

## LADDER AND HANDRAIL



The structure consists of carbon steel profiles connected by special joints that ensure their correct coupling.

The upper handrail parapet is suitably made and fixed by housings welded to the boiler structure to ensure perfect stability and solidity.

The access ladder to the boiler platform is manufactured in compliance with the prevailing safety standards and is provided with:

- handrail welded to the structure
- skirting
- structure to prevent falling from platforms higher than 3 metres
- anti-slip inserts on the rungs
- fall-prevention gate

The gate is provided with spring-type hinges that keep it normally closed thus preventing any accidental fall towards the access ladder.

Compatible with the following product ranges:

- GX
- ASGX EN
- TNX
- TNOX
- WH

Accessory code:	90060060
Accessory code:	90060061
Accessory code:	90060062

## SIDE PLATFORM



Ideal for heating plant rooms at a limited height that do not allow the use of ladders and handrail on the top side of the boilers.

The structure, manufactured in compliance with standard EN1090 consists of carbon steel welded sections.

The upper handrail parapet is suitably made and fixed by housings welded to the boiler structure to ensure perfect stability and solidity.

Once installed and positioned next to the boiler, it must be fixed to the floor in compliance with the prevailing regional standards.

The access ladder to the boiler platform is manufactured in compliance with the prevailing safety standards and is provided with:

- handrail welded to the structure
- skirting
- structure to prevent falling from platforms higher than 3 metres
- anti-slip inserts on the rungs
- fall-prevention gate

The gate is provided with spring-type hinges that keep it normally closed thus preventing any accidental fall towards the access ladder.



Accessory code:	90060090
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## ETERM EASY MANAGER PANEL



Control panel with 15" touch screen for a personalised view of the heating plant room (synoptic diagram).

The panel must be connected via bus to the boiler Eterm control panels and to Nereix devices (plant and/flat metering devices)

From the graphic panel it is possible to:

- view the instantaneous values of temperature, operating status, modulation percentage values, alarms, etc.

- send starting, stopping, forcing, setpoint and other types of commands
- view graphs of the saved variables
- export images of the graphs and Excel tables of the log data
- view the alarm log

Control panel with 15" touch screen for a personalised view of the heating plant room (synoptic diagram).

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- view the alarm log

The ModBus RS485 port (2 wires) is available for only one of the following options:

### 1- ModBus Master

ModBus slave device management, i.e. the ability to manage other devices featuring the same interface from the graphic page. (ICI Caldaie reserves the right to check the compatibility of the devices)

### 2-ModBus Slave

Conversion of all eterm parameters, both in reading and in writing mode, in ModBus protocol for external supervision systems provided with such interface.

The maximum number of parameters that can be provided is 500 and they can be chosen by the customer based on the system.

The control panel is provided with a device for Internet connection:

the type of preferred connection determines the type of device installed inside the panel.

## The versions/connections are divided in:

QCTETERM01	MODEM 2G/3G
QCTETERM02	LAN use
QCTETERM03	Wi-Fi

When placing your order, please confirm the type of configuration chosen and the type of connectivity available in the plant room

### These connections allow to:

View and manage, from any device provided with browser, the same synoptic diagram available on the touch screen.

(Considering the constant evolution of the browser, ICI Caldaie reserves the right to indicate the fully compatible synoptic diagrams for a correct display)

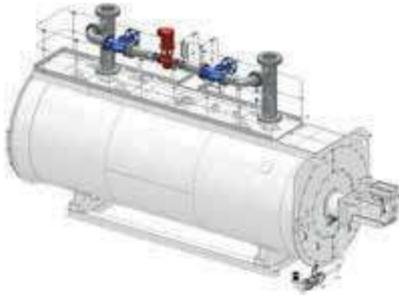
Receive remote assistance for the configuration of all connected devices with considerable time and cost saving:

in case of electronic board replacement

in case of changes to the configuration required for optimisation after a test

(example of threshold setting PID regulation, etc.)

## RETURN WATER TEMPERATURE CONTROL SYSTEM



To maintain the minimum return temperature and the maximum flow/return  $\Delta T$  within the allowed limits, a recirculation system is installed between the flow and return connections which recirculates a suitable water flow rate in order to raise the return temperature before it goes into the boiler.

The system is supplied hydraulically and electrically mounted on top of the boiler as an integral part of it. Connecting pipework with suitable supports and electrical wiring are included.

### Boilers that can be matched

ASX - ASGX EN - TNX / EN - TNOX / EN - TNOX.e / EN

### Standard equipment

- Fixed speed pump suitably sized (variable speed control upon request)
- 2 shut-off valves
- Non-return valve
- Temperature probe fitted on the return pipework
- Control by PLC (if supplied) or Eterm board (if supplied) or dedicated controller inside the boiler control panel

Accessory code:	CTR-001
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# GLOBAL SAFETY SYSTEM GSS 72 FOR SUPERHEATED WATER BOILERS



Global safety system, designed and manufactured to ensure the total operation safety of the **superheated water boilers**, in line with the new EC Directive on the operation without supervision for 72 consecutive hours.

The delivery of the global security systems for making them unmanned up to 72 hrs by ICI CALDAIE is provided with the **B+F certification module** that implies the test of the entire assembly at the manufacturing or use facility, in presence of an appointed Notified Body.

Upon commissioning, an inspection report is officially filled in and stamped to allow **the immediate start-up** of the assembly without waiting for competent Authorities to test the system safety, with the relevant required waiting time. It is the responsibility of the user to respect the Italian Ministerial Decree No. 329/2004 on commissioning (DECLARATION OF COMMISSIONING).

The system consists of a series of equipment assembled and electrically and hydraulically tested at our facility, and specifically:

Accessory code: 86900074

## System main components and functions:

### Safety pressure unit suitable to avoid exceeding the allowed pressure, consisting of:

- 1 safety high pressure switch of the "Fail Safe" type
- 1 safety low pressure switch of the "Fail Safe" type
- 1 burner shut-off relay for high pressure with manual reset
- 1 burner shut-off relay for low pressure with manual reset

### Temperature control unit suitable to avoid exceeding the allowed pressure, consisting of:

- 1 safety high temperature thermostat of the "Fail Safe" type
- 1 burner shut-off relay for high temperature with manual reset
- 1 thermal resistance on the delivery pipe
- 1 PLC for the direct control of the burner (two-stage)
- 1 thermal resistance on the return pipe
- 1 PLC for the control of the return temperature

### Water circulation control unit suitable to avoid exceeding the delta T allowed by the manufacturer, consisting of:

- 1 flow switch (set specifically according to the customer's needs)
- 1 burner shut-off relay for low circulation with manual reset

### Level safety unit used to prevent a level decrease in the boiler, consisting of:

- 1 "Fail Safe" low level probe
- 1 burner shut-off relay for low level with manual reset

### Management system certified to manage the safety chains, capable of monitoring, displaying and transmitting to a remote unit the status and alarm signals; it consists of:

- boiler ON
- control panel power supply
- boiler temperature view
- high pressure safety shut-down
- high temperature safety shut-down
- low level safety shut-down
- low circulation safety shut-down
- burner in operation
- burner shut-off

# BOILER MANAGEMENT MASTER PANEL



Control panel for traditional and condensing boilers, with microprocessor board and updatable firmware.

- Main switch
- Burner operation switch (0-1)
- Boiler delivery PT1000 probe
- Boiler return PT1000 probe
- Header PT1000 probe
- External probe
- Boiler remote management modem (data SIM card and antenna not included)

Accessory code

QATRXETERM01

Available for hot water boilers of the industrial line:

- TNX
- TNX EN
- TNOX
- TNOX EN
- TNOX.e
- TNOX.e EN
- TNOX BT COND
- REX - REX F (400 ÷ 600)

## Electronic board main functions:

- Management of one-stage, two-stage, three-stage, modulating burners with three-point control 0-10 Volt or 4-20 mA
- Delivery temperature climate control with optional external probe
- 2 programmable outputs (230 Vac. / 2 A) that can be configured for:
  - boiler circulation pump (with optional probe or thermostat)
  - boiler circulation pump
  - anti-condensation circulation pump
  - direct zone system circulation pump
  - mixed zone circulation pump
  - cascade header circulation pump
- Boiler PT1000 probe input
- 2 programmable inputs that can be configured for:
  - PT1000 probes (water heater, mixed zone, flue gases, etc.)
  - digital enabling
  - Programmable input that can be configured for:
    - NTC probe
    - digital enabling
  - Management of the mixing valve with 0-10 V control (if not already used for a modulating burner with 0-10 Volt control)
  - Management of three-point mixing valve (if not already used for a single-stage or modulating burner with three-point control)
- 0-10 Volt input that can be programmed for:
  - digital enabling
  - remote control of the boiler temperature
  - display of 0-10 Volt transducers
- Cascade management (with master function)
- Pump anti-seize protection
- Thermal inertia discharge
- Flue gas probe control
- Anti-freeze protection
- Replenishing litre meter

## Communication:

- Modem connector
- USB socket
- RS485 to connect the board to the Eterm Master unit (if any) (img)
- RS485 connection to connect the board to any QATRXETERM02 and QETERM02 slave units
- 230 Vac supply

# BOILER MANAGEMENT SLAVE PANEL



Control panel for traditional and condensing boilers, with microprocessor board and updatable firmware.

- Main switch
- Burner operation switch (0-1)
- Boiler delivery PT1000 probe
- Boiler return PT1000 probe

Accessory code

QATRXETERM02

Available for hot water boilers of the industrial line:

- TNX
- TNX EN
- TNOX
- TNOX EN
- TNOX.e
- TNOX.e EN
- TNOX BT COND
- REX - REX F (400 ÷ 600)

### Electronic board main functions:

- Management of one-stage, two-stage, three-stage, modulating burners with three-point control 0-10 Volt or 4-20 mA
- Delivery temperature climate control with optional external probe
- 2 programmable outputs (230 Vac. / 2 A) that can be configured for:
  - boiler circulation pump (with optional probe or thermostat)
  - boiler circulation pump
  - anti-condensation circulation pump
  - direct zone system circulation pump
  - mixed zone circulation pump
  - cascade header circulation pump
- Boiler PT1000 probe input
- 2 programmable inputs that can be configured for:
  - PT1000 probes (water heater, mixed zone, flue gases, etc.)
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  - Programmable input that can be configured for:
    - NTC probe
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  - Management of the mixing valve with 0-10 V control (if not already used for a modulating burner with 0-10 Volt control)
  - Management of three-point mixing valve (if not already used for a single-stage or modulating burner with three-point control)
- 0-10 Volt input that can be programmed for:
  - digital enabling
  - remote control of the boiler temperature
  - display of 0-10 Volt transducers
  - Pump anti-seize protection
  - Thermal inertia discharge
  - Flue gas probe control
  - Anti-freeze protection
  - Replenishing litre meter

### Communication:

- Modem connector
- USB socket
- RS485 to connect the board to the QATRXETERM01 Master unit (if any)
- 230 Vac supply

STEAM

SUPER-HEATED WATER

THERMAL OIL

HOT WATER

ACCESSORIES

SYSTEM LAYOUTS

# SUPERHEATED WATER BOILER MANAGEMENT MASTER PANEL



Accessory code

QASXENETERM01

## Compatible with superheated water boilers of the industrial line:

- ASX
- ASGX EN

Control panel for superheated water boilers, with microprocessor board and updatable firmware.

- Main switch
- Boiler delivery PT1000 probe
- Boiler return PT1000 probe
- Header PT1000 probe
- External probe
- Boiler remote management modem
- (data SIM card and antenna not included)

### Electronic board main functions:

- Management of one-stage, two-stage, three-stage, modulating burners with three-point control 0-10 Volt or 4-20 mA
- Delivery temperature climate control with optional external probe
- 2 programmable outputs (230 Vac. / 2 A) that can be configured for:
  - boiler circulation pump
  - anti-condensation circulation pump
- Boiler PT1000 probe input
- 2 programmable inputs that can be configured for:
  - PT1000 probes
  - digital enabling
- Programmable input that can be configured for:
  - NTC probe
  - digital enabling
- Management of the mixing valve with 0-10 V control (if not already used for a modulating burner with 0-10 Volt control)
- Management of three-point mixing valve (if not already used for a single-stage or modulating burner with three-point control)
- 0-10 Volt input that can be programmed for:
  - digital enabling
  - display of 0-10 Volt transducers
- Cascade management (to be specified in relation to the accessories matched to the boiler)
- Flue gas probe control
- Anti-freeze protection

### Communication:

- Modem connector
- USB socket
- RS485 to connect the board to the Master (QASXENETERM01/Nereix)
- RS485 connection to connect the board to any slaves units (QASXENETERM01/ QASXENETERM02)
- 230 Vac supply

# SUPERHEATED WATER BOILER MANAGEMENT SLAVE PANEL



Control panel for superheated water boilers with microprocessor board and updatable firmware

- Main switch
- Burner operation switch (0-1)
- Boiler delivery PT1000 probe
- Boiler return PT1000 probe

Accessory code

QASXENETERM02

Compatible with superheated water boilers of the industrial line:

- ASX
- ASGX EN

## Electronic board main functions:

- Management of one-stage, two-stage, three-stage, modulating burners with three-point control 0-10 Volt or 4-20 mA
- Delivery temperature climate control with optional external probe
- 2 programmable outputs (230 Vac. / 2 A) that can be configured for:
  - boiler circulation pump
  - anti-condensation circulation pump
  - cascade header circulation pump
- Boiler PT1000 probe input
- 2 programmable inputs that can be configured for:
  - PT1000 probes (water heater, mixed zone, flue gases, etc.)
  - digital enabling
- Programmable input that can be configured for:
  - NTC probe
  - digital enabling
- Management of the mixing valve with 0-10 V control (if not already used for a modulating burner with 0-10 Volt control)
- Management of three-point mixing valve (if not already used for a single-stage or modulating burner with three-point control)
- 0-10 Volt input that can be programmed for:
  - digital enabling
  - display of 0-10 Volt transducers
- Cascade management (with slave function)
- Flue gas probe control
- Anti-freeze protection

STEAM

SUPER-HEATED WATER

THERMAL OIL

HOT WATER

ACCESSORIES

SYSTEM LAYOUTS

# Eterm MODBUS INTERFACE



Communication interface for eterm devices. Complete with 3G modem and SIM activated for one year (subject to availability limitations depending on the country of destination). Remote configuration will be possible in countries where the SIM is active and where there is signal coverage. Otherwise, the configuration must be carried out by a qualified technician (not included).

By means of a Bus system (proprietary protocol) it is possible to connect:

- Meter Bus Centralisers
- Boiler management control panels
- System management control panels

With eterm Bus it is possible to manage from PC all devices either in local or remote mode:

- RS232
- USB
- Modem GSM/GPRS (code QMASTER01)
- LAN Ethernet RJ45 (code QMASTER02)

The data can be managed with:

etermPCmanager, program to be installed on PC that can be connected

Via USB or RS232

Via Modem (optional for PC)

Via internet

etermEASYmanager, WEB program available on [www.eterm.it](http://www.eterm.it) to view the system synoptic diagram

Accessory codes	QMBET04
	QMBET02
	ALQMASTER

## The Eterm Master unit is also provided with:

- 4 inputs for meters provided with pulse output installed in the heating plant room:
- Gas
- Hot water
- Cold water
- Electric energy
- NTC input for external probe, such information will be available to all system slave units
- digital output (not used)

## Master ModBus function

- With suitable configuration, the Eterm Master can manage as Master unit the ModBus slave devices, in order to transmit on etermEASYmanager web application the data acquired by these devices. ModBus two-wire RTU RS485 connection.

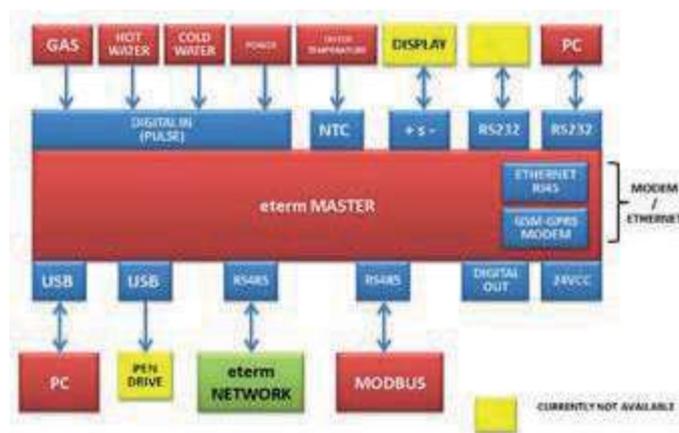
## Slave ModBus function

- With suitable configuration, the Eterm Master can become the slave unit of a ModBus data acquisition device. In this way, all eterm equipment connected to the master can be managed via ModBus (both in reading and writing based on the type of parameter). ModBus two-wire RTU RS485 connection.

## Supply

- 24 Vdc (ALQMASTER supply unit code)

## Connections:



# THERMOSTATIC CONTROL PANELS

## For REX, REX F and GREENOx.e boilers



### Panel complete with:

- illuminated main switch
- 2 boiler regulation thermostats
- manual reset safety thermostat
- system circulation pump enabling thermostat
- burner switch
- system circulation pump switch
- boiler thermometer

Code	Boiler reg. thermostat	Safety thermostat
QACC10ELMCE	60° - 100° C	110° C
QEST03110*	55° - 110° C	115° C

\* Available only for markets in: Russia, Belarus, Ukraine, Georgia and Kazakhstan

## For REX DUAL and REX DUAL F boilers



### Panel complete with:

- illuminated main switch
- 2 boiler regulation thermostats
- 2 manual reset safety thermostats (1 in the QEST03110 model)
- system circulation pump enabling thermostat
- burner switch
- system circulation pump switch
- boiler thermometer
- 2 hour counters (only for QACC01ELMDCE model)

Code	Boiler reg. thermostat	Safety thermostat
QACC01ELMDCE	42° - 87° C	110° C
QEST03110*	55° - 110° C	115° C

\* Available only for markets in: Russia, Belarus, Ukraine, Georgia and Kazakhstan

# ETERM BOILER MANAGEMENT CONTROL PANEL



## Standard equipment:

- main switch
- manual or automatic burner operation switch
- INAIL regulation twin thermostat
- INAIL safety thermostat
- INAIL thermometer
- microprocessor board
- boiler probe

Type	Code	Boiler reg. thermostat	Safety thermostat
Boiler management control panel	QETERM01CE	0° -100° C	110° C
Boiler management control panel	QETERM01RU2*	55° - 110° C	115° C

Optional accessories	Code
External probe	17120012
Immersion temperature probe (boiler, water heater, mixed zone)	16111247
GSM modem	CB955
Flat cable for GSM modem	CB926
GSM antenna with 10 m cable	CB913

## ACID CONDENSATE NEUTRALISATION SYSTEM



The condensate neutralisation system is an accessory for the condensing boilers. The acid condensate must be neutralised with calcium carbonate to bringing the pH values above 7 thus allowing the discharge together with the domestic water according to the prevailing laws. It is available in two versions with container and 25 kg of calcium carbonate beads.

Type	Code
Neutraliser	81020001