

Matrix 2000

[conventional
fire alarm
panels]

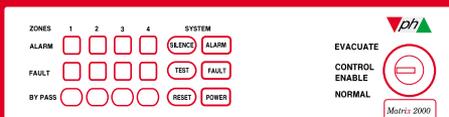


PARADOX HELLAS S.A.

APPLICATIONS

▶ Matrix 2000 series conventional fire alarm panels consist of two basic units (mainboards) of 4 and 8 zones. These units, with the addition of 8 zones expansion modules, can provide reliable solutions to any installation where a fire alarm panel of 4, 8, 12, 16, 20 or 24 zones is required. They are designed and manufactured in complete accordance with EN54, Parts 2, 4 & BS5839, Part 4, standards. They are furthermore certified according to E.U. instruction EN54 part 2 and part 4.

These panels can, by adding a relay expansion module, be used as fire extinguishing panel with cross zoning (unique feature) and selectable delay time for the extinguishing procedure. Furthermore, these panels have the unique feature of automated sequential multi floor building evacuation in the case of fire; this feature was accomplished by using an algorithm to avoid conjunction in the staircase. Controlling and programming of the



panels is performed in three different access levels, always in accordance with EN54, Parts 2, 4 & BS5839, Part 4, via the silicon rubber keypad in the façade of the panel (access levels 1 and 2) and via microswitches in the inside of the panel (access level 3).

Matrix 2000 fire alarm panels series, fully cover the needs for any conventional system installation regarding fire detection and furthermore fire extinguishing. They provide features that can only be found in big and expensive systems. These features are :

- ▶ Weekly test reminder for the owner of the system
- ▶ Intellizone feature
- ▶ Walk Test feature
- ▶ Automatic building evacuation after command from a zone feature
- ▶ Local sirens' activation delay time
- ▶ Cross Zoning feature
- ▶ Ability to connect up to 8 repeaters via RS-485 port (optional)
- ▶ Ability to connect and control the system locally from a PC via RS-232 connection (optional)
- ▶ Ability to connect the panel via a TCP/IP module onto a LAN or WAN (optional)
- ▶ Special software package for controlling and monitoring the system from a local or remote PC (LAN - WAN)

Some of these applications - features are described below :

Intellizone Feature

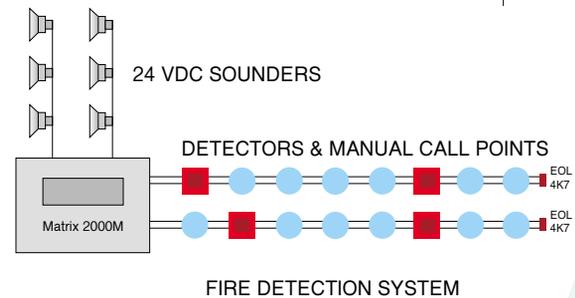
for fire detection
applications

The Intellizone feature gives the Matrix 2000 panels the ability to practically eliminate the cases where false alarm occurs. This feature is based in the simple principle of alarm signal verification from other detector(s) of the same or a different zone.

In detail the whole feature is as follows:

- If one detector from a certain zone is activated, the Matrix 2000 panel will ignore the alarm signal. After a predefined Intellizone delay time (30,60,90 or 120 sec) the panel resets the detector; if the detector is activated within the next 5 minutes after the reset, the panel goes into alarm state.
- If, while one detector from a certain zone is already activated, a detector from another zone is activated, the panel goes into alarm mode without waiting for the Intellizone delay time to expire.
- If more than two detectors of the same zone are activated, the panel goes into alarm mode without waiting for the Intellizone delay time.
- Finally, if the system operator realises that there's fire in the premises, he can activate the panel by pressing a manual call point button, cancelling Intellizone feature. The manual call point button has an equivalent resistance of 180 Ω .

Intelli zone



Walktest Feature

for fire detection
applications

The Walk Test feature allows the installer to perform a final overall test of the entire system without the help of a second person. When this feature is selected the installer can activate each of the fire detectors in the system; each time a fire detector is activated the system goes in alarm mode (activation of sirens) for two (2) seconds and then resets the specific zone of the system and the detector.

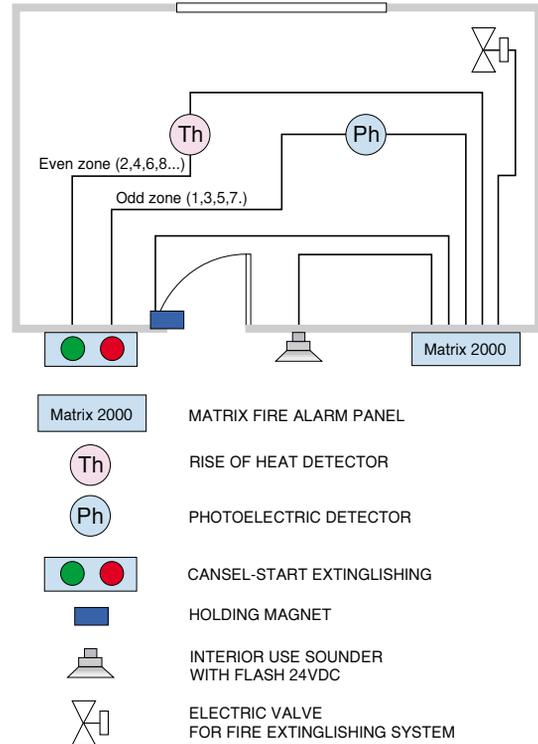
Walk test

Cross Zoning Feature

for fire extinguishing applications

Cross Zoning feature is used when the system includes fire extinguishing areas. By definition, for each extinguishing area a pair of neighbouring zones is used (e.g. zones 1&2 or zones 3&4 or zones 13&14); each zone has an output relay. Consequently, the panel must be equipped with relay expansion board(s). In fire detection configuration each relay would be activated every time the corresponding zone gave an alarm. In the case that Cross Zoning feature is enabled, if one zone (first or second) from a pair of zones configured as Cross Zoning, gives an alarm, the first relay on which the siren is connected will always be activated. The siren will sound in a continuous way, indicating that fire detection alarm exists. If then, the second zone of the cross zoning pair is activated, the siren will change the way it sounds in an interrupting way, indicating that the evacuation procedure for this area has started. The extinguishing command will be given from the second relay after a predefined delay time. This fire extinguishing delay time can vary from 30 up to 120 sec, and it is used to provide time for the system supervisor to cancel the extinguishing procedure. When the delay time passes, the second relay gives the extinguishing command and the siren changes again the way it sounds in a different interrupting way, indicating that the extinguishing procedure has started.

The system operator can activate or cancel the extinguishing procedure at any time, with the special manual call point buttons installed just outside the extinguishing area. The call points are directly connected to the detectors of each zone and not to the panel itself (avoiding long and costly cabling). On the detectors of the even zones of the cross zoning pairs the CANCEL EXTINGUISHING PROCEDURE button is connected, while on the detectors of the odd zones the ACTIVATE EXTINGUISHING PROCEDURE button is connected. Manual call points' equivalent resistance is 180 Ω.



Cross Zoning

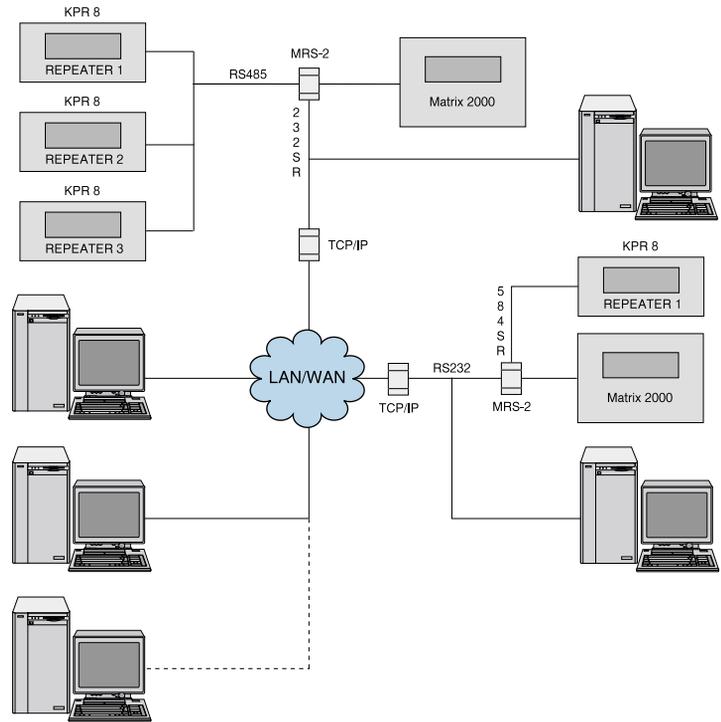
Connection of Matrix 2000

conventional fire alarm panels to a PC and/or LAN-WAN

Specially designed MRS-2 Module provides the Matrix 2000 conventional fire alarm panel series the ability to be connected to a local PC or LAN/WAN. In the case of a network connection, a TCP/IP module is required.

MRS-2 also provides the Matrix 2000 panels the ability to be connected to fully functional repeaters and a PC through which we can monitor the status of the panel as well as control it. The maximum distance between the panel and the repeater(s) is 1200m. The maximum number of repeaters that can be connected to one panel is 8.

Special software under MS-Windows OS, can be used to monitor and control the panel; this software simulates the keyboard on the PC screen. All actions are performed with a mouse.



PC & LAN WAN



Matrix 2000

TECHNICAL DATA

Number of zones	4, 8, 12, 16, 20, 24
Detectors per zone	20
Mains power supply	220 VAC 50Hz ή 28VAC
Power supply	Switching 27,6 V 3A
Operating Voltage	24 V DC
Batteries (not included)	2 X 7AH Sealed lead acid battery
Main system siren	1 x 3A fused monitored siren output
Zone siren outputs	Independent 0,5A fused monitored siren outputs per zone. Relay expansion modules MER-8 ή MER-4 must be used
Fault output	Incorporated Buzzer and free contact relays (NO, COM, NC)
IP factor	IP 30
Operating temperature	From -5 up to +40° C
Zonal EOL resistance	4K7
Output monitoring resistance	4K7
Resistance, alarm state	51 up to 1KΩ
Resistance, fault state	0 up to 50Ω, short-circuit 9KΩ and up, open circuit
Resistance, detector removed from its base	1KΩ up to 2KΩ
Construction	Box: 1,2mm fully welded sheet steel Control panel: Plastic, with silicon rubber keypad
Colour	Grey

CODE	ZONES	TRANS. CURRENT	WEIGHT (kg)	DIMENSIONS (H x W x D)
MATRIX 2004	4	110mA	6.5	31 x 45 x 9 (cm)
MATRIX 2008	8	130mA	6.5	31 x 45 x 9 (cm)
MATRIX 2012	12	150mA	9	48 x 45 x 9 (cm)
MATRIX 2016	16	170mA	9	48 x 45 x 9 (cm)
MATRIX 2020	20	190mA	12	65 x 45 x 9 (cm)
MATRIX 2024	24	210mA	12	65 x 45 x 9 (cm)

Above power consumptions do not include consumption from relay modules.



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