6.31 Retro fitting of PC Communication for CONVOTHERM OS

Information - Requirements for the Retro-fit:

® CONVOTHERM combination oven steamer OSC / OSP / OSG
® Retro fitting set for PC Communication (see table)

Description	Article-No.	Required amount
Stand Alone System		
Soft- and Hardware for the PC PC-Control Stand Alone System PC HACCP Stand Alone System Connection cable with Sub-D-plug	 500 92 17 500 92 18 500 93 15	1 x each per single installation (contains software and connecting cable; interface is already present on Control module) 1 x if a Communication module is fitted
Network System		
Hardware for combination oven steamer Communication module Connection cable for a Network	 500 93 17 500 91 58	 1 x for every unit Give length in meters necessary to connect all combination oven steamers in a network together.
Hardware for PC PC- Converter	 500 92 15	1 x when upgrading your Stand Alone System to a Network System with the same software
Soft- and Hardware for the PC PC-Control Network System PC HACCP Network System	 500 92 16 500 92 19	 1 x for a Network System 1 x for a Network System
Software Software PC-Control Upgrade Version	 500 92 14	 1 x when upgrading your CONVOTHERM PC-HACCP to PC-Control

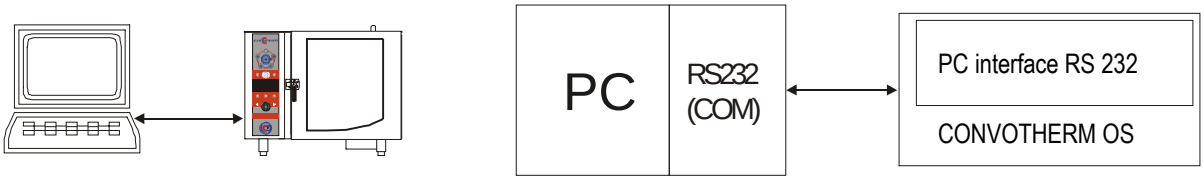
Safety advice:

® For retro fitting the Communication module or fitting the connection cable, make sure that the main power supply is disconnected (An all-pole isolation switch with a minimum contact opening of 3mm must be located close to the unit – on site) and ensured against switching on again.
® This work should only be performed by a CONVOTHERM-trained electrician

6.31.1 Stand alone System (possible without Communication module)

Information:

® The Convotherm OS can be connected to a PC using "Stand Alone System". In this case no Communication module **1** is required, as the RS232 interface is present on the Control module **6** (= slot **X5** into which the Communication module can also be inserted). If a Communication module is present, a special connection cable with a 9-pin Sub-D-plug **4** is required. This is then plugged into the Communication module **1**.
® In the Stand Alone System one combination oven steamer can be connected to a serial interface (COM port) of the PC. Cooking processes can be documented with the *CONVOTHERM PC HACCP software* or stored programs that were created with the *CONVOTHERM PC Control software* can be transferred to the combination oven steamer.



Attention:

® The length of the connection cable between the combination oven steamer and the PC should not exceed 12m, otherwise proper data transfer can't be guaranteed.

Instructions - Connection to a PC with a „Stand Alone System"

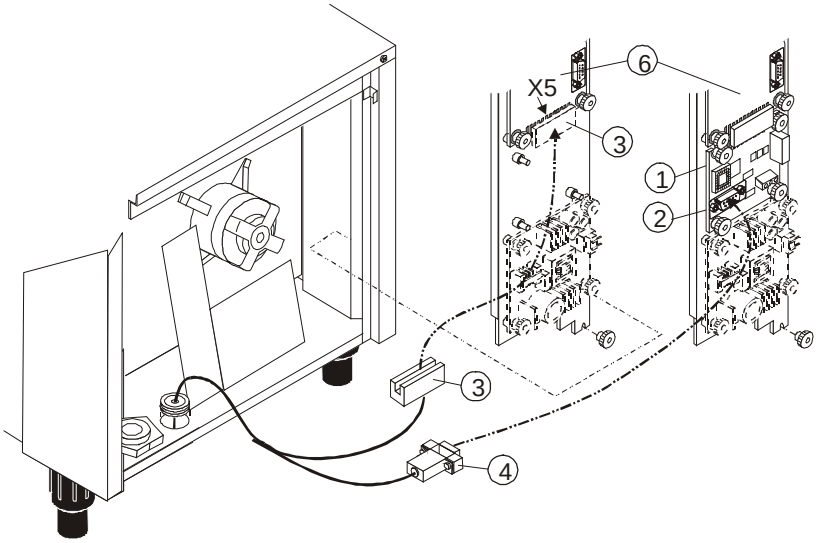
® Insert the 12 pole flat plug **3** of the connection wire into the combination oven steamer:

– On electrical units insert the plug without the casing through the hole for the energy management system then reattach the casing of the plug and close the hole with a rubber bushing.

– On gas units run backwards the cable along the wires for the oven lights, fixing it 2 - 3 times along its length with cable fasteners. On the OSG 6.10/10.10 run the cable behind the solenoid valve between the rear wall and the base/leg bulkhead out of the unit. On the OSG 12.20 feed the connection cable between the rear wall and the additional burner insulation out of the unit. On the OD 20.20gas a hole is located in the burner bulkhead trough which the oven light cables pass. Push the plug of the connection cable through this hole towards the back, then out of the unit between the rear wall and the inner casing.
To prevent damage due by pulling on the cable fix the cable with a cable fastener using the hole close to the rear left hand side foot.
>> Attention<< Do not run the cable close to the gas burner!

® Plug in the connector at the bottom of the Control module **6** (slot **X5** where the Communication module is inserted).

® Connect the connection cable to a free COM interface on a PC and switch on the combination oven steamer.

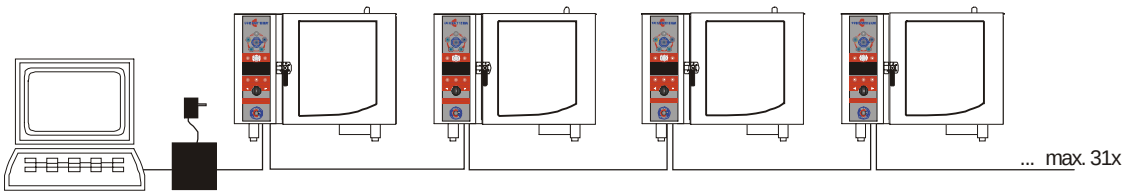


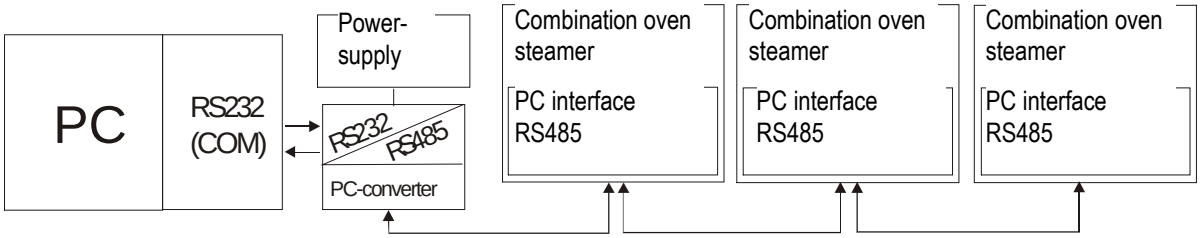
1 = Communication module
2 = RS232 interface on the Communication module
3 = 12-pin flat plug
4 = 9 pole SUB-D plug
5 = Control module
X5 RS232 interface on the - Control module

6.31.2 Network System (each Unit needs a Communication module)

Information:

The network system can manage 31 combination oven steamers. The network can be connected with a PC interface to a free serial interface of the PC via a PC converter. All of the combination oven steamers are connected together. For this purpose every oven must have a Communication module with the network cable attached.





To connect up a network the following steps must be followed:

® On all units without Communication module retrofit it.
® Connect PC - PC-converter
® Connect the individual units to one another
® On the last unit activate the end terminal of the network

Attention:

® The total cable length of the network should not exceed 1000 m. This is to guarantee proper data transfer.

Retro fitting of the Communication module

Instruction:

® Remove the side wall to the electrical connection area.
® Remove the assembly panel with the Control module and the Communication module in the connection area and lay the plates above.
® Put the 4 distancing bushes **3** onto the threaded bolts provided.
® Plug the green connection plug **11** above onto the Communication module **10**.
® Slide the Communication module **10** on a slant onto both upper threaded bolts and plug into the connection plug under on the Control module. Place the plate exactly and evenly onto the bolts **6**.
® Tightly screw on the 4 knurled nuts **4**.
® Plug the connection cable into the Communication module **10** (see lower)
® Re-assemble the Assembly panel **1** with the Controls into the service chamber and plug in all plugs.

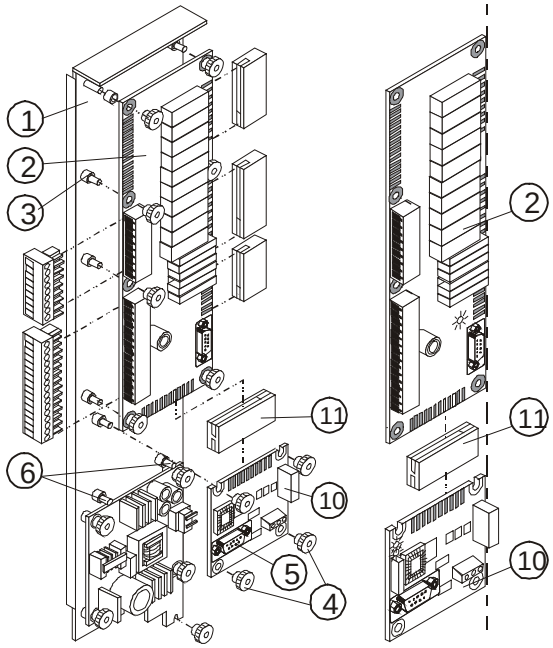
Check:

® When the green or red LED blinks during a transfer of data, then the Communication module is operating correctly.

Notice:

® As an alternative, the Control module **2** and the Communication module **10** can be assembled together. To do this, disassemble the Control module **2**, plug the connection plug **11** into the Control module **2**, place the two controls on an edge and slide together. Then assemble both Controls onto the Assembly panel **1**.

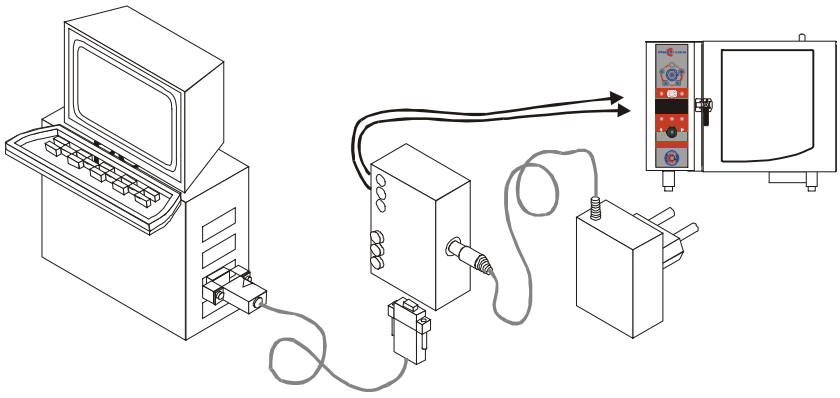
1 = Assembly panel
2 = Control module
3 = Distancing bushes
4 = Knurled nuts
5 = 9-pole interface plug
6 = Lower fastening bolts of Communication module
10 = Communication module
11 = Connection plug



Connection PC - PC-converter

Instruction:

® Connect the connection cable PC - PC-converter to a free series interface on
® Connect the connection cable to the 9 pole connector on the PC-converter.
® Connect the power supply to the PC-converter.



Connecting the individual units to one another

Attention:

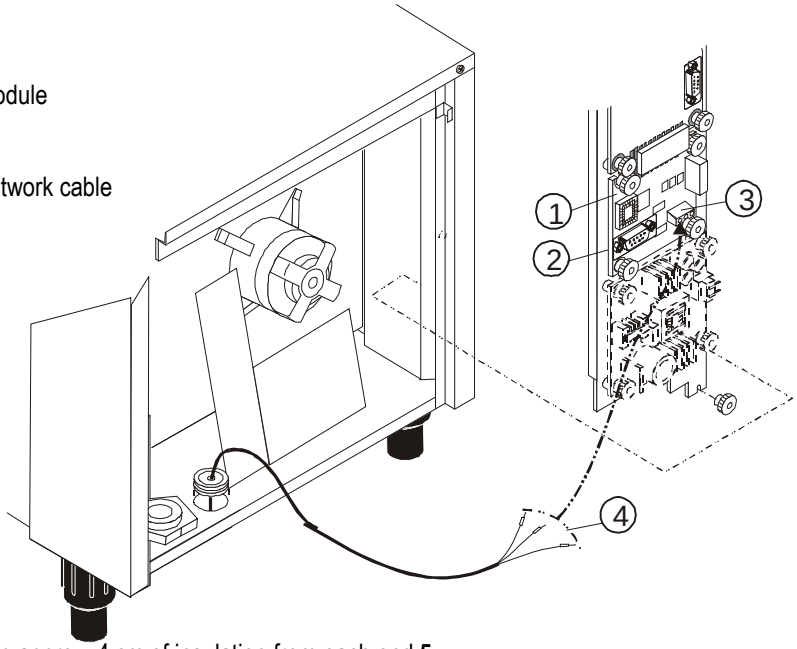
® Throughout the whole network the connections to A and B should not be switched, this means throughout the whole network the same coloured wire must be connected to A and B.

Instruction:

® Measure the required cable length between two combination ovens and cut the shielded 2-core network cable to the required length (The network cable is sold by the metre).

® Feed both cables (Cable from previous unit (on 1st unit PC interface) and the cable to the next unit) into the combination oven steamer: On electrical units through the hole for the energy management system and on gas units at the back between the rear wall of the unit and the feet.((see 6.31.1 Stand Alone System)

1 = Communication module
2 = RS 232 interface
3 = RS 485 interface
4 = Shielded 2-core network cable



® On both cables strip approx. 4 cm of insulation from each end **5**.

® Untwist the braided shielding cable and remove its foil protection **5**.

® Connect both of the shielding cables together **6**.

® Using an additional length of wire (eg. length of the network cable) approx. 6 cm long, stripped of insulation top and bottom approx. 1cm.

® Attach one end of the cable along with the shielding cable in a 4² ferrule and crimp the wires together as in the drawing **6**. Bend the shielding wires down away from the end.

® Fasten the connecting cable and the shielding cables using a cable tie as in the diagram **7**.

® Strip the 4 ends of both of the cables and pair them together matching the colours **7**.

® On the ends of the twisted together cables and on the end of the additional cable = shielding cable, crimp on ferrules **7**.

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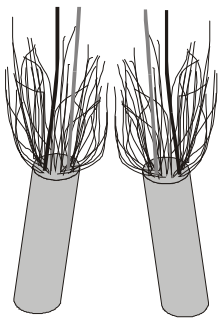

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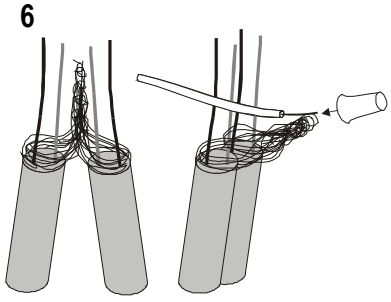

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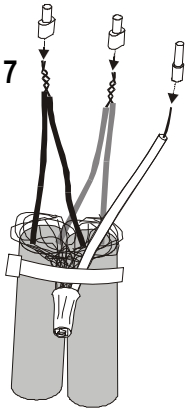
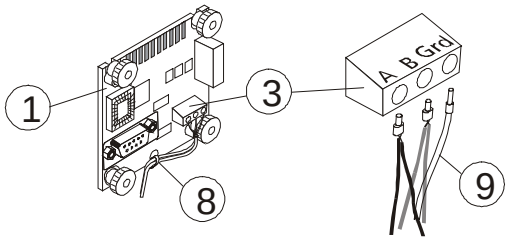


® Tie both cables to the fastening point **8** on the Communication module **1** using a cable tie.

® Attach the shielding cable **9** to the shielding connection (Grd) of the RS485 clamp **3**.
® Throughout the whole network connect the same coloured wire to A and B. Take care that the ferrules sit properly in the clamps (The ferrules should not stick out of the casing more than 1mm).



® On the first unit one of the cables is connected to the PC - converter . Connection of the wire is also carried out as above.
® The network is formed by looping a network lead **4** to the next/previous unit and making a connection there to the RS485 interface on the Communication module.
® In the last unit, only an incoming wire enters into the unit, no cable is connected that go's out of the unit. The connections to the RS485 interface on the Communication module are carried out using the same procedure as described above.

In the last unit terminate the end of the network

Instruction:

® Above the RS485 clamp there are the three terminating resistors to terminate the network.
® Use pliers to set the 3 jumpers = jumper sits on both pins (see drawing).
® In all the other units the network termination remains opens = jumper sits on one pin only and the other pin remains visible.