refrigeration • climatization • heating • solar heating

Full Gauge® CONTROLS

General Catalogue

2011

FULL GAUGE CONTROLS

Having invested in new technologies since 1985, we keep our commitment to quality of development and production of instruments for industrial, commercial and residential automation systems.

We keep continuously growing over the years, offering solutions for cooling, heating, air-conditioning, and solar heating with a product line always beyond market needs and ahead of our customer's expectations.

Additionally, in order to keep up with such growth, we are constantly investing in our infrastructure and in anticipating technological demands, to best meet the global market needs.



CERTIFICATIONS

Our products comply with national and international guidelines, standards and certifications, such as UL and CE.

UL certifies the safety and reliability of our instruments, in accordance with North-American and Canadian standards. On the other hand, CE mark guarantees that they comply with the requirements in "Conformité Européenne" regarding electrical safety and electromagnetic compatibility, allowing them to be freely traded in European Community countries.

AROUND THE WORLD

Being present in all continents with 87 products and professionals attending fairs and giving lectures and training sessions, the image of Full Gauge Controls is consolidated in more than 52 countries*.

Among other factors, this image is built on the practice of patenting products and registering trademarks, thus preserving the intellectual property of its creations.

*Countries belonging to the European Community are: Germany, Austria, Belgium, Cyprus, Denmark, Slovakia, Slovenia, Spain, Estonia, Finland, France, Great Britain, Italy, Greece, Netherlands, Hungary, Ireland, Latvia, Lithuania, Luxemburg, Malta, Poland, Portugal, Czech Republic, and Sweden, besides Brazil, Canada, Chile, United States, Mexico, Taiwan, Uruguay and China, among others.



Your Life in the exactly temperature

Practically unnoticed to most people, thermometers and thermostats such as temperature, humidity, time, pressure and voltage controllers are part of the daily routine of general consumers and companies, becoming increasingly essential. The appliances are many, from air-conditioning automation to thermal comfort, to maintain the water temperature or to keep food fresh, always in the exact temperature, among many others.

Those products bring benefits to our lives besides comfort and welfare, being also essential to optimize energy efficiency and for environmental safety. Through these products we are able to reduce energy consumption: defrosting by the system demand, hot water is only available in certain times of the day and air-conditioning just starts when needed.

Our company's mission is to combine all these benefits and offer high quality, state-of-the-art technology, economy and comfort. When you choose a Full Gauge Controls instrument, you may be sure that you have made the greatest choice, opting for the most complete solution, with the best cost-benefit ratio in the market and investing in the future of generations.

comfort
Cost-benefit
Welfare

Instruments with combined functions

Diversity combined with versatility

TEMPERATURE

Frozen Goods

TC-900R*i* Thermometer + Thermostat
TC-900R*i* clock Thermometer + Thermostat + Weekly defrost scheduling + Internal Clock + Connection with Sitrad
TC-910R*i* Thermometer + Dual-stage Thermostat + Hour Meter
TC-920R*i* Thermometer + Thermostat + Digital input + Smart Setpoint
TC-940R*i plus* Thermometer + Thermostat + temperature-trigerred defrost + Internal Buzzer + Relay of 16A + Imput Digital + Programmable Digital Filter + Connection with Sitrad

Chilled Goods

MT-512R*i*/MT-512C Thermometer + Thermostat
MT-512R*i plus* Thermometer + Thermostat + Connection with Sitrad
MT-512R*i*LOG Thermometer + Thermostat + Internal datalogger + Connection with Sitrad

MT-516CVT Thermometer + Thermostat + Cyclic timer + True RMS voltage monitor
MT-516RVT*i plus* Thermometer + Thermostat + Cyclic timer + True RMS voltage monitor + Connection with Sitrad
RT-607R*i plus* Thermometer + Thermostat + Weekly event scheduling + Internal Clock + Connection with Sitrad
MT-543R*i plus* Thermometer + Thermostat + Cyclic timer + Internal buzzer + Connection with Sitrad
AutoPID *plus* PID controller with analog and PWM outputs + Alarm + Connection with Sitrad
TI-33R*i plus* Thermometer with up to three sensors + Connection with Sitrad

TEMPERATURE AND HUMIDITY

MT-530 *Super* Thermometer + Thermostat + Hygrometer + Humidity switch + Configurable auxiliary output + Internal datalloger + Connection with Sitrad
AHC-80 *plus* Thermometer + Thermostat + Hygrometer + Humidity switch (up to 100% RH) + Connection with Sitrad

PRESSURE

PCT-100 Pressure gauge + Single-stage pressure switch
PCT-410R*i plus* Pressure gauge with 5 outputs (4 digital + 1 analogic) + Connection with Sitrad
PCT-420R*i plus* Pressure switch with 4 independent stages + Connection with Sitrad
PCT-1600 *plus* Pressure switch with 16 outputs + Connection with Sitrad

TIMERS

PROGS Hourly scheduler + Weekly event scheduling
TEMPUS Timer + Cyclic timer

SOLAR HEATING

MICROSOL/MICROSOL R*i* Thermometer + Thermostat + Antifreeze System
MICROSOL II *plus* Thermometer + Thermostat + Antifreeze System + Support output (electric, gas or diesel) + Connection with Sitrad
MICROSOL II Power Thermometer + Thermostat + Antifreeze System + Support output (electric, gas or diesel) + Powerful relay (2 of 16A and 1 of 30A) + Connection with Sitrad

VOLTAGE

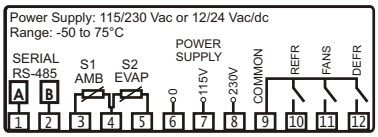
PhaseLOG *plus* Voltmeter + Three-phase True RMS voltage monitor + Programmable under- and over-voltage protective devices + Protection against phase fault and inversion + Modular and angular asymmetry + Internal datalogger + Connection with Sitrad

PWR-3200 *plus* Three-phase energy meter + Power factor and demand controller + Internal Datalogger + Connection with Sitrad

CONTROLLER FOR FROZEN GOODS

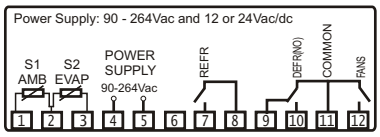
TC-900R*i clock*

For cooling and defrosting. It works with two sensors, one for ambient temperature and other fixed to the evaporator that controls defrost ending. It has an internal clock for real-time programming of up to eight independent defrost operations per day, with weekly schedule, and permanent internal battery to ensure clock synchronization for many years, even in case of power failure.
Application examples: walk-in freezer; reach-in freezer; stand up freezer and defrost management.



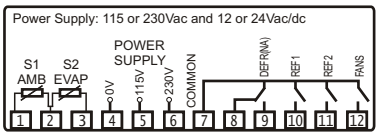
TC-900R*i* power

For cooling and defrosting, works with two sensors, one for ambient temperature and other fixed to the evaporator that controls defrost ending. With the powerful 16-amp relay, directly controls compressors up to 1 HP, and uses a switch-mode power supply (universal input range from 90 to 264 Vac). The defrost output has a 10A current capacity, as also having Normally Closed (NC) contact available. It also has indicators in °C and °F and digital filters, which have the purpose of simulating an increase in mass in the environment sensor (S1), thus increasing its response time (thermal inertia) and preventing unnecessary activations of the compressor.
Application examples: walk-in freezer; reach-in freezer; stand up freezer and defrost management.
Dimension: 71 x 28 x 71 mm.



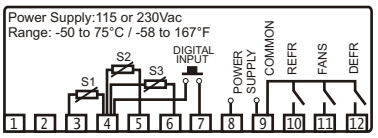
TC-910R*i*

It features four control outputs, two for cooling (dual-stage), one for defrosting, and one for evaporator's fans. Its defrosting output relay has dual-throw contact (NO and NC) that can be used to switch off the condenser's fan during defrost. It also includes two independent hour meters for signaling maintenance intervals of compressors, allowing it to be reinitialized when the preset operating time is reached.
Additionally, it allows presetting a pre-defrost time, adjustable for the collection of gas before starting the defrost cycle.
Application examples: walk-in freezer; reach-in freezer; stand up freezer and defrost management.
Dimension: 71 x 28 x 71 mm.



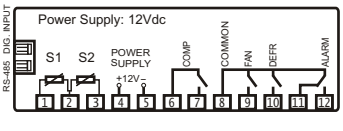
TC-920R*i*

It controls evaporator´s fans, besides managing defrost cycles. It can work up to three sensors, two for temperature measurement and other fixed to the evaporator that controls defrost ending and fan return. It features one digital input that can receive external pulses to synchronize defrost starting or simply to signal the status of chamber door. It enables a significant reduction of power consumption because it allows the programming of two setpoints: normal and saving. This is possible by the use of the third sensor, which measures the ambient temperature in the air return and selects the active setpoint based on the temperature difference between return and supply sensors (S3-S1).
Application examples: walk-in and display freezers.
Dimension: 91 x 45 x 20 mm.



TC-940R*i plus*

Featuring smart defrost, it commands defrost cycles only when needed based in the evaporator temperature, offering higher performance and energy saving. It features an powerful 16 Amp relay to command directly up to 1HP compressors and has an digital input that allows to set three operation modes: open door signal, beginning of defrost cycle by extern synchronism or night setpoint. This controller also has an audible alarm (buzzer) and a programmable Digital Filter which prevents the compressor from constant switches while the door is temporarily open. This filter aims to simulate an increase in the environmental mass through sensor 1 (S1) thus increasing the thermal reaction time (thermal inertia).
Application examples: walk-in freezer; reach-in freezer; stand up freezer and defrost management.
Dimension: 71 x 28 x 71 mm.

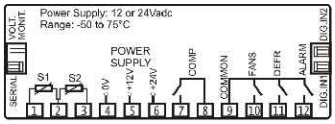


CONTROLLER FOR FROZEN GOODS

Sitrad
-COMPATIBLE-

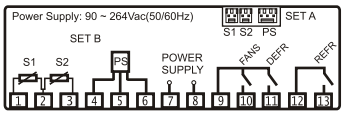
TC-960R*i* LOG

Beyond all the features available on TC-900 line, it has an internal audible alarm (buzzer), switch key to turn the loads on/off, digital input for external alarms, internal clock to synchronize the defrost process and monitoring the compressor working hours, in order to indicate the exact period for maintenance.
It enable to monitory even low current (12/24V), beyond economy set point and internal data logger, what enable for instance recording the temperature variations on refrigerated truck during its way.
Application Examples: Refrigerated Trucks, reach-in freezer, walk-in freezer, Upright freezer, any other type of equipment requiring a precise temperature control and defrost management.
Dimension: 71 x 28 x 71 mm.



TC-900RG2 Slim

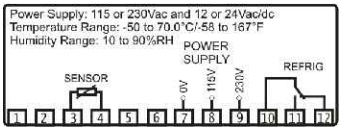
Dedicated digital instrument for beverage displays by a single module. It has two sensors (environment sensor and other to manage the defrost) and three outputs: compressor, ventilation (fans) and for defrost by electric resistance. Featuring a 16Amp powerful relay, it commands up to 1HP compressors at 250Vac without the need of a magnetic contactor.
Dimension: 90 x 44 x 44mm.



CONTROLLER FOR CHILLED GOODS

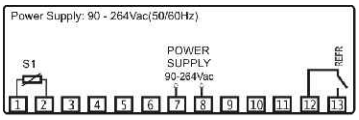
MT-512R*i*

With a natural defrost function by means of compressor shutdown and permanent ventilation, it presents one command output and an integrated cyclic timer to set cooling and defrosting times. It also features a digital filter aimed at simulating an increase of environment sensor (S1) mass, thus increasing its response time (thermal inertia). Available in 16-amp version for direct operation of compressors up to 1 HP.
Application examples: reach-in cooler; walk-in cooler; stand-up cooler; cooling chambers; any equipament requiring temperature control.
Dimension: 71 x 28 x 71 mm.



MT-512G

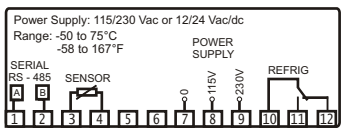
It has same features as MT-512R*i*. The difference is in its dimensions that offers better visualization at a distance.
Dimensão: 90 x 44 x 44mm.



Sitrad
-COMPATIBLE-

MT-512R*i plus*

Offers the same features as MT-512R*i*, besides a serial communication for connection to Sitrad.
Dimension: 71 x 28 x 71 mm.



Sitrad
-COMPATIBLE-

MT-512R*i* LOG

It has the same features as MT-512R*i plus* besides an internal memory enabling temperature data storage status at user-defined time intervals. Therefore it allows to collect the data continuously without the need of a computer permanently connected, once all the data can be later sent via RS-485 serial communication.
Application example: supermarkets, grocery stores, perishable shipments and cold storage chambers, any application requiring temperature recording and MT-512R*i* applications.

TEMPERATURE CONTROLLERS

TIC-17S
76 x 60 x 38 mm

TIC-17C
⦰60 x 40 mm prof.

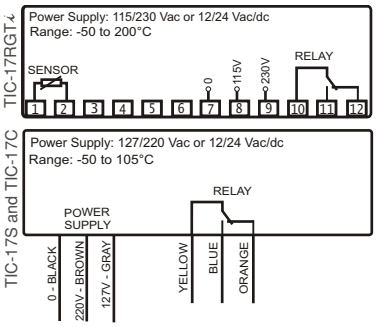
TIC-17C, TIC-17S and TIC-17RGT*i*

Fully programable, providing an easy instalation, it can be applied to control either heating or cooling. Through its single key all parameter can be adjusted. Available in 16-amp version for direct operation of compressors up to 1 HP. It operates in the range from -50 to 200°C.*

Use sensor SB59 for temperatures above 221 °F (105 °C).

Application examples: Heating and cooling equipments.

TIC-17RGT*i*
71 x 28 x 71 mm

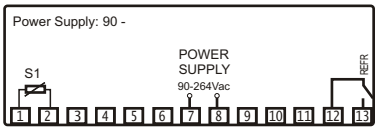


TIC-17G

Fully programable, providing an easy instalation. It´s desiged to controlling either heating or cooling systems which has a single key to adjust all of its parameters. The difference is in its dimensions that offers better visualization at a distance.

Application examples: beverage displays, stand up cooler, walk-in cooler.

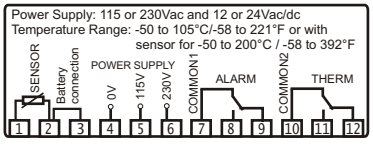
Dimension: 90 x 44 x 44 mm.



TIC-18R*i*

Easy setting and installation instrument which can be applied either to heating and cooling. It has a intern rechargeable battery that can stand 50 hours unpowered, an audible alarm (buzzer) to signalize the lack of power supply and out of range temperature or sensors failure. Features one single adjustment key. It has 115/230Vac or 12/24Vac/dc powe supply and it is 16Amp powered to activate up to 1HP compressors without the need of a magnetic contactor.

Dimension: 71 x 28 x71mm.

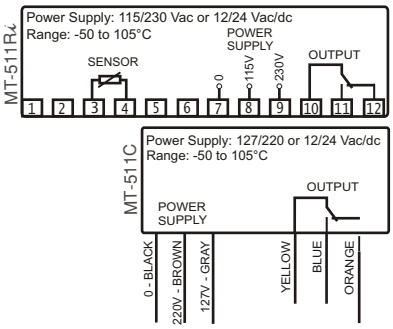


MT-511R*i*
71 x 28 x 71 mm

MT-511C
⦰ 60 x 40 mm deep.

MT-511R*i* and MT-511C

Thermostats featured to allow serving any equipment requiring cooling or heating control. Available in 16-Amp version for direct operation of compressors up to 1HP.



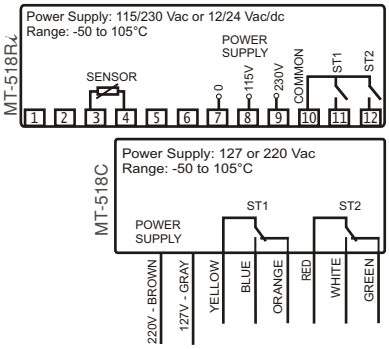
MT-518R*i*
71 x 28 x 71 mm

MT-518C
⦰ 60 x 40 mm deep.

MT-518R*i* and MT-518C

With dual-stage, its outputs can be applied either for cooling or heating. Their secondary outputs can also be set for out of range alarms.

Application examples: Air conditioning systems.



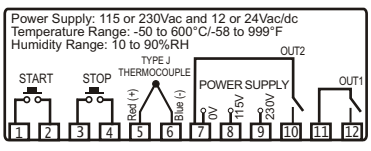
MT-622R*i*

Microprocessor-based temperature control applied to heating or cooling equipments with an internal audiable alarm (buzzer) and two output for temperature control. It can also work as a alarm or cyclic timer.

Working with thermocouple type "J", its temperature range goes from -50 to 600°C. It have a programmed time counter to indicate the end of any process, what is controlled by the two digital input (start and stop).

*Sensor not included

Application example: Deep Fryer, Combined Ovens, Ovens, Boiler.

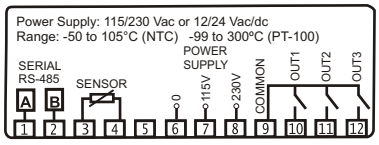


TEMPERATURE CONTROLLERS

Sitrad
-COMPATIBLE-

MT-543R*i plus*

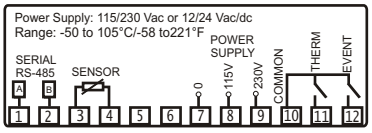
It features three stages, and can be applied either for cooling or heating. It allows the second stage to be set as an alarm (within or outside range), and the third stage as cyclic timer. Besides, it has an internal audible alarm (buzzer) and accepts two types of sensors: NTC thermistor (- 50 to 105°C) or PT-100 (- 99 to 300°C).
Application examples: Industrial furnaces, blood preservation chambers.
Dimension: 71 x 28 x 71 mm.



Sitrad
-COMPATIBLE-

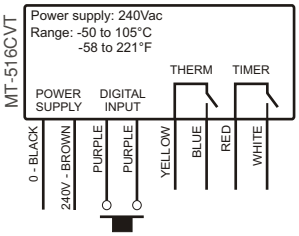
RT-607R*i plus*

With weekly scheduling, allows to set up to four events with programmable start and end, and daily, weekly or divided into working days and weekends. It has a permanent internal battery to ensure clock synchronization and schedule setup for many years, even in case of power failure.
Application examples: water heaters, air-conditioning, counters with static coil and defreeze at set times.
Dimension: 71 x 28 x 71 mm.



MT-516CVT

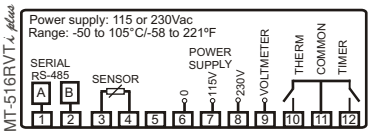
It has an integrated cyclic timer and digital input. It is distinguished by its True RMS monitoring feature (from **180 to 300 Vac**) that prevents the compressor from damage due to voltage fluctuations. It features programmable adjustment for minimum and maximum operating voltages.
Application examples: milk cooling tanks, and systems reqering cooling and heating.
Dimension: Ø60 x 40mm deep.



Sitrad
-COMPATIBLE-

MT-516RVT*i plus*

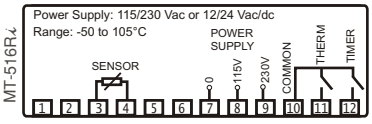
It has an integrated cyclic timer and digital input. It is distinguished by its True RMS monitoring feature (from 90 to 280 Vac) that prevents the compressor from damage due to voltage fluctuations. It features programmable adjustment for minimum and maximum operating voltages.
Application examples: milk cooling tanks.
Dimension: 71 x 28 x 71 mm.

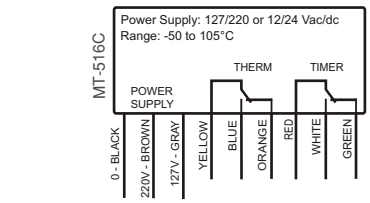


MT-516R*i*
71 x 28 x 71 mm

MT-516C
Ø60x40mm deep.

MT-516R*i* and MT-516C It features two outupts, one for control of the temperature and the second for control of the mixer, where controlling the temperature and preventing milk from standing is necessary for the homogenization process.
Application examples: heat pumps and milk coolers.



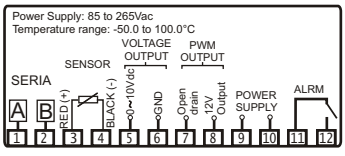


PID CONTROL

Sitrad
-COMPATIBLE-

AutoPID *plus*

For cooling and heating processes, uses PID control (Proportional – Integral – Derivative), which allows controlling the temperature with high degree of precision. It has an analog output from 0 to 10 Vdc and PWM output.
Application examples: cold storage chambers, stoves, laboratories, and injection machines any equipment requiring precise temperature controlling
Dimension: 71 x 28 x 71 mm.

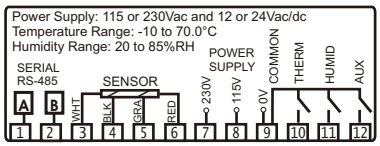


TEMPERATURE AND HUMIDITY

Sitrad®
-COMPATIBLE-

MT-530 *Super*

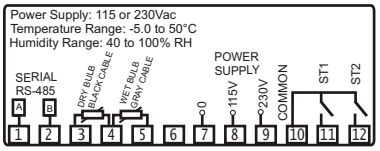
Three outputs: one for temperature control, another for humidity control, and a third one for auxiliary purposes which may operate as a second stage for temperature control, second stage for humidity control, or as a cyclic timer. Additionally, MT-530 is capable of monitoring output status, by an user-configurable time, to warn if the controlled variable is not reaching the configured value, which may be an indication of improperly dimensioned or faulty equipament. It also features an internal audible alarm (buzzer).
It operates in the range from 0 to 100% RH and from 10 to 70 °C. To work in ambiences which the humidity can reach thesaturation, you can apply the model AHC-80 *plus*.
Application examples: Data centers, general ambient air conditioning and equipments which needs control of humidity and temperature.
Dimension: 71 x 28 x 71 mm.



Sitrad®
-COMPATIBLE-

AHC-80 *plus*

It measures air moisture based on psychometrics (dry bulb and wet bulb). It features an integrated temperature controller, and allows configuring for dual-stage of humidity.
It operates in the range from 0 to 100% RH and from –5 to 50 °C.
Application examples: air conditioning and storage of fruits and flowers.
Dimension: 71 x 28 x 71 mm.



FOR USE IN POULTRY FARMS

Sitrad®
-COMPATIBLE-

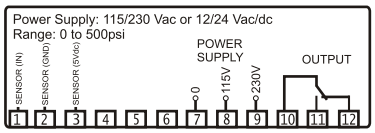
Humitech *Super*

Temperature and humidity digital controller for poultry farming. It is able to control up to eight groups of fans besides minimum ventilation. It commands two spray stages and one for cooling, also featuring hot and cold automatic switch and two alarm outputs for out of range temperature and lack of voltage/curtain disarm. It has an internal memory to continuously record the temperature and humidity values, alarms, output status besides many other informations at users configurable intervals. Additionally is has an USB port allowing to download the recorded data directly to a portable storage device (pen drive). It also has an automatic relative control parameters, just by adjusting the desired temperature and all stages are automatically set (relative setpoints). It allows independent programming of temperature and duration (in days) for each phase of the batch. Optionally the Humitech *Super* can read the temperature in two different points of the poultry farm, performing the control based on the average temperature between the two sensors.
Dimension: 220 x 134 x 54mm.

PRESSURE CONTROLLERS

PCT-100R*i*

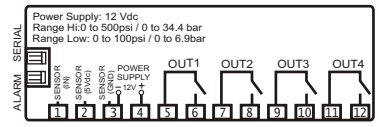
Single-stage, from 0 to 500psi, it can be applied either in cooling systems, both in suction and exhaust, or in air compressors and water pumps control. Ammonia refrigeration systems compatible.
Application examples: Cooling racks and system which need control and monitoring of pressure.
Dimension: 71 x 28 x 71 mm.



Sitrad
-COMPATIBLE-

PCT-400R*i* *plus*

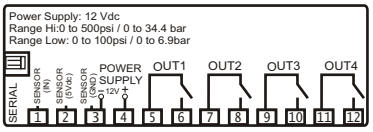
For cooling centrals, it features four stages and alarm output. It operates in independent pressure ranges, from 0 to 100psi (suction) or 0 to 500psi (exhaust). Ammonia refrigeration systems compatible.
Application examples: Cooling racks and system which need control and monitoring of pressure.
Dimension: 71 x 28 x 71 mm.



Sitrad
-COMPATÍVEL-

PCT-410R*i* *plus*

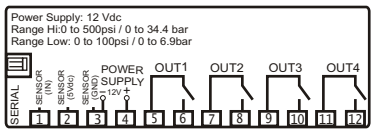
For cooling premises, it features five control outputs (four digital outputs and one 0-10VDC analog output) for frequency inverter proportional control. In addition, it features one auxiliary digital output (NC contact) that can be used to indicate pressure out-of-range (under/over) or sensor not working.It enables you to save energy and enhance the equipment life since the proportional control allows the equipment power to be altered according to the motor RPM. This decreases the power ON cycles, reduces the mechanical wearing and avoids current surges when powering ON the equipment. It operates in independent pressure ranges, from 0 to 100 psi (suction) or 0 to 500 psi (discharge). Anmonia refrigeration systems compatible.
- Sensor sold separately. It has a serial communication for connection to Sitrad.
Application example: cooling racks.
Dimension: 71 x 28 x 71 mm.



Sitrad
-COMPATIBLE-

PCT-420R*i* *plus*

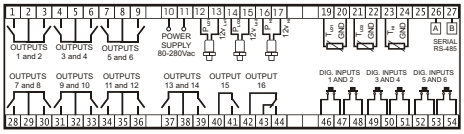
For pressurization and/or depressurization, it features four outputs that can be configured for pressure control, with the last two able to be additionally configured as cyclic timer or alarm. The outputs configured for pressure control also feature an internal hour meter to activate the maintenance alarm and to perform automatic rotation of load activation.
Ammonia refrigeration systems compatible.
Application examples: cooling racks, water pumps, cooling systems, and fire prevention systems.
Dimension: 71 x 28 x 71 mm.



Sitrad
-COMPATIBLE-

PCT-1600 *plus*

With 16 outputs (dual suction and one discharge), it has:16 configurable hour meters (working hours for each output); 3 pressure transducers (control) and 3 temperature sensors (safety); 6 configurable digital inputs; 3 operation modes for the compressors (sequential, according to capacity, and rotative output actuation according to operation time).
It also enables you to configure night and day set points, allowing a great energy saving.
Application examples: Cooling racks and system which need control and monitoring of pressure.
Dimension: 160 x 90 x 66,27mm.

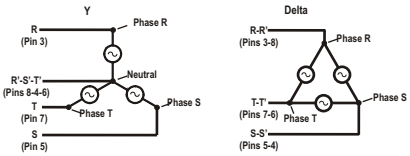


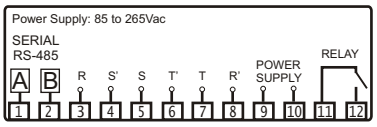
VOLTAGE MONITORS

Sitrad
-COMPATIBLE-

PhaseLOG *plus*

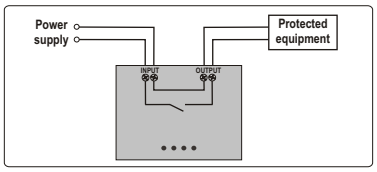
Digital instrument for monitoring and protection of electric plant which can be used either in business or home appliances. It features a real-time clock and datalloger to storage the electric tension data of each main phase in from the power grid in during time periods of time preset by the user. The power supply quality is measured by True-RMS* values besides protect the loads from under and over voltage, angular and modular asymmetry, phase failure and phase sequence.
Application examples: protection of three-phase electric equipaments.
Dimension: 71 x 28 x 71 mm.





Monivolt

This is a device for monitoring the voltage and for protecting electrical devices. It can be used either in industry, business or home applications.
It uses the True-RMS* measurement method to monitor the voltage and protect single-phase loads from under- and overvoltage. It also includes an automatic 3-minutes timer to prevent the output from turning ON again before this time elapses. This function ensures protection for equipment, such as compressors, that require a minimum stop time after turning OFF.
Application examples: protection for single-phase electrical equipment.
Dimension: 81 x 63 x 31mm.

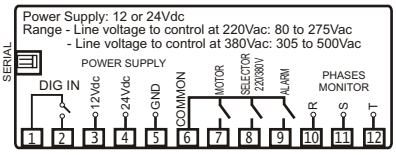


**True RMS:* *Is the real and effective voltage value which also includes the voltage generated by high frequency noise in the distributing network (harmonic distortion). This is the actual voltage applied to the connected load (example: electric motor, compressor). This method allows the precise voltage measurement for any type of wave form. Other measurement methods give correct value of applied voltage only for perfect sine wave forms.*

Sitrad
-COMPATIBLE-

SwitchLOG *plus*

It is an instrument for voltage monitoring and protection of refrigerated transport. This instrument protects the refrigeration system compressor from under and over-voltage, modular and angular asymmetry and even phase fault and inversion. It selects the arrangement of motor winding coils using a specific output, such that the motor can receive the local voltage, ensuring the compressor is connected to the correct power mains. If the voltage is 220V, this product powers a contactor that configures the motor coils in delta connection. If the voltage is 380V, another contactor is powered to connect the coils in y connection. It features a digital input to identify whether the system is operating from the diesel [generator] or the electric power. It has an internal memory (datalogger), which allows recording of the dates and times when the cooling system was connected to the electric power.
Dimension: 71 x 28 x 71 mm.



POWER FACTOR AND DEMAND

Sitrad
-COMPATIBLE-

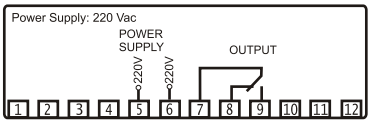
PWR-3200 *plus*

Three-phase energy meter, power factor and electric demand controller with 32 control outputs (2 electromechanical relays for alarms and 30 solid state relays that can share the electric demand control and the power factor control besides schedule features). It also allows to measure the voltage and electric current for the 3 phases and calculate the energy consumption ratio of active, reactive and apparent power (three-phase and single-phase). It features an 8Mb datalogger inside memory.
Dimension: 220 x 134 x 54mm.

TIMERS

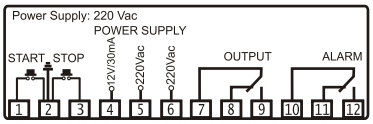
PROGS I

It is an eletronic device with real-time clock that allows configuring up to four events for each weekday, through the definition of start and end times for each one. It has a permanent internal battery to ensure clock synchronization for many years, even in case of power failure.
Application examples: equipment that need to operate in scheduled times.
Dimension: 71 x 28 x 71 mm.



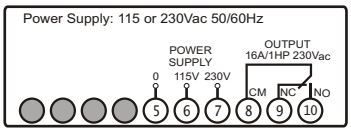
TEMPUS I

It operates as cyclic timer or as process timer, which can be triggered by external keys. It features configurable time base.
Application examples: frigorific equipment, machine tools, stoves, furnaces, automotive and air-conditioned.
Dimension: 71 x 28 x 71 mm.



ICE MATIC

Timer for all types of cyclic events. Featuring a friendly interface, it allows adjusting the parameters by light indications. Available in a 16-Amp version for direct operation of compressors up to 1 HP.
It allows reversing the output state manually.
Dimension: 77 x 39 x 97mm.



THERMOMETERS

Penta III

Portable thermometer that indicates the temperature at five different points. Due to its wide versatility, it is excellent for measuring temperature in central, automotive, and wall-mounted air conditioning equipment; freezers; for frigorific balancing of evaporators, among others. It has unique features such as recording minimum and maximum temperatures, HOLD function (locking of instantaneous, minimum and maximum indications), display of average and differential temperatures, besides the configurable automatic power off.
Dimension: 135 x 75 x 34 mm.

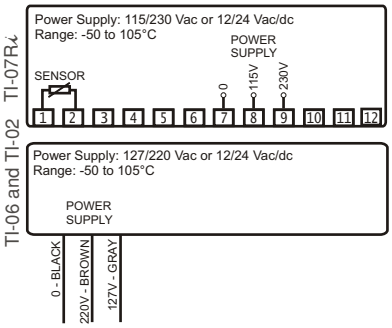
TI-02
76 x 60 x 36 mm

TI-06
Ø 60 x 40 mm deep.

TI-02, TI-06 and TI-07R*i*

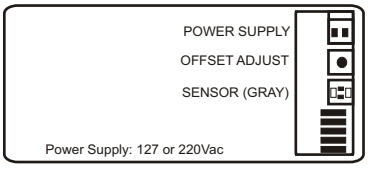
Thermometers featuring decimal display and OFFSET adjustment key. They are excellent for application in frigorific equipment, machine tools, stoves, furnaces, automotive, air-conditioned rooms, and food, chemical and drug industries.

TI-07R*i*
71 x 28 x 71 mm



BIGTHERM

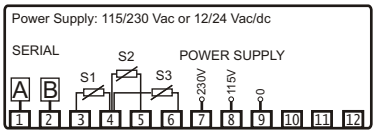
It large dimensios and design allows to watch the temperature at some distance. It has an OFFSET adjustment key, which allows to make small adjustments in the temperature indication.
Dimension: 91 x 45 x 28 mm.



TI-33R*i plus*

Digital thermomether with three sensors that displays the temperature individually or simultaneous from the three sensors, calculating the diferential and the medium temperatures between all sensors.
Dimension: 71 x 28 x 71 mm.

Sitrad
-COMPATIBLE-



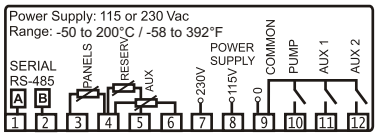
SOLAR HEATING CONTROLLERS

Sitrad

-COMPATIBLE-

MICROSOL II *plus*

Differential solar heating controller featuring three temperature sensors that activates the water pump. It functions prevents the water from overheating and the freezing within the pipes. It has two backup outputs, by electric resistance, gas or diesel-fired or even to command the swimming pool filtration. In addition to this, it features a real-time scheduler that allows to set weekly and daily events and permanent internal battery to ensure clock synchronism for many years, even in case of power failure.
Dimension: 71 x 28 x 71 mm.

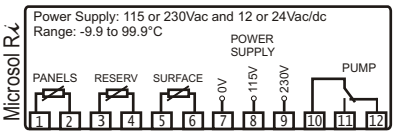


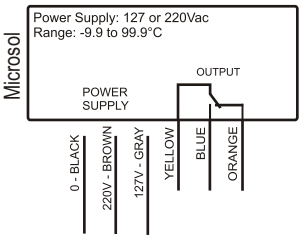
Microsol R*i*
71 x 28 x 71 mm

Microsol
⦰ 60 x 40 mm prof

MICROSOL and MICROSOL R*i*

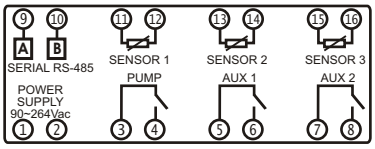
Differential thermostats for solar heating that control water circulation pumps based on the temperature differential between the solar panels and the thermal tank or swimming pool. It functions ensure better collection of solar power, to prevent water from freezing within the piping during winter, and to control its overheating.
Available in 16- Amp version for direct operation of pumps up to 1 HP.





MICROSOL II power

It features a versatile switched-mode power supply (90 to 264Vac) and powerful relays (two 16-Amp and one 30-Amp) that directly commands without the need of magnetic contactors motors up to 1HP and electrical resistances up to 7500W.. It has two backup outputs, which can be electric, gas powered, diesel-fired or even to set the swimming pool filtration. The output 1 is attached to a weekly schedule allowing to set up to four daily events to each day of the week and the output 2 can be optionally set to bound up with the controller agenda. It features the anti-freeze and overheating functions, which prevents the water from freezing and overheating within the pipes and a clock with internal battery to assure the controller synchronism even in lack of energy events, for many years. The instrument has serial communication to connection with SITRAD and WALL-LINK.



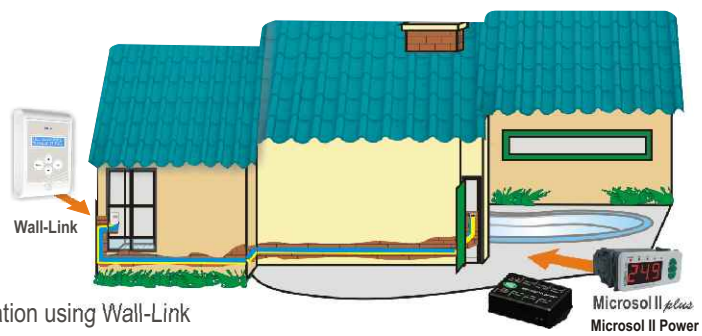
ANASOL

Economic version of the differential temperature controller for pumped solar heating systems. Featuring a friendly interface, it allows adjusting the parameters by light indications. It features functions to prevent water freezing or overheating with user programmable values for each function, in addition to a 16-amp relay to control circulation pumps of up to 1 HP directly. The case allows both wall mounting and 35 mm DIN rail panel mounting.
Dimension: 77 x 39 x 97mm.

REMOTE INTERFACE

Wall-Link (WIRE CONNECTION)

Interface to be used combined with Microsol II *plus* or Microsol II power. This HID (Human Interface Device) enables easy and quick remote access to all information and setup.
Dimension: 90 x 131 x 28 mm.



Example of installation using Wall-Link

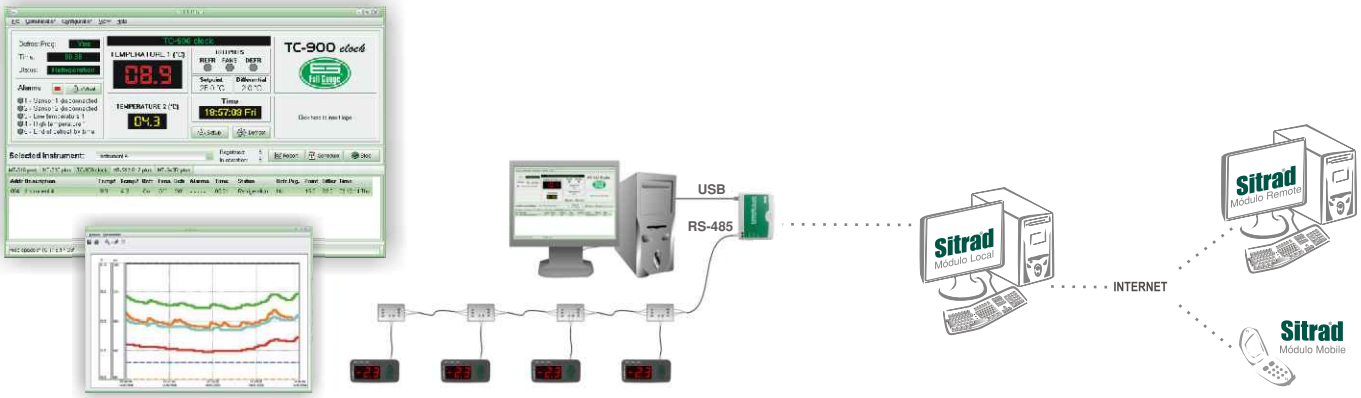
Sitrad®

REMOTE MANAGEMENT SOFTWARE

It is the connectivity that allows taking over the control, anytime, anywhere.

More than just automating, Sitrad innovates in the management of cooling, heating, air conditioning, and solar heating systems by means of its most distinguishing feature: connectivity. Besides allowing to monitor installations locally, this unique and free Software allows the remote management of *plus* Line instruments connected to equipment from many segments, being them industrial, commercial or residential.

Like Sitrad, besides obtaining a significant reduction in electric power consumption, the user can continuously evaluate, configure, and store data on temperature, humidity, and pressure, among others. And, by means of a secure connection (client-server), the user can change the operating parameters of instruments, with full precision and in a practical way. By means of charts and reports, and with messages sent by the software to registered mobile phones and e-mails, in the event the variables are not within the established standards, the user can take over the control of his installation with all the easiness, comfort and safety that only Sitrad can offer.



Sitrad comprises three different modules: Local, Remote and its most recent evolution, Mobile.

LOCAL: to be installed in the computer which the instruments are connected via interface;
REMOTE: to be installed in the computer that will remotely manage the installation, via Internet;
MOBILE: manages facilities via cell phone, communicating with the local module.

Sitrad uses encrypted data transmission for its three modules (Local, Remote, and Mobile). That is, only the software modules understand the data transmitted between computers, providing safe data management.

www.sitrad.com

Besides Sitrad full download, information, tips, and links, the website www.sitrad.com makes available two different ways of learning the operation of the Software.

By means of the link "Operate Sitrad" it is possible to choose to download either the Remote Module, to operate an actual installation connected to operational controllers in our labs, or the Trial Module that generates random data based on the virtual operation of a controller.

In the website, it is also possible to download all other Sitrad Modules, to learn about *plus* line products that have connectivity with Sitrad, and to contact us.

Access and check it out!

CONTROLLERS WITH CONNECTION TO SITRAD®

COOLING
- TC-900R*i clock*
- TC-940R*i plus*
- TC-960R*i* LOG
- MT-512R*i plus*
- MT-512R*i* LOG
- MT-439 *plus*

TEMPERATURE AND HUMITIDY
- MT-530 *Super*
- AHC-80 *plus*
- Humitech II *plus*
- Humitech *Super*

PRESSURE
- PCT-400R*i plus*
- PCT-410R*i plus*
- PCT-420R*i plus*
- PCT-1600 *plus*

VOLTAGE / POWER
- PhaseLOG *plus*
- PWR-3200 *plus*
- Swicth LOG *plus*

SOLAR HEATING
- Microsol II *plus*
- Microsol II power

APPLICATIONS MISCELLANEOUS
- MT-543R*i plus*
- MT-516RVT*i plus*
- RT-607R*i plus*
- AutoPID *plus*
- TI-33R*i plus*

CONVERTERS

CONV32
81 X 63 X 31mm.
(up to 32 instruments)

CONV256
141 X 75 X 46mm.
(up to 256 instruments)

CONV32 and CONV256

Interfaces are devices used to connect the plus Line digital instruments to Sitrad. It performs the communication between the controllers and the computer, by means of converting RS–485 signals from the controllers to RS–232 or USB of the computer. The CONV256 dual-voltage interface is connected to the computer using DB9 or USB cables; CONV32 is connected to the computer by a USB cable.

TCP - 485

Data converter device that transforms the RS-485 standard to Ethernet signal (internet or intranet) thus allowing the *plus* and CLOCK line controllers to communicate with Sitrad software through wiring connection (RJ-45). It also allows to connect instruments remotely. Through the IP address of the TCP-485 Ethernet module it is possible to access it wherever it is, inside the company's network or in the internet.
Dimension: 77,6 x 108,8 x 24,77mm.

EXPANSION MODULE

MOD64

Expansion module with four digital outputs and six inputs, four digital (two voltage and two dry-contact), and two analog. It is used as a supplement in the automation line, working together with the controllers. It is able to monitor the operation of motors, compressors, and fans, besides checking door opening and closing. Additionally, four relay outputs allow activating switches, alarms, and lights, among other actions.
Dimension: 115 x 90 x 40mm.

TRANSMITTERS

FG-Wi Converter

Transmitter (or receiver) that converts RS–485 data to radiofrequency (RF) and vice-versa, such that plus Line controllers can communicate wirelessly with Sitrad .Using this converter, installations communicating with Sitrad through twisted pair (RS-485) can change to wireless communication.
Dimension: 81 x 63 x 31mm.

FG-Wi Router

The FG-Wi Router allows to increase the signal range of a FG wireless network (signal repeater) and the network identification, thereby avoiding interference between other wireless networks that may be in the same coverage area. It is positioned into the wireless network in such way that the FG-Wi Converter (SLAVE) that might be out of the FG-Wi Converter (MASTER) range can communicate properly to the FG wireless network.
Dimension: 81 x 63 x 31mm.

HIGHLIGHTS

TCP-485
Serial data converter - Ethernet
Sitrad
-COMPATÍVEL-

Anasol
Differential temperature controller

Wall - Link
Remote Interface
Sitrad
-COMPATIBLE-

MT-439 *plus*
Temperature controller with configurable parameters
Sitrad
-COMPATIBLE-

Icematic
Timer for cyclic events

DATALLOGER FEATURED INSTRUMENTS

MT-512R*i* LOG
Temperature controller for frigorific transportation
Sitrad
-COMPATIBLE-

Switch LOG *plus*
Voltage monitor for frigorific transportation
Sitrad
-COMPATIBLE-

Phase LOG *plus*
Voltage monitor for three-phase electric equipaments
Sitrad
-COMPATIBLE-

TC-960R*i* LOG
Digital Controller for refrigerated trucks and walk-in freezer
Sitrad
-COMPATÍVEL-

PWR-3200 *plus*
Three-phase power consumption meter and demand controller
Sitrad
-COMPATIBLE-

Humitech *Super*
Humidity and temperature controllerfor use in poultry farms
Sitrad
-COMPATIBLE-

ENCLOSURE Easy controller installation

It allows you to install the Ri Controller in the following situations:
-Wall mounting type (surface)
-Din Rail or screw fixing
-Built in the panel with screw fixing
Connection types:
-X System
-Conduit
It allows you to use 2 auxiliary switches.

* Template for in-built fixing provided

SENSORS

RollerBag® Sensor

The RollerBag sensor is a temperature sensor developed and produced by Full Gauge Controls to be used exclusively with its instruments, and which has reached the important milestone of 10 million units in the field since it was launched in 2004.

There are two types of sensors for many different applications, which cover a wide operating range from -58 °F (–50 °C, often found in the surface of the evaporator where the sensors are installed) to 392 °F (200 °C). It is water-resistant and able to withstand the sharp temperature changes that occur during the refrigeration phases. It is covered with a stainless steel shell, with a cold-formed spherical bottom on a silicon-rubber sleeve, which provides complete sealing, besides offering ruggedness and protection against radiation.

This quality and performance were aimed at patenting RollerBag in 43 countries.

The know-how and reliability accumulated during 25 years enables Full Gauge Controls to offer exclusive and high performance products in the marketplace.

* Patent pending for the process, product and trademark.

Pressure Transducer SB69

Manufactured from stainless steel, it has high stability and accuracy, being immune to interference and vibration. It operates from -40 to 212 °F (- 40 and 100 °C), for pressures ranging from 0 to 100 psi or from 0 to 500 psi. It has a male NPT ¼ fitting, featuring both voltage output signal from 0,5 to 4.5 Vdc and current output signal from 4 to 20 mA.

It allows measuring pressure in the following fluids: compressed air, water, oil, and cooling gases (including ammonia water).

SB56 Sensor

Combined temperature and humidity sensor.

The cables included with Full Gauge Controls® products can be supplied in different lengths. Please consult by the time of ordering.

www.fullgauge.com

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CEP: 92120-030