Telecontrol

| INOVATIONS IN HEATING CONTROL |

The future of living

Telecontrol App

setpoint temp

22°C 22.3°C inside 6.4°C outside

ON OFF PROG.

Heating Cooling

25°C **23°C**

username

password login

Remember me Forgot password?

MICRO EL

FIXED PHONE LINE MODELS
(REQUIRE FIXED PHONE LINE)

GSM MODELS
(REQUIRE STANDARD SIM CARD)

T10D

Room thermostat fully controllable via phone or cell phone
Single output 16A/250V
Room temperature and external temperature measurement
Voice menu in English (also other languages on demand)

T10D-GSM

T10DP

Room thermostat fully controllable via phone or cell phone
2 output channels 16A/250V each (1 temperature regulated)
Room temperature and external temperature measurement
7-day thermostat program
Voice menu in English (also other languages on demand)

T10DP-GSM

T18DP

Room thermostat fully controllable via phone or cell phone
Burglary alarm function with phone notification and siren output
2 output channels 16A/250V each (1 temperature regulated)
Room temperature and external temperature measurement
7-day thermostat program
Voice menu in English (also other languages on demand)

T18DP-GSM

T20DP

Room thermostat contollable via phone or cell phone
Burglary alarm function with phone notification and siren output
Heating system error alarm with phone notification
Flood, fire, carbon monoxide presence alarm with phone notification
Temperature LOW/HIGH alarm with phone notification
Power failure/restore alarm with phone notification
2 output channels 16A/250V each (1 temperature regulated)
Room temperature and external temperature measurement
7-day thermostat program
Voice menu in English (also other languages on demand)

T20DP-GSM

MICRO EL

Telemetry
Automation & Monitoring
Remote control & Regulation

Micro EL d.o.o. is a OEM/ODM manufacturer of devices for remote control, measuring, regulation, supervision and notification. Founded in 1996, specialised in the field of house automatisation, especially in heating and air-conditioning control, MICRO EL always tends to provide high end solutions. Innovative and advanced tehnology approach has resulted with variety of products tailored to meet every need.

MICRO EL products are unique on the world market according to several aspects. TELECONTROL are the only room thermostats on the market with built-in voice communication interface (communication via phone or cell phone). Furthermore, TELECONTROL T20DP comfort station covers all the aspects of secure and comfort living (notification of heating system error, power failure and power restore, burglary, fire, flood, carbon monoxide presence, natural gass leakage and temperature excess, electric). Simplicity of applied voice tehnology moves one step further to the common acceptability of modern home technic.

Few reasons why to choose MICRO EL products:

- Inovative product that will distinguish you from the competition.
- Reliability that comes from 14 years of experience in regulation and remote control.
- Customized solutions for heating systems manufacturers
- Private labeling possible.
- Universal compatibility
- 2 Year Warranty.

OTHER PRODUCTS AND ACCESSORIES

UNITHERM E2, E3
DIN Rail mount thermostat
user code for keyboard lock and for user
selectable temperature range

KTS4
extern temperature sensor
range -55°C - 125°C
cable lenght 12m, max 100m
water resistant housing

KTS5
extern temperature sensor
range -55°C - 90°C
cable lenght 12m, max 100m
wall mount enclosure

door contact | IR motion detector | MW motion detector | glass break detector | carbon monoxide detector | natural gas detector | fire detector | flood detector

Telemetry
Automation & Monitoring
Remote control & Regulation

Any time, any place, you can turn your heating on and off,
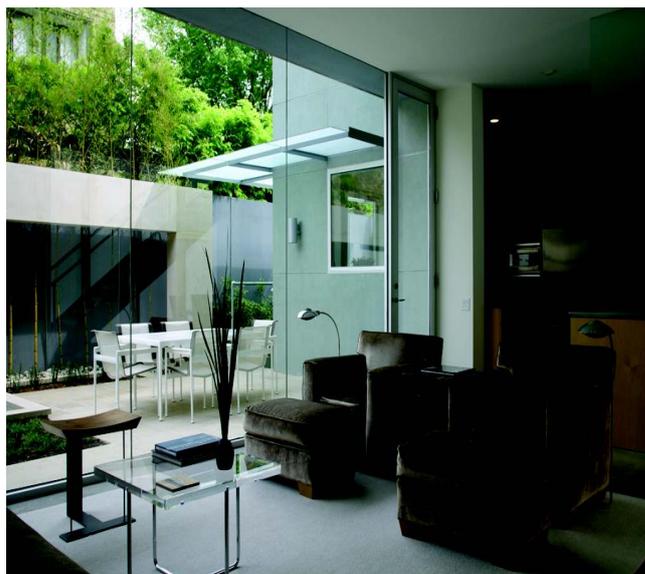you can measure and adjust the room temperature.

A PHONE CALL IS ALL IT TAKES!!!

CONTROL YOUR HEATING
VIA PHONE, MOBILE OR INTERNET!

Heating is an important aspect of the quality of life in your home, your working and any other space, and you are quite right in wanting more efficient control of its operation. The question is what is the ideal rytham of the heating, and how to reconcile the seemingly irreconcilable demands for cutting considerable heating costs with the demand for the comfort of

The time required for a house to warm up to a comfortable temperature depends on a number of factors, in particular on the quality of thermal insulation and the output of the heating system. High quality solutions should enable you to supervise your heating system wherever you may be at the moment.

TELECONTROL offers you the possibility to control your heating via telephone, mobile phone, or now even Internet. Avoid the discomfort of returning to a cold home or workplace. Call your TELECONTROL, turn on the heating on time and set the desired temperature.

TELECONTROL enables you to:
- adjust the rhythm of the heating to your everyday needs and habits
- make the precious moments in your week-end house count
- turn your living place into a comfortable environment

MICRO EL

Telemetry
Automation & Monitoring
Remote control & Regulation

N E W !!!
TELECONTROL ON THE INTERNET NOW

Now you can control your heating via GSM/voice, Internet and SMS!
TELECONTROL now offers benefits and features earlier reserved only for much more expencive equipment.
New powerful features - heating data logger for easy system performance analysis, rapid configuration,

easy setting of weekly programs for heating, air-conditioning and burglary alarms.

Very low operating cost - thanks to our dedicated TELECONTROL internet server, no need for static IP address.

TELECONTROL brings...

comfort
Remote control of the heating enables comfortable stay in a timely heated space. Weekly program feature allows optimum temperature when user behaves according to the usual schedule.

security
TELECONTROL takes care after all the aspects of secure living (detection and notification of heating system error, burglary, fire, flood, carbon monoxide presence and natural gas leakage, power failure and restore alarm). It enables home supervision and instant information sharing of any possible problem directly to user's cell phone. Timely notification makes it possible for the user to promptly react and prevent possible damage.

savings
Reduction in heating costs due to the optimized operating mode.

universality
TELECONTROL devices can be used with almost every type of heating (gas, oil, electric central heating, solar heating, floor heating, electric radiators and convectors, electric heat storage stoves, boilers, air conditioners...).

simplicity
Voice messages communication is intuitive and easy understandable to every user, without even the need for studying instruction notes. Through voice messages, the user receives informations about the status ("THE HEATING IS ON") or measured values ("THE TEMPERATURE IS 21"), confirmation of the commands executed or instructions on what to enter ("PRESS 0 TO TURN IT OFF").

usefull features...

highly integrated communication interface
TELECONTROL are the only room thermostats on the market with built-in voice communication interface. This enables the user, not only to turn on and off the heating, but also gives him the access to all the functions of the room thermostat from distance. Thus the user can measure the room temperature, adjust the room temperature, and even enter the 7-day program.

measuring the temperature
Remote temperature measuring is very practical function. It gives us information whether to turn on the heating before arrival. It also enables user to check if his heating system works properly. User can measure the temperature of the room where TELECONTROL is installed. There is also option of using external temperature sensor which allows measuring of the outer temperature at the distance up to 100 m.

programming the thermostat
Programming the thermostat (7-day program) has never been easier. Interactive voice assistant guides the user through the programming process, ensuring that every important parameter is entered. Even a person who uses the device for the first time is able to program it in 2-3 minutes, without studying the instruction notes. Voice assistant is activated by entering single command (on phone keyboard), and after that all that user has to do is answering to TELECONTROL's voice queries.Heating specialists are now able to change customers program without going out to the field.

GSM models
TELECONTROL can even work where there is no fixed line available. GSM models have a built-in GSM modul, which enables communication even in facilities without fixed telephone line. To activate TELECOTROL, it is necessary to insert a SIM card of any operator. It can be contract or pre-paid SIM card, which can easily be recharged from any cell phone.

2 channel remote control
Most TELECONTROL models have two output channels. First channel is intended for remote control and regulation of the main heating or cooling system. Second channel can be used for remote control of any other device, for example, air conditioning, alarm siren (models with burglary alarm), another heating zone, garage door, lights etc.

MICRO EL

Telemetry
Automation & Monitoring
Remote control & Regulation

TELECONTROL T10D / T10D-GSM

Room thermostat with built-in voice communication interface for remote control via phone or cell phone.

Highly integrated, built-in communication interface enables the user, not only to turn on and off the heating from the distance, but also to access all functions of room thermostat from the distance. Thus the user can measure the room temperature, adjust the room temperature, measure the external temperature...
While in object, all the functions of classic room thermostat are available: LCD displaying the room temperature, direct adjustment of the temperature, turning on and off the heating....

room thermostat

- LCD displaying the room temperature
- turning on and off the heating
- adjusting the room temperature
- anti-freeze temperature function
- selectable standard heating mode, cooling mode and underfloor heating mode

control via phone or cell phone

- voice communication in English language
- turning on and off the heating
- measuring the room temperature
- adjusting the room temperature
- measuring external temperature
  (with optional external temperature sensor)
- changing the user settings

TELECONTROL T10D

phone line

220V~
L
N

extern
temperature
sensor

heating system
or
air-conditioning system
(see app. examples)

other characterics

- blue LCD backlight
- uses analog telephone line or ISDN line with analog output
- output status light indicator
- user changeable password
- there is no interference with the operation of other devices connected to the same telephone line

optional equipment

- external temperature sensors KTS4 and KTS5

MICRO EL

TELECONTROL T10DP / T10DP-GSM

Room thermostat with built-in voice communication interface for remote control via phone or cell phone.

Model T10DP brings many adventages in heating control. New 7-day program option brings more savings, and more comfort for those who live according to usual schedule.

programmable room thermostat

- LCD displaying the room temperature
- turning on and off the heating
- adjusting the room temperature
- anti-freeze temperature function
- selectable standard heating mode, cooling mode and underfloor heating mode
- 7 day program thermostat
- 8 temperature changes per day

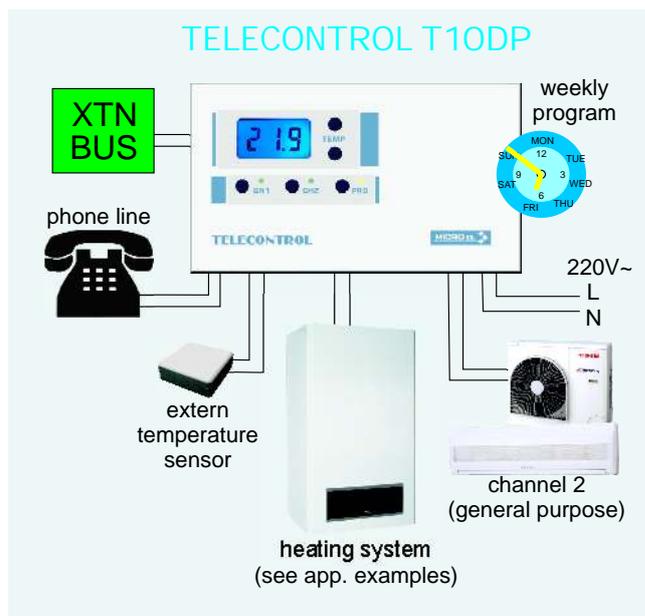## control via phone or cell phone

- voice communication in English language
- turning on and off the heating
- measuring the room temperature
- adjusting the room temperature
- programing the thermostat
- measuring external temperature (with optional external temperature sensor)
- changing the user settings

other characteristics

- 2nd channel (only ON/OFF)
- blue LCD backlight
- uses analog telephone line or ISDN line with analog output
- output status light indicator
- user changeable password
- there is no interference with the operation of other devices connected to the same telephone line

optional equipment

- external temperature sensors KTS4 and KTS5

TELECONTROL T10DP

XTN BUS

weekly program

phone line

220V~
L
N

extern temperature sensor

channel 2 (general purpose)

heating system (see app. examples)

Telemetry
Automation & Monitoring
Remote control & Regulation

TELECONTROL T18DP / T18DP-GSM

Room thermostat with voice communication interface for remote control via phone or cell phone. Burglary alarm function with phone notification and siren output.

Model T18DP is a device which, in addition to its standard heating control functions, enables the supervision of the object and burglary notification. The device has an input for alarm contact to which one or more various burglary sensors may be connected (infrared motion detectors, door contacts, microwave motion detectors, glass breaking detectors...).

programmable room thermostat

- LCD displaying the room temperature
- turning on and off the heating
- adjusting the room temperature
- anti-freeze temperature function
- selectable standard heating mode, cooling mode and underfloor heating mode
- 7 day program thermostat
- 8 temperature changes per day

control via phone or cell phone

- voice communication in English language
- turning on and off the heating
- measuring the room temperature
- adjusting the room temperature
- programing the thermostat
- measuring external temperature
  (with optional external temperature sensor)
- changing the user settings

other characteristics

- 2nd channel (only ON/OFF)
- blue LCD backlight
- uses analog telephone line or ISDN line with analog output
- output status light indicator
- user changeable password
- there is no interference with the operation of other devices connected to the same telephone line
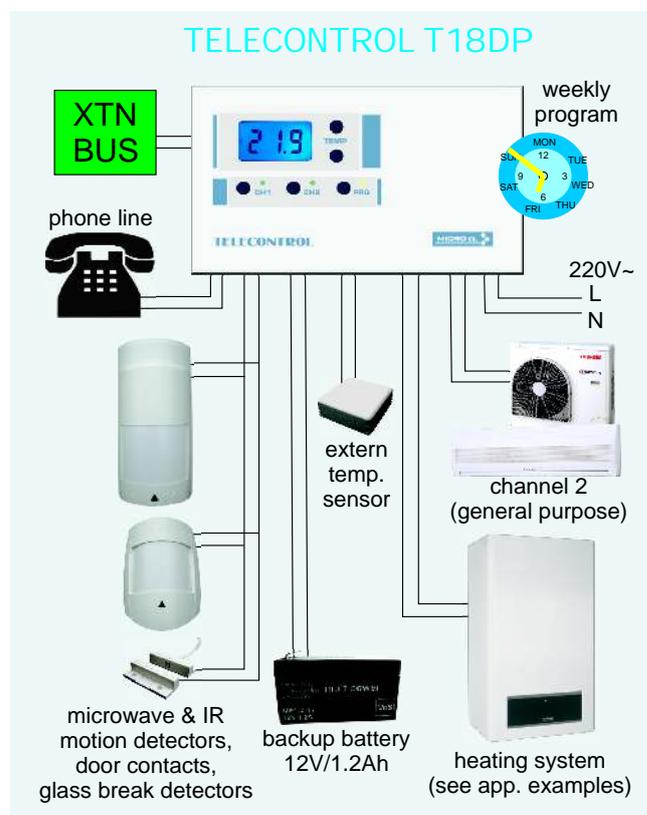
alarm notification

- automatic alarm notification via phone or cell phone
- up to 5 user phone or cellphone numbers for notification
- option of silent alarm and/or output to alarm siren
- activating and deactivating alarm from distance

optional equipment

- external temperature sensors KTS4 and KTS5
- infrared motion detectors
- door contacts
- microwave motion detectors
- glass breaking detectors
- backup battery

TELECONTROL T18DP

XTN BUS

phone line

weekly program

220V~
L
N

extern temp. sensor

channel 2 (general purpose)

microwave & IR motion detectors, door contacts, glass break detectors

backup battery 12V/1.2Ah

heating system (see app. examples)

TELECONTROL T20DP / T20DP-GSM

Room thermostat with voice communication interface for remote control via phone or cellphone. Notification of heating system error. Notification of burglary, fire, gas leakage, carbon monoxide presence and flood. Notification of temperature limit excess (high and/or low limit). Notification of power failure/restore.

TELECONTROL T20DP is inovative, practical and cost-effective integration of room thermostat with communication interface and device for notification of different problems that can occure in the house. In case of alarm event, user receives voice call with message which describes the event ("ALARM, BURGLARY", "ALARM, FIRE" etc.). Timely notification enables user to promptly react and prevent possible damage.

TELECONTROL T2ODP

carbon monoxide detectors — fire detectors — natural gas detectors — flood detectors

XTN BUS

weekly program

phone line

extern temp. sensor

channel 2 (general purpose)

220V~ L N

microwave & IR motion detectors, door contacts, glass break detector

backup battery 12V/1.2Ah

heating system (see app. examples)

programmable room thermostat

- LCD displaying the room temperature
- turning on and off the heating
- adjusting the room temperature
- anti-freeze temperature function
- selectable standard heating mode, cooling mode and underfloor heating mode
- 7 day program thermostat
- 8 temperature changes per day

control via phone or cell phone

- voice communication in English language
- turning on and off the heating
- measuring the room temperature
- adjusting the room temperature
- programing the thermostat
- measuring external temperature (with optional sensor)
- changing the user settings
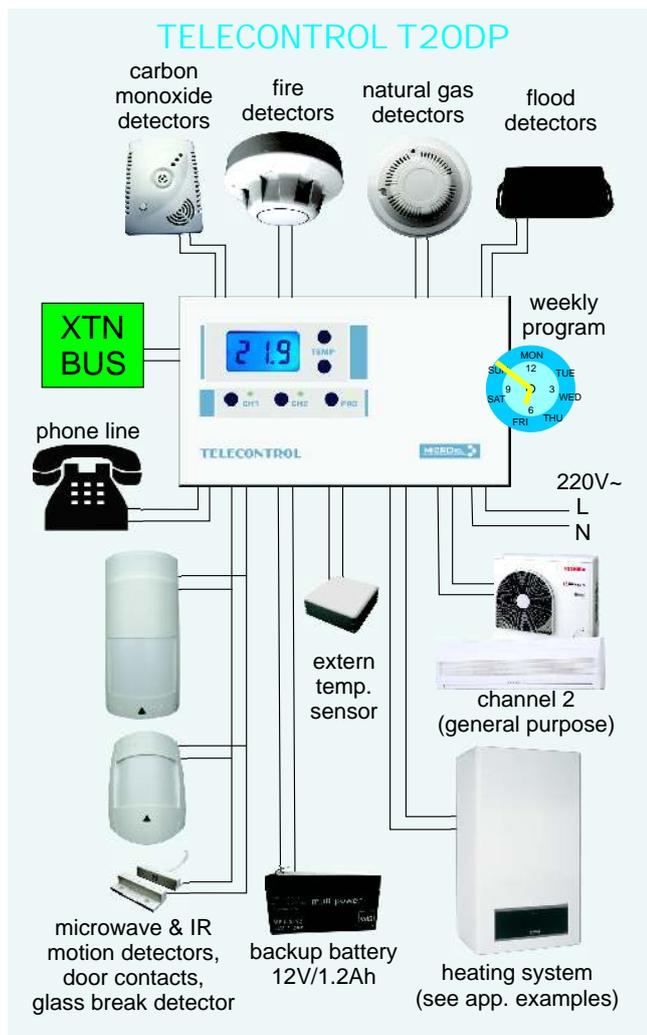
other characteristics

- 2nd channel (only ON/OFF)
- blue LCD backlight
- uses analog telephone line or ISDN line with analog output
- output status light indicator
- user changeable password
- there is no interference with the operation of other devices connected to the same telephone line

optional equipment

- external temperature sensor KTS4 and KTS5
- burglary detectors: IR motion, door contacts, microwave motion, glass breaking; CO, fire, natural gas, flood detector...
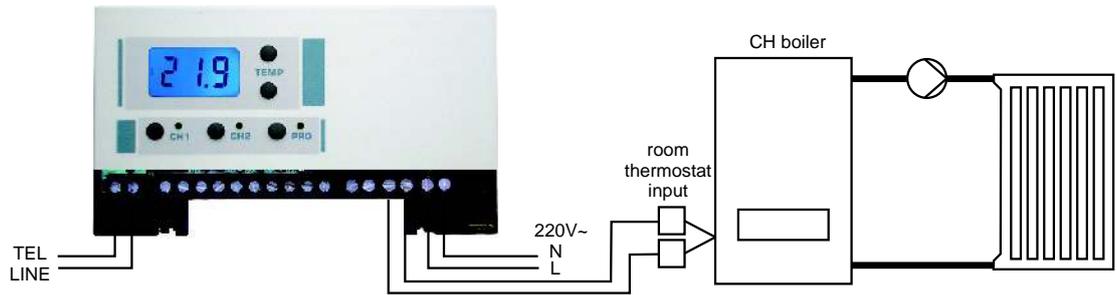- backup battery
- siren

alarm notification

- automatic alarm notification via phone or cell phone
- up to 5 user phone or cellphone numbers for notification
- option of silent alarm or output to alarm siren
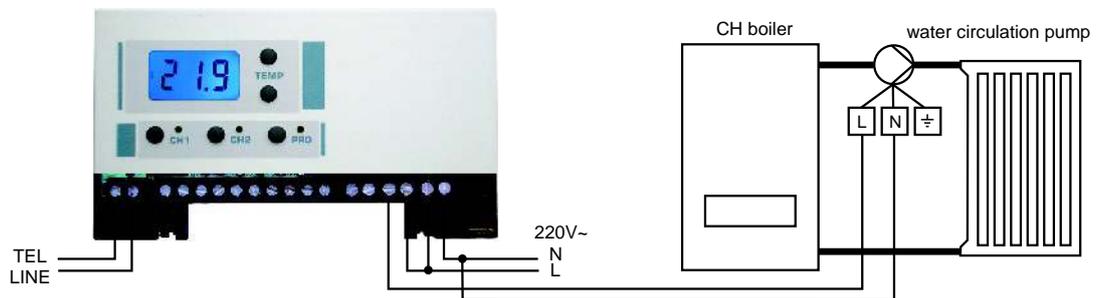- activating and deactivating alarm from distance

APPLICATION EXAMPLES

1. Application: Central heating regulation - connecting to dedicated room thermostat input
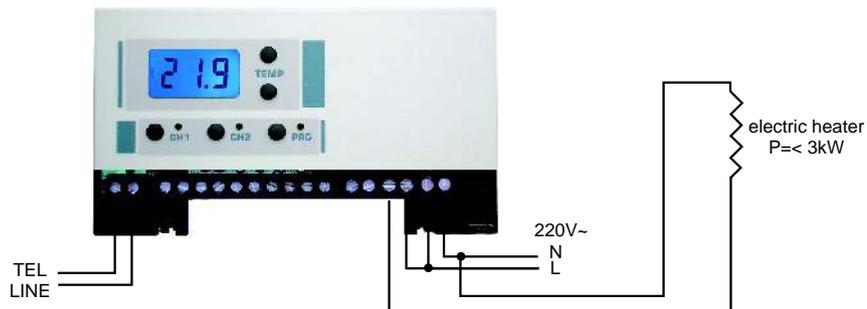
TELECONTROL
T10D
T10D-GSM
T10DP
T10DP-GSM

CH boiler

room thermostat input

220V~
N
L

TEL
LINE

2. Application: central heating regulation - connecting to water circulation pump
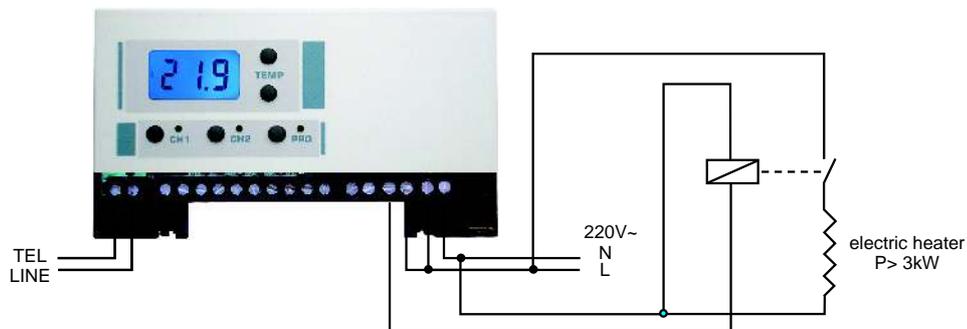
TELECONTROL
T10D
T10D-GSM
T10DP
T10DP-GSM

CH boiler

water circulation pump

L N ÷

220V~
N
L

TEL
LINE

3. Application: Electric heating system regulation (power < 3kW)

TELECONTROL
T10D
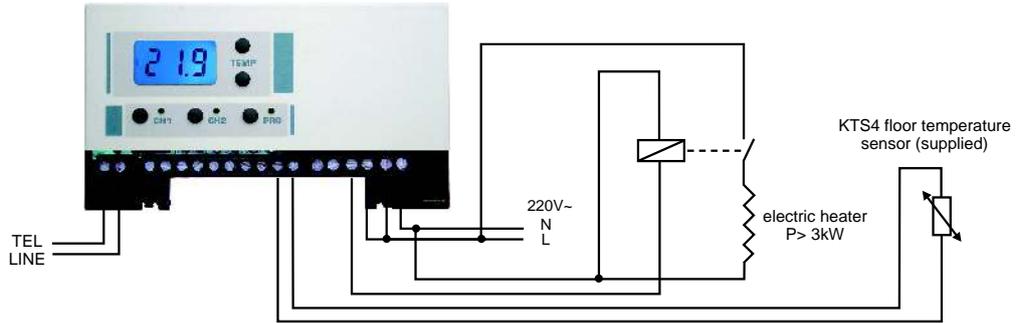T10D-GSM
T10DP
T10DP-GSM

electric heater
P=< 3kW

220V~
N
L

TEL
LINE

4. Application: Electric heating system regulation (power > 3kW)

TELECONTROL
T10D
T10D-GSM
T10DP
T10DP-GSM

220V~
N
L

electric heater
P> 3kW

TEL
LINE

MICRO EL

Telemetry
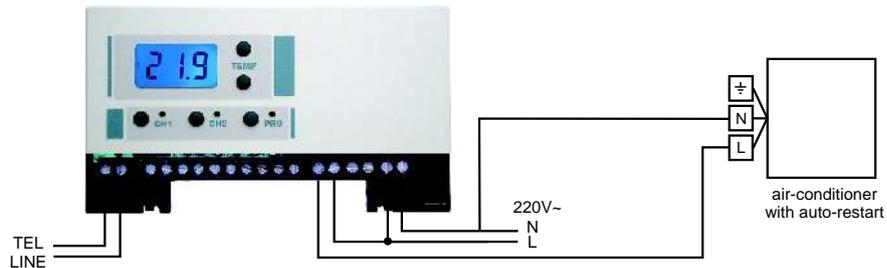*Automation & Monitoring*
Remote control & Regulation

5. Application: Electric underfloor heating system P > 3kW with floor temperature limiting
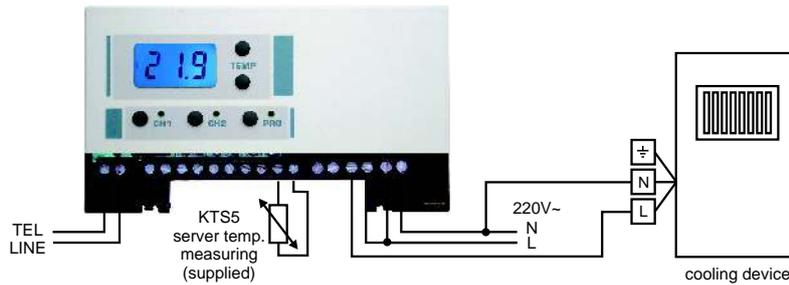
TELECONTROL
T10D
T10D-GSM
T10DP
T10DP-GSM

TEL
LINE

220V~
N
L

KTS4 floor temperature
sensor (supplied)

electric heater
P> 3kW

6. Application: Air-conditioner with autorestart function

TELECONTROL
T10D
T10D-GSM
T10DP
T10DP-GSM

TEL
LINE

220V~
N
L
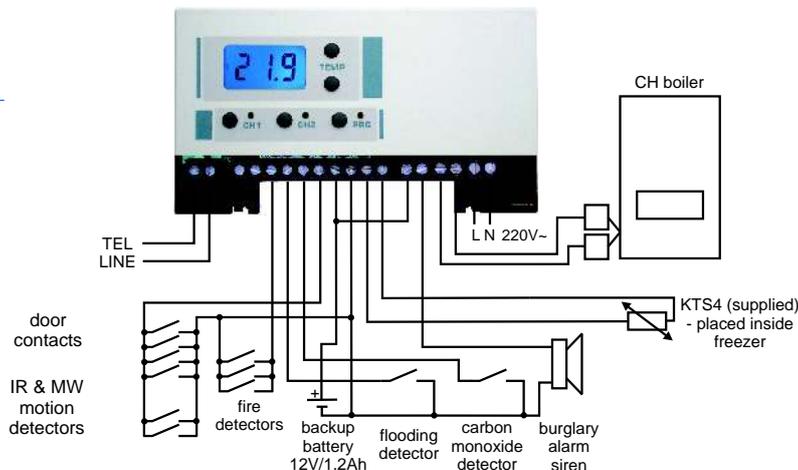
air-conditioner
with auto-restart

7. Application: Computer server room temperature supervision and excess temperature notification by phone. Remote phone control of backup cooling device.

TELECONTROL
T10D
T10D-GSM
T10DP
T10DP-GSM

TEL
LINE

KTS5
server temp.
measuring
(supplied)

220V~
N
L

cooling device

8. Application: Central heating control, air-conditioner control, garage door control, burglary notification, carbon monoxide notification, fire notification, refrigerator/freezer temperature supervision and error (melting) notification.

TELECONTROL
T20DP
T20DP-GSM

TEL
LINE

CH boiler

L N 220V~

KTS4 (supplied)
- placed inside
freezer

door
contacts

IR & MW
motion
detectors

fire
detectors

backup
battery
12V/1.2Ah

flooding
detector

carbon
monoxide
detector

burglary
alarm
siren

MICRO EL

Telemetry
Automation & Monitoring
Remote control & Regulation

CARBON
MONOXIDE
DETECTORS

NATURAL GAS
DETECTORS

FIRE DETECTORS

FLOOD DETECTORS

...the heating is on...
...the temperature is 22...

21.9

TEMP

CH1   CH2   PRG

TELECONTROL

MICRO EL

TELECONTROL
T20DP

TELECONTROL
T20DP - GSM

IR
MOTION
DETECTORS

MW
MOTION
DETECTORS

DOOR
CONTACTS

GLASS
BREAK
DETECTORS

REMOTE
HEATING
CONTROL

ROOM TEMP. AND
EXTERNAL TEMP. MEASURING

REMOTE AIR-CONDITIONER
CONTROL