Electronic Intelligent Controls, S.L. C/ Murcia, 35 F
08830 Sant Boi de Llobregat Barcelona, Spain
Tel.: +34 93 652 55 21 Fax: +34 93 652 55 22
www.e-controls.es info@e-controls.es

e-Room Plus®

CLIMATE CONTROLLER FOR LONWORKS NETWORKS®
Product Reference No.: RP.626601-000

Instruction Sheet

- **Two operating modes: stand-alone / network based (LonWorks®)**
- **5 inputs (3 digital / 2 analogue)**
- **6 relay outputs**
- **Wide blue backlit LCD**
- **Infrared receiver**
- **Manual configuration by jumpers (stand-alone mode)**

Product Description

e-Room Plus® is an electronic unit for room or zone climate control that integrates into a single device all the necessary inputs and outputs for fan coil and valve actuator control, together with a keypad, screen, temperature sensor and remote control LonWorks® network. The device features in a single unit all required elements for climate control. e-Room Plus® includes more inputs and outputs than its predecessor, the e-Room® Classic, which allows additional functions such as lighting and blind control, amongst others.
e-Room Plus® features:

- Inputs: key card reader, window contact, water sensor, external sensor, lighting auxiliary.
- Relay outputs: 3 fan coil speeds, valve actuators for 4 pipe systems, lighting auxiliary.
- May operate as stand-alone (no connection to LonWorks® network required).
- 6 possible operating modes: Hotel, Residence and Office, for 2 pipe and 4 pipe systems.
- Energy saving functions.
- Fast installation, minimal maintenance.
- Wide, aesthetically pleasing backlit LCD screen.
- ISO/IEC 14908 (LonWorks®) communication port.

Keypad Operation

When applying supply voltage to the unit
The unit always starts in the Off mode.
The front indicator LED turns on red and then changes to green. If it stays red it is showing that some anomaly exists in the device.
During the first few seconds the unit displays --- (if the ON/OFF key is pressed).

On/Off

This key switches the HVAC function, switching the screen on and off in turn.
In the HOTEL operating modes the HVAC function will not switch on until occupancy is detected.

Fan

This key allows selecting sequentially the three fan coil speeds and the AUTO mode by pressing repeatedly. Two modes may be selected: AUTO and MANUAL.

AUTO: "AUTO" is displayed on the screen together with a bar graph showing current speed.
Fan speed is automatically determined by the controller based on climate needs.
MANual: the user sets the desired fan speed.

Increase/decrease setpoint value

Setpoint value may be increased or decreased up or down to the preset limits.
If these keys are not pressed again during 5 seconds or a different key is pressed, the unit returns to the standby mode and displays either temperature or setpoint value, based on its configuration.
After 10 seconds, the screen backlight goes off.

Cool/Warm (optional key, depending on product version)
When the controller is in the AUTO mode, pressing this key will toggle between "Cool" output and "Warm" output. Otherwise it will have no effect.

Unit Configuration & Operating Mode

The device is supplied as stand-alone (non network configured).

Sequence on applying supply voltage:

The front indicator LED turns on RED and then changes to GREEN.

STAND-ALONE mode:

On applying supply voltage to the unit, configuration data from the jumpers on the back side are read and the unit becomes configured accordingly. It is essential to place jumpers correctly prior to applying supply voltage to the unit.

INT/EXT jumper: selects internal (device front panel) or external (terminals 7-8: Amb. Temp.) sensor.

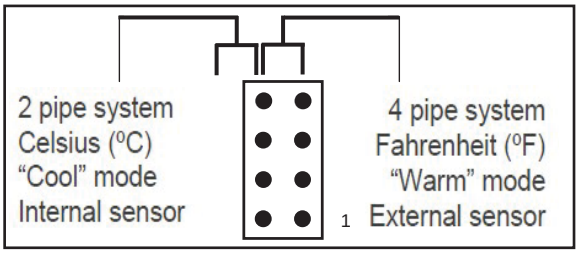
COOL/WARM jumper: selects device startup mode.

ºC/ºF jumper: select temperature measurement unit.

4P/2P jumper: configures the unit to operate in 4 pipe or 2 pipe mode.

Current, maximum and minimum setpoints are obtained from a preconfigured table.

NETWORK (LonWorks®) mode:
When installing (commissioning) the device with an installation tool for LonWorks networks, the unit is configured as follows:
Unit operating mode is determined based on the value established in the nciApplication variable.



Jumper configurable operating mode selection

The unit always starts up in the "Warm" mode.
INT/EXT jumper: selects internal (device front panel) or external (terminals 7-8: Amb. Temp.) sensor.
nciConfig.bit0 establishes temperature measurement unit.
Current setpoint is obtained from the nciSetPnts.occupied_heat and nciSetPnts.occupied_cool variables.
Maximum setpoint is obtained from the nciMaxSetPoint variable.
Minimum setpoint is obtained from the nciMinSetPoint variable.
For both modes:
Current operating mode: Off (HVAC_OFF).
Previous operating mode: Automatic (HVAC_AUTO).
Unit identification Wink network message:
On receiving a "wink" command, the display will light up during 2 seconds.

Installation Instructions

-Install Simon® universal flush mount back boxes joined.

-Break intermediate divisions.

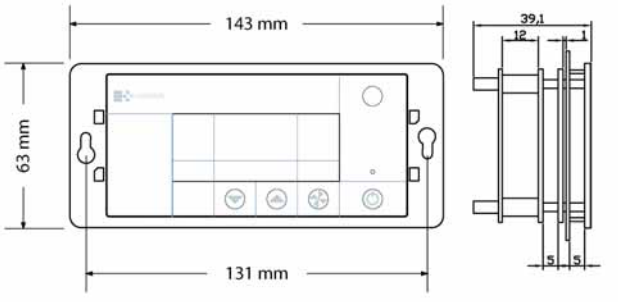
-Wire outputs through the top and supply, communication and inputs through the bottom, using 25 or 16 mm conduit pipe.

-Connect wires to terminals based on configuration (refer to Application Notes).

Recommendations:
Cut off the excess pipe running into the boxes.
Leave minimum amount possible of wires inside the box.

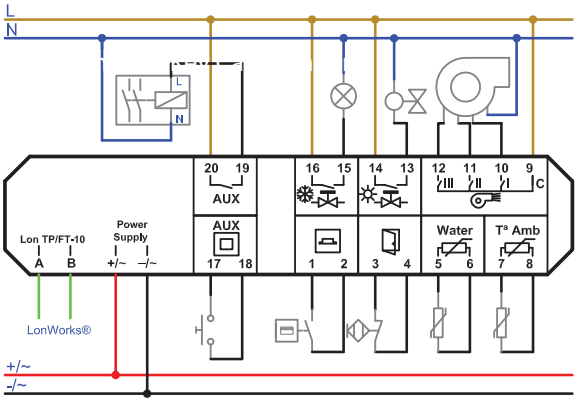
Caution:
Prior to installing or removing the device, ensure that there is no mains voltage present in the wiring to be connected or near the unit.
Do not cut or wind network cables that are wired to the unit.
Do not work on the wiring with wet hands.
Do not open or pierce the unit.
Keep the device and the supply wires away from moisture and dust.
Use a damp cloth to clean the device.

Dimensions



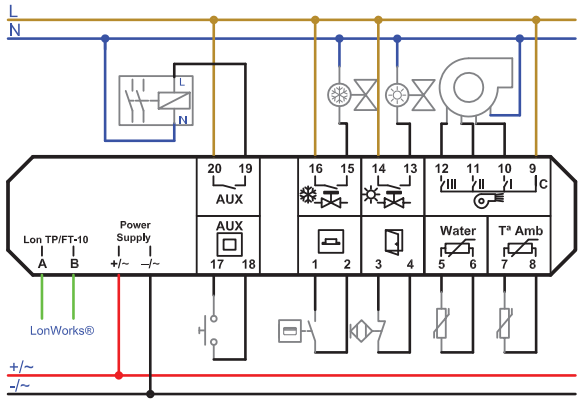
Frame: Simon® ref. 82854-33 (not included)
Flush mount back box (not included):
- For accesible side walls: Simon® ref. 31710-61 (2 off)
- For hollow partition walls: Simon® ref. 31722-61 (2 off)

Room with 2 Pipe System and Key Card Reader



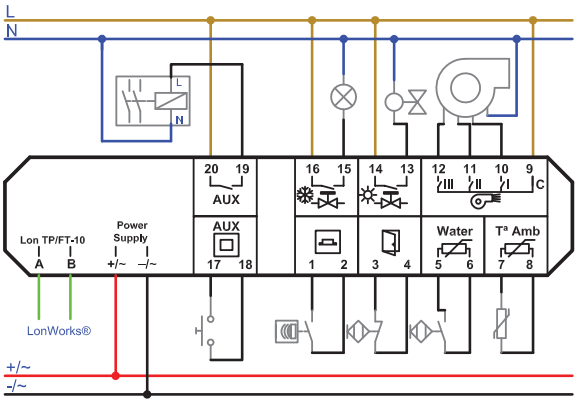
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NO Key Card Reader Contact
3 4	NC Window Contact
5 6	Water Sensor / Aux. Input 2
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Valve Actuator
16 15	Courtesy Lamp
17 18	NO Lighting Pushbutton
20 19	NO Lighting Contactor

Room with 4 Pipe System and Key Card Reader



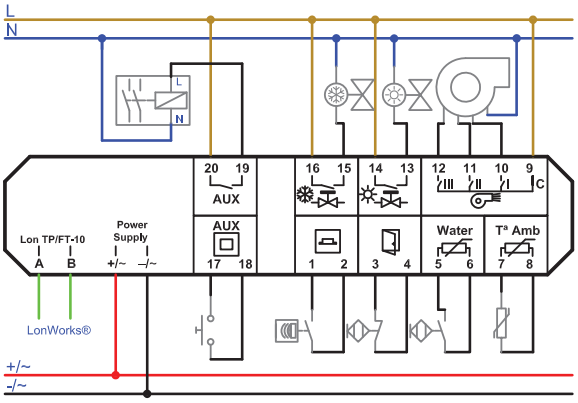
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NO Key Card Reader Contact
3 4	NC Window Contact
5 6	Water Sensor / Aux. Input 2
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Warm water Valve Actuator
16 15	Cool water Valve Actuator
17 18	NO Lighting Pushbutton
20 19	NO Lighting Contactor

Room with 2 Pipe System and Presence Detection



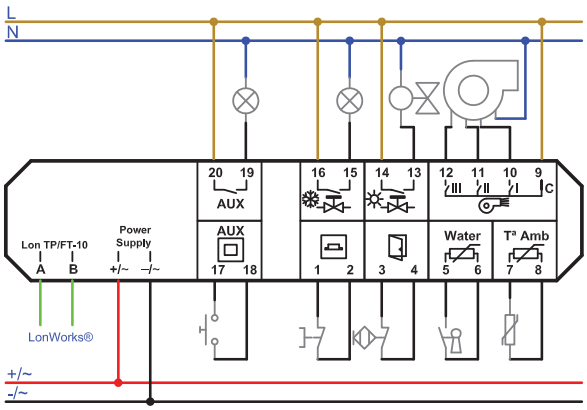
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NO Presence Detector Contact
3 4	NC Window Contact
5 6	NO Door Contact
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Valve Actuator
16 15	Courtesy Lamp
17 18	NO Lighting Pushbutton
20 19	NO Lighting Contactor

Room with 4 Pipe System and Presence Detection



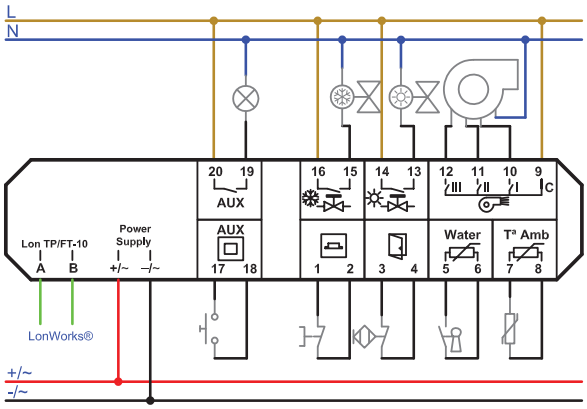
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NO Presence Detector Contact
3 4	NC Window Contact
5 6	NO Door Contact
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Warm water Valve Actuator
16 15	Cool water Valve Actuator
17 18	NO Lighting Pushbutton
20 19	NO Lighting Contactor

2 Pipe System and Open Window Detection



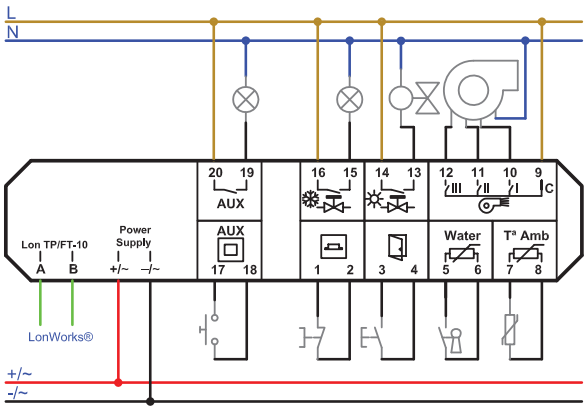
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NC Antipanic Handle Pushbutton
3 4	NC Window Contact
5 6	Antipanic Reset Key Contact
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Cool/Warm Valve Actuator
16 15	Overdoor Lamp
17 18	NO Nurse Call Pushbutton
20 19	Alarm Annunciator Lamp

4 Pipe System and Open Window Detection



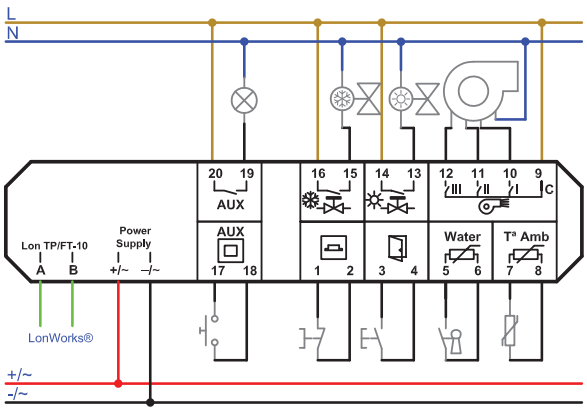
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NC Antipanic Handle Pushbutton
3 4	NC Window Contact
5 6	Antipanic Reset Key Contact
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Warm water Valve Actuator
16 15	Cool water Valve Actuator
17 18	NO Nurse Call Pushbutton
20 19	Alarm Annunciator Lamp

2 Pipe System and Bed Occupancy Detection



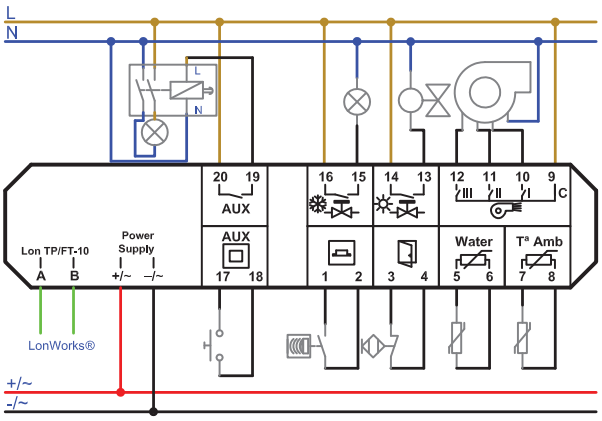
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NC Antipanic Handle Pushbutton
3 4	NO Bed Occupancy Detector Pushbutton
5 6	Antipanic Reset Key Contact
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Cool/Warm Valve Actuator
16 15	Overdoor Lamp
17 18	NO Nurse Call Pushbutton
20 19	Alarm Annunciator Lamp

4 Pipe System and Bed Occupancy Detection



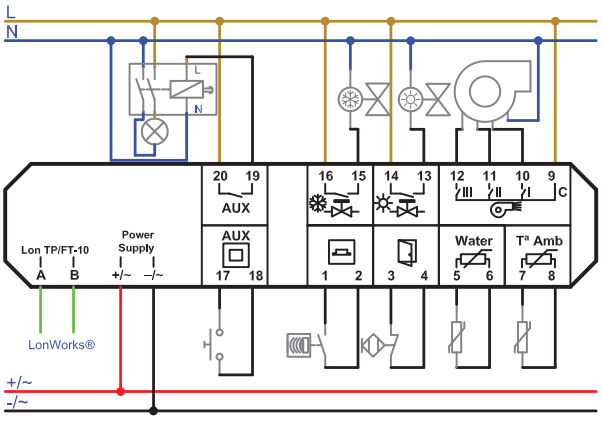
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NC Antipanic Handle Pushbutton
3 4	NO Bed Occupancy Detector Pushbutton
5 6	Antipanic Reset Key Contact
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Warm water Valve Actuator
16 15	Cool water Valve Actuator
17 18	NO Nurse Call Pushbutton
20 19	Alarm Annunciator Lamp

2 Pipe System and Lighting



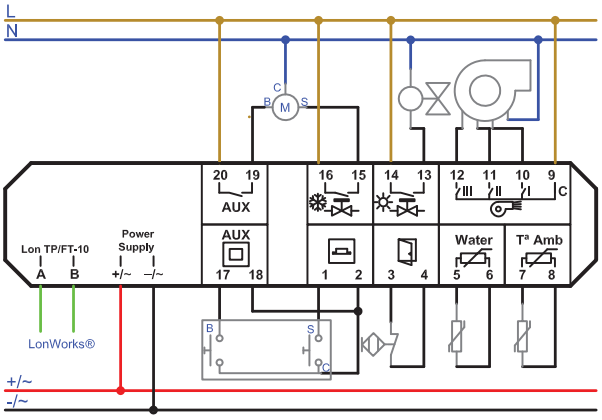
A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NO Presence Detector Contact
3 4	NC Window Contact
5 6	Water Sensor / Aux. Input 2
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Cool/Warm Valve Actuator
16 15	Presence Indicator
17 18	NO Light Pushbutton
20 19	Light Contact

4 Pipe System and Lighting



A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NO Presence Detector Contact
3 4	NC Window Contact
5 6	Water Sensor / Aux. Input 2
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Warm water Valve Actuator
16 15	Cool water Valve Actuator
17 18	NO Light Pushbutton
20 19	Light Contact

2 Pipe System and Blinds



A B	Lon TP/FT-10
L	230 Vac
N	Neutral
+/~	24 Vdc / 24 Vac
–/~	0 Vdc / 24 Vac
1 2	NO Up Pushbutton
3 4	NC Window Contact
5 6	Water Sensor / Aux. Input 2
7 8	Temperature Sensor
9	Fan Coil Common
10	Fan Speed 1
11	Fan Speed 2
12	Fan Speed 3
14 13	Cool/Warm Valve Actuator
16 15	Up Motor
17 18	NO Down Pushbutton
20 19	Down Motor

Technical Features

Supply Power
Operating voltage . . . . . 24 Vca ±20%; 50/60 Hz
24 Vcc ±20%
Maximum rated current . . . . . .120 mA

Communications
Technology . . . . . LonWorks®
Standard . . . . . ISO/IEC 14908
Protocol . . . . . LonTalk®
Transmission channel . . . . . TP/FT-10; 78 kbps
LonMark® compatible device

Contact type inputs
Open circuit voltage . . . . . 12 Vdc ±0,2 V
Short circuit current . . . . . 8 mA
Maximum open contact current . . . . . <2 mA
Minimum closed contact current . . . . . >5,5 mA

Temperature sensor inputs
Sensor type . . . . . Resistive
Sensor characteristics . . . . . Interchangeable NTC, 1%
10 kW at 25ºC (77ºF)

External sensor
Ambient temperature measuring range . . . . . +5ºC to +45ºC
(+41ºF to 113ºF)
Water temperature measuring range . . . . . +5ºC to +45ºC
(+41ºF to 113ºF)
Resolution 0,5ºC

Relay type outputs
contact type . . . . . Potential free
Normaly open
Maximum operating voltage . . . . . 250 V ca
Maximum current . . . . . 5 A, resistive load
3 A, inductive load

Device status
On / Standby / Error . . . . . Off / Green / Red
LonWorks® status (SERV.) . . . . . please refer to LonWorks®
reference manuals

Pushbuttons
+T / -T / Speed / ON-OFF / Service Pin (SERV) - back side

Temperature
Operating . . . . . 0ºC to +50ºC (32ºF to 104ºF)
Storage . . . . . -20ºC to +85ºC (-4ºF to +185ºF)

Humidity (non condensing)
Operating . . . . . 10% to 90% RH at 50ºC
Storage . . . . . 95% RH at 50ºC

Dimensions, weight and installation
Dimensions . . . . . .143x63x39 mm
Weight . . . . . 270 gr.
Installation . . . . . Flush mount
Plug-In connectors . . . . . Yes
Conductor cross sectional area . . . . . 0,5 mm^2 to 2,5 mm^2
Protection index IP20
Electrical safety . . . . . Class III

Product standard
Automatic electrical controls for household
and similar use . . . . . EN 60730-1

CE Conformity
Low Voltage Directive 2006/95/EC
Electromagnetic Compatibility Directive 2004/108/EC

Regulations
Safety . . . . . EN 60730-1
Emissions . . . . . EN 61000-6-3
Immunity . . . . . EN 61000-6-1

Product References Nos.

e-Room Plus . . . . . Ref. RP.626601-000
e-Room Plus (with COOL/WARM key) . . . . Ref. RP.626601-100

Accessories

External temperatura sensor, pure white . Ref. AC.000101-000
External temperature sensor, brushed aluminium . . . . . .
. . . . . Ref. AC.000101-001
Presence detector, pure white . . . . . Ref. DP.100100-000
Presence detector, brushed aluminium . . Ref. DP.100100-000
230 Vca/24 Vca transformer . . . . . .Ref. AC.300000-000
115 Vca/24 Vca transformer . . . . . Ref. AC.400000-000

El embalaje de este producto está considerado como envase industrial, siendo su receptor un profesional

