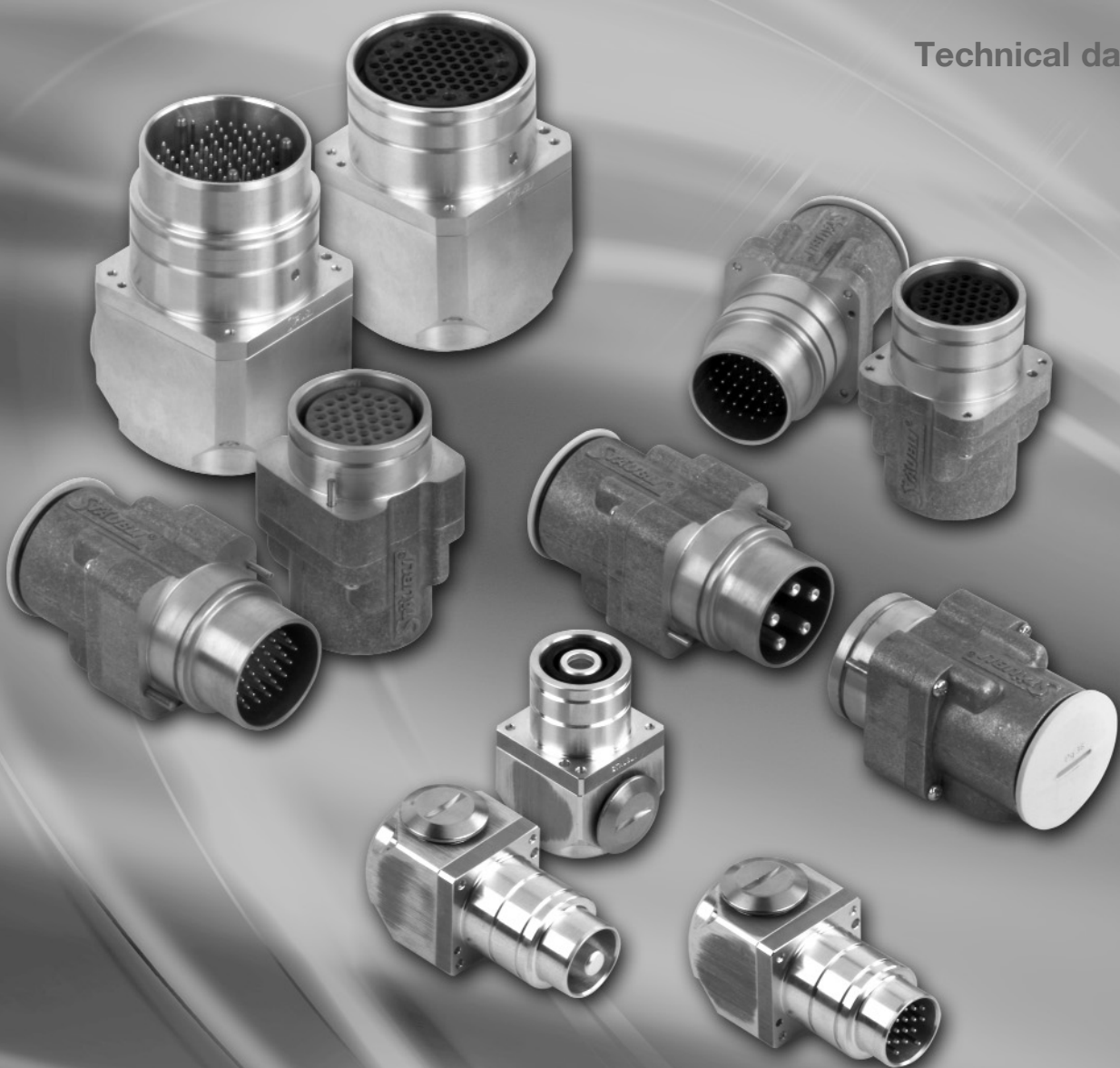


**REA electrical connectors
MCS / MA multi-connections**

Technical data sheet



REA electrical connectors

for MCS / MA automatic multi-connections

- **3 standard dimensions**
- **Inserts: 2 to 70 pins + ground**
- **Ø of pins: 1,5 to 6 mm as standard**

Contents

- **Technical features** page 2
- **Derating diagrams** page 3
- **Assembly of inserts into housings** page 3
- **Part-numbers**
 - REA 02 pages 4 - 5
 - REA 03 pages 6 - 7
 - REA 04 pages 8 - 9
- **Assembly of crimping pins**
 - crimping pincer page 10
 - tools for assembly and disassembly of the pins in the inserts page 10
- **Principles of assembly** page 11

Housing features

A modular design making possible a large number of combinations.

- 3 standard dimensions: REA 02, REA 03 and REA 04
- 2 types of back adaptor: 1 - connection of cable either straight port or 90° port
..... 2 - compact connection of cable 90° port
- 4 possible orientations of back adaptors on each model
- Connection of cable: PG 21, PG 29, PG 36, PG 42, NPT 3/4, NPT 1
..... M 25, M 32, M 40, M 50 depending on model
- Housing: aluminium
..... composite material on request
- Sealing by O-ring seal
- Installation of back adaptors via 4 captive screws
- Earth screw included

Insert features

- Insulation support:
 - black NBR synthetic rubber
 - Silicone on request
- No. of pins: 4 to 72 depending on model

Min. / max. working temperatures

- Insert:
 - black NBR synthetic rubber - 20 °C to + 100 °C
 - Silicone - 10 °C to + 180 °C
- Tightness seals:
 - Nitrile (NBR) - 10 °C to + 100 °C
 - Fluorocarbon (FPM) - 10 °C to + 200 °C

Crimped pin features

Excellent resistance to temperature and very good resistance to vibration.

The crimping pins can also be soldered.

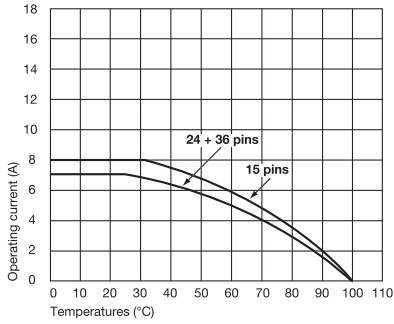
- CuZn silver alloy as standard
Gold plated pins as option: add code **/D** to insert part numbers
- Smooth pins
- Sockets with laminar contacts
- Current for each pin in use: 10 to 110 A depending on model and wire section
- Voltage: 42 to 550 V
- Cross section of swaged wire: 0,5 mm² to 16 mm² depending on model

Conformity to standards

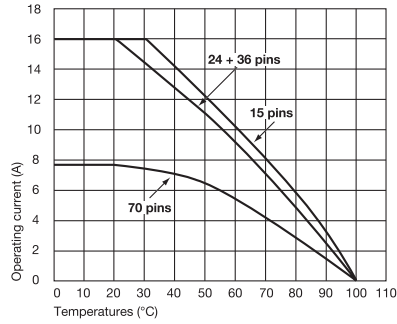
- Housing protection category in connected position: **IP 67** according to NF EN 60 529 and CEI 529 standards
- Leakage distance, air gap: according to NF EN 60 664-1 and CEI 664 standards
- Degree of insulation and resistance to test finger (socket side): according to NF EN 60 529 and CEI 529 standards

Derating diagrams

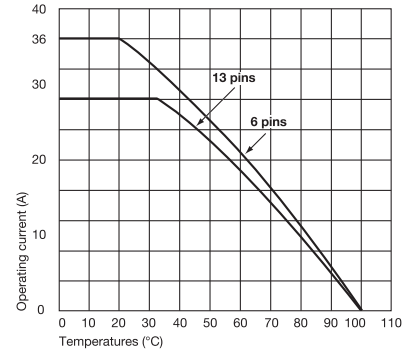
Contacts: 1,5 / 2 mm
Connection wire section: 0,75 / 1 mm²



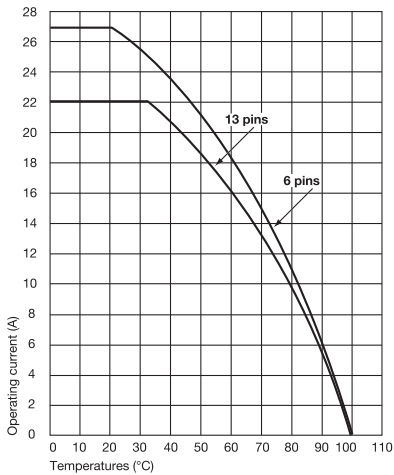
Contacts: 1,5 / 2 mm
Connection wire section: 1,5 mm²



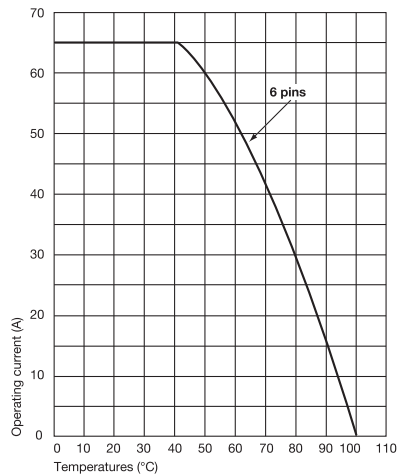
Contacts: 3 mm
Connection wire section: 4 mm²



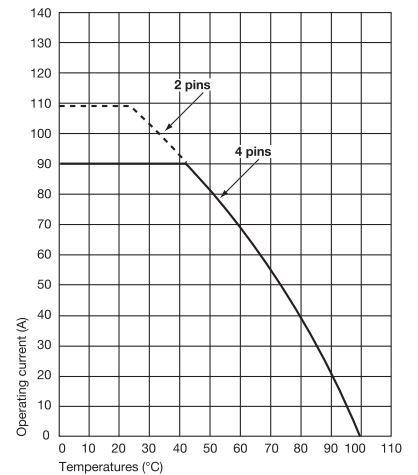
Contacts: 3 mm
Connection wire section: 2,5 mm²



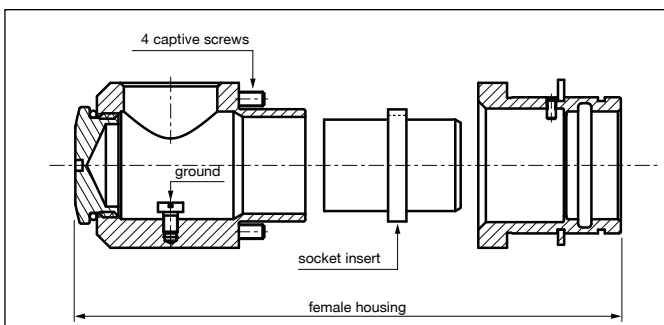
Contacts: 5 mm
Connection wire section: 10 mm²



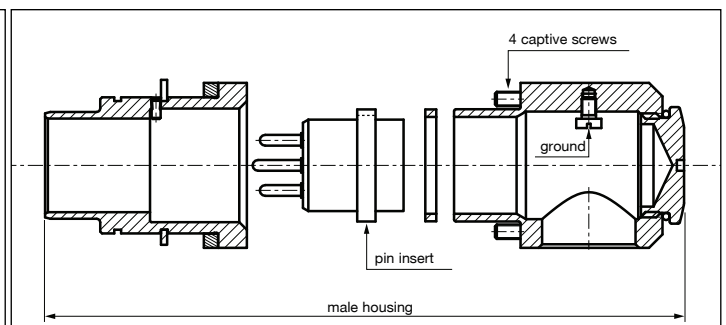
Contacts: 6 mm
Connection wire section: 16 mm²



Instructions for installation of socket inserts into female housings

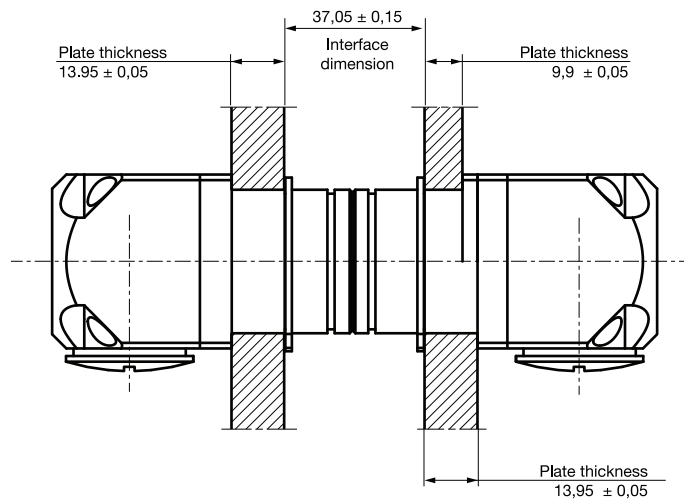


Instructions for installation of pin inserts into male housings



REA electrical connectors

Part-numbers



REA 02 housings only - straight or 90° port

Female housing		Male housing	
End connection		Female housing (without insert)	Male housing (without insert)
Ø A	Ø B	Plate thickness (mm)	PART-NUMBERS
PG 21	PG 21	10	REA 02.4002 / 10
		14	REA 02.4002 / 14
NPT 3/4	NPT 3/4	10	REA 02.4202 / 10
		14	REA 02.4202 / 14
M 25 x 1,5	M 25 x 1,5	10	REA 02.4302 / 10
		14	REA 02.4302 / 14

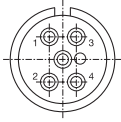
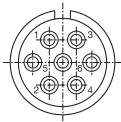
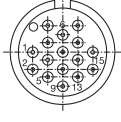
Ø A delivered without cap and Ø B delivered with metal cap

REA 02 compact housings only - 90° port

Female housing		Male housing	
End connection		Female housing (without insert)	Male housing (without insert)
Ø A	Ø B	Plate thickness (mm)	PART-NUMBERS
-	PG 16	10	REA 02.4012 / 10
		14	REA 02.4012 / 14

Optional Fluorocarbon (FPM) seals are available on all the models: add /JV code to the part-numbers mentioned above

REA 02 housing inserts

Inserts	No of pins	Ø pins or sockets (mm)	Current for each pins in use (A)	Voltage (V)	Section of connection wire (mm ²)	PART-NUMBERS	
						socket inserts	pin inserts
	5 (4 + ground)	3	27 per pin	400	2,5 - 4	REA 12.1002.0530	REA 12.6002.0530
	7 (6 + ground)	3	27 per pin	400	2,5 - 4	REA 12.1002.0730	REA 12.6002.0730
	16 (15 + ground)	1,5	16 per pin	250	0,5 - 1,5	REA 12.1002.1615	REA 12.6002.1615
		2	16 per pin	250	0,5 - 1,5	REA 12.1002.1620	REA 12.6002.1620

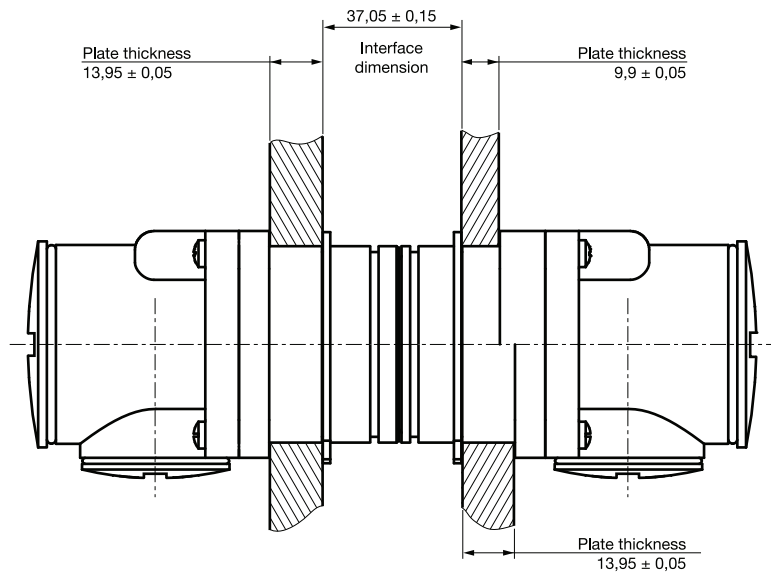
Gold plated pins: add code /D to part-numbers above

Spared silvered pins

Ø socket or pin (mm)	Section of connection wire (mm ²)	PART-NUMBERS socket insert	PART-NUMBERS spare socket	PART-NUMBERS male insert	PART-NUMBERS spare pin
3	2,5 - 4	REA 12.1002.0530	R 157 972 30		
				REA 12.6002.0530	R 157 970 30
		REA 12.1002.0730	R 157 972 30		
				REA 12.6002.0730	R 157 970 30
1,5	0,5 - 1,5	REA 12.1002.1615	R 157 972 15		
				REA 12.6002.1615	R 157 970 15
2	0,5 - 1,5	REA 12.1002.1620	R 157 972 20		
				REA 12.6002.1620	R 157 970 20

REA electrical connectors

Part-numbers



REA 03 housings only - straight or 90° port

End connection		Plate thickness (mm)	Female housing (without insert)	Male housing (without insert)
Ø A	Ø B		PART-NUMBERS	PART-NUMBERS
PG 36	PG 29	10	REA 03.2002	REA 03.4002 / 10
		14		REA 03.4002 / 14
NPT 1	NPT 1	10	REA 03.2202	REA 03.4202 / 10
		14		REA 03.4202 / 14
M 40 x 1,5	M 32 x 1,5	10	REA 03.2302	REA 03.4302 / 10
		14		REA 03.4302 / 14

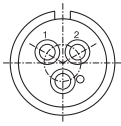
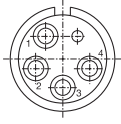
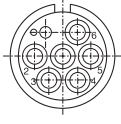
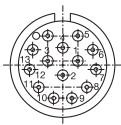
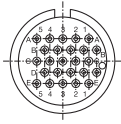
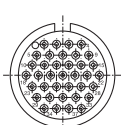
PG 36 : delivered with plastic cap - PG 29 : delivered with metal cap - NPT 1 : Ø A delivered without dust cap and Ø B delivered with metal cap
M 40 and M 32 : delivered with metal caps

REA 03 compact housings only - 90° port

End connection		Plate thickness (mm)	Female housing (without insert)	Male housing (without insert)
Ø A	Ø B		PART-NUMBERS	PART-NUMBERS
-	PG 21	10	REA 03.2012	REA 03.4012 / 10
		14		REA 03.4012 / 14

Optional Fluorocarbon (FPM) seals are available on all the models: add /JV code to the part-numbers mentioned above

REA 03 housing inserts

Inserts	No of pins	Ø pins or sockets (mm)	Current for each pin in use (A)	Voltage (V)	Section of connection wire (mm ²)	PART-NUMBERS	
						female inserts	male inserts
	3 (2 + earth)	6	110 per pin	550	16	REA 13.1002.0360	REA 13.6002.0360
	5 (4 + earth)	6	90 per pin	400	16	REA 13.1002.0560	REA 13.6002.0560
	7 (6 + earth)	5	63 per pin	400	10	REA 13.1002.0750	REA 13.6002.0750
	14 (13 + earth)	3	36 per pin	400	2,5 - 4	REA 13.1002.1430	REA 13.6002.1430
	25 (24 + earth)	1,5	16 per pin	250	0,5 - 1,5	REA 13.1002.2515	REA 13.6002.2515
	37 (36 + earth)	1,5	16 per pin	250	0,5 - 1,5	REA 13.1002.3715	REA 13.6002.3715
		2	16 per pin	250	1,5 - 2,5	REA 13.1002.3720 *	REA 13.6002.3720 *

Gold plated pins: add code /D to part-numbers above

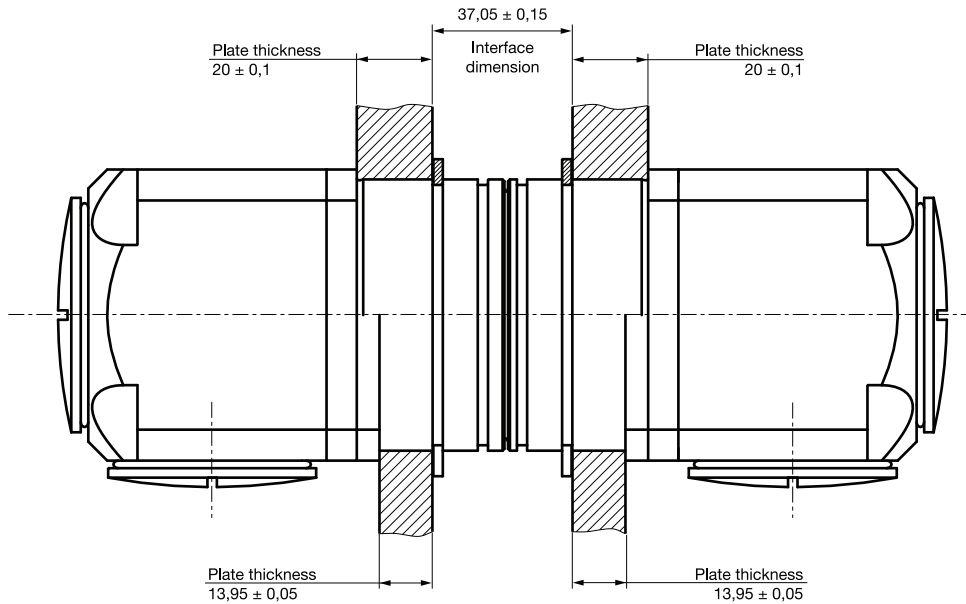
* Inserts in Silicone

Spare silvered pins

Ø socket or pin (mm)	Section of connection wire (mm ²)	PART-NUMBERS female insert	PART-NUMBERS spare socket	PART-NUMBERS male insert	PART-NUMBERS spare pin
6	16	REA 13.1002.0360	R 157 972 60	REA 13.6002.0360	R 157 970 60
		REA 13.1002.0560	R 157 972 60	REA 13.6002.0560	R 157 970 60
5	10	REA 13.1002.0750	R 157 972 50	REA 13.6002.0750	R 157 970 50
		REA 13.1002.1430	R 157 973 30	REA 13.6002.1430	R 157 971 30
1,5	0,5 - 1,5	REA 13.1002.2515	R 157 972 15	REA 13.6002.2515	R 157 970 15
		REA 13.1002.3715	R 157 972 15	REA 13.6002.3715	R 157 970 15
		REA 13.1002.3720	R 157 973 20	REA 13.6002.3720	R 157 971 20

REA electrical connectors

Part-numbers



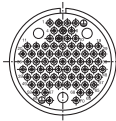
REA 04 housings only - straight or 90° port

End connection		Plate thickness (mm)	Female housing (without insert)	Male housing (without insert)
Ø A	Ø B		PART-NUMBERS	PART-NUMBERS
PG 42	PG 36	14	REA 04.2002	REA 04.4002 / 14
		20	REA 04.2002 / 20	REA 04.4002 / 20
M 50 x 1,5	M 40 x 1,5	14	REA 04.2302	REA 04.4302 / 14
		20	REA 04.2302 / 20	REA 04.4302 / 20

PG 42 and PG 36 delivered with plastic caps - M 42 and M 36 delivered with 2 metal caps

Optional Fluorocarbon (FPM) seals are available on all the models: add **/JV** code to the part-numbers mentioned above

REA 04 housing inserts

Inserts	No of pins	Ø pins or sockets (mm)	Current for each pin in use (A)	Voltage (V)	Section of connection wire (mm ²)	PART-NUMBERS	
						female inserts	male inserts
	72 (70 + 2 grounds)	1,5	16 par contact	250	0,5 - 1,5	REA 14.1002.7215	REA 14.6002.7215

Gold plated pins: add code /D to part-numbers above

Spare silvered pins

Ø socket or pin (mm)	Section of connection wire (mm ²)	PART-NUMBERS female insert	PART-NUMBERS spare socket	PART-NUMBERS male insert	PART-NUMBERS spare pin
1,5	0,5 - 1,5	REA 14.1002.7215	R 157 972 15		
				REA 14.6002.7215	R 157 970 15

REA electrical connectors

Assembly of crimped pins

Crimping of pins

- Crimping of pins is easily undertaken with a crimping pincer



Section of connection wire (mm²)	0, 5 - 0,75 - 1 1,5 - 2,5 - 4
PART-NUMBERS	REA 13.9092.50



Delivered with 3 crimping matrix

Section of connection wire (mm²)	6 - 10 - 16
PART-NUMBERS	REA 13.9092.60

Assembly and disassembly of the pins in the inserts

- Assembly and disassembly require the use of special tools.



Assembly tools for pins and sockets

Ø pins and sockets (mm)	PART-NUMBERS
1,5 - 2	REA 13.9002.20
3	REA 13.9002.30
5	REA 13.9002.50
6	REA 13.9002.60



Pin disassembly tools

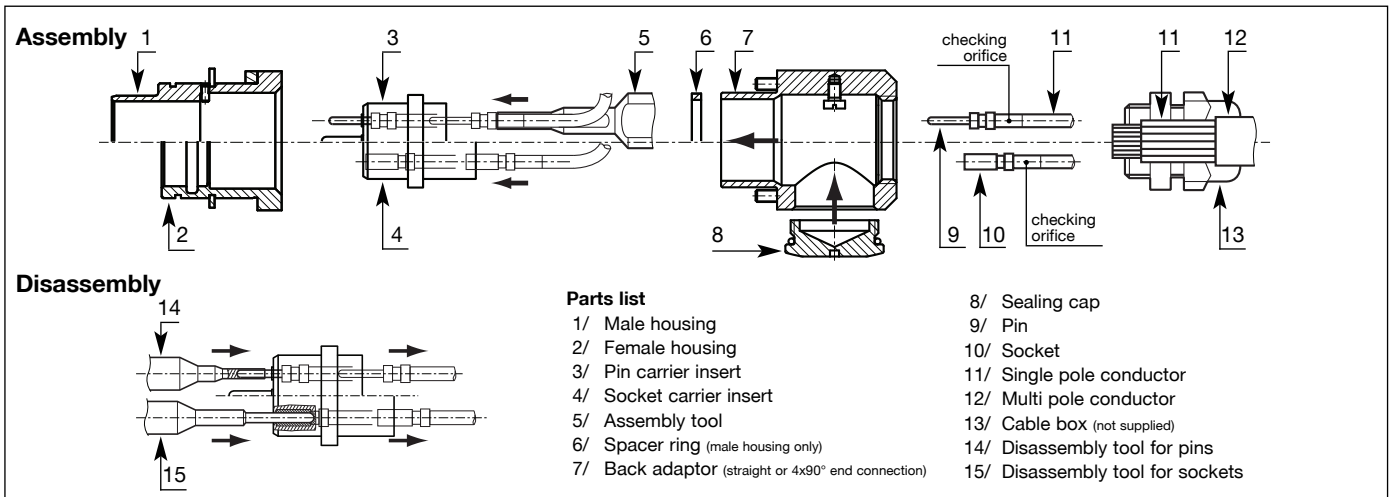
Ø pins (mm)	PART-NUMBERS
1,5	REA 13.9012.15
2	REA 13.9012.20
3	REA 13.9012.30
5	REA 13.9012.50
6	REA 13.9012.60



Socket disassembly tools

Ø sockets (mm)	PART-NUMBERS
1,5	REA 13.9022.15
2	REA 13.9022.20
3	REA 13.9022.30
5	REA 13.9022.50
6	REA 13.9022.60

Principles of assembly



Assembly of crimped pins into inserts

- Feed the cable through the cable box, the back adaptor of the housing (straight or 90°) and the spacer (male housing only).
- By hand, put the contacts (pins or sockets) in place in their respective inserts. The contacts must be inserted from the back (larger diameter contact hole side).

- For multi pole inserts with a lot of contacts : position the contacts row by row, starting from the middle.
- After putting in place by hand, completely slide the contacts into the insert using the appropriate assembly tool (see part-numbers on table page 10).

- The assembly tools are supported against the back flange of the contact.
- When assembling (or disassembling) keep the tool parallel to the axis of the contact hole. The contacts must be pushed into their correct positions in their holes.

Advice for assembly

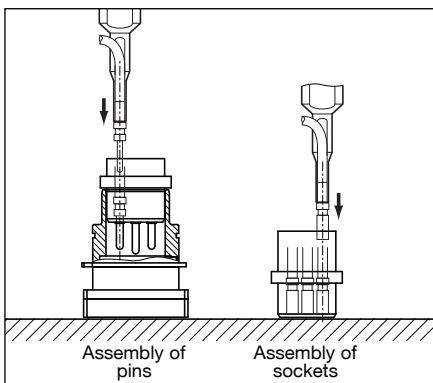
■ for the pins

introduce the front part of the pin carrier insert into the front part of the male housing.

■ for the sockets

place the socket carrier insert on a flat surface.

In the event of incorrect assembly or repair, remove and replace the contacts using the appropriate tool.



Comments:

To facilitate assembly of contacts, first dip the inserts into white spirit.

Never use grease substances or talc.

Checking of assembly

■ Contacts up to 2 mm Ø

all pins stick out of the inserts by the same amount except the earth pin which is 2 mm longer. All the sockets stick out by the same amount.

■ Contacts of 3 mm Ø and over

all pins and sockets stick out from the inserts by the same amount except the earth socket which extends beyond the other sockets by 2 mm.

The incorrectly positioned contacts (pins or sockets) must be repositioned using the appropriate assembly or disassembly tool.

⚠ IMPORTANT!

Put dust caps into the unused contact holes.

No lubrication of the sockets is required.

Assembly of inserts into housings

Introduce the insert equipped with all its contacts into the front part of the housing making sure the lug is correctly positioned in its groove.

Screw on the back adaptor (4x90° orientations are possible) and the stuffing plug. When screwing down the cable with the stuffing plug, take care not to stretch the wires.

Put the sealing cap into the unused threading. The connectors are ready to be installed onto the multi-coupling plates.

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