

PC configuration

# Manual





THIS MANUAL MUST BE CAREFULLY READ BY ALL PERSONS WHO ARE OR WILL BE RESPONSIBLE FOR INSTALLING, USING OR SERVICING THIS PRODUCT.

OTHERWISE, IT COULD FAIL TO PERFORM AS DESIGNED AND PERSONS WHO RELY ON THIS PRODUCT FOR THEIR SAFETY COULD SUFFER SEVERE PERSONAL INJURY OR DEATH.

Sensitron S.r.l provides a guarantee for the product supplied. This guarantee lapses if installation, use or maintenance are not carried out in accordance with the instructions of this manual.

For further information about installation, maintenance and, eventually, restoration of this product, please contact Sensitron S.r.l.

THIS MANUAL EXCLUSIVELY DESCRIBES THE CONFIGURATION SOFTWARE USED FOR GAS CONTROL PANEL OF MULTISCAN ++ SERIES (8, 16, 32, 64, 128 AND 256), MULTISCAN ++ PARK SERIES (16, 32, 64, 128 AND 256) AND PL4 + D. THE INFORMATION REPORTED IS NOT SUFFICIENT FOR THE COMPLETE USE OF THE GAS CONTROL UNITS, THEREFORE PLEASE REFER TO THE PROPER INSTRUCTION MANUAL SUPPLIED BY THE MANUFACTURER.

# Summary

L'indice è vuoto perché non stai utilizzando gli stili paragrafo che hai scelto di visualizzarvi.

# 1. Introduction

The PC configuration software is a simple and complete interface for programming the gas control units produced by Sensitron S.r.l.

The software is used to:

- Load the data from the gas control unit and check its programming and event log;
- Simplify changes to the gas control unit's operating modes (such as sensor alarm levels);
- Download the configuration and changes made to the gas control unit;
- Maintenance;
- Initial programming of the gas control unit by a Sensitron technician or installer.

#### **1.1 Minimum pc hardware requirements**

Operating System	Windows XP, Windows Vista, Windows 7 o Windows 10
CPU	Pentium 3, 500Mhz
RAM	1 Gb
Hard Disk	400MB di spazio libero

#### 2. Installation

Connection to the PC takes place through USB port available and follow the described instructions.

#### 3. Launching the program

Launch the program from the Windows program bar by clicking on "Configuratore Centrali Galileo"



Fig. 3.a) Program name in the Windows list

The login window will appear. Each user must be authorised to use the program. See the chapter entitled "User Management Application" in this manual to create users with their relevant permissions. The first time the program is used after installation, the only user present is Sensitron with a default password. The username Sensitron is the Administrator, which is the highest level user with permissions to access all program functions. Then enter the following in the window of Fig. 3.b. Enter the following credentials:

User na	me: <b>sensitron</b>	
Passw	ord: <b>543210</b>	
Multiscan++ Configurator		
File Settings (1) Info		
¥ () @		
Multicoopt+ Configurator		
Multiscan++ Configurator		
-8966	User Name	
- William	Password	
		Login
The second		
ATEX		
Est		
NOTIFIED		
NOT		

Fig. 3.b) Configuration program login screen.

#### 3.1 Gas control unit selection

Once login has been performed the control unit selection screen will show. It is possible to choose a control unit from the drop menu, or let the program detect which control unit is connected by clicking the "CPU Detection" button. By clicking the "Config Detect" button is possible to select the correct control unit according to a previous saved configuration file. User must click the "Config Detect" button in order to choose a configuration file; once the file has been selected, the software will display the correct control unit in the drop menu.

• <del></del> 1	Multiso	an++ Co	onfigu	urator					
	File	🎡 Setti	ngs	(i) In	fo				
Ø	<b>(i)</b> (	0							
Μ	lulti	scar	1++	- Co	onf	fig	urato	r	
	Centr	al Unit sel	ection	1					
	SIL:		SIL 1						$\sim$
	Mode	l:	Pa	ark					
	Sele	ct a Centr	al Uni	t					$\sim$
		Config D	etect		[		CPU Detec	tion	
		Cano	el		[		Ok		

Fig. 3.1.a) Gas control unit selection screen

# 3.2 Main program screen

Once selected the gas control unit, the screen reported in Fig. 3.2.a) will be displayed.

🖳 Multiscan++ 8		service and the		- 6 <b>X</b>
🗋 File 0 Settings 🔒 Users 💩 Commu	unication 🗃 Reports 🕕 Info			
User: Sensitron (Administrator) 🎦 📷	🤣   😫 🍠 📗   🐳 🏂   🚺 @			
Multiscan++ 8				
New Configuration New Configuration	Open Configuration Genfile			
Settings	Communication	Users	Other	
Serial Port	<u>Test</u>	Search Application Users Management	(i) Info	
	Upload configuration from CPU	Jogout	Help	
		Access Log	Exit	

Fig. 3.2.a) Main program screen (Administrator level user)

The following menu can be selected from the main screen:

*New configuration:* to create a new system configuration.

Open file: to open an existing configuration.

*Serial port:* sets a PC serial port for data transfer to and from the connected gas control unit.

*Test:* performs a PC gas control unit serial connection test.

Load configuration from CPU: to load the configuration from the gas control unit.

User management application: programming and related levels of users.

*Logout:* To logout the user.

Log access: Displays the login and logout history.

*Info:* Displays the program version.

Help: Online Support (available in the future).

*Exit:* To exit the program.

#### 4. Program menu

The various program functions are only visible if the user who logged in has the permissions to use them.

The configuration software includes plausibility checks on the modification and the entry of new parameters.

The following chapters list program menus and describe their functions.

**4.1 File** 



Fig. 4.1.a) Menu file

New to create a new system configuration to open an existing configuration

Open

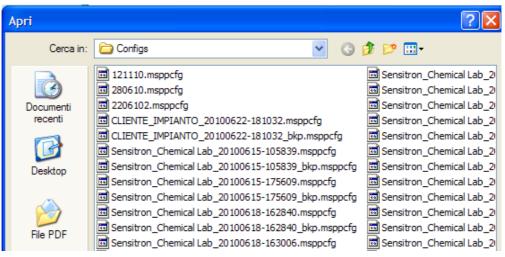


Fig. 4.1.b) Open an existing system file

**Open Event Log** to view the history of events previously loaded by the gas control unit (Refer to *Communication* Menu, Paragraph 4.4)

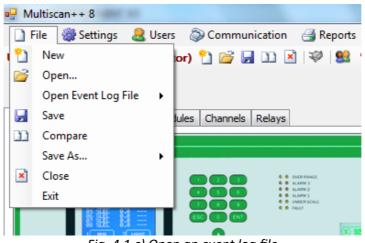


Fig. 4.1.c) Open an event log file

From "**Open event log**" it is possible to open an event file previously loaded and saved in the appropriate folder.

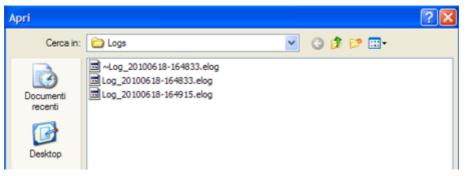


Fig. 4.1.d) Path of a \* .elog event log file

			tings/Guido/Document	i\Multiscan++ SIL1\Logs\Log_201		P47.elog				
Тіра	evento	Evento		Dispositivo Zon	e					
_		×	×	<u> </u>		*				
n	ltro data		Filtro ora							
14/0	2/2011	✓ 15/02/2011	00:01 23:59	Filtro			STAMPA			
_	Id	Data	Tipo evento	Evento	Valore	Unità	Utente	Dispositivo	Zona	Canale
	1000	21/06/2010 8.34.49	Info	Power on				Unità Centrale		
	1001	21/06/2010 8.37.38	Traccia seriale	Serial Login				Unità Centrale		
	1002	21/06/2010 8.37.38	Traccia seriale	Serial Get Fw Version				Unità Centrale		
	1003	21/06/2010 8.37.40	Traccia seriale	Serial file transfer OK				Unità Centrale		
	1004	21/06/2010 8.37.40	Traccia seriale	Serial Logout				Unità Centrale		
	1005	21/06/2010 8.38.16	Traccia seriale	Serial Login				Unità Centrale		
	1006	21/06/2010 8.38.17	Traccia seriale	Serial Get Fw Version				Unità Centrale		
	1007	21/06/2010 8.38.19	Traccia seriale	Serial file transfer OK				Unità Centrale		
	1008	21/06/2010 8.38.19	Traccia seriale	Serial Logout				Unità Centrale		
	1009	21/06/2010 8.38.43	Traccia seriale	Serial Login				Unità Centrale		
	1010	21/06/2010 8.38.44	Traccia seriale	Serial Get Pw Version				Unità Centrale		
	1011	21/06/2010 8.38.46	Traccia seriale	Serial file transfer OK				Unità Centrale		

Fig. 4.1.e) Event log list

Clicking "Save" saves changes made to the system.

Click "*Compare*" to compare the system file in the current session with another previously created file. When you click "Compare", a window appears where you can select the file to be compared.

*Fig. 4.1.h) Folder of the system file to be compared* 

onfiguration Compare	
This Configuration	Other Configuration
✓         System Information           Distributor         Sensitron           Contact Details         John Foster           Panel Type         MTS 256           End User Company Name         Chemical           End User Contact Detail         John           Responsable         John           Responsable Contact Detail John@factory.xx         Plant Name           ✓         General Settings           Warmup Time         2           Maintenance Time         30           Buzzer Reactivation Time 60         Bus Architecture	System Information         Distributor       a         Contact Details       b         Panel Type       c         End User Company Name       d         End User Contact Detail       f         Responsable       g         Responsable Contact Detail h       plant Name         Variant Name       e         Variant Settings       Warmup Time         Warmup Time       2         Maintenance Time       30         Buzzer Reactivation Time 60       Bus Architecture         Bus Architecture       Two open bus
	<ul> <li>Zones</li> <li>Number of zones 1</li> <li>Modules</li> <li>SMART S-IR 1</li> <li>CPU Relay Module 1</li> <li>Inputs</li> <li>Sensors</li> <li>Address 1</li> <li>Outputs</li> </ul>

Fig. 4.1.i) System file comparison window

By clicking "Save As..." two submenu will show: "Central Unit File" and "BlackMagic File". By choosing the first one the current configuration will be saved

with a new filename, while the option "Blackmagic File" will save the configuration with a format suitable to the BlackMagic.

"Close" to close the file on which you are working

"Exit" to exit the Configuratore Centrali Galileo program

#### 4.2 Settings

💮 Settings	al Users 🛛 🔊 Comr	nunio	ation 🛛 🗃 Reports 🕕 I
🤣 Serial	Port		🗅 💌 🛷 😫 💡 Ple
🖉 Langu	-		Italian
scan+	τŏ		English
General Se	ttings Modules Channe		Spanish
			Portuguese
			German
	_		
1	Serial Settings		
	RS232 Port C	OM1	
	Timeout in minutes 3		
	Baud Rate 1	15200	
	ОК	Can	icel
		_	

Fig. 4.2.a) Settings Menu

With "Serial port", the PC serial port for data uploading and downloading is selected. Select the communication speed with the PC (Baud rate) as set on the gas control unit. Please, refer to the manual of gas control panel.

"Language" to choose the language of the software. When creating or editing a system configuration, remember to click "Save" before changing the program language or all changes will be lost.

#### 4.3 Users

<u></u> ا	Jsers
<u>.</u>	Application Users Management
2	Logout
	Access Log

Fig. 4.3.a) User Menu

"Application Users Management" allows enabled program users to use the configuration software and the relative permission levels to perform the various functions.

	Name	Surname	User name	Password	Category		Contact Info	Permissions
	Sensitron		sensitron	********	Administrator	•	info@sensitron.it	
*						-		

*Fig. 4.3.b) User programming window* 

When the program is used for the first time after installation, the only existing user is **Sensitron** with a default password of **543210**. Sensitron user has the highest administrator level and allows access to all program functions. The Name, password and Contact Info can be changed for the Sensitron user, but not the username (Sensitron) and Permissions (Administrator).

It is possible to create an unlimited number of users, each with their own Name and Surname, Password, Permission level (Category), Contact data and Permissions.

	Name	Surname	User name	Password	Category		Contact Info	Permissions
	Sensitron		sensitron	********	Administrator	-	info@sensitron.it	
	John	Simpson	JS	********	Level 3	-		
	Alan	Foster	Foster	********	Level 3	-		
/	Carl	Harrison	Harry	********	Level 1	•		
*					1	-		

*Fig. 4.3.c)* User programming window

The table "User Management" has as columns:

*Name and surname:* identifying information of the user.

Username: name to be entered at login.

*Password*: Alphanumeric code for each user.

**Category**: User permission level in order to be able to perform the various program functions. There can be 4 levels. The "Administrator" has access to all program functions. Level 1, Level 2 and Level 3 (highest level after the Administrator).

Contact Info: data to trace the user (e.g. e-mail address, telephone number, etc.).

**Permissions**: assignment of authorisations to the user to execute the various operational functions of the program. Click "Permissions" to open the window with the list of gas control panel program functions.

User permissions	
User: John	
User level: Level 3	
Create a new configuration	
Open an existing configuration	
Open an existing event log	
Save the current configuration	
Modify serial port settings	
Manage application users	
Manage CPU passwords	
View access log Download configuration into CPU	
Upload configuration into CPU	
Upload event log from CPU	
View reports	
Modify system infos	
Modify general settings	
Modify zones	
Modify modules	
Manage channels	
Manage relays	
Change CPU Password	
Set Defaults Cancel	Confirm

*Fig. 4.3.d)* User permissions programming window

Flag the various boxes to enable the relevant function for the user. By clicking on "Set Default", depending on the level of the user programming (Level 1 or 2 or 3), a pre-compiled selection of enabled functions is automatically associated with the user (which can always be modified).

"*CPU password management*" is selected to program users of the PL4 +D gas control unit and the related operational level (Operator, Maintenance and Engineer).

	Operator						Maintena	ance		Engineer	
	Name	Password		Name	Password		Name	Password		Name	Passwor
1	Alexander	••••	17			1	Karl	••••	1	Eng	••••
2	Michael	••••	18			2	Elkan	••••	2	Karl	••••
3	John	••••	19			3			3		
4	Robert	••••	20			4			4		
5			21			5			5		
6			22			6			6		
7			23			7			7		
8			24			8			8		
9			25			9			9		
0			26			10			10		
1			27			11			11		
2			28			12			12		
13			29			13			13		
4			30			14			14		
15			31			15			15		
6			32			16			16		

Fig. 4.3.e) Gas control unit user programming window

It is possible to have up to 64 users in the gas control unit, of which 32 are at an Operator level, 16 are at a Maintenance level and 16 are at the Engineer level. For the operation of various levels of gas control unit users, see the "System Power Up and Operation" section of this manual. Passwords must be 4 numeric digits long.

"Logout" logs out the user from the program. The Login window reappears where a new user can login. See chap. 4.3 and Fig. 4.3.b.

"Access Log" displays the program Login and Logout log as well as operations conducted and the operations performed.

🔡 Log	📕 Log applicazione				
	Data/ Ora	Utente	Tipo evento	Evento	
•				Multisystem starting	
	15/02/2011 16.38			Application Data Path: C:\Programmi\Multiscan_SIL1\App_Data	
	15/02/2011 16.38			Application Config Path: C:\Documents and Settings\Guido\Documenti\Multiscan++ SIL1\Configs	
	15/02/2011 16.38			Creating mutex	
	15/02/2011 16.39			Starting main thread	
	15/02/2011 16.39			Version 1.4.4	
	15/02/2011 16.39			Multiscan++	
	15/02/2011 16.40	sensitron		Login accepted: User=sensitron	
	15/02/2011 16.40	Sensitron	Open	Loaded file C:\Documents and Settings\Guido\Documenti\Multiscan++ SIL1\Configs\Sensitron_Che	
				Chiudi	

Fig. 4.3.f) Application Log Window

### 4.4 Communication

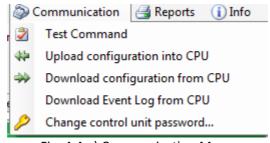


Fig. 4.4.a) Communication Menu

The "*Communication*" menu allows for parameters for data exchange between the PC with the software and the gas control unit to be set.

*Note*: connection between the two devices is essential in order to exchange data between the PC and the gas control panel.

Connect the PC to the gas control unit through the appropriate USB port on the main panel. Please refer to the manual of the panel the position of USB port.

"Test command" verifies the correct connection between the gas control unit and PC. Whenever data is exchanged between the gas control unit and PC, a password must be entered to establish the connection (Serial Password). The password entered is compared with that on the gas control unit, and the connection is established.

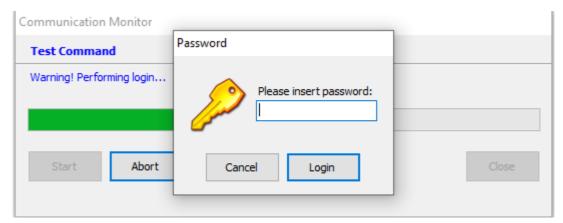


Fig. 4.4.d) Request for entering the serial password

The default password is **000000**, but can be changed by clicking "**Change control unit Password**".

Warning: If the new password is lost, it will no longer be possible to access the gas control unit.

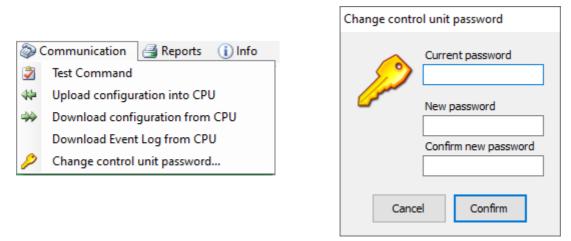


Fig. 4.4.e) Modification of the serial password

"Upload configuration into CPU" allows to send the created file from the PC to the gas control unit.

Communication Monitor							
Upload con	Upload configuration into CPU						
Ready	Warning Do you want to save the event log before downloading the new configuration?	Close					
Start	Sì No						

Fig. 4.4.f) Message request to save in log of the gas control unit

Before starting the data upload and download procedure, a warning message appears asking if you wish to save the gas control unit event log. When a new configuration is downloaded with different data (new gas detectors, zones and system modules, new users, etc.) the gas control unit event log may no longer be updated. It is therefore suggested to save the gas control unit event log on the PC by clicking Yes.

The gas control unit serial password is then requested. Click Login. If the password is correct, data download starts and a progress bar appears.

Password	
Pleas	e insert password:
Cancel	Login

Communication Monitor					
Upload configuration into CPU					
Warning! Start to send ModInput File					
Start Abort	Close				

Fig. 4.4.g) Data upload to the gas control unit

**"Download configuration from CPU"** is the opposite procedure to the data upload. This lets you load the system file from the CPU (programming resident in the CPU). The sequence of operations is the same as for data upload, see above. At the end of the data upload, the system file is automatically saved in the appropriate folder on the PC.

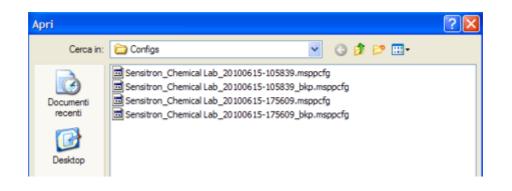


Fig. 4.4.h) Open an existing system file

"Download event log from CPU" allows for the event log file to be loaded from the gas control unit.

Communication Monitor		
Download event log from	Password	
Warning! Performing login	Please insert password:	
Start Abort	Cancel Login	Close

Fig. 4.4.i) Download event log file

After entering the password, the event log file starts uploading and this operation may take up to one minute. At the end of uploading, events are automatically saved in a PC file with default path: c: \ Documents and settings \ user \ Documents \ UNIT MODEL \ Logs, and shown on a special screen.

TIPO	O EVENTO EVENTO	Dispo:	itivo Zone	~				
		tro ora						
_	Itro data Pi 16/2013 V 24/06/2013 V 00:0:		TRO	STAN	1PA MEMOR	IA		
2070								
_	Id Data	Tipo evento	Evento	Valore	Unità	Utente	Dispositivo	Canale
	1 24/06/2013 10.34.14	Trace seriale	Reset Seriale Event Log	0	1	***	Centrale	
	2 24/06/2013 10.34.14	Trace seriale	Impostazione Data / Ora	0	1	***	Centrale	
	3 24/06/2013 10.34.15	Trace seriale	Cancella Configurazione	0		***	Centrale	
	4 24/06/2013 10.35.03	Trace seriale	Traferimento File OK	0	1	***	Centrale	
	5 24/06/2013 10.35.03	Trace seriale	Fine Configurazione	0	1	***	Centrale	
	6 24/06/2013 10.35.03	Trace seriale	Logout Seriale	0	1	***	Centrale	
	7 24/06/2013 10.35.07	Fault	Errore Rivelatore Aim	0.0	%LEL	***	Sensore	00101
	8 24/06/2013 10.35.07	Fault	Errore Rivelatore Aim	0.0	%LEL	***	Sensore	00102
	9 24/06/2013 10.35.07	Fault	Errore Rivelatore Aim	0.0	%LEL	•••	Sensore	00103
	10 24/06/2013 10.35.07	Fault	Errore Rivelatore Aim	0.0	%LEL	***	Sensore	00104
	11 24/06/2013 10.35.07	Fault	Errore Rivelatore Aim	0.0	%LEL	•••	Sensore	00105
	12 24/06/2013 10.35.07	Fault	Errore Rivelatore Aim	0.0	%LEL	***	Sensore	00106
	13 24/06/2013 10.35.07	Fault	Errore Rivelatore Aim	0.0	%LEL	***	Sensore	00107
	14 24/06/2013 10.35.07	Fault	Errore Rivelatore Aim	0.0	%LEL	***	Sensore	00108
	15 24/06/2013 10.35.07	Info	Latching relay ON	0	sec.	***	Relè di modulo	00204
	16 24/06/2013 10.39.48	Trace seriale	Login Seriale	0		***	Centrale	
	17 24/06/2013 10.39.48	Trace seriale	Lett. Seriale Ver. F.W	0		***	Centrale	

Fig. 4.4.1) Event log screen

The various columns are explained below

**Id**: identification number of the event. It can be used for a comparison with the event in the gas control unit.

Date: date and time of the event.

**Type Event**: type of event. Events can be of the following types:

Event Type	Description		
Confirmation	Acknowledge/mute an event		
Reset	Reset an event		

Info	Events such as user login and logout, alarm reset, etc.
Configuration	Gas control unit configuration error
Settings	Gas control unit settings were changed (i.e. detector alarm threshold)
Alarm	Alarm event
Fault	Fault event
Emergency	Emergency event (typically a power fault)
Serial Trace	Event concerning data transfer on the serial port (data upload and download from PC)

**Event**: more detailed indication of the type of event

**Value**: value of the gas concentration (for an alarm event)

Unit: unit of measurement of the measured value

User: identification of the user in for a "user" event (Ack, Reset, Login etc.)

**Device:** hardware device that generated the event (Rio Input module, gas detector, Rio Out module etc.)

Zone: the system area

**Channel**: identifier of the channel (detector) that generated the event

Search criteria can also be entered in the window to optimize the underlying event list display. Criteria can be by event type and/or date and time. Using the **PRINT** button, if a printer is connected to the PC, the event list can be printed.

"*Change gas control unit password*" see the explanation at the beginning of the "*Communication*" chapter.

#### 4.5 Report

🛃 Reports 🕕 Info	
Export to file	Export to text file
	Export to Excel
	· ·

Fig. 4.5.a) Event log screen

The Reports menu lets you export the current configuration file to be used with other programs. There are two export formats: "*Export to text file*" and "*Export to Excel*".

If exported as a text file, configuration parameters can be consulted using any text editor program (Notepad, Word, etc.).

Configuration parameters are best viewed when exported as an Excel file. Naturally, Excel must be installed on the PC.

4.6 Info

(1) Info	
(i) About Multiscan++ Configurator	
	_

Fig. 4.6) Menu Info

Through the "*Info*" menu it is possible to view information about the version of the program.

#### 5. Modification or creation of a new configuration file

Using the "*Open*" command in the *File* menu, a previously configured configuration file can be accessed to be changed, if necessary. See the following chapters.

"*New*" command in the "*File*" menu allows to create a new configuration file.

### 5.1 System information

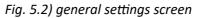
- Multiscan++ 8								
🗋 File 🏽 Settings 🚨 Users 🔊 Communication 🗃 Reports 🕕 Info								
User: Sensitron (Administrator)  🚔 🚰 🛄 🔯 😻 😵 😫 💡 Please define CPU password! 🍠 📃   🗰 🚧 🗿 🕕 💿								
Multiscan++ 8								
System Info Gene	System Info General Settings Modules Channels Relays							
By SENSITRON s.r	System Information							
nup://www.sensit	<u>ron.it</u> - Email: sales@sensitron.it							
		End user information	n					
Distributor System Ltd		Company name:	Gas Ltd					
Contact details:	manager	Plant Name:	Storage 1					
Panel type:	Multiscan 8+	Contact details:	Michael					
		Responsable person:	Michael					
Serial Nº:		Contact details:	00543456789					

Fig. 5.1) System information screen

Complete the fields with data on the company supplying the system and that where the system is installed. Also enter also the names of the various contact people.

#### 5.2 General settings

🖳 Multiscan++ 8	A	PROFESSION AND ADDRESS	Red Control of Control
📄 File 🛛 🎆 Setti	ings 🛛 🚨 Users 🛛 🔊 Communic	ation 🗃 Reports 🕕	Info
User: Sensitron	(Administrator) 揝 💕 🛃	🔟 🛃   🤣   🤮 🤋 Ple	ease define CPU password! 🍠 📗   🖇 🛛
Multiscar	า++ 8		
System Info Gener	ral Settings Modules Channels R	elays	
General Sett	-		
	l.20010 Cornaredo (MI) Italy - Viale de <u>on.it</u> - Email: sales@sensitron.it	ella repubblica, 48 TEL. +39 (	0293548155 - FAX +39 0293548089
Warm Up Time:	2	Maintenance Time:	30
BUS Architecture:	minute (min=2 max=10 default=3) One open bus	Buzzer Reactivation Time:	minute (min=10 max=60 default=30) 60
Slave Address:	1		minute (min=20 max=120 default=60)



In "General Settings", the following can be set:

"*Warm-up Time*" is the stand-by time of the gas control unit immediately after powering on before it is operational.

*"Bus Architecture"* the number of buses that the gas control unit can manage. The PL4 +D gas control unit only has one open bus.

"Slave address" is the address of the gas control unit if it is connected to a Scada remote system (or similar).

"*Maintenance time*" is the time in which a channel put in Test/Maintenance remains there before automatically switching to operational mode.

"Buzzer Reactivation Time" is the time that elapses before the buzzer starts playing again, after it has been silenced by an ACK command.

### 5.3 Zones

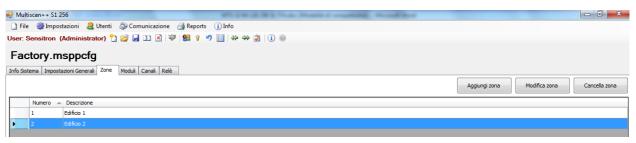


Fig. 5.3) Zone settings screen

The creation of zones is not mandatory for the reliable function of the gas detection system. It is an aid for the user to indicate useful additional information in the case of alarms.

The definition of "Zones" allows a logical dividing of the gas detection system according the needs of the user. "Zones" may be defined in relation to

- Physical position of in/out modules or detectors
- Type of danger. Detectors for explosive gases, toxic substances, etc.
- Different gases: Methane, Carbon Monoxide, Oxygen etc.

A maximum number of 16 zones may be specified.

#### 5.4 Modules (IN/OUT, individual sensors or Remote Monitor)

**"Modules"** In/Out modules and the detectors that comprise the system are configured. The system layout must be known to correctly set the various field devices. What you need to know:

- Detectors and IN and OUT modules (relays) installed in the system.
- Any zone they belong to
- On which loops (RS485 bus) they are connected, and that their address is (for PL4 +D only bus1)

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🗋 File 🛭 🖓 Settings 🚨 Users 🔊 Communication 📑 Reports 🕕 Info					
User: Sensitron (Administrator) 🎦 🖆 🛃 🛄 🙁 😻 🤋 Please define CPU password!	🤊 📘 🚸	2 🗟 🔞			
Multiscan++ 8					
System Info General Settings Modules Channels Relays					
Multiscan++ 8					
Input Modules Sensors Output Modules					
			Add Module	Modify Module	Delete Module
No. Description	Address	Other Info		Loop	
I module 1	1			1	

Fig. 5.4.a) Peripheral screen (Input Modules)

# • Input Modules

The ST.G/IN8 analogue input modules on the system are configured in *Input Modules*.

Click *Add Input Module* to open the window shown in Fig. 5.4 b.

Zone:	Modify Module Default Zone	~
Loop:	Bus 1 V	
Module – <b>Descrip</b>	ption: V	
Starting	g Address: # of device	ees: 1 ~
Other I	info:	

Fig. 5.4.b) Input module configuration

Zone	Zone to which the module belongs.
Loop	Loop number (RS485 bus) to which the module is physically
	connected. PL4 +D only Loop1.
Description	Description of the module.

AddressAddress of the module. From 1 to 256 (Refer to chap. 2-Installationof panel manual for further information.)# Of devicesNumber of modules to insert.Other InformationAdditional description.

Click on "*Modify Input Module*" to modify the parameters of the module.

Click "Delete Input Module" to delete the module.

• <u>Sensors</u>

In *"Sensors",* the gas detectors on the system that are **directly connected to the loops (RS485 bus) of the gas control unit (max 8)** can be configured. Refer to Chap. *2-Installation* of the panel manual for additional information. By clicking on *Sensors*, the window in Fig. 5.4 c appears.

Add Module	e	Х
Add / I	Modify Module	
Zone:	Default Zone 🗸	
Loop:	Bus 1 🗸	
Module Descrip Starting Other I	g Address: # of devices: 1	
	OK Cancel	

*Fig. 5.4.c)* Sensor configuration (directly connected on the RS485 Bus)

Zone	Detector zone.	
Loop	Loop number (RS485 bus) to which the module connected. PL4 +D only Loop1.	is physically
Description	Description of the detector.	
MT4443E rev.0	15/10/2019	Pagina 27 di 52

Address	Address of the detector. From 1 to 256 (Refer to chap. 2-
	<i>Installation</i> of panel manual for further information).
# Of devices	Number of detectors to connect.
Other Information	Additional description.
Sensor Type	Select the model of the gas detector used (see detector label).

Click "*Modify sensor*" to change the sensor parameters.

Click "Delete sensor" to delete the sensor.

• Output Modules

The ST.G/OUT16 output modules on the system are configured in "*Output Modules*".

Add Module	2						×
Add / I	Modify M	lodule					
Zone:	Default Zone	2		~			
Loop:	Bus 1	~					
Module Descrip Starting Other I	g Address:		~	# of devices:	1	~	
						ОК	Cancel

Click *Add Output Module* to display the window in Fig. 5.4 d.

Fig. 5.4.d) Output module setting screen

**Zone** Zone to which the module belongs.

Loop Loop number (RS485 bus) to which the module is physically connected. PL4 +D only Loop1.

Description	Description of the module.	
Address	Address of the module. From 1 to 256 (Refer to chap. 2-	
	<i>Installation</i> of panel manual for further information).	
# of devices	Number of modules to connect.	
Other information Additional description.		

Click "*Modify module*" to change the module parameters.

Click "Delete Output Module" to delete the module.

<u>Remote Monitor</u>

The option "*Remote Monitor*" allows to configure the remote terminal unit RTU +D.

Click *Add Monitor* to open the window shown in Fig. 5.4 e.

Add Module	le	×
Add / I	Modify Module	
Zone:	Default Zone V	
Loop:	Bus 1 V	
Module		
Descrip	iption:  y  # of devices: 1	
Other I	Info:	
	OK	Cancel

Fig. 5.4.e) Remote Monitor setting screen

Zone	Zone to which the monitor belongs.
Loop	Loop number (RS485 bus) to which the monitor is physically
	connected. PL4 +D only Loop1.

Description	Description of the monitor.	
Address	Address of the monitor. From 1 to 256 (Refer to chap. 2-	
Installation	of panel manual for further information).	
# of devices	Number of monitors to connect.	
Other information Additional description.		

Click "*Modify Monitor*" to change the monitor parameters.

Click "*Delete Monitor*" to delete the monitor.

#### 5.5 Channels

Use the "**Channels**" menu to enable and program individual settings for gas detectors in the system.

🖳 Multiscan++ 🗧	3					
📄 File 🛛 🎯 Se	ttings 🛛 息 Users	Communic	ation 🛛 🗃 Repor	ts 🕕 Info		
User: Sensitro	n (Administrato	r) 🎦 🚰 🔒	ll 🖹   💖   😫	💡 Please defi	ne CPU password!	🤊 📃   🖇 🤲 🏂   🚺 🞯
Multisca	n++ 8					
System Info Gen	eral Settings   Modul	les Channels R	telays			
Channels	Not	t defined 📋 AIN	1 defined 📃 AIM o	defined redundant	📕 Not used 🔲 Lo	oop defined 📕 Loop defined redundant
Channel Overview	V Channel Manage					
Mod Input SIL1 - 1	. 1 1 2 tank 1	3	4 5	6	7 8	
SMART3G - 4	1					
CPU Input Module	1 2	3	4 5	6	7 8	
11						

<u>Channel overview</u>

Fig. 5.5.a) Summary map of channels (detectors)

The **Channel Overview** gives a summary of how many Input modules and how many detectors the system is composed of, how many of these are defined (rectangle with data present inside) and if the detectors are connected in the gas control unit (CPU Input Module) or via Input Modules (Mod Input SIL1) or directly (addressed sensors). Different colours represent different characteristics like Not defined, Defined, Redundant etc.

To choose a channel to view its data, simply pass the mouse over the channel and the data for this channel will be shown by a popup window. To set or modify the

channel parameters, click on it with the mouse and you will automatically access the "**Channel Management**" screen where settings can be changed.

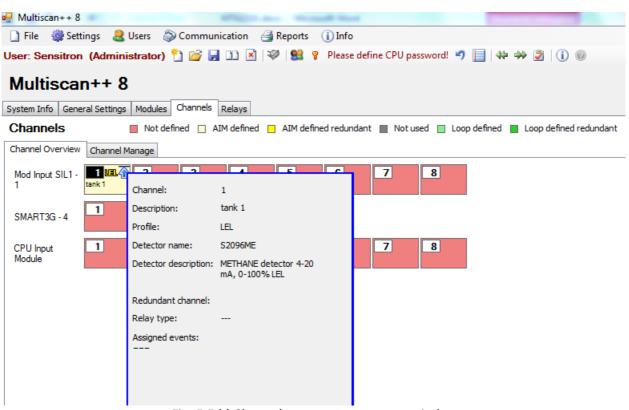


Fig. 5.5.b) Channel parameter summary window

#### • Channel Managment

💀 Multiscan++ S1 256

🗋 File 👹 Settings 🚨 Users 💩 Communication ᢖ Reports 🕕 Info User: Sensitron (Administrator) 🎦 🚰 🚂 🎦 🗷 🗐 💖 📽 💡 Please define CPU password! 🍠 📋 | 🗰 👾 💆 | 🚺 🐵

#### Multiscan++ S1 256

System Info General Settings Zones Modules Channels Relays

Chan	nels		Not defined 🔲 A	(M define	ed 🗖 A	IM defined	redundant 🔳 Not us	sed 🔲 L	oop defined 📕 Loop defined redundant
Channel	Overview Ch	annel Mana	age						
	Туре	No. Zone	Zone	Mod.	Chan.	Redunda	Description		
•	Mod Input SIL:	1 1	Default Zone	3	1				
	Mod Input SIL	1 1	Default Zone	3	2				
	Mod Input SIL	1 1	Default Zone	3	3				MOD INPUT 3
	Mod Input SIL	1 1	Default Zone	3	4				
	Mod Input SIL	1 1	Default Zone	3	5				5 6 7 8
	Mod Input SIL	1 1	Default Zone	3	6				
	Mod Input SIL:	1 1	Default Zone	3	7				
	Mod Input SIL	1 1	Default Zone	3	8				
	SMART3G+	1	Default Zone	5	1				
	CPU Input Mo.	1	Default Zone	0	1				
	CPU Input Mo.	1	Default Zone	0	2				
	CPU Input Mo.	1	Default Zone	0	3				
	CPU Input Mo.	1	Default Zone	0	4				
	CPU Input Mo.	1	Default Zone	0	5				
	CPU Input Mo.	1	Default Zone	0	6				
	CPU Input Mo.	1	Default Zone	0	7				
	CPU Input Mo.	1	Default Zone	0	8				
Cha	nnel:			D (1					Ist. Thresholds
		edundan	t:	Profile		THANE / ME	TANO	1 A1	10%
Main	tenance Inte	erval (m	onth): 3 D	etecto	r: 100			A2	20%
Rese	t Channel C	lone Chan	nel					A3	30%
Detect	or Alarm Setti	ngs Redu	undancy						
Profile	: [	LFL				~ R	ange: %LEL		
Gas-T	ype:	METHANE	/ METANO			∼ F	ormula: CH4		
Full-sc	ale:	100				$\sim$			
Detect	tor Model:	S1255ME				$\sim$	Add Detector		
Zone:		Default 7	Zone						
Module	e Description:	Mod Inp	ut SIL1						
	e Other Info:								
Chann	el Description:	LIV 1							~
	[	Disable	buzzer for the first	threshold	1				

Fig. 5.5.c) Channel Manage screen

# Program a channel (gas detector)

An input channel (gas detector) is mainly programmed by entering data in three main fields in the "*Detector*" option:

1) The *Profile* specifies the unit of measurement to be set based on the type of gas to be detected and type of detector connected. Ex: % LFL

In *"Profile",* there are pre-compiled modes for different types of gas detection. Depending on the type chosen, the following channel setting modes may be different and linked to the characteristics of the chosen *Profile*.

The choice of the "*Profile*" must coincide with the detector connected to the channel that is being programmed. E.g. if a petrol fume explosivity detector is connected to the channel, *LFL* must be selected (Lower Flammable Limit) in *Profile*; if a CO (Carbon Monoxide) detector is connected to the channel, Toxic must be chosen in *Profile*.

Detector Alarm Set	tings Redundancy					
Profile:	LFL	$\sim$	Range:	%LEL		
Gas-Type:	METHANE / METANO	$\sim$	Formula:	CH4		
Full-scale:	100	$\sim$				
Detector Model:	S1255ME	$\sim$	Add Detector			
Zone:	Default Zone					
Module Description:	Mod Input SIL1					
Module Other Info:						
Channel Description:	LIV 1			~		
	Disable buzzer for the first threshold					

Fig. 5.5.d) Channel details screen

The available Profiles are: *LFL OXYGEN DEFICENCY OXYGEN ENRICHMENT OXYGEN FOR INERTIZATION OXYGEN MIXED MODE REFRIGERANTS TOXIC* 

If Park control unit: *L.F.L. TOXIC (PARK) TOXIC (PARK) EN50545-1* 

2) In "*Gas type*", the gas to be chosen is chosen from a proposed list. The gases in the list are only those allowed by the previously chosen "*Profile*".

The choice of the "Gas Type" must coincide with the detector connected to the channel that is being programmed. For example, if a Smart 3G CO (Carbon Monoxide) detector is connected to the channel, you must choose Toxic in **Profile** and Carbon Monoxide in **Gas Type**. If a methane detector is connected to the channel, % LFL should be selected in **Profile** and Methane in **Gas Type**. This is an additional aid to correctly enter gas detector settings.

3) In "Detector Model", select the code of the gas detector that has been connected to the channel being programmed from a list. This is a further aid for correctly inserting the gas detector configuration data. The list that appears in "Detector Module" will only contain detectors that meet the characteristics of the other two criteria set in "Profile" and "Gas Type". The "Channel Description" is not mandatory for the reliable function of the gas detection system.

It is not necessary to enter text in "*Channel Description*", but it can be useful for simpler identification of the gas detector. In the case of alarms all information related to the detector(s) in alarm condition will be indicated at the display on request.

The "*Channel Description*" can be information about the point where the gas detector is installed or the gas to be detected, or even that the channel is redundant with another, etc.

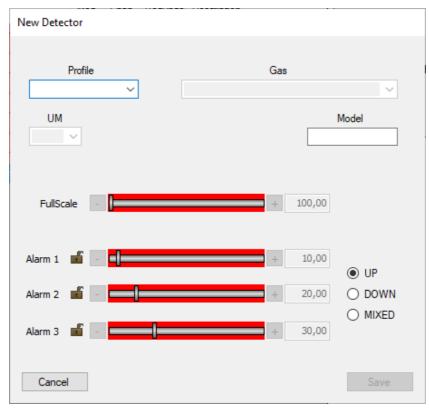


Fig. 5.5.e) New Detector screen

In the submenu "**Alarm Settings**" the threshold values for all three alarm levels can be modified within a specified range indicated by red bars.

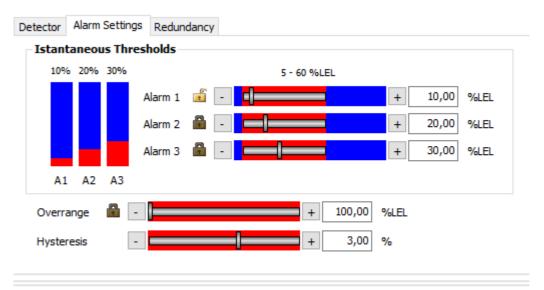


Fig. 5.5.f) Alarm settings screen



Fig. 5.5.g) Videata impostazione soglie medie di allarme per centrali Park

Alarm threshold settings and operating modes vary according to the selected Profile and Gas Type. There are two threshold modes, Average and Real-time.

If Park control unit:

- For the LFL Profile only real-time thresholds can be set.
- For the Toxic Park Profile, both real-time and average thresholds can be set.
- For the Toxic Park EN50545-1 Profile, only average thresholds can be set.
- Set the Alarm levels set-points in the range of the red bars

Note on Average threshold operations according to EN 50545 standards Alarm thresholds 1 & 2 are activated if the gas value read by the detector exceeds an average concentration in a set time (**Average alarm time**). Instead, threshold 3 immediately triggers if the concentration value read by the detector exceeds the set alarm 3 value for a certain period of time (**Persistence** *Alarm 3*).

The unit display normally displays the average value read by the detector (except in Graphic mode where the real-time value is displayed).

The arrow on the top left indicates rising alarm values for the LFL profile. The alarm values from 1 to 3 correspond to an increase in gas concentration.

The configuration software verifies that the data entered by the programmer are correct. There are general rules, such as:

- The value of alarm 3 can't exceed the full-scale.
- The value of alarm 2 cannot be equal to or less than the value of alarm 1. This also applies to alarm 3 with respect to alarm 2.

The red horizontal bars indicate the range within which the value can be set for each alarm.

Note: for the LFL profile (flammable gases), the alarm value cannot be higher than 60% LFL (limitation for group II devices, EN 60079-29)

In the Profile **"Oxygen deficiency",** the value of Alarm 1 will be higher than Alarm 2, which in turn will be higher than Alarm 3.

Note: Oxygen in the air we breathe has a concentration of approximately 20.9%, and thresholds of 19% (Al1), 18% (Al2) and 17% (Al3) are normally set to detect oxygen deficiency.

The **"Overrange"** value is typically set at 100% of the measurement scale. Only if a fourth alarm threshold becomes necessary can the overrange be modified and used as the fourth alarm threshold.

The **"Hysteresis** " indicates which signal variation will be ignored when it occurs near the alarm threshold.

# Modification of alarm levels

The alarm threshold values can be modified step by step, by clicking on the - and + keys to the left and right of the horizontal bars or by entering a numerical value directly in the appropriate field to the right of the horizontal bar. Once the value of an alarm threshold has been changed, the range of the red bars of the other Alarm thresholds will also be modified. If the value of Alarm entered falls outside

of the permitted limits, it is not accepted by the software and must be modified to continue programming.

If Park control unit:

- Average Sensor Time: the frequency with which the unit queries each sensor to obtain the read concentration value. The value can be set between 8 and 60 seconds. *Note: the sensor saves the value read every 10 ms*
- Average Alarm Time: the time within which the average used by the unit to activate Alarms 1 & 2 is calculated. If the average value calculated in Average Alarm Time is higher than the Alarm 1 & 2 values, the unit activates the corresponding alarms.
- **Persistence Alarm 3:** the time a read gas concentration persists over threshold 3 triggering Alarm 3.

#### Redundant channel

If the system requires a very high security level, two detectors are to be placed at each measuring point, instead of one. Programming of the two redundant channels must be identical.

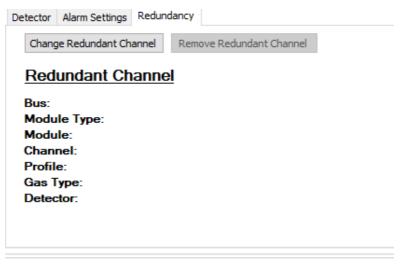
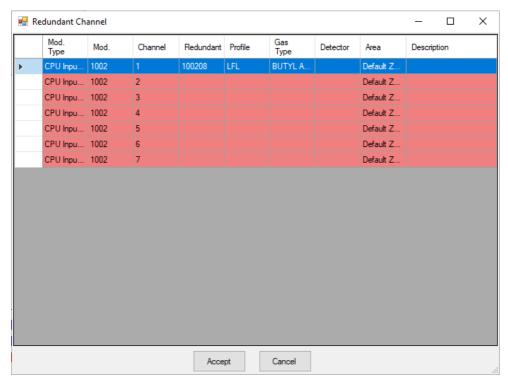


Fig. 5.5.g) Redundant Channel configuration screen

How to program a *Redundant channel* 

Channel 1 of module 1 has been programmed. By selecting the "*Redundancy*" option without a channel currently programmed as redundant, data are not present (bottom left of the screen).

By selecting the Add Redundant Channel option, the screen in Fig. 5.5.h



Chose the Redundant channel and confirm by Accept.

If the chosen Redundant channel has a different configuration, the configuration will be automatically modified, matching the configuration of the other channel (a small message will appear at the right part of the screen).

Maintenance Int	edundant: 100201 Gas: lerval (month) : 3 Detector: Clone Channel	LFL BUTYL ACETATE / ACETATO DI BUTILE 100 A2 A3	Ist. Thresholds           10%           20%           30%	Warning! The current channel is redundant. Every change will be applied also to the redundant channel
Detector Alarm Set	ings Redundancy			
Change Redunda	nt Channel Remove Redundant Channel	el		
Redundant Bus:	<u>Channel</u>			
Module Type:	CPU Input Module			
Module:	1002			
Channel:	1			
Profile:	LFL			
Gas Type:	BUTYL ACETATE / ACETATO DI	BUTILE		
Detector:	S2097AB - BUTYL ACETATE de	tector, 4-20 mA, 0-100% LEL		
	Fig. 5.5	5.i) Warning message a	after choice of redundant chann	el

### 5.6 Relay (outputs)

Using the "*Relay*" menu, the characteristics of the outputs of ST.G/OUT16 S modules that are part of the system are enabled and programmed.

• Relay overview

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e20180314-091002.mskscfg System Info General Settings Modules Channels Relays											
Relays		efined 🔲 Defined	Defined (F dundant 🔳 Defined re		Not used/reserv	ed					
elay Overview Relay Manage											
Mod Output SIL1 1 2	3	4 5	6 7	8	10	11	12	13	14	15	16
CPU Relay	<b>3 0</b> R	4 0R 5 0R	6 08								

Fig. 5.6.a) Relay overview screen

The **relay overview (outputs)** gives a summary of the number of output modules and consequently how many outputs the system is composed of, and how many of these are defined (rectangle with data present inside). Different colours represent different characteristics like Not defined, defined redundant etc.

For a summary of the programming data of each output, hover over it with the mouse and a summary window will appear with the configuration parameters. To

set or modify the output parameters, click on it with the mouse and you will automatically access the "**Relay Management**" screen where settings can be defined.

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🗋 File 🛭 🎯 Settings 🔒	🗋 File 🎯 Settings 🚨 Users 💩 Communication 🛁 Reports 🕕 Info										
User: Sensitron (Administrator) 🎦 💕 🚽 🗓 🗈 🔍 😫 🦞 Please define CPU password! 🥙 📋 🚸 👾 🥑 👔 🛞											
e_20180314	e20180314-091002.mskscfg										
System Info General Settings   Modules   Channels   Relays											
Relays	Not deal Channels										
Relays	Defined redundant Defined redundant (Fault)										
Relay Overview Relay Mana	200										
Mod Output SIL1 1	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16										
CPU Relay											
Module	Channel: 1										
	Description:										
	Redundant channel:										
	Relay type: GENERIC										
	Assigned events: Events evaluated in OR										
	SYSTEM FAULT										

Fig. 5.6.b) Output detail window that appears when hovering with the mouse

🖳 Multiscan++ 8				-	-	_	
		Communication 🖂 Repor	ts (i) Info				
	- +		Please define CPU passv	ord 🖸 🔲 🎎			
			F Trease define of o passi	, , , , , , , , , , , , , , , , , , ,			
e_201803	314-09100	2.mskscfg					
System Info General S	Settings Modules C	hannels Relays					
Relays		📕 Not defined 📃 Defined		_	used/reserved		
		Defined	l redundant 📕 Defined redund	ant (Fault)			
Relay Overview Relay	y Manage						
	No. Zone	Mod Chai Redundan	Description	^	1	2 3	4 5 6 7 8
Mod Ou 1	Default Zone	2 6					
Mod Ou 1	Default Zone	2 7					
Mod Ou 1	Default Zone	2 8			2		
Mod Ou 1	Default Zone	2 9					
Mod Ou 1	Default Zone	2 10			9	10 11	12 13 14 15 16
Mod Ou 1	Default Zone	2 11					
Mod Ou 1	Default Zone	2 12					
Mod Ou 1	Default Zone	2 13					
Mod Ou 1		2 14					
Mod Ou 1		2 15		=			
Mod Ou 1		2 16					
CPU Rel 1		1 1					
CPU Rel 1		1 2		_			
CPU Rel 1		1 3		_			
CPU Rel 1		1 4		_			
CPU Rel 1		1 5		_			
CPU Rel 1	Default Zone	1 6		-			
Relay:	Operation M	ode:					
Module: 2	Redundant:						
Description:			•				
Reset Channel	Clone output						
Events Redundancy	Orecetter Made						
Delay Trees	vent type		Associated sensors				
Sensor Wa	arning! Changing the	event type will remove all		Description	Detector	Event	
Module	sociated sensors		Charmer		bettetti	arent .	Add / Remove
Generic		•					
	and any barrier dealer						
	vent are handled in OR © Voting						
Unlatched	, 🕒 toung						

#### • <u>Relay Managment</u>

The *Relay* window allows to manage output modules. The available options are:

- *Events* programming of the event that activates the output.
- **Redundancy** in systems where higher security is required, 2 outputs can be used for a single activation (or to activate two separate actuators that secure the same system).

**Operating mode** output mode (instantaneous, impulsive, time-based).

- **Relay Type** selects the type of event that can be associated with the output: event from Sensor (Alarm, Fault, Under Scale etc.) or event from Module (IN or OUT module Fault) or Generic event (Alarm, Fault, Network Error, Low Battery, etc.)
- Type of eventdepends on the type of relay chosen. For a sensor event, it can<br/>be: Fault, Alarm1, Alarm2, etc.
- **OR** With the **OR** function, in order to activate a programmed output, just one of the events associated to the output is sufficient.

*Vote* if you wish to condition the activation of the output at the simultaneous presence of more than one of the events associated with the output (AND function), use the "*Vote*" option.

*Associated sensors* is the window where the sensors to associate with the output are chosen.

*Add/Remove* to open the Associated Sensors window.

#### New output programming

Selecting the new output, by the Relay Type mode select if it is a Sensor event, a Module event or a Generic event.

*Sensor*: select Sensor in Relay Type. From the Event Type window, select the case for which the output must be activated: Measurement scale, Alarm1, Alarm2, Alarm3, Overrange, Underscale, Sensor Fault.

Events Redund	ancy Operation Mode					
Relay Type	Event type	Associated sensors				
Sensor	Warning! Changing the event type will remove all associated sensors	Channel	Description	Detector	Event	Add / Remove
Module						
Generic	ALARM 1					
E	Event are handled in OR      Voting					
Unlatched						
						J

Fig. 5.6.d) Event type selection

Pressing the **Add/Remove** button will open the **Select Sensor** window where the address or sensor addresses to be associated with the output can be selected.

The padlock shown to the left of the Event Type list indicates whether the relay output is stored or not. The closed padlock means the output is stored (a user reset is required to restore normal status after an alarm).

_	per modulo	Filtra per zo	na
AI M	odules	•	-
_	Canale	Descrizione	Zona
•	00101		Edificio 1
	00102		Edificio 1
	00103		Edificio 1
	00104		Edificio 1
	00105		Edificio 1
	00106		Edificio 1
	00107		Edificio 1
	00108		Edificio 1
	00201		Edificio 1
	00202		Edificio 1
	00203		Edificio 1
	00204		Edificio 1
	00205		Edificio 1
	00206		Edificio 1

*Fig. 5.6.e) Sensor selection window* 

After checking the sensors to associate them, press Confirm.

Relay Type	Event type	Assoc	iated sensors				
Sensor	Warning! Changing the event type will remove all associated sensors		Channel	Description	Detector	Event	Add / Remove
) Module		•	100201	level 1	S2097ME - MET	ALARM 1	· · · · · · · · · · · · · · · · · · ·
Generic	ALARM 1		100202	level 1	S2097ME - MET	ALARM 1	
5 Event are bandled in	Event are handled in		100203	level 1	S2097ME - MET	ALARM 1	
2	OR      Voting		100204	level 1	S2097ME - MET	ALARM 1	
Jnlatched							

Fig. 5.6.f) Associated sensors window, after selection

**"Module" event**: Select Module Event and associate it as a Module Fault event type (generic Fault of an IN or OUT module) or OFFLINE Module (Communication fault of an IN or OUT module).

Events Redund	ancy Operation Mode					
Relay Type	Event type	Associated modules				
Sensor	Warning! Changing the event type will remove all associated modules	Address	Description	Туре	Event	Add / Remove
Module	associated modules					
Generic						
a f	MODULE FAULT MODULE OFFLINE RELAY MODULE OFFLINE © OR () Voting					
Unlatched						
						1

Fig. 5.6.g) Event association window from a Module

"Generic" event: select Generic to associate a system event to the output among those offered in the list.

Mode	
<u>nts</u>	
	GENCY ALARM 1
I FAULT 📃 AC FA	AIL ALARM 2
AINTENANCE 📃 BATTE	ERY LOW 🔲 ALARM 3
BUZZE	R OVERRANGE
	UNDERSCALE
	AINTENANCE

*Fig. 5.6.h) Window for generic events (system events)* 

### **OR** and **Vote** functions

Relay Type	Event type	Associ	iated sensors				
Sensor	Warning! Changing the event type will remove all associated sensors		Channel	Description	Detector	Event	Add / Remove
) Module		F	100201	level 1	\$2097ME - MET	ALARM 1	
Generic			100202	level 1	\$2097ME - MET	ALARM 1	
a for the second s	Event are handled in		100203	level 1	\$2097ME - MET	ALARM 1	
a l	OR      Voting		100204	level 1	\$2097ME - MET	ALARM 1	
inlatched							

Fig. 5.6.i) **OR** and **Vote** functions

#### OR function

By selecting OR, a single event (between the events shown in the Associated Sensors summarizing screen) is enough to activate the output.

#### **Voting Function**

viulitiscul	n++ S1 2	256						10.000	10.1	Number of strength of the	and the second second
			oni 🤱 Utenti 🌡	+				) Info			
r: Sen	sitron	(Adr	ninistrator) 쓉	i 🚽 🚰	ם בב	1 🖗 😫	8 🤊	🖇 🦇 🧯	1 0		
acto	orv.m	ISC	pcfg								
	-			Moduli C		Relè					
elè	a   Imposi	tazion					:0	Definito (fa	ault)	Non usato/riservato	
ele								Definito rid			
noramica	relè Ge	estion	e relè								
Ti	īpo	Nr. Zop	Zona	Mod	Cani	Ridondant	Descrizione		Â		1 2 2
Ma	od Ou		Edificio 1	5	1						1 2 3
	od Ou		Edificio 1	5	2						
	od Ou		Edificio 1	5	3				E	мор оптепт	
Mo	od Ou	1	Edificio 1	5	4					5	<u> </u>
Ma	od Ou	1	Edificio 1	5	5						9 10 11
Ma	od Ou	1	Edificio 1	5	6						
Ма	od Ou	1	Edificio 1	5	7						
Ma	od Ou	1	Edificio 1	5	8				Impostazi	ioni votazione	
Ma	od Ou	1	Edificio 1	5	9						
Mo	od Ou	1	Edificio 1	5	10				Voto	2 •	
Mo	od Ou	1	Edificio 1	5	11					asto visto come Allarme	
Ma	od Ou	1	Edificio 1	5	12				Gua	ISLO VISLO COME Alidime	
Mo	od Ou	1	Edificio 1	5	13						
Ma	od Ou	1	Edificio 1	5	14						
Ma	od Ou	1	Edificio 1	5	15						
Ma	od Ou	1	Edificio 1	5	16					OK Annulla	
Ma	od Ou	1	Edificio 1	6	1						
Ma	od Ou	1	Edificio 1	c	2				*		
<u>telè:</u> odulo:			Modo operativ Ridondante:								
escrizi			Ridondante.	-				•			
Clona ou	utout	Res	etta canale								
	aquat	(nes									
enti Ri	lidondanz	a M	odo operativo								
Tipo relè		Tipo e	evento				Sensori a	issociati			
Sense			zione! Cambiando il t sensori associati	ipo event	o verra	anno rimossi		Canale	Descrizione	Rivelatore	Aggiungi / Togli
Modu	olu	_					Þ	00101		S2097ME - Ri	
🔵 Gene	erico		RME 1		<b></b>			00102		S2097ME - Ri	
		Gli ev	enti sono gestiti in					00103		S2097ME - Ri	· =
*			R   Voto					00104		S2097ME - Ri	· .
								00105		S2097ME - Ri	•
								00105 00106		S2097ME - Ri S2097ME - Ri	

*Fig. 5.6.I) Output programming window with Vote option* 

With the **OR** function, to activate the output programmed, just one of the events associated with the output is required in the **Associated Sensors** list. If the activation of the output to the simultaneous presence of more than one of the selected events (AND function) is desired, use the "*Vote*" option.

By clicking on the **"Vote"** option, a setting window will appear in which you must enter the number of events that must occur simultaneously to activate the output that is being programmed. Ex. when entering 2, 2 of the 4 **Associated Sensors** must be present at the same time to activate the output. A maximum number of 6 events can be entered.

If "*Fault seen as an Alarm*" is checked, any of the channels in Fault will be considered as if in Alarm.

#### Redundant output

In systems that require higher safety, 2 outputs can be used for a single activation (or to activate two distinct actuators that put the same system in safety conditions). The settings procedure for two redundant outputs must be practically identical.

Iser: Sensitron (Ad Factory.ms nfo Sistema   Impostazio Relè	ioni <u>&amp;</u> Utenti I <b>ministrator)</b> PPCfg ni Generali Zone	Comunicazione C	P Definire passwo	ito (fault)	≫ 🖻   ()) @ Non usato/riservato
Panoramica relè         Gestion           Tipo         Nr. Zoi           Mod Ou         1           Mod Ou         1	Zona           Zona 1           Zona 1	Mod         Can         Ridondants           S         1            S         2            S         3            S         4            S         4            S         6            S         6            S         7            S         10            S         11            S         12            S         13            S         14            S         15            S         15	Descrizione		
Nodelo:       1         Relè:       6         Descrizione       6         Clona output       Re         Eventi       Ridondanza         Cambia relè ridonda       1         Relè ridondaza       1         Bus:       Modulo:         Relè:       Canale:	lante Rim		•	•	

Fig. 5.6.m) Redundant output configuration screen

#### How to program a *Redundant Relay*

The output 1 of module 5 has been programmed. By selecting the "Redundancy" option without an output currently programmed as redundant, data are not present (bottom left of the screen).

Mod. Type	Mod.	Channel	Redundant	Profile	Gas Type	Detector	Area	Description
Mod Out	2						Default Z	
Mod Out	2	2					Default Z	
Mod Out	2	3					Default Z	
Mod Out	2	4					Default Z	
Mod Out	2	5					Default Z	
Mod Out	2	6					Default Z	
Mod Out	2	7					Default Z	
Mod Out	2	8					Default Z	
Mod Out	2	9					Default Z	
Mod Out	2	10					Default Z	
Mod Out	2	11					Default Z	
Mod Out	2	12					Default Z	
Mod Out	2	13					Default Z	
Mod Out	2	14					Default Z	
Mod Out	2	15					Default Z	
Mod Out	2	16					Default Z	
CPU Rel	1001	1					Default Z	
CPU Rel	1001	3					Default Z	
CDUDI	1001						D ( 1 7	

## By selecting the *Redundant relay* option, the screen in Fig.5.5.g

Tipo Mod.	Mod.	Canale	Ridondante	Profilo	Tipo Gas	Rivelatore	Area	Descrizione	
Mod Out	5	1					Zona 1		
Mod Out	5	2					Zona 1		
Mod Out	5	3					Zona 1		
Mod Out	5	4					Zona 1		
Mod Out	5	5					Zona 1		
Mod Out	5	6					Zona 1		
Mod Out	5	7					Zona 1		
Mod Out	5	8					Zona 1		
Mod Out	5	9					Zona 1		
Mod Out	5	10					Zona 1		
Mod Out	5	11					Zona 1		
Mod Out	5	12					Zona 1		
Mod Out	5	13					Zona 1		
Mod Out	5	14					Zona 1		
Mod Out	5	15					Zona 1		
Mod Out	5	16					Zona 1		
Mod Out	6	1					Zona 1		
Mod Out	6	2					Zona 1		
	~								

Fig. 5.6.n) List for the selection of the redundant channel

Chose the Redundant output and confirm by pressing Accept.

If the chosen Redundant output has a different configuration, the configuration will be automatically modified, matching the configuration of the other output (a small message will appear at the right part of the screen).

In the screen for configuring the output, in the Redundancy option, the redundant output indication will appear on the lower left (see Fig. 5.5.o).

Multi	scan++ SI	256					-			ALC: NAME OF TAXABLE	and the second s
-	-	_	oni 🤱 Utent	ti 🔊 Com	unicazi	ione 🖂	Reports ()	Info			
_			-							4+ 4+ 🔰 🕕 🐵	
							· · · · · · ·	ine parameter er er			
Fac	tory.r	ns	opcfg								
Info Siste	ema Impo	stazior	ni Generali Zon	e Moduli	Canali	Relè					
Relè				Non	definito	🔲 Defini		Definito (fault)		Non usato/riservato	
						📒 Defini	to ridondante	Definito ridondan	ite (fa	ault)	
Panoran	nica relè	Gestion	ne relè								
	Тро	Nr. Zor	Zona	Mo	d Can	Ridondant	Descrizione		-		1 2 2
	Mod Ou			5	1				11		
Þ	Mod Ou	. 1	Zona 1	5	2					L	
	Mod Ou	. 1	Zona 1	5	3					MOD OUTEUT	
	Mod Ou	1	Zona 1	5	4				1		
	Mod Ou	. 1	Zona 1	5	5						9 10 11
	Mod Ou	. 1	Zona 1	5	6						
	Mod Ou		Zona 1	5	7				ш		
	Mod Ou		Zona 1	5	8						
	Mod Ou		Zona 1	5	9						
	Mod Ou		Zona 1	5	10						
	Mod Ou		Zona 1 Zona 1	5	11						
	Mod Ou		Zona 1	5	13						
	Mod Ou		Zona 1	5	14						
	Mod Ou		Zona 1	5	15						
	Mod Ou	. 1	Zona 1	5	16						
	Mod Ou	. 1	Zona 1	6	1						
Deli	MediCo		7003.1		2				+		
Rela	alo: 5		Modo oper Ridondant								A
	rizione		reconcura	0. 00001				•		The	Warning! e current channel is redundant.
Clon	a output	Res	setta canale							Eve	ary change will be applied also he redundant channel
	_										
Eventi	Ridondar	1Zð N	Aodo operativo								
C	ambia relè i	ridonda	ante Ri	muovi relè rid	ondante						
R	elè rido	nda	nte								
Bu											
			Output SIL1								
Re											
Ca	nale: 1										

Fig. 5.6.0) Screen with redundant output indication

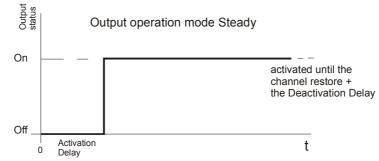
#### Output operating mode

There are three options for the output Operating Mode Click on "Operating Mode".

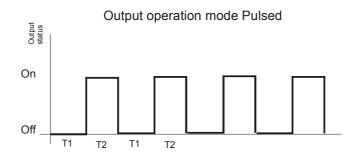
) Steady	Pulsed	Timed
Activation Delay 0 seconds (min=0 max=300 default=	0) On 2 seconds (min=2 max=10 default=2)	Activation Delay 0 seconds (min=0 max=300 default=0)
Deactivation Delay 0 seconds (min=0 max=300 default=	0) Off 2 seconds (min=2 max=10 default=2)	Activation Time 1 seconds (min=1 max=300 default=1)

Fig.5.6 p) Output operating mode

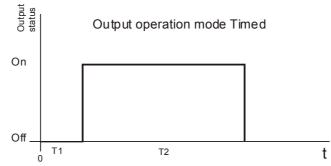
**Instant**: follows the status of the event: Active event: (detector in alarm) activated output (after any delay); event reset: output deactivated (after a period of delay).



**Impulsive**: intermittent mode with settable ON and OFF time.



**Time-based**: individual impulse with activation delay time and deactivation delay that can be set.



The "*Normally On*" option defines whether the output is normally activated or normally deactivated during regular operation.

		Not defined Defin	red redundant 🔳 Defined redun		ed,ireserved	
Relay Overview Relay				*		
	io. Jon Zone	Mod Chai Redundar	n' Description		1 2 3 4	4 5 6
	Default Zone	2 2			MOD OUTPUT	
	Default Zone	2 3				
	Default Zone	2 4				
Mod Ou 1 Mod Ou 1		2 5				
Mod Du 1		2 0				
Mad Ou 1		2 8				
Mad Ou 1		2 9		2		
Med Ou 1		2 10				
Mod Ou 1		2 11				
Mod Ou 1		2 12				
Mod Ou 1		2 13				
Mod Ou 1	Default Zone	2 14				
Mod Ou 1	Default Zone	2 15				
Mod Du 1	Default Zone	2 16				
CPU Rel 1	Default Zone	1 1				
CPU Rd 1	Default Zone	1 2				
Relay:	Operation Mod					
Module: 1001	Redundant:					
Description:			•			
Reset Channel	Clone output					
	1					
Events Redundancy						
Normally Energise	sd .					
Steady			Pulsed		0 Timed	
Activation Delay	0 seconds (min= 0 seconds (min=	0 max=300 default=0)	On 2 seconds (min=2 m Off 2 seconds (min=2 m	nax=10 default=2)	ictivation Delay 0 seconds (nin=0 max=300 default	2=0)

Fig.5.6 q) Output operating mode

The aforementioned information does not bind the manufacturer, which reserves the right to make any changes that it deems useful for product improvement.

CE

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Software Manual

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