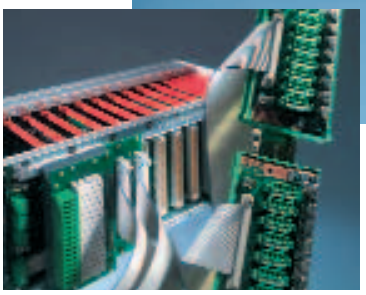
Enhanced









Certified to:
ATEX
EN 50402
TÜV SIL 3
NFPA 72
All inclusive!

SUPREMA

[Modular Flexibility for Fire & Gas Solutions]

MSA



Experience Means Safety

[SUPREMA: Innovation in Gas Measurement Technology]

More than 113 years of experience and expertise in comprehensive safety solutions have made MSA one of the leading suppliers of permanent gas detection technology.
MSA has developed a complete and comprehensive range of products in this area.

Stringent safety standards, a high degree of operating comfort and forward-looking technologies have been the benchmarks applied to the development of SUPREMA.
SUPREMA's modular design allows it to be adapted to any monitoring task and to meet all required safety standards.

Digital bus technology ensures absolute reliability and allows the configuration of many different kinds of alarm system. Open-collector driver outputs [24 V, 0.3 A] allow direct control of relays or other circuit elements such as contactors, switches or solenoid valves. Digital signal transmission is also possible with SUPREMA via ModBUS RTU, ProfiBus, TCP/IP or Ethernet.

Compatible with many different detectors, SUPREMA guarantees that you will be warned if any combustible gases, vapours and toxic gases are present and also provides top quality oxygen concentration measurement.



Made-to-Measure Safety

[Functionality in a Modular System]

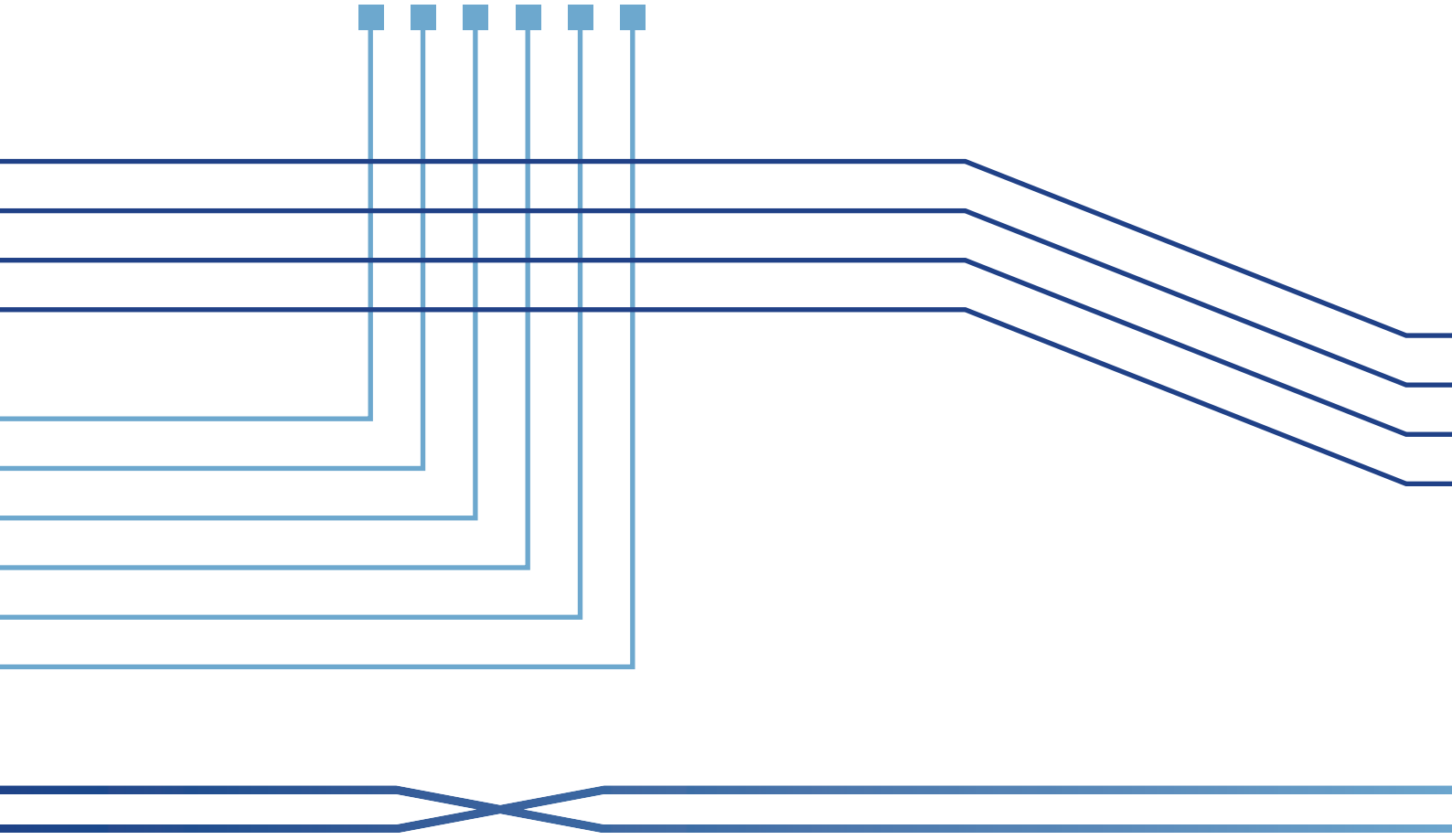
With SUPREMA, MSA has succeeded in creating a new generation of gas monitoring technologies. Thanks to its innovative modular design in conjunction with the latest bus technology, SUPREMA can be compactly and inexpensively tailored to every application.

From monitoring entire sites in large-scale industrial complexes to measurement and control tasks in smaller and medium-sized plants, SUPREMA can be expanded whenever required and adapted to any alarm system without the need to create more space.

The modular generation can be configured individually to suit the monitoring job in question.

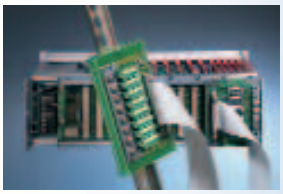
From connecting gas detectors to sounding the alarm, the user is always in control and decides in each individual case what's really needed. Any required configuration changes can be made without difficulty, whenever necessary.

From simple and compact stand-alone monitoring systems to complex and scaleable control systems, MSA's extensive range of products provides made-to-measure solutions for every application.



Terminals
for up to 8 input devices

MAT TS
Analog terminal
for rail mounting



Plug-in connection
for ribbon cable

MUT
Universal Terminal

Redundancy module
for dual input of signals

MAR
Analog Redundancy

Redundant signal pre-processing

Redundant data processing, system memory, alarm level values

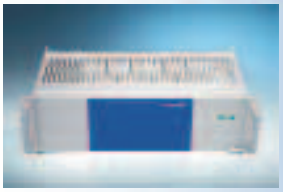
Third data system me alarm leve increased

Combustible sensors
Oxygen sensors
Toxic sensors
Flame detectors
Smoke detectors
Heat detectors...

Decentralized design
inputs and outputs at a distance of up to 2 km

CAN Bridge

CAN Bridge



External connections
for visualisation, bus connection, PC, printer, etc.

MST
System Terminals

Input signals
for up to 8 input devices

MAI
Analog Input

Signal pre-processing
for up to 64 input devices

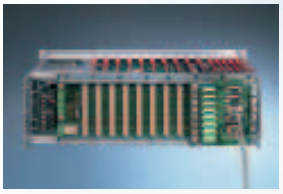
MDA
Data Acquisition

Data processing, system memory, alarm level values
for up to 256 inputs and 512 outputs

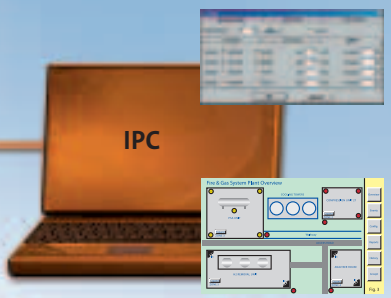
MCP
Central Processing

Terminals
for up to 8 input devices

MAT
Analog terminal
on rear of rack



IPC



Options for system operation and plant visualisation



processing,
emory,
l values, for
availability

Redundant 40-relay drivers, open collector

Relay adapter for redundant connection

Relay module
8 redundant relays, 230 VAC/3 A

MRO 16 TS
Relay output
for rail mounting



horn
beacon
open
close
switch...

horn
beacon
open
close
switch...

40 relay drivers, open collector
24 VDC 0,3 A

MGO
General Output

Logic Extension
For special alarm output logic functions and time delay

MLE

Relay adapter
for up to 40 relays

MRC TS
Relay Connector
for rail mounting

Relay module
8 relays, 230 VAC/3 A

Mro 8 TS
Relay Output
for rail mounting

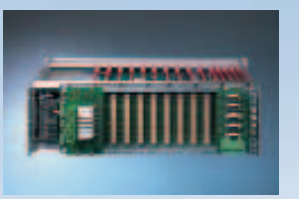
eway

Gateway

ModBUS, ProfiBUS or Ethernet

Relay module
8 relays, 230 VAC/3 A

MRO 8
Relay output on
rear of rack



Graphic display System operation

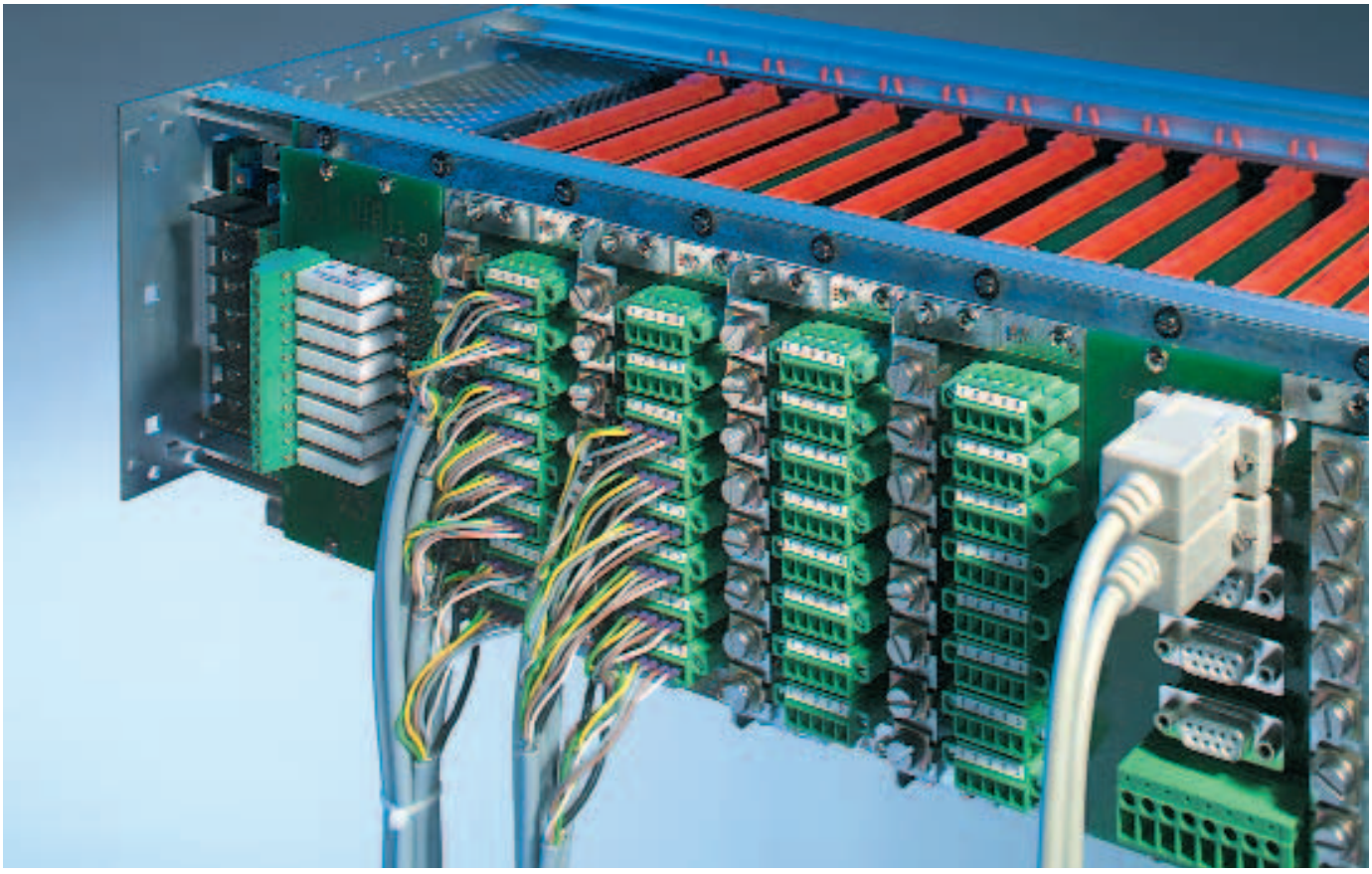
MDO
Display + Operation

Cost Savings through:

- less planning thanks to integrated modules
- space-saving and compact design
- minimum amount of wiring thanks to decentralised configuration
- easy installation with plug-in ribbon cables
- fewer cabinets, smaller control rooms
- future-oriented technology and reduced upgrade costs

Flexible Planning through:

- innovative modular assembly
- easy linking of measurement input with appropriate output by a click of the mouse – reduced wiring and increased flexibility
- convenient configuration by mouse click: voting, alarm grouping and multiple activations
- variable and customised system layout



Safety from a Central Standpoint

[The Central Nervous System of 256 Detectors]

SUPREMA can measure and monitor more than 100 gases and vapours, toxic gases and oxygen. With suitable remote sensors, the innovative control system ensures that required safety levels are maintained. Everything is possible: combustible gas detection, either point cata-lytic, IR or open-path, toxic gas monitoring in the ppm range and oxygen monitoring from 0 to 30% by volume. Optical flame, smoke and heat detectors as well as manual call points can be used. SUPREMA caters for all requirements, from small plants to multi- functional integrated monitoring systems for major plants.

- 256 detectors per system
- 64 detectors per rack
- compatiable with all MSA remote sensors
- detects more than 100 types of gases

[FlameGard IR³]

Self-contained triple-spectrum flame detector capable of detecting a 0.1 sq.m. petrol fire at a distance of 60 m in less than 5 seconds.



[SafEye Xenon 700]

Open Path gas monitor consisting of an advanced Xenon flash infrared source and detector to monitor combustible gases and vapours over a line of sight from 4 to 140 m.





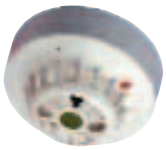
[ULTIMA XI]

The ULTIMA XI gas monitor is an infrared point gas detector for continuous monitoring of combustible gases and vapours.

[Manual Call Points]



[Conventional Smoke & Heat Detectors]



[ULTIMA X Series]

The ULTIMA XE and XIR provide continuous monitoring of combustible and toxic gases and oxygen deficiency using catalytic, electrochemical and infrared sensor technologies.







[Series 47K]

Cost effective passive catalytic sensors to detect potentially hazardous concentrations of flammable gas and vapour in air up to 100% LEL.







[RG-3LCD]

Combustible gas sensor transmitter, 4–20 mA and RS485 output with ModBUS RTU protocol. Available with integral or remote sensor.

[DF-9500]

Gas detector for continuous monitoring of industrial locations and the workplace for toxic gases and oxygen deficiency.



[DF-7100]

EX-Transmitter for continuous monitoring and detection of combustible gases and vapours in the air.



Complex Safety – Simple Operation

[The Operating Concept of SUPREMA]

The latest technologies together with a self-explanatory user interface make the planning, installation, configuration, integration and operation of the SUPREMA extremely simple. No programming skills are necessary.

The status signals of up to 256 combustible, toxic and/or oxygen sensors can be linked up as required with up to 512 relays or driver outputs with a simple mouse click at the PC or conveniently and directly at the control panel of the SUPREMA.



- menu-driven, self-explanatory user interface
- detailed diagnosis and event logging functions
- simple parameter setting and calibration
- comprehensive measurement input information
- convenient alarm configuration
- 3 password levels
- user defined sensor parameters
- large back-lit graphic display with plain-text readout
- inhibit function of digital outputs

Complex systems with several SUPREMA units can also be controlled and monitored easily and conveniently at the PC. Thanks to the simple visualisation concept, all SUPREMA control systems can be operated and monitored simultaneously.







Programmed for a Safe Future

[The World's First Fully Certified System]

All MSA products must achieve the very highest standards of certification.
SUPREMA represents the world's first control system to be certified by test authorities as conforming to all relevant standards in the field of gas and fire hazard detection.

ATEX

SUPREMA has been tested and certified to:

- ATEX directive 94/9/CE, including function test in accordance with the standards required for use in gas warning systems [EN 50104, EN 50271, EN 61508, EN 61779-1, EN 61779-4, EN 61779-5]
- SIL 1 capability [non-redundant] and SIL 2 – 3 capability [redundant configuration] from TÜV Rheinland [EN 61508]
- NFPA 72
- Type 3 according to EN 50402
- Marine approval with EC type test according to directive 96/98/CE [MED]

SUPREMA

Key Features at a Glance

19″ rack system for connecting up to 256 input devices

Up to 512 alarm outputs

Signal processing for up to 64 inputs in one 19″ rack

Modular system

Compact design

High flexibility

Minimum installation work

Hot-swap replacement

Decentralised design possible, inputs and outputs at a distance of up to 2 km

Operating voltage range: 18 – 32 V

Optional power supply in the rack [150 W, 85 – 265 VAC]

For higher power requirements, external power supplies can be used

Battery connections for emergency power operation [24 V]

Simple system operation with graphic display and plain-text readouts, cursor keys and function keys

System can also be operated from a PC if desired [graphical user interface]

LED's for alarms 1 to 4, faults, operating voltage, system failure, inhibit

System can be designed dual redundant

Approvals:
ATEX [EN 50104, EN 50271, EN 50402, EN 61508, EN 61779-1, EN 61779-4, EN 61779-5], TÜV up to SIL 3 [IEC 61508], NFPA 72 and SOLAS

Operation of passive catalytic combustible sensors, 3-wire or 5-wire [Series 47K etc.]

Operation of active sensors with 4 – 20 mA output, 2-wire or 3-wire [ULTIMA X-Series etc.]

Operation of sensors with switched output [smoke, fire, heat]

Switched outputs as open-collector driver [24 V, 0.3 A] or relays [change-over contacts, 230 V, 3 A]

Rail mounted relays are supplied separately

Software-controlled allocation of status signals and switched outputs:
- creation of groups
- n from m alarms
- alarm multiplication

Optional analogue outputs, electrically isolated [4 – 20 mA, 500 ohms]
Comprehensive diagnosis and event recording

Interface to an external PC [data evaluation, visualisation, reporting, etc.]
Key switch or password for secure access control

Key operated switch for relay inhibit

Report printout of status changes and system operations [standard ASCII, 80 CHR]

2 x RS-232 electrically isolated interfaces for data transfer to a PC/laptop and/or printer

Optional Interfaces to external bus systems [e.g. ModBUS RTU, Profibus DP, Ethernet]

Content subject to change!

Detailed Ordering Information available upon request

MSA Service

[Professional, Reliable & Responsive]

Alongside the extensive range of top quality products, MSA also provides a high level of customised service.
MSA's comprehensive and versatile range of services ensures that your equipment and systems will always be reliable, economical and ready for use.
MSA is always at your service to provide you with the support you need, when you need it.



- Project Planning & Development
- Installation & Commissioning
- System Modification
- Maintenance
- Repair & Service
- Training



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