

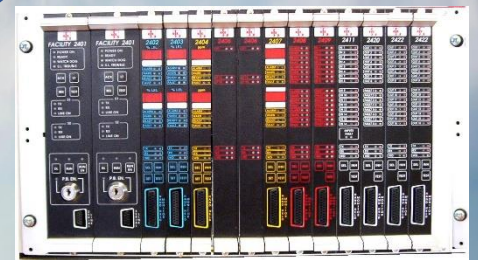
BAGGI®

We know what to do ...before it happens

SES Engineering Spare Parts

SES Engineering, since its foundation, knows how to avoid disasters... preventing them with high quality products. **BAGGI** is able to supply what SES Engineering provided, almost the complete product range.

On request, Baggi is able to handle a **complete revamping** of your fire&gas system with components that are fully updated but compatible with the existing ones. Ask us for a completely exhaustive inspection and a no-obligation offer!



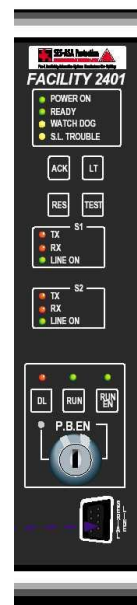
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FIRE&GAS SPARE PARTS

2400 SERIE COMPONENTS AND CARDS

2401-CPU Facility Card

- 80186 16 bit microprocessor
- 128Kbytes of EPROM (Multitasking operating system & working program)
- 512Kbytes of RAM (battery backed)
- Real Time Clock (battery backed)
- Redundant RS 485 FD serial line (internal bus)
- Redundant RS 485 FD serial line (external bus)
- RS 232 serial line for configuration (downloading application program and event printer or configured for MODBUS RTU)
- RS 232 serial line communication with supervisory system in MODBUS RTU
- Ethernet TCP/IP communication with supervisor system
- High speed Parallel Bus for data exchange between the two 2401-CPU cards
- Status LED indication for CPU Ready, Watch Dog, Power ON, Fault on serial lines, Line on Rx & Tx for each redundant internal serial line
- Front Panel commands for ACKnowledge, RESet, Lamp Test, System TEST, DownLoad, RUN and RUN ENable Application program
- Front Serial line connector for PC configuration, event printer, MODBUS RTU



2403 Control Unit

The 2403 control unit, part of the F&G/ESD 2000 series, is designed to **detect gas and vapor combustibles in the air, for example: LPG (Butane, Propane), Methane, Hydrogen, Acetylene, Ethylene, Toluene, etc.** The control unit interfaces directly with the combustible gas detectors through **2** separate channels. This exclusive feature allows you to connect to a small range of detectors in the store with 3 cables, available on the market. Using a single microprocessor chip, present in the 2400 family of cards, women have the highest reliability and precision. The microprocessor allows the adjustment of the alarm via the dedicated commands, while using the potentiometers. A display with 2 digits, indicates the LEL of gas detected (Lower Explosivity Limit) on a 00-99% scale and this error code. The concentration on the display deviates from clinotant to an LEL value greater than 99%. The operating conditions (Alarm, Warning, Ready, Défaut) can also be controlled via indications on a double LED on the front of the panel. The control unit has the same analog value as the two channels accessing the CPU (CPU Facility 2401) via a redundant RS 485 serial port at the beginning. When the self-diagnosis is complete, possible through the microprocessor, on the supervision and control of the function of the components of the card, correct operation of the puissance interieure du regulator, in case of failure, the failure of the sorties our du Watchdog. To increase the operations of the control unit, the logic section (including the microprocessor, the serial interfaces and the powerful interfaces) is carefully isolated from the input/sorties section and for the best use of the optoisolators. The control unit is available, on the connector, which is sorted to the collector to bring the Warning, Alarm, Default and for the Fail-to-Safe calibration signs, configurable via DIP Switches for CLIGNOTANTE or NON CLIGNOTANTE (seulement pour Alarm et Warnings). Additionally, two analogue types (4-20 mA) are available for connection to other control panels or supervision systems. The card is equipped with a 32-pin DIN 41612 I/O connector.



FLAME CONTROL CARD 2408

Control unit 2408, a component of series F&G/ESD 2000, interfaces directly to UV, UV + IR, IR + IR flame detectors with 4-20 mA current outputs in any configuration, including Intrinsic Safety. This exclusive feature allows the user to connect the wide variety of 4-20 mA transmitters available on the market. This card, as do all the cards of the 2400 series, uses a SINGLE CHIP microprocessor, which assures a high reliability and accuracy. The microprocessor allows the setting of the minimum time of flame persistence to generate an alarm, (timing confirms the presence of a genuine flame in order not to create a false alarm). This value is programmable from immediate to a maximum of 99 seconds of delay time to generate the alarm. The card is designed with the configuration of the alarm signal in LATCHING mode and the warning signal in the NON LATCHING mode. The card has a 32-pin DIN 41612 connector for link to/ from the field (I/O Connector)



Control unit 2409

Control unit 2409, a component of series F&G/ESD 2000, is designed for the management of 8 supervised input channels. It is possible to connect to each channel :

- * Smoke/temperature detection loop
- * Thermal sensitive cable
- * Voltage free contacts from devices such as pushbuttons, relays, etc.

Main functions can be resumed a follow:

- * Management of the signals from input channels
- * Supervision of the line between detectors and the card
- * Self-diagnostics and functional control.

The card monitors the current from the channels and it shows their status, using front panel LED's:

- * RED – Alarm activation (ON); normal functioning (OFF)
- * YELLOW – Fault (ON); Inhibition (FLASHING)

The board is fitted with a 32-pin DIN 41612 I/O rear connector



Control unit 2411

Control unit 2411, a component of series F&G/ESD 2000, is designed for the management of 16 digital input lines. A single chip microprocessor controls the acquisition of signals from the field and displays, through redundant LED's, the operating status of each channel and any malfunction, activating the cumulative input Fault indication; these LED's are installed on the board front panel.

Input signals can be configured in two modes, i.e. Normally Open or Normally Closed in groups of 8 channels, LATCHING and NON LATCHING and, depending on their configuration, when activated, the front panel indications will be respectively FLASHING and NON FLASHING. Board 2411 communicates the status of each connected channel to the CPU Facility (2401) through a redundant high-speed RS-485 serial line. To increase the operating safety of the control unit, the logical section (including microprocessor, serial interfaces and internal power supplies) is galvanically isolated from the input circuits from the field.





Logic Controller 2420

2420 Logic Controller, for F&G/ESD 2400 System, provides eight (8) Opto-isolated Supervised open Collectors Output for the direct activation's of solenoids, relays, status lamps, xenon beacons, sounder, etc. with maximum load of 2A @ 24VDC. The Output Card is designed to have the positive logic characteristics in that are source current from the positive power bus and the loads. The output devices are connected between the common power bus (OV of the 24VDC I/O) and the card output on the I/O connector.

Each Output channel (based on Smart device), has a voltage loop back circuit which verifies the correct operation of the output channel and also detects and indicates the open and short circuit of the load. The output channel will be deactivated when a short circuit is detected (i.e. high temperature or high current <2A). The card, based 8 microprocessor receives output command signal(ON or OFF)from the 2401-CPU Facility Card which executed the dedicated logic output (application program) and places the update data in the Output table of the 2420 Card.



Digital Output 2422

Control unit 2422, a component of the F&G/ESD 2000 series, is designed for management and control of 16 digital output lines (24V dc negative logic, 0.1 Amp for each output line)

The output card is designed to have negative logic characteristic in that it sinks current from the load to the user common power bus. The output devices are connected between the positive power bus (24V dc I/O) and the card outputs on the I/O connector. The output characteristics are compatible with a wide range of user-supplied field devices, such as: relays, LED's, lamps, etc. The single-chip microprocessor present on the 2422 card and in the entire 2400 series receives output command signals (On or OFF value) from the main processor mod. 2401 Facility Module which execute the dedicated logic output (Application Program) and places the updated values in the output table of the 2422 card via a serial line command.

The board is fitted with a 32-pin DIN 41612 I/O connector.



1800 SERIE COMPONENTS AND CARDS

Serie Stand Alone 1810 GC

The 1810 GC can be considered one of the enhanced stand alone control unit available on the market for what concern combined Gas detection for industrial applications which GPL (Propane / Butane), Methane, Hydrogen, Ethylamine, Toluene, etc. The 1810 GC interfaces directly with catalytic Pellistor sensor or Transmitter/Smart Sensor with output

0÷22mA this features permit connections to many different type of Transmitter Sensor available on market, at 2, 3 or 4 wires connections and Intrinsically Safe connection also for Oxygen depletion (1810GO).• The microprocessor single chip used, present on all 1800 range, have several advantages of application and high reliability.





WIN ZONE DETECTION CARD 1801MR

The control unit 1801MR, represents the most technologically advanced solution on the market in the field of fire detection and extinguishing for industrial applications. The card 1801MR is interfacing through the supervised input circuits directly with the detection loops (smoke, temperature, flame and voltage-free contacts) it generates the relating alarm and fault controls (both Open Collectors and Relay).

The use of the SINGLE CHIP microprocessor, available on all the 1800 family, surely offers great advantages, both in application and in reliability. Through the Dip Switches on the card, it's possible to configure the functional parameters of the product to make it suitable to the various applications, such as the configuration of the supervised inputs with contact normally open (N.O.) or normally closed (N.C.). The control unit makes available on the connector DIN 41612 at 32 pins, the following main signals:

- Power Supply 24 V DC
- Supervised Inputs
- Open Collectors Outputs
- Relay Output

Control Unit 1801MS

The control unit 1801MS, represents the most technologically advanced solution on the market in the field of fire detection and extinguishing for industrial applications. The card 1801MS is interfacing through the supervised input circuits directly with the detection loops (smoke, temperature, flame and voltage-free contacts) and with the pressure switches of the extinguishing system, it generates the relating alarm and fault controls (both Open Collectors and Relay) and activates the Electro-valve control supervised output (E.V.) of the extinguishing system. The use of the SINGLE CHIP microprocessor, available on all the 1800 family, surely offers great advantages, both in application and in reliability.

The control unit makes available on the connector DIN 41612 at 32 pins, the following main signals:

- Power Supply 24 V DC
- Supervised Inputs
- Status Open Collectors Outputs
- Relay Outputs
- Supervised Power Output of Electro-Valve Control

Flame Detector Controller 1804FL

In the Flame detection the 1804FL control unit is the most advanced technological solution available on the market. The 1810FL control unit interfaces directly to Flame detector with 0-22 mA current output in any configuration with 2, 3 or 4 wire cables including Intrinsically safe Flame detector.

This card, as well as all the cards of the 1800 series, uses a SINGLE CHIP microprocessor, which assures a high reliability and accuracy. The microprocessor allows setting of a warning before it generates the alarm by means of dedicated keys without using trimmers, moreover it allows the protection of the set parameters with a password. A two-digit display indicates the detected status and any error codes.

The 1804FL control unit makes available on the connector: 0-22 mA output relative to the detected status Relay outputs for Warning, Alarm and Fault Open Collector (O.C.) outputs for Warning, Alarm, Fault and inhibit.

The card has a 32-pin DIN 41612 connector for the signal connections from/to the field..

DETECTORS

Smart MT500

SMART MT500 is the result of OVER HALF CENTURY experience made by Giovanni Bardoni in Gas Detection Design and Developing of products and applications to protect people and plants against fire and gas hazards. The design and features of MT500 represent "the state of the art" for Toxic and Combustible/Flammable Gas Detection



FIELD EQUIPMENTS

- SIRENS
- LOUD SPEAKERS
- BEACONS
- HEAT DETECTORS
- LINEAR HEAT DETECTORS (LHD Cable)
- MANUAL CALL POINTS
- HEAT DETECTORS (fixed and rate of rise)
- SMOKE DETECTORS



FIREFIGHTING SPARE PARTS



Field of application: OFFSHORE

Twin Agent Skid in Cabinet
Gas Extinguishing Systems in rack
Automatic Deluge Skid

Field of application: PETROCHEMICAL

Foam bladder Tank
Water/Foam Deluge monitors
Water Deluge Skid



Field of application: INFRASTRUCTURES

Total Flooding Extinguishing Gas Systems
Water Pump Station
Foam Systems
High Pressure Water Mist
Gas Extinguishing skid
Expansion Foam chambers



Field of application: POWER PLANT

Foam monitor on tower
Water Deluge systems
Gas Extinguishing systems

