



PRODUCTS CATALOG



Sitrad[®] PRO

REMOTE MANAGEMENT OF FACILITIES

Is maintaining the right temperature vital for your business? Then you need to use Sitrad Pro.

Sitrad Pro is the software for remote management of refrigeration, solar heating and air conditioning facilities by computer, tablet or mobile phone. It means that all you need is a device connected to the Internet, a converter interface and Full Gauge Controls controllers to access your installation data – and change operation parameters if necessary.

The simple download, installation and intuitive use makes Sitrad Pro easy to operate by users with any computer skills.

Alarms sent by e-mail, SMS, or push notifications are important functions of the software, as they allow for people in charge to act preventively, as they will respond in real time to any signaled changes, avoiding wastes and ensuring total quality of the final product stored. The collected data is monitored by means of custom graphic or text reports, which are stored on the computer, avoiding unnecessary paper printouts.

The system was first released in 1997 and since then has its own development team for its updates. It continuously stores temperature, humidity, time, pressure, and voltage data, allowing you to safely and accurately modify parameters from anywhere in the world. All of these features democratize automation and make remote monitoring more connected and efficient in any industry and for businesses of any size.

Download it now for free – no usage charge or monthly fees!

Do you need to monitor and change parameters of facilities such as **restaurants, bakeries, markets, hotels, clubs, hospitals, laboratories, butcher shops, data centers and storage centers?**

It doesn't matter how large your company is. Sitrad Pro will always be the solution.

ADVANTAGES OF USING SITRAD PRO!



At the installation site, you can use a **computer or a TCP-485** connected to a 3G modem router, or rely on all **Sitrad InBox** technology.



Remote monitoring **saves costs** of unnecessary service calls.



Fully compliant with the most stringent requirements of global health regulatory agencies such as ANVISA (Brazil) and the Food and Drug Administration (FDA). This means that Sitrad PRO is also perfect for the pharmaceutical and hospital industry guidelines.



Up to 20% electricity savings without major investments.



Quick and easy **graphics and text reports**.



Each installation of Sitrad PRO has its own unique ID, facilitating remote access to the installation and eliminating the need for a fixed IP. **Sitrad PRO evolves to make your life easier.**

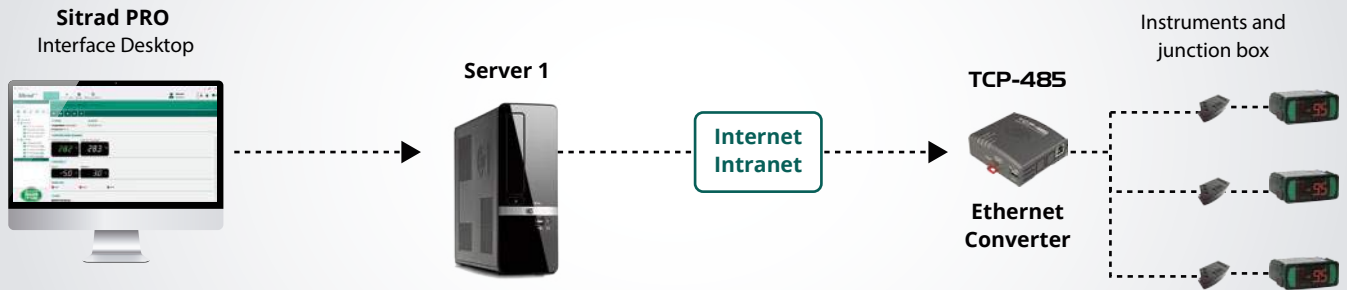
Who uses, approves.

Customers worldwide use and approve Sitrad PRO. Check out real success stories on our website at fullgauge.com/news



Sitrad PRO has gone through Microsoft's Windows 10 compatibility validation.

HOW SITRAD PRO WORKS?



The operation mode varies according to the chosen converter.

Do you want to learn more? Contact our team at sitrad@fullgauge.com

SAY GOODBYE TO THE COMPUTER!



Sitrad[®] INBOX

All in one



Compact Case, **total** management.

Sitrad InBox is a complete solution for remote access to facilities that use Full Gauge Controls instruments. Internally, it has the Sitrad Pro software accessible by Wi-Fi (wireless hotspot) or Ethernet cable connection. That is, this device replaces the server at the facility.

Sitrad InBox's **internal memory (datalogger)** stores the data (event logs) of the facility and, when connected to the internet or other existing networks, it can be accessed via smartphone (Android or iOS) or computer (Windows) **anywhere in the world.**

Sitrad InBox also has a built-in converter interface that allows **direct communication with 32 instruments.** This number can be increased by connecting more interfaces to its four USB inputs (Conv32), its Ethernet communication port (TCP-485) or wirelessly (TCP-485 WiFi or TCP-485 WiFi Log). Sitrad InBox has an HDMI port to allow connecting a monitor and USB ports that can be used to connect keyboard and mouse.

CONVERTERS

Converters interfaces are devices used to connect digital instruments to Sitrad. All controllers model that have in its name: Log, Super, plus and clock means that it has serial connection it and can be accessed by Sitrad PRO.

CONV32

91 x 91,1 x 37,1mm
3,58 x 3,58 x 1,46 in

Device used to connect up to 32 instruments with serial connecton to Sitrad PRO. It performs the communication between the controllers and the computer, by means of converting RS-485 signals from the controllers to computer. The CONV32 is connected to the computer or Sitrad InBox by USB cable.



TCP-485

91 x 91,1 x 37,1mm
3,58 x 3,58 x 1,46 in

Serial device server transforms the RS-485 standard to Ethernet signal (internet or intranet) thus allowing the controllers to communicate with Sitrad software through wiring connection (RJ-45). It also allows connecting 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 on the internet.



TCP-485 WIFI Log

91 x 91,1 x 37,1mm
3,58 x 3,58 x 1,46 in

This converter enables communication between Full Gauge Controls controllers and Sitrad through a WiFi data network using the standard TCP/IP communication. Feature datalogger (internal memory) for data storage.



TCP-485 WiFi Log does not require Ethernet cabling to manage the installation.



FROZEN GOODS CONTROLLERS



VX-950 *plus*

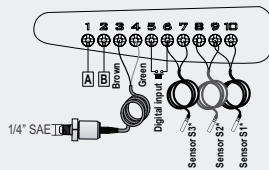
This is an instrument provided for controlling an electronic expansion valve, in addition to superheating, pressure, defrost and ambient temperature control. The **VX-950 plus** controls the liquid flow and also the refrigeration process like defrost, replacing the controller or thermostat of installation. There is a wide range of valves capacities covering the most common valve sizes for commercial refrigeration systems, designed for installations with equipment up to 70.80kW of power. Because of its precision and technology, this product generates an immediate saving up to 20% in the acquisition of equipment for the cooling system.

You can see a saving in the system's energy efficiency, in addition to other advantages such as endurance and less maintenance of the compressors. With the whole system, it is possible to monitor the controls in three ways: only with Sitrad; only with the Human-Machine Interface (HMI) or both (at different RS-485 networks). Using a Human Machine Interface connected to the **VX-950 plus** it is possible to view measurements, set functions and commands such as manual defrost and function block.

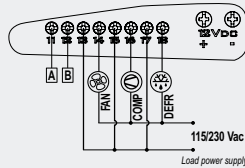
Dimensions: 84 x 120 x 40 mm • 3,30 x 4,72 x 1,57 in (VX-950 plus)
71 x 28 x 71 mm • 2,79 x 1,10 x 2,79 in (HMI)

Application Example: Walk-in coolers and freezers, refrigerated cabinets and displays .

Upper terminal block



Lower terminal block

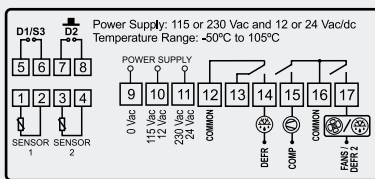


VEE SELECTOR

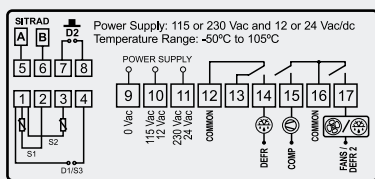
choose the ideal valve to your application
fullgauge.com/veeselector



TC-900E power



TC-900E Log



For frozen goods, it automates the defrosting process according to the needs of the facility (intelligent defrosting), providing energy savings. It operates with two sensors, one for room temperature and the other, fastened to the evaporator, that controls defrosting completion and fan restarting. The room temperature control has a normal setpoint and an economy setpoint, in addition to the fast freezing functionality and alarm functions indicating that the door is open. It features up to two digital inputs. One of these inputs may be configured as sensor 3* to monitor the condenser temperature and disconnect the control outputs in case of an alarm or control defrost termination in a second evaporator. It also features a digital filter, which is intended to simulate an increase of the mass of the room temperature sensor (S1), thus increasing its response time (thermal inertia), and avoiding unnecessary compressor activations. Its 16-Amp relay output can control compressors of up to 1 hp and the defrost output has a current capacity of 10 Amp. To drive inductive loads (motors and pumps) of up to 2 HP, use model **TC-900E 2HP**.

TC-900E Log is also able to communicate with Sitrad Pro software, it has an hourmeter to count the operating hours of the compressor, and an internal real time clock that enables the creation of a defrost schedule for each day of the week. Besides, with the help of an internal auxiliary power supply, the clock keeps working even in case of a power fault for at least 72 hours. It also has an internal memory for storing data (datalogger) and a sensor to activate the economy setpoint according to the intensity of the room light.

*Sold separately

Application Example: Low temp refrigeration equipment such as reach-in, upright,

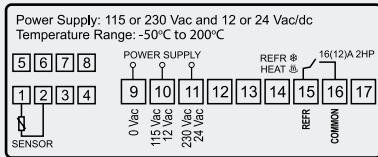




CHILLED GOODS CONTROLLERS



MT-512E 2HP



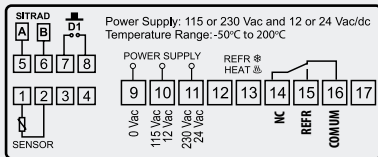
It features a single relay output, for cooling or heating purposes, combined to a cyclical timer for natural defrost. The natural defrost can be forced or performed through an off refrigeration cycle. It also features a configurable digital filter, which has the aim of simulating an increase of mass in the environment sensor, thus decreasing its response time, that is, the sensor response becomes slower. In addition to those features, has tamper-proof function that blocks the keypad preventing unauthorized users changing its settings, and a control function shutdown that deactivates the controlling outputs turning the instrument into a digital temperature indicator.

MT-512E Log is also able to communicate with Sitrad PRO software, it has open door indication and internal data storage memory (datalogger), which allows recording the measured temperature and the control output state at specified user-configurable intervals.

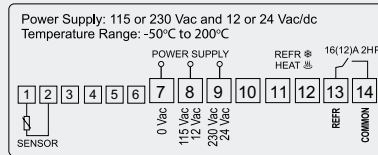
For increased productivity on manufacturing lines, we recommend **MT-512E Faston** model, which features the new FastOn and Push-In quick coupling connector systems. We recommend **MT-512 G** for applications where a larger temperature display is required.

Application Example: Medium or high temp refrigeration or heating equipment such as reach-in, upright, chest, walk-in and display coolers, heated cabinets, greenhouses and more.

MT-512E Log



MT512E Faston



Sitrad^{PRO}



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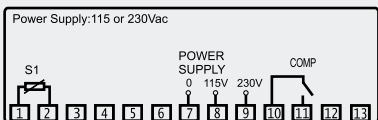


(Only MT-512E Log)

(Only MT-512E 2HP and MT-512E Log)



MT-512G



CONTROLLERS FOR FROZEN AND CHILLED GOODS

Temperature controller for refrigeration (frozen and chilled goods) or heating applications. It has an internal audible alarm (buzzer) and a configurable digital input to detect an open door and/or external alarm/power fault. It performs a natural defrost by stopping the compressor if configured for chilled goods. Output 2 offers the option of functioning as a NC contact of output 1, as a temperature alarm, or to activate a forced defrost (when used for frozen goods). Another available resource is the disconnection of the control functions, allowing for the **MT-514E** to act only as a temperature indicator. Additionally, through an intelligent function locking system, it prevents unauthorized people from changing the control functions. For increased productivity on manufacturing lines, we recommend **MT-514E Faston** model, which features the new FastOn and Push-In quick coupling connector systems.

Application example: vaccine preservation, displays for chilled/frozen goods, and hot counters.



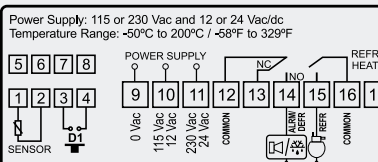
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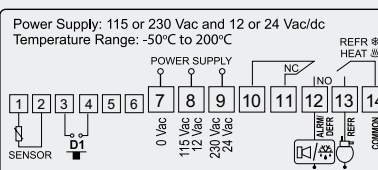
(Only MT-514E)



MT-514E



MT-514E Faston



qcore



Refrigeration controllers that combine high-end, high-tech components – such as Bluetooth communication, precise touchpad, high intensity bright display – and bold design, allowing manufacturers to request color customization of the frame and display at the time of ordering.

Using an innovative logic and proprietary algorithms, they perform the automatic programming of the control for different conditions of use, reducing power consumption and improving refrigeration and defrosting efficiency. They also feature power-saving mode and fast-freezing functions.

Their four touchpad keys allow easy access to commands and four distinct, editable presets for each type of refrigerator or packaged product. They have up to three analog inputs for temperature sensors and up to two digital inputs, which can be configured for various functionalities – the number of inputs varies according to the model chosen. Four relay outputs directly drive compressor, lighting, defrost, and fan loads.

tcore



q-core is the most complete model with Bluetooth communication to read information through a unique, feature-rich app, voltage and current control to estimate the beverage display's power consumption, as well as to test its operation, indicating when any component is damaged. Has three temperature sensor inputs, two digital inputs, True-RMS voltage monitor for input voltage analysis, protecting the compressor from voltage surges and low voltage occurrences (out of range alarm).

dcore



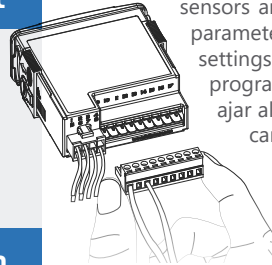
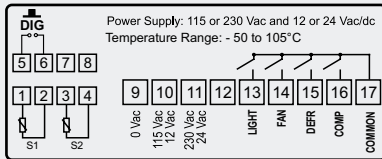
d-core is the economy, standard version for most applications and has two temperature sensor inputs and one digital input. **t-core** has these same features, plus a True-RMS voltage monitor.

Application Examples: Medium and low temp refrigeration equipment such as reach-in, upright, chest, walk-in, display and bottle coolers and freezers.

Dimensions:
Display: 100 x 54 x 22mm | 3,93 x 2,12 x 0,86 in
Power module: 95 x 88 x 26,5mm | 3,74 x 3,46x 1,04 in

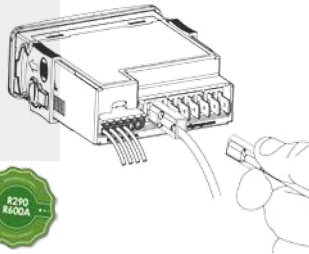
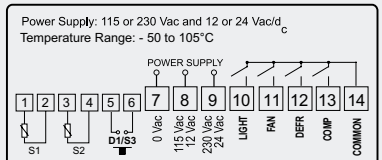


MT-44E Fit



It is equipped with 4 output relays (compressor, fan, defrost and light), 2 temperature sensors and one digital input. It can be configured with 3 independent sets of parameters for quick change of (setpoint, eco-setpoint, differential and defrost) settings to accommodate change of product in the room. Digital input can be programmed to activate/deactivate economic set point, initiate defrost, door ajar alarms, door open counter or light control. Light and economy set point can also be controlled through quick access menu key, eliminating the need of external switches. **MT-44E** also features temperature to start defrost, internal buzzer, min-max temperature record, multi LED color options.

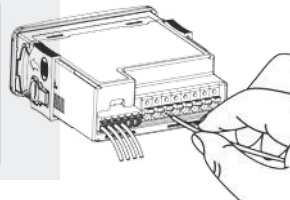
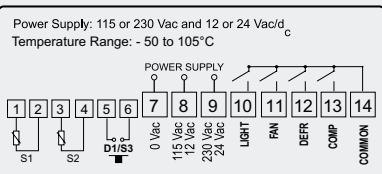
MT-44E FastOn



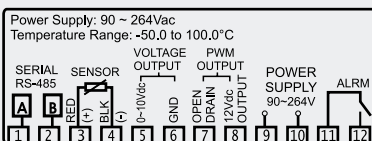
Designed to maximize energy efficiency in commercial refrigeration equipment, this controller features new FastOn and Push-In coupling systems, increasing productivity in manufacturing lines. See on the side which type best suits your needs.

Application Examples: beverage displays; reach-in coolers; refrigeration counters and up right freezers.

MT-44E EasyCon



AutoPID plus



PID CONTROL

For cooling and heating processes, uses PID control (Proportional, Integral and Derivative), which allows controlling the temperature with high degree of stability. It has an analog output from 0 to 10 Vdc and PWM output.

Application Examples: green houses, stoves, laboratories and injection machines.

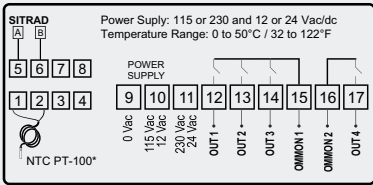




TEMPERATURE CONTROLLERS



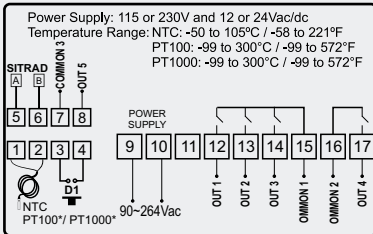
MT-543E plus



They have four configurable outputs: cooling, heating, minimum ventilation, alarm and timer (cyclic timer). They accept three types of sensors: NTC thermistor (- 50 to 105°C), PT100, and PT1000 (- 99 to 300°C). They also hold an internal audible alarm (buzzer) and a configurable digital filter that can be set to simulate a larger sensor inertia.

MT-543E Plus features Soak mode operation which allows to configure up to five different setpoint and link time of operation in each setpoint. **MT-543E LOG** also has a fifth relay that can be used as a power fault alarm and / or alert. In addition, it features a clock and internal memory (datalogger), which allows storage of the temperature value at specified periods of time, the variation of temperature and the status of the outputs.

MT-543E Log



Even in power supply faults the MT-543E Log can keep recording data due its built-in rechargeable battery. This controller helps food industry management systems by allowing monitoring of the critical control points required by HACCP (Hazard Analysis and Critical Control Points).

Application Example: blood banks, data centers, wine cellars, air conditioning and ovens.

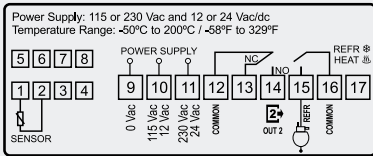


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(Only MT-543E Log)



MT-516E



Designed for cooling and/or heating applications, it features two configurable outputs of control and one sensor. The second output can be set as cyclic timer, alarm, or second stage of cooling/heating.

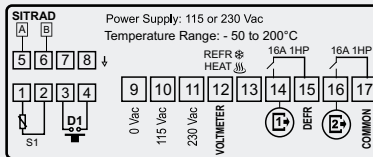
Application Example: milk cooling tanks, refrigerated displays, incubators and heat pumps.



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MT-516EVT plus



Thermostat with two 16A outputs for cooling or heating applications. These products have cyclic timer and True RMS voltage monitor (from 90 to 280Vac) with programmable settings of minimum and maximum working voltages, which could prevent damages on the refrigeration system due to voltage fluctuations.

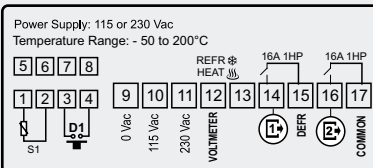
Remote management is easy on the **MT-516EVT Plus** together with Sitrad PRO software.

Application Example: milk cooling tanks

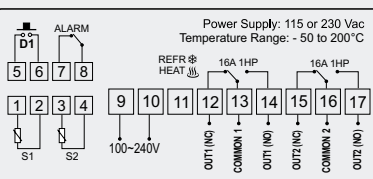


Sitrad PRO
(Only MT-516EVT plus)

MT-516EVT



MT-519E




Temperature controller for cooling or heating applications with two independent thermostats, allowing operations in two different environments. In addition, the outputs of the thermostats can be configured as cyclic timers and the alarm output can be linked to any of the thermostats. Furthermore includes an audible alarm (buzzer), digital filter, and configurable digital input for door and pressure switch.

Application Example: boilers, heaters, freezers, refrigerated counters, hot/cold counters.



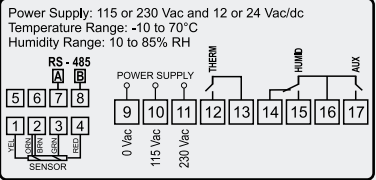


HUMIDITY AND TEMPERATURE INTEGRATED CONTROLLERS




MT-530E Super

Power Supply: 115 or 230 Vac and 12 or 24 Vac/dc
 Temperature Range: -10 to 70°C
 Humidity Range: 10 to 85% RH



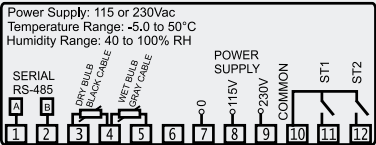
It has three outputs: one for temperature control, another for humidity control, and a third one for auxiliary purposes, which may operate as a second stage for temperature control, humidity control, alarm, or cyclic timer. It is intended for low and medium relative humidity applications (10% to 85% with no condensation) and features an internal audible alarm (buzzer). Its temperature and humidity sensors are combined in a single bulb, saving space and wiring.

Application Examples: data centers, wine cellars, grain driers, green houses and general ambient air conditioning

AHC-80 plus

Power Supply: 115 or 230Vac
 Temperature Range: -5.0 to 50°C
 Humidity Range: 40 to 100% RH




It measures air moisture based on psychrometry (dry bulb and wet bulb). It features an integrated temperature controller, and allows configuring for dual stage of humidity. Used for high RH percentages and with water condensation. It operates in the range from 40 to 100% RH and from -5 to 50 °C.

Application Examples: air conditioning and storage of fruits and flowers.

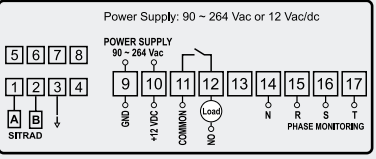


ENERGY CONTROLLERS




PhaseLog E plus

Power Supply: 90 - 264 Vac or 12 Vac/dc



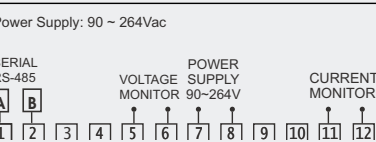
It's an instrument for monitoring and protection of electrical equipment for industrial, commercial and residential facilities. Using the true measurement method, it also monitors power quality and protects single / two / three phase loads against: under and over voltage, angular asymmetry, modular asymmetry, phase loss and phase sequence inversion. The internal datalogger stores the voltages of each phase of the electrical grid during periods of time determined by the user. Time and date of each sample is stored as well (internal realtime clock).

Application Examples: energy quality monitoring, motors protection, electrical panels protection and other multiphase equipments protection.


EnergyLog plus

Power Supply: 90 - 264Vac



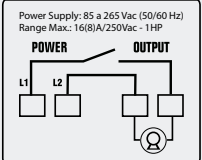
Instrument for monitoring and displaying the electric energy quality and consumption which features a real time clock and internal memory to periodically store the electric data measured - the data acquisition period is defined by the user. It uses the True-RMS measurement method to determine the voltage and current and display the active, reactive and apparent power, power factor and power supply frequency. Current up to 5A can be measured directly through the controller. For currents larger than 5A up to 1000A a current transformer (CT) is required.

Application Examples: Monitoring and displaying the energy quality and consumption for single-phase electrical installations.

Monivolt II

Power Supply: 85 a 265 Vac (50/60 Hz)
 Range Max: 16(8)A/250Vac - 1HP



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-minute timer to avoid the output from turning ON again before this time elapses. It prevents the ON-OFF cycle during the instability of power source. 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.



PRESSURE CONTROLLERS



RCK-602 plus

The **RCK-602 plus** is the first electronic controller of the Rackcontrol line, designed for refrigeration compression systems for low and medium of temperature commercial and industrial refrigeration applications. **RCK-602 plus** controls and monitors pressure or temperature using up to six configurable sensors, allowing the use of backup sensors that come into operation automatically if the need arises. It is a dedicated product for the control of condensing units and rack-type parallel compression systems by means of eight compressor or fan outputs divided into two analog outputs for proportional control and six digital relay outputs.

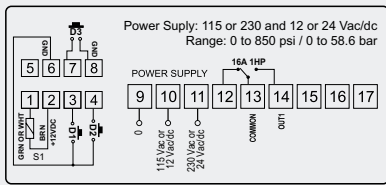
The controller features a new control logic intended to minimize the power consumption of the refrigeration system: the progressive algorithm seeks to match the refrigeration demand required by the plant with the power of the compressor set, reducing the number of starts and stops. And through the floating condensation control function, the temperature of the outside environment is monitored to lower the condensation setpoint, thus reducing the system's compression ratio and power consumption.

Simple to operate and configure, **RCK-602 plus** features an internal buzzer (audible warning), unique key and screens for alarm monitoring that simplify the process of monitoring and troubleshooting the refrigeration system. The real time clock (RTC) allows automating commands and recording the times of alarm occurrences. The USB connection allows downloading the configuration parameters and updating the firmware.

Application example: compressor racks and condensing units.



PCT-100E

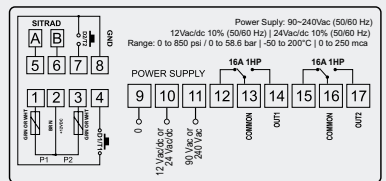


Digital pressure switch easy-to-install and easy-to-apply for systems that require effective pressurization or depressurization control up to 850 psi. It is able to control loads up to 1 HP directly and has three digital inputs that allow using external devices to protect the controlled system. The hourmeter stores the number of hours the compressor operates and indicates when the compressor needs servicing.

Application Examples: control of suction or discharge in refrigeration systems, control of air compressors and hydraulic pumps.



PCT-120E plus

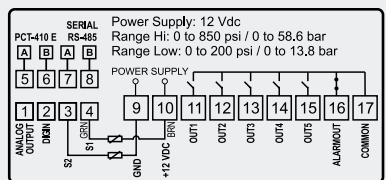


Pressure switch and thermostat with two control outputs and two stages, operating in pressurization, depressurization, refrigeration, heating, or alarm modes. It can also be used for water level control. It is able to control two loads up to 1 HP directly and has two digital inputs that allow using external devices to protect the controlled system. The hourmeter stores the number of hours the compressor operates and indicates when the compressor needs servicing. By using temperature sensors together, it also controls dynamic and adiabatic condensation, dynamic evaporation, superheating and subcooling, promoting greater energy efficiency in the system.

Application Examples: suction or discharge control in refrigeration systems, control of air compressors, semi-artesian wells, reservoirs, and water filters. Superheating and subcooling monitoring.



PCT-410E plus



Pressure based controller designed for refrigeration plants that require suction and discharge pressure control. Featuring 7 outputs of control, 6 digital and 1 analog for variable speed control, in addition 3 inputs, one for pressure transducer (4~20mA), one for temperature sensor and a digital input. When pressure and temperature sensors are used it can measure subcooling and superheating of the line. Working in pairs, allows to control up to 5 sets of fans and compressors simultaneously. Versatile, it offers 4 operating modes: linear, rotation, capacity or individual.

Application Examples: cooling racks and condensing units.





SOLAR HEATING CONTROLLERS



MICROSOL ADVANCED LINE



The **Microsol Advanced line** is characterized by its unique design for use in residential and commercial applications. It has 4 models:



MICROSOL SWP ADVANCED
Solar heating for swimming pools;



MICROSOL FLT ADVANCED
Controls the solar water pump and filtration system;

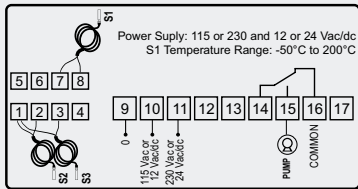
MICROSOL BMP ADVANCED
Solar water heating controller featuring an output for backup system;



MICROSOL RST ADVANCED
Controls the backup system using "Real Time Clock" in thermosyphon systems.



MICROSOL E

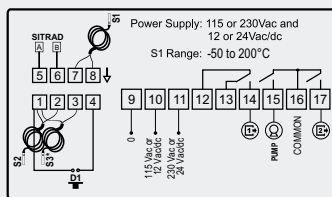


Differential thermostat for solar heating with three sensors* that controls the water circulation pump based on the temperature differential between the solar panels and the thermal tank or swimming pool. It has functions to ensure the efficiency of the heating system, prevent the freezing of the pipes during winter and control overheating. *2 sensors included. **SB59 sensor (up to 200°C) (sold separately).

Application Examples: pumped solar heating systems.



MICROSOL II E plus

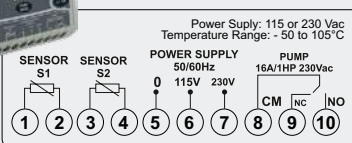


Differential solar heating controller featuring three temperature sensors* that activates the water pump. Its functions prevent the water from overheating and the freezing within the pipes. It has two backup outputs by electric resistance, gas or diesel-fired or even to command the swimming pool filtration. 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 synchronization for many years, even in case of power shortage. *2 sensors included. **SB59 sensor (up to 200°C) (sold separately).

Application Examples: pumped solar heating systems



ANASOL

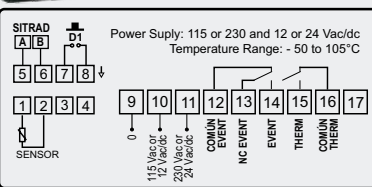


Economic version of the differential temperature controller for pumped solar heating systems. Featuring a friendly interface, it allows adjusting the parameters by light indications. It features functions to prevent water freezing or overheating with user programmable values for each function, in addition 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.

77 x 39 x 97mm
3,03 x 1,53 x 3,81 in



RT-607E plus



Digital temperature controller for cooling or heating purposes combined with a time scheduler which allows the user to configure up to eight daily events, with programmable start and end time, which may be daily, weekly or split into business days and weekends. It has a permanent internal battery to ensure clock synchronization and schedule setup for many years, even in case of power shortage. It allows the user to activate the load manually even out of the events. In addition to that, it offers parameters for recirculation and protection of water heaters. With the sensor disabled it works as a time scheduler only.

Application Examples: water heaters, air-conditioning, counters with static coil and all processes that require time scheduling.

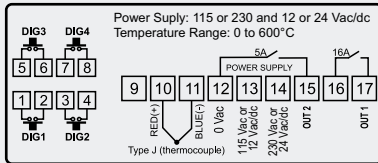




HEATING CONTROLLERS



MT-622E



Designed for heating (cooking equipment), it uses a type J thermocouple* as a sensor for the temperature range from -50° C to 600° C (32° to 1112°F). It features two control outputs for temperature and an internal audible alarm (buzzer). The first output could use a preheating cyclic mode and the second output may be configured to work as an alarm, timer (cyclic timer) or indicator of process completion. It features a timer that operates in different modes, driven by digital inputs, which indicates the end of the time of one or two processes. It also features five configurable presets, allowing to quickly change the values of the setpoint (desired temperature) and hysteresis (control differential) of the first stage and the process time. *Sold separately.

Application Examples: Fryers, ovens and sauna.



TO-711F* e TO-711B

75 x 75 x 100 mm
2,95 x 2,95 x 3,93 in



Thermostat with timer for gas, electric, or wood-fired ovens. Compatible with thermocouple sensors type J* or K* (configurable) to measure temperatures between 32° and 932° F (0° and 500°C). It can hold up to 20 configurable presets to control the temperature, cooking time, and steam injection, making the oven ready for the most varied types of cooking. It is possible to control the rotation direction of the fan and its inversion to improve the process. The instrument also controls steam injection and lighting in the oven, and it has a flame sensor input and an internal audible alarm (buzzer) that signals, for example, the end of the roasting process. It also allows for the use of an external audible alarm and temperature sensor for thermal protection of the fan, preventing it from overheating. The **TO-711F** is connected via pluggable terminal block for quick coupling (minifit)*. The **TO-711B** has quick connect terminals. * sold separately.

Application Examples: gas, electric, or wood powered ovens.



TO-712F* e TO-712B

75 x 75 x 100 mm
2,95 x 2,95 x 3,93 in



Thermostat with timer for gas, electric, or wood-fired ovens. It uses a J-type thermocouple sensor* to measure temperatures between 32° and 932° F (0° and 500°C). Controls steam injection and lighting in the oven, and it has a flame sensor input and an internal audible alarm (buzzer) that signals, for example, the end of the roasting process. It also allows for the use of an external audible alarm and the language selection of your main messages, improving the user experience. The **TO-712F** is connected via pluggable terminal block for quick coupling (minifit)*. The **TO-712B** has quick connect terminals. * sold separately.

Application Examples: gas, electric, or wood powered ovens.



TO-741B

75 x 75 x 100 mm
2,95 x 2,95 x 3,93 in

Thermostat with timer developed for deck ovens. Compatible with thermocouple sensors type J* or K* (configurable) to measure temperatures between 32° and 932° F (0° and 500°C). It features two independent thermostats (TOP and BOTTOM) to drive each resistance individually according to the required temperature (setpoint). The instrument also controls the steam injection and lighting in the oven, and it has an internal audible alarm (buzzer) that warns, for example, about the end of the roasting process. It features a recipe menu with 10 settings to control the temperature, cooking time, and steam injection. It has a relative temperature alarm function, absolute or out of range, configurable according to the needs of the user, and also allows using an external audible alarm. *sold separately.

Application Examples: deck ovens.



TO-751B

75 x 75 x 100 mm
2,95 x 2,95 x 3,93 in

Thermostat with timer developed for dough proofer, it controls heating, refrigeration, and ventilation. When used with a sensor model SB-56* it controls the humidity of the process as well. The output to the solenoid valve together with the level sensor manages the filling of the oven's water tank. The control may be manual or automatic depending on the fermentation start time and end time. It features a clock, internal audible alarm (buzzer) and also allows using an external audible alarm. * sold separately.

Application Examples: dough proofer (night baker).



TO-761B

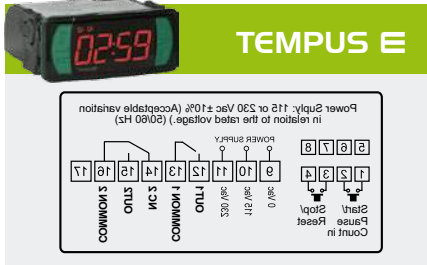
75 x 75 x 100 mm
2,95 x 2,95 x 3,93 in

Thermostat with timer developed for rotary ovens. Compatible with thermocouple sensors type J* or K* (configurable) to measure temperatures between 32° and 932° F (0° and 500°C). The preset mode provides 20 configurations to control the temperature, cooking time, and steam injection, making the oven ready for the most varied types of cooking. The instrument also controls the fully configurable injection of steam in the oven and it is able to control the activation and deactivation of the rotary carriage, as well as controlling the output of the exhaust fan to prevent the heat of the oven from reaching the operator when the door of the oven is opened. The controller provides automatic lighting control of the oven and allows activating both the lighting and exhaust fan output manually, in addition to the forced ventilation output (turbine) and internal audible alarm (buzzer) to notify, for instance, the end of the baking process. It has three digital inputs used to monitor door opening, rotary carriage limit switch, and external burner response signal in case of flame ignition failure or gas outage. It also allows using an external audible alarm. * sold separately.

Application Examples: gas-fired rotary ovens with external burner, electric rotary ovens.



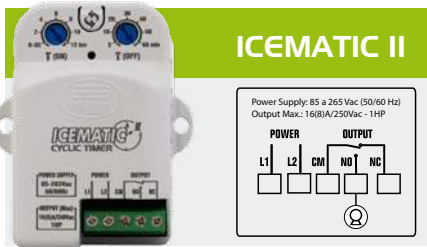
TIMERS



TEMPUS E

Multi-function device designed to operate as digital timer or counter. It includes three configurable and independent operating modes: event timer, cyclic timer or unit counter. The event timer mode offers three preset options and it is triggered through one of the controller's keys or an external switch connected to the digital input. The cyclic timer mode can operate with up to two outputs of control and include a delay option where both outputs will remain off. The counter mode include unit, batch and total counting options. Other salient feature include an internal audible alarm (buzzer) and an output that indicates the end of cycle/process and event totalizing, in addition to two digital inputs for external start/pause/count and stop/ reset switches.

Application Examples: equipment that needs to control the timings of its processes or equipment that needs quantity counts.



ICEMATIC II

Cyclic timer programmable by setting the output (ON) to 12 hours and an adjustment of up to 60 minutes to keep the control output off. Suitable for all types of cyclic events for its ease of programming. It also has a dedicated key to reverse the output state manually, always respecting the two-minute time before activating the control output (ON) as a protection of the installation. Dimensions: 68,5 x 81 x 28mm

Application Examples: can be used as a timer for any type of cyclic event, such as : regulating cooling and defrost cycles in chambers and chambers and frigorific displays, activating lights, air conditioners,among others. In the irrigation of plantations, it can control the operation of motor pumps or solenoid valves for water.



THERMOMETERS

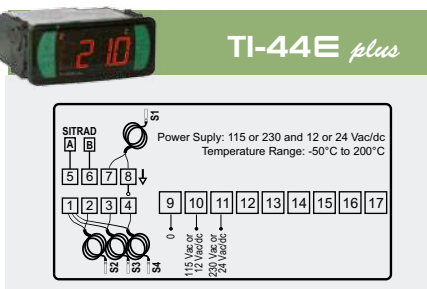


PENTA III

135 x 75 x 34mm
5,31 x 2,95 x 1,33 in

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.

Application Examples: Temperature measurements on central, automotive or window air conditioners; freezers and in the refrigerator balancing of evaporators.



TI-44E plus

Thermometer designed to monitor average, differential or individual temperatures of up-to four sensors*. It can be connected to Sitrad realtime monitoring and management software or smartphone APP using RS-485 serial communication port. *One sensor included.

Application Examples: cold storage equipment, machine tools, stoves, furnaces, motor vehicles, air conditioned rooms, food, chemical, and pharmaceutical industries.



MODULES



MOD-64

This is a device developed to operate independently or together with other Full Gauge Controls instruments, used as a complement in remote management systems. It has six inputs, two digital, two analogical and two voltage. These inputs can be connected to a range of sensors (volume, mass, percentage, level, smoke, presence, pressure, temperature and humidity, for example). It also has four 16A relay outputs with two configurable as a cyclic timer and events agenda.

Furthermore, the **MOD64** allows to create operating rules for its applications through Sitrad PRO.

Sitrad PRO

115 x 90 x 40mm
4,52 x 3,54 x 1,57 in



MOD-I42

Expansion module designed to operate in stand-alone mode (after being configured) or combined with Sitrad PRO. It allows the expansion of the capacity of digital events (on/off), it keeps track of the temperature values and the measurement of a wide range different variables using any 4-20mA sensor on its analog input. The conversion resolution of the AIN analog inputs is 3000 points. It has 14 inputs and 2 outputs.

Sitrad PRO

115 x 90 x 40mm
4,52 x 3,54 x 1,57 in

ACCESSORIES



EasyProg - PROGRAMMING KEY

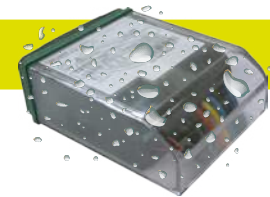
The revolutionary Full Gauge EasyProg allows storage of nine individual programmings. It can copy the information from a standard controller and then download it to other controllers without the need for connecting it to a PC. It can also be connected to the PC through a USB port and change the parameters using Sitrad 's Preset Editor. The communication with the instruments has a RS-485 port and a Serial TTL port. Portable, works with no batteries.

See the controller's manual to check if it is compatible with EasyProg before connecting them.



ENCLOSURE

For installation of instruments with measures 71x28x71mm (2,79x1,10x2,79 in) in situations such as wall mounting type (surface) and din rail or screw fixing. Connection types: X System; conduit. Includes two 16A switches that can be used to turn on light, air curtain, compressor or fans. *Also available for sale without switches. | ** For illustrative purposes only (instrument not included).



ECASE

Rear protective case for controllers, prevents against water and moisture in the controller's terminals. *Image merely illustrative (product not included).



EXTENSION FRAME

For installation of instruments with measures 71x28x71mm (2,79x1,10x2,79 in) in varied situations, since it eliminates the need of precise cutouts to embed the instrument. With a modern look, its fixation is by screws* that are hidden, further enhancing its appearance. The Extension Frame of Full Gauge Controls also allows customization with the brand and contact of the installer or industry and accompany two 10A switches that can trigger internal light, air curtain, compressor or fan. *Screws are included | Accompanies two on / off switches | Image merely illustrative (product not included).

SENSORS



Sensor SB70

NTC probe produced with thermoplastic polyester and cable with double insulation. The sensor is fused to the cable, which means even more strength and durability even in humid environments, proven through rigorous laboratory testing. It operates in the temperature ranges -50°C to 105°C / -58°F to 221°F . The SB-70 is presented in white color what makes easy to mark it and identify it on the installation site. It replaces the traditional black, gray and brown models.



Sensor SB19

Temperature sensor is covered with a stainless steel shell AISI 316 L, with a cold-formed spherical bottom on a silicon-rubber sleeve, which provides complete sealing, besides offering ruggedness and protection against radiation. Water resistant, the RollerBag was developed and produced by Full Gauge Controls to be used exclusively with its instruments.



Sensor SB41

Sensor with thermoplastic polyester cable and individual isolation. Operates at temperatures of -50 to 105°C (-58 to 221°F).



Sensor SB59

Temperature sensor with silicone cable and covered with a stainless steel capsule. It operates at temperatures from -58°F to 392°F (-50°C to 200°C).



Pressure Transducer SB69

Manufactured from stainless steel 316L, it has high stability and accuracy, being immune to interference and vibration. It operates from -40 to 212°F (-40 to 100°C), for pressures ranging up to 850 psi. It has a male SAE $\frac{1}{4}$ fitting, featuring both voltage output signal from 0.5 to 4.5 Vdc or 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).



Sensor SB12 - Type J Thermocouple

Sensor formed by two metal alloys (iron and constantan) for measure temperatures between 0 and 300°C (-32 to 572°F). To use with **MT-622E** and with **ThermON line**.



Sensor SB56

Sensor conjugate of temperature and relative humidity for use in conjunction with **MT-530E Super**.



Sensor SB28

Screw sensor to be directly inserted in the solar heating piping, ensuring even more precision in the control of hot water temperature and facility in installation. Sealed with a special resin, it prevents interference caused by humidity when measuring the temperature.



Penetration Sensor

An accessory that can be used in Full Gauge Controls temperature instruments, allowing for the internal temperature of products to be checked. Available in two sizes: 150mm (5,9 in) (**SB-32**) and 75mm (2,95 in) (**SB-57**).

LIVES THAT **INSPIRE US**



We are part of the lives of millions of people around the world. Even without noticing, we are always there assuring the quality of products reaching the table of a major part of the population, whether during transportation of fresh meat for the Sunday barbecue, the oven baking of the bread we are used to eating for breakfast, or even the freezer where we keep our refreshing beverages.

We are also engaged in offering the ideal climate for hanging out at the mall or in exciting moments, such as Arrivals and Departures at the airport. We are there, guaranteeing the perfect temperature of the water for sharing pleasant moments at a swimming pool with

friends, and for making that ice cream a delicious experience with the ideal consistency.

And, if for any reason, something gets out of hand, there is no reason to worry: Sitrad, a management software via Internet, will send an alarm to the cell phone of the responsible persons so everything can go back to normal in short time..

People's lives inspire us to continuously invest in new technologies, state-of-the-art machines and expansion of our physical space, training and professional development of the sector, in order to always do more and better.



WHO WE ARE

Since 1985, we produce a varied line of digital instruments for the refrigeration, air conditioning, heating, and solar heating industries.

We have offices in the United States, as well as an industrial compound installed in an area of 2.5 acres in the city of Canoas (Brazil), where our products are 100% developed and manufactured. Thus, we keep the Development Engineering and Production Engineering integrated in the same physical space, ensuring our commitment to meeting the delivery deadlines.

The innovative sector that includes Industrial Design and an Injection Factory guarantee agility and autonomy throughout the production process, the result of substantial investments in state-of-the-art machines, such as a modern large 3D printer and

hiring of a specialized team.

We are present throughout the world by exporting half of our production, as exhibitors in more than 20 trade fairs across the globe per year, and through our employees who provide lectures and training. This way our image is consolidated in 62 countries, including: United States, Canada, China, United Arab Emirates, Portugal, Mexico, Colombia, Argentina, and South Africa.

We are more than 300 employees engaged with the company's Quality and Environmental Policy, focused and motivated to always deliver the best, disseminate technical knowledge in practice, contributing to empower the industry, satisfying and conquering our partner: you.

QUALITY AND **CERTIFICATIONS**



We are committed to excellence in manufacturing our products, affirming respect for environmental preservation. Our products and processes comply with international guidelines, standards and certifications such as UL, CE, NSF, and ISO 9001 and 14001. Our production line also complies with the European directive RoHS, which eliminates the use of hazardous substances in electronic devices. Sitrad PRO software has been approved by Microsoft's rigorous validation process, ensuring its compatibility with Windows 10 and demonstrating all reliability and security in the facilities.





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