

## Thermoguard Basic Complete packages with Software and Controller

Thermoguard Basic packages contain the software, one sensorcontroller and one sensor. The functional scope of the *Thermoguard Basic* software is identical to the *Thermoguard Professional* software but it only allows you to use one single sensorcontroller.

Thermoguard Basic packages can be upgraded to *Thermoguard Professional* at any time.

### Thermoguard Basic1: Software, Sensorcontroller SC1ePn, 1 sensor PT 100 725 €



Delivery contains:

- 1 x *Thermoguard* Software Basic
- 1 x Sensorcontroller SC1ePn, Power Supply
- 1 x Temperature sensor PT 100 (-50..+180°C)

### Thermoguard Basic2: Software, Sensorcontroller SC2e, 1 sensor PT 100 855 €



Delivery contains:

- 1 x *Thermoguard* Software Basic
- 1 x Sensorcontroller SC2e, Power Supply
- 1 x Temperature sensor PT 100 (-50..+180°C)
- 1 x DIN rail for mounting, about 9 cm

### Thermoguard Basic8: Software, Sensorcontroller SC8eP 1 sensor PT 100 995 €



Delivery contains:

- 1 x *Thermoguard* Software Basic
- 1 x Sensorcontroller SC8eP, Power Supply
- 1 x Temperature sensor PT 100 (-50..+180°C)
- 1 x DIN rail for mounting, about 9 cm

### Thermoguard HM Basic1: Software, HygroLAN-Controller HM1Pn 1.025 €

### Thermoguard HF Basic1: Software, HygroLAN-Controller HF1Pn 985 €

1 combined Temperature-/Humidity sensor



Delivery contains:

- 1 x *Thermoguard* Software Basic
- 1 x Controller HM1Pn or HF1Pn
- Power Supply
- HM1Pn: 1 x Temper.-/Humidity-/Pressure sensor
- HF1Pn: 1 x Temper.-/Humidity sensor

## Thermoguard Professional and Upgrade

## Software

*Thermoguard Professional*: Software for central data recording of virtually any desired number of *Thermoguard* sensorcontrollers. Unlike *Thermoguard Basic*, *Thermoguard Professional* can centrally poll (interrogate) and monitor several sensorcontrollers.

A typical area of application is monitoring for large numbers of cooling/refrigeration appliances, climatic chambers or incubators distributed throughout several rooms, buildings or locations.

### Thermoguard Professional: Software V2.9x

1.360 €



*Thermoguard Professional* is suited for all Microsoft® Windows™ Operating Systems currently supported by Microsoft

## Thermoguard Professional Upgrade

## Software

Upgrade for *Thermoguard Basic* Software to *Thermoguard Professional*. You can continue using your existing sensorcontrollers..

### Thermoguard Professional: Software Upgrade

995 €



The *Thermoguard Professional Upgrade* is suited for all Microsoft® Windows™ Operating Systems currently supported by Microsoft

## Thermoguard SC1ePn, SC2e and SC8eP

## Sensorcontroller

Several *Thermoguard* sensorcontrollers are available: The SC1ePn "single" controller for one temperature sensor, the SC2e dual controller to connect one or two sensors, and the SC8eP providing ports for a maximum of eight sensors. The *HygroLAN* Controller HM1Pn allows you to monitor and record temperature, relative humidity and atmospheric pressure with its included combined digital sensor (w/o pressure available as model HF1Pn).

### Thermoguard Sensorcontroller SC1ePn -200 °C to +650 °C

360 €



#### Technical Data:

Network:	10/100 BaseT autosensing
Supported Temper. sensors:	1x PT 100 or PT 1000 with 4-wire technology
Measuring range, resolution:	-200 °C...+650 °C, 1/10 °C
Measuring error:	0,3 °C ± 0,2 % (with class A sensor: ±0,15°C, ±0,2%)
Supply voltage:	<b>Power-over-Ethernet (PoE)</b> or via screw terminal with DC 12V .. 48V (+/-10%) or AC 18Veff .. 30Veff (+/-10%); AVG: 62mA @24VDC, 80mA @20VAC Max: 70mA @24VDC, 40mA @48VDC PoE Class 1 (0.44 - 3.84W)
Power consumption:	Plug-in Power Supply included: Primary: 100-240 V AC, 50-60 Hz Secondary: 24V DC, 220mA
Power supply:	Plastic housing, 105 x 75 x 22 mm, for DIN rail mount
Housing:	

### Thermoguard Sensorcontroller SC2e -200 °C to +650 °C

490 €

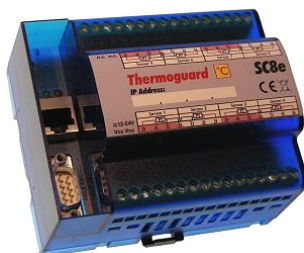


#### Technical Data:

Network:	10/100 BaseT autosensing
Supported Temper. sensors:	1-2x PT 100 or PT 1000 with 4-wire technology
Measuring range, resolution:	-200 °C...+650 °C, 1/10 °C
Measuring error:	0,26 °C ± 0,2 % (with class A sensor: ±0,15°C, ±0,2%)
Supply voltage:	DC 12V (-5%) - 34V (+5%) AC 9Veff (-5%) - 24Veff (+5%)
Power consumption:	Typical 200mA @12VDC, 100mA @24VDC, 100mA @20VAC, Max. 240mA @12VDC
Power supply:	Plug-in Power Supply included: Primary: 100-240 V AC, 50-60 Hz Secondary: 24V DC, 220mA
Housing:	Plastic housing, 107 x 88 x 63 mm, for DIN rail mount

### Thermoguard Sensorcontroller SC8eP -200 °C to +650 °C

630 €



#### Technical Data:

Network:	Data equal to SC2e, but supports 1-8x PT 100 or PT 1000 with 4-wire technology as well as PoE now (from July 2017):
Supply voltage:	<b>Power-over-Ethernet (PoE)</b> or DC 12V .. 48V (+/-10%) or AC 18Veff .. 30Veff (+/-10%)
Power consumption:	Typical 65mA @24VDC, 140mA @18VAC, max. 80mA @24VDC, 45mA @48VDC

## Thermoguard HM1Pn/HF1Pn

## HygroLAN Controller

### Thermoguard HygroLAN-Controller HM1Pn

including combined Temperature-/Humidity-/Atmospheric Pressure sensor **520 €**

### Thermoguard HygroLAN-Controller HF1Pn

including combined Temperature-/Humidity sensor **480 €**



#### Technical Data:

Network:	10/100 BaseT autosensing
Sensor included:	Combined digital sensor for temperature, relative humidity and barometric pressure, 2m cable
Measuring range, resolution:	-40°C..+80°C, 1/10°C; 0..100% rH, 0,1%; 10..1100hPa, 0,1hPa
Measuring error (typical):	±0,3°C; ±2% rH (@23°C); ±0,8hPa (750..1100hPa, @25°C)
Supply voltage:	<b>Power-over-Ethernet (PoE)</b> or via screw terminal with DC 12V .. 48V (+/-10%) or AC 18Veff .. 30Veff (+/-10%);
Power consumption:	typical 62mA @24V DC PoE Class 1 (0,44 - 3,84W)
Power supply:	Plug-in Power Supply included: Primary: 100-240 V AC, 50-60 Hz Secondary: 24V DC, 220mA
Housing:	Plastic housing, 105 x 75 x 22 mm, for DIN rail mount

## Options for HM1Pn/HF1Pn

### Splash water protection for HM1Pn/HF1Pn sensor

**35 €**



Optionally HM1Pn/HF1Pn can be ordered with a splash water protected combined sensor (sintered bronze cap):

- Protection class IP X4
- Sealing according to DIN 40050: 1993 Part 9

### Calibration of HM1Pn/HF1Pn including combined digital sensor

**175 €**



Optionally *Thermoguard* offers a factory calibration (Temperature and Humidity, atmospheric pressure excluded)

## Thermoguard Temperature Sensors

Temperature sensors for *Thermoguard* sensorcontrollers are available in a variety of designs for specific areas of use. On request, all the sensors can be factory calibrated with a certificate. Please ask us about special sensors for your particular application!

Special cable length for designs with solid connection leads on request.

### Temperature Sensor Screw Mounting, PT 100 -50 °C to +200 °C **65 €**



Temperature sensor for screw mounting to monitor temperatures, Type PT 100. Temperature range -50 °C to +200 °C. Four wire connection, 10 m solid connection lead. Silicone cable with Teflon isolation of inner wire. Dimensions: 8 x 8 x 40 mm. Accuracy: DIN 60751 Class A

### Low Temperature Sensor, PT100 -90 °C to +200 °C **110 €**



Stainless steel temperature sensor for screw mounting to monitor ultra low temperatures. Type PT 100 with coiled sensor probe. Temperature range -90 °C to +200 °C. Four wire connection, 10 m solid connection lead TT 4 x AWG 22. Dimensions: 8 x 8 x 40 mm. Accuracy: DIN 60751 Class A

### Very low temperature sensor "KW1", PT100 -190 °C to +180 °C **245 €**



Temperature sensor KW1, Type PT 100, sealed, Temperature range -190 °C to +180 °C; Four wire connection, 10 m solid connection lead, cable type TT 4xAWG 26; stainless steel head; drummed twice; Dimensions: round shape, 5mm diameter, 100mm length; Accuracy: DIN 60751 Class A

### Temperature Sensor Indoor, PT 100 -40 °C to +85 °C **55 €**



For measuring and monitoring temperatures in indoor rooms, type PT 100. Version with slotted plastic housing. Temperature range -40 °C to +85 °C. Four wire connection; connection lead not included. Dimensions: 70 x 70 x 27 mm. Accuracy: DIN 60751 Class A

### Temperature Sensor Cold Storage, PT 100 -40 °C to +90 °C **95 €**



Temperature sensor, wall mounting, sealed plastic housing, type PT 100. For measuring and monitoring temperatures in cooling chambers, climatic chambers, storage areas and machine halls; temperature range -40 °C to +90 °C. Four wire connection; connection lead not included. Dimensions, housing including sensors: 145 x 58 x 34 mm. Accuracy: DIN 60571 Class A



## Calibration of temperature sensors

**Basic Charge (per Design): 125 €**  
**Additional charge per sensor: 50 €**



Thermoguard offers an optional factory based calibration for the Thermoguard PT 100 sensors.

The sensors will be calibrated at two measuring points by comparative measurements in an external laboratory.

Traceability of the measurements to national standards is guaranteed.

## Thermoguard Sensorcontrollers for analog values

The Analog Controller series AC2 provides the possibility to record and monitor analog current values from 0-20 mA and voltage values from 0-10 Volt via the network. Attaching standard transmitters practically all physical values can be caught and controlled. Just some examples: Current, Voltage, Power, (Air) Pressure, Light, Frequency.

### Thermoguard Sensorcontroller AC2aP

360 €



#### Technical Data:

Network:	10/100 BaseT autosensing
Input:	<b>2x Current:</b> 0/4..20 mA, 100 Ohm
Resolution:	Current input: 2.5 $\mu$ A
Measuring error:	max. 0,5 % FSR (Full Scale Range 0..20 mA) TA = 0-60°C
Supply Voltage:	<b>Power-over-Ethernet (PoE)</b> or via screw terminal with DC 18V .. 48V (+/-10%) or AC 18Veff .. 30Veff (+/-10%); typical 80mA @24V DC PoE Class 1 (0,44 - 3,84W)
Power consumption:	Plug-in Power Supply included: Primary: 100-240 V AC, 50-60 Hz Secondary: 24V DC, 220mA
Power supply:	
Housing:	Plastic housing, 105 x 75 x 22 mm, for DIN rail mount

### Thermoguard Sensorcontroller AC2vP

360 €



#### Technical Data:

Network:	10/100 BaseT autosensing
Input:	<b>2x Voltage:</b> 0..10 V, 1 MOhm
Resolution:	Voltage Input: 1,25 mV
Measuring error:	max. 0,5% FSR (Full Scale Range 0..10V) TA = 0-60°C
Supply Voltage:	<b>Power-over-Ethernet (PoE)</b> or via screw terminal with DC 18V .. 48V (+/-10%) or AC 18Veff .. 30Veff (+/-10%); typical 80mA @24V DC PoE Class 1 (0,44 - 3,84W)
Power consumption:	Plug-in Power Supply included: Primary: 100-240 V AC, 50-60 Hz Secondary: 24V DC, 220mA
Power supply:	
Housing:	Plastic housing, 105 x 75 x 22 mm, for DIN rail mount

## Thermoguard Mounting Cases and Accessories

### Mounting Case including Power Supply for SC1ePn/AC2aP/AC2vP/HM1P

75 €



Mounting Case for wall mounting  
DIN rail switching power supply 24V DC included  
Dimensions WxHxD = 178 x 130 x 75 mm

Without primary power cable. Power supply has to be wired by an authorized electrician.

### ISO Mounting Case including Power Supply for SC2e/SC8eP

85 €



ISO Mounting Case, IP55, 10 units,  
for one sensorcontroller SC2e or SC8eP  
DIN rail switching power supply 24V DC included  
Dimensions WxHxD = 230 x 180 x 110 mm

Without primary power cable. Power supply has to be wired by an authorized electrician.

### GSM Modem with Antenna, USB or serial connection

345 €



Valid SIM card required

By default, *Thermoguard* sends "e-mail as SMS" onto mobile phones.

In addition or alternatively the *Thermoguard* Software supports sending alarm or "heartbeat" messages *directly* over a GSM Modem independently of an e-mail Server.

GSM Modem mounted in ISO case including DIN rail switching power supply and magnetic base antenna.  
Connection via USB or serial (alternatively!)

Without primary power cable. Power supply has to be wired by an authorized electrician.

### Relay Interface, serial connection

265 €



Relay Interface Module with serial connection for switching of up to 8 external devices via potential-free relay contacts

Mounted in ISO case including 12V DC DIN rail switching power supply and connection cable.

Without primary power cable. Power supply has to be wired by an authorized electrician.



## Calibration Set

795 €



*Thermoguard* temperature calibration set with transport box. Contains a calibrated sensor controller SC1ePn and temperature sensor, calibrated together as one unit. Including factory certificate.

For comparative On-Site Calibration of already mounted temperature sensors