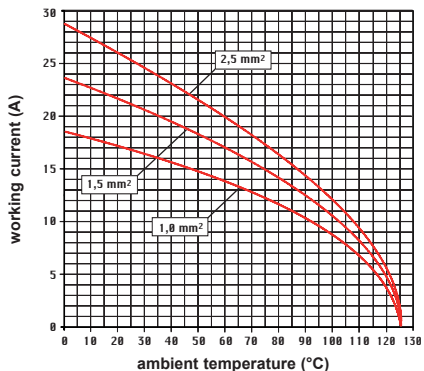
description	part No.	part No.
female inserts with female contacts	CKSHF 03	CKSHF 04
male inserts with male contacts	CKSHM 03	CKSHM 04
female inserts with female contacts		
male inserts with male contacts		

- characteristics according to EN 61984:
10A 400V 4kV 3
10A 690V 4kV 2
- certified
- rated voltage according to UL/CSA: 600V
- insulation resistance: $\geq 10 \text{ G}\Omega$
- ambient temperature limits: $-40 \text{ }^\circ\text{C} \dots +125 \text{ }^\circ\text{C}$
- made of self-extinguishing thermoplastic resin UL 94V-0
- mechanical life: ≥ 500 cycles
- contact resistance: $\leq 3 \text{ m}\Omega$
- for max. current load see the connector inserts derating diagrams below; for more information see page 28

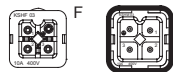
CKSH 03 poles connector inserts
Maximum current load derating diagram



CKSH 04 poles connector inserts
Maximum current load derating diagram



contacts side (front view)

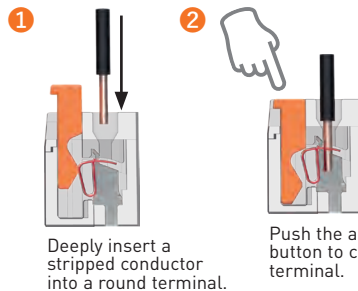


- inserts for wires with the following cross-sectional areas: 0,14 - 2,5 mm² - AWG 26 - 14 for prepared wires useable section: up to 1,5 mm² (AWG 16)
- conductor stripping length: 9...11 mm

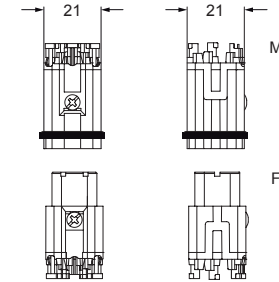
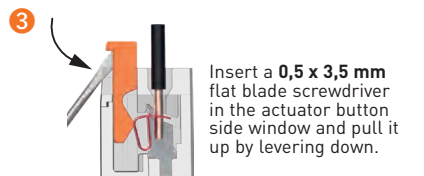
CR K03
coding pins
(page 688)



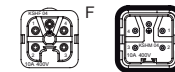
SQUICH®-spring connection technology WIRING



RE-OPENING



contacts side (front view)



- inserts for wires with the following cross-sectional areas: 0,14 - 2,5 mm² - AWG 26 - 14 for prepared wires useable section: up to 1,5 mm² (AWG 16)
- conductor stripping length: 9...11 mm

CR K04R
and **CR K04G** coding pins
(page 688)



Rear top entry of wires for an easier wiring

