

**Electronic Equipment Trading Est.**



**مؤسسة النجهيزات الإلكترونية للتجارة**

C.R: 1010286516  
Vat Registration No.: 300117387300003

س.ت: ١٠١٠٢٨٦٥١٦  
رقم التعريف الضريبي للعميل: ٣٠٠١١٧٣٨٧٣٠٠٠٠٣

**EET COMPANY PROFILE  
2023**

**Executive Manager**

Eng. Nour Koniahli  
Mob: 0533454561

**Airedale**

**Cooling system**  
**Row cooling System**



**EET COMPANY PROFILE**  
**2023**



**Raised Flooring System,**  
**Lindner, Unifiliar, Avaya,**  
**ASP Access Flooring system**



**APC UPS SYSTEM**  
**TRIPPLITE UPS SYSTEM**  
**HUAWEI UPS SYSTEM**  
**SCHNEIDER UPS SYSTEM**  
**GE, MUST, OGS, Riello UPS SYSTEM**



**NTI MONITORING SYSTEM**  
**AKCP MONITORING SYSTEM**  
**CANNON MONITORING SYSTEM**  
**AVTECH MONITORING SYSTEM**  
**APC MONITORING SYSTEM**



**Generator System**  
**Perkins System**  
**Power lite System**  
**Cummins System**

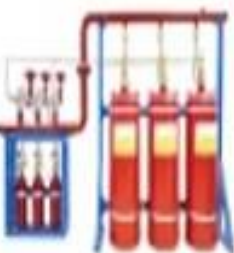


**Simplex Clock system**



**Burglar Alarm System**

**PC, Laptop window installation software and anti-virus installation**



**FM 200 SYSTEM**  
**NOVEC 1230 SYSTEM**  
**Co2 SYSTEM**



**AEROSOL SYSTEM**



**FIRE FIGHTING SYSTEM**

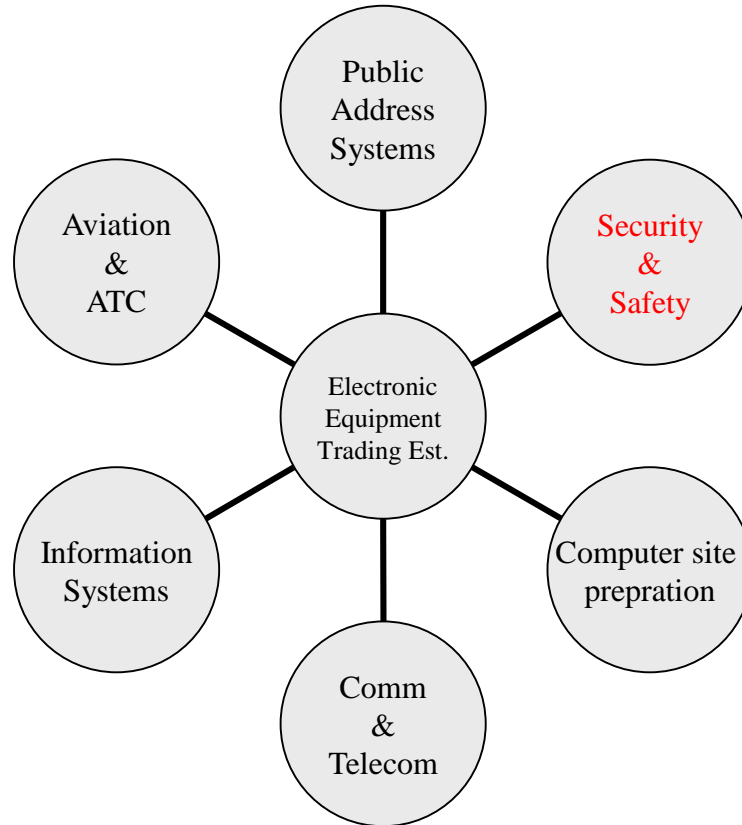


**Access control system**

**Queue Management System**

**Network cables, fiber Pulling and splicing,**  
**wireless access points, Router and Switch**

# Business Areas



# Business Activity

Electronic Equipment Trading Est. is capable of developing, Managing and executing different sizes of technical projects, serving the industries of Defense, Security, Command & Control, Telecommunications, Information Technology, Aviation & Aerospace.

Electronic Equipment Trading Est. manages and executes some or all of the following implementation stages, based on the client's requirements, and deliver them on turn-key basis:

- **Requirements Analysis & Problem Definition.**
- **System Design & Engineering.**
- **Local & Offshore Procurement & Supply.**
- **Installation & Commissioning.**
- **Testing & Hand-over.**
- **Documentation & Training (Technology Transfer).**
- **Technical Support.**
- **Operation & Maintenance.**

# Business Methodology

## **Project Development Phase:**

Upon the client's request to evaluate his existing environment in one of our predefined business criteria, Electronic Equipment Trading Est. executes extensive technical and business analysis practices, of the client's existing environment. This analysis should generate a complete and comprehensive problem definition, and should result a list of requirements to be fulfilled to resolve these problems.

Accordingly, Electronic Equipment Trading Est. shall provide the client with a complete designed turn-key solution to resolve these problems. This solution is developed utilizing the extensive knowledge of our experienced world-wide technology partners, and internal resources.

# Business Methodology

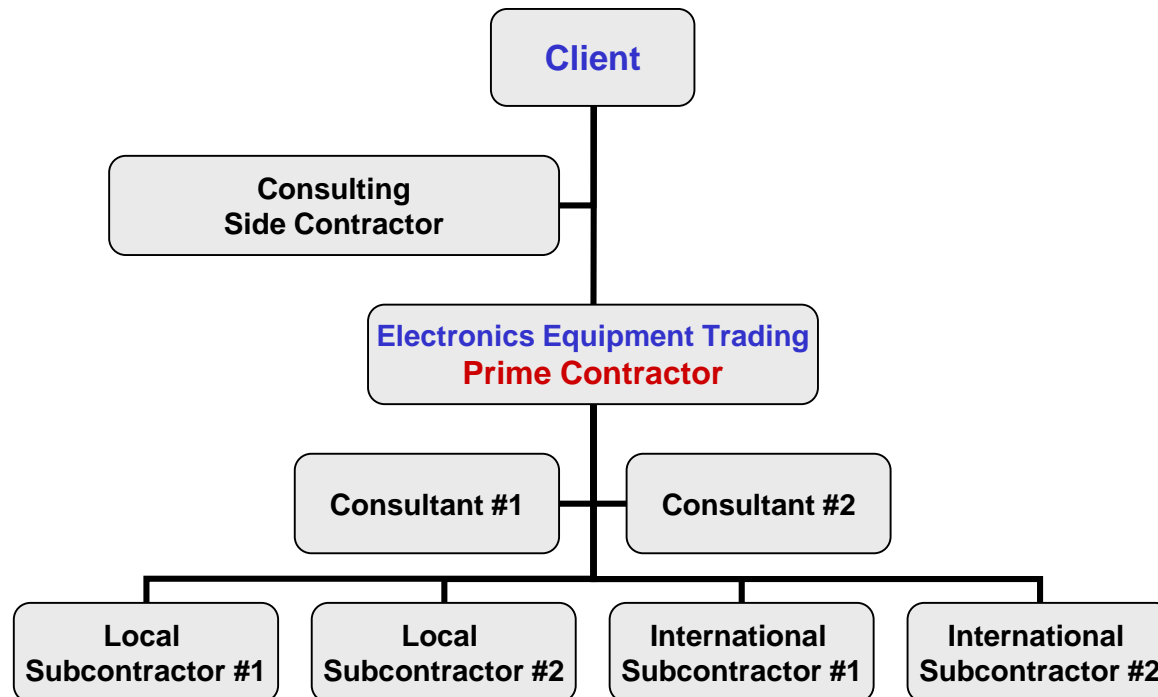
## **Project Implementation Phase:**

Electronic Equipment Trading Est. acts as the project prime contractor, by creating a complete project implementation consortium. This consortium should team-up all required local and international subcontractors. The delivery of the contracted solution should be according to the predefined specifications, and within the project time frame.

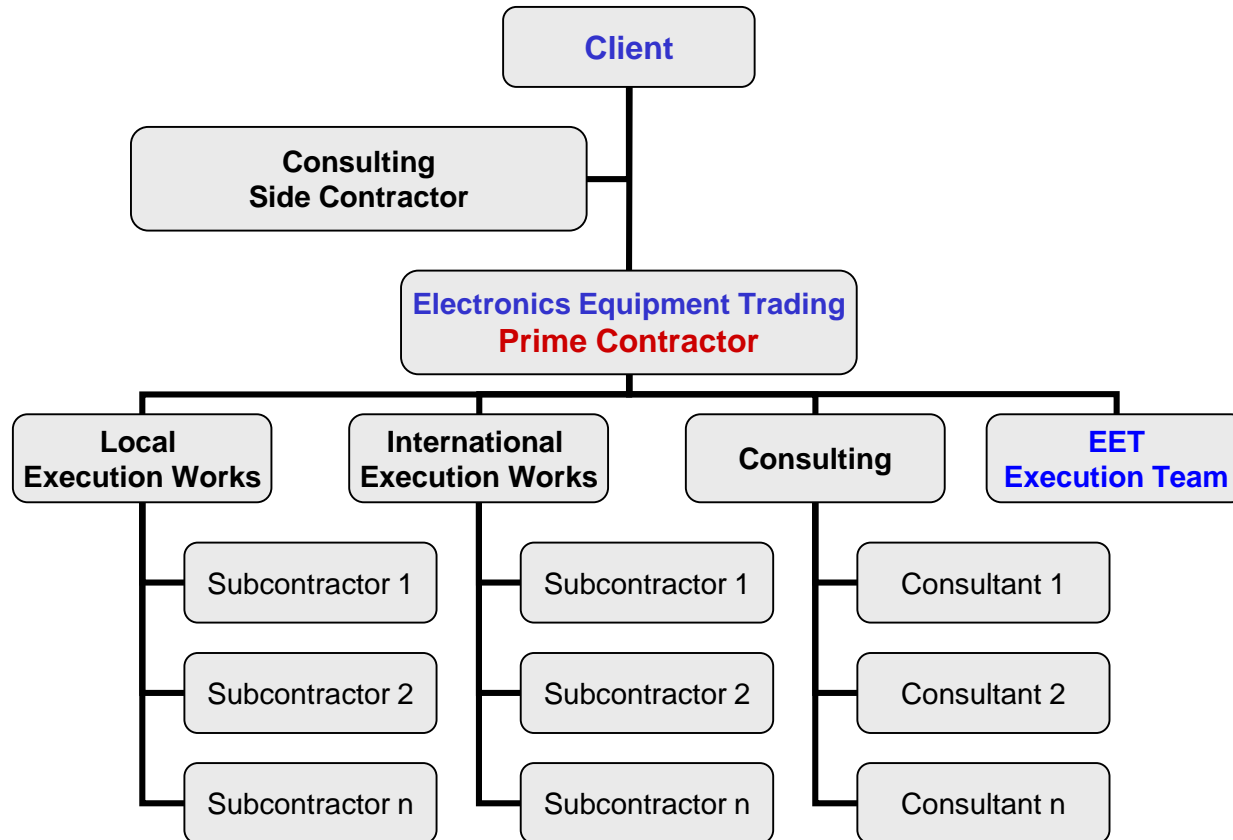
Under the complete project management of Electronic Equipment Trading Est., the consortium will design, integrate, install, commission, test and finally hand-over the solution, as per the contract scope of work.

After the successful delivery of the project, Electronic Equipment Trading Est. will be entitled to provide all contracted after-selling services, including maintenance, technical support, training, technology transfer, and supplying spare parts.

# Business Methodology Chart (1)



# Business Methodology Chart (2)





# Technical Projects

## Security, Safety & Control Solutions (1/2):

Fire alarm systems

FM200 , novic1230 , CO2

Fire fighting system

Fire fighting pumps ( electrical , diesel , jokey )

Indoor & outdoor CCTV surveillance network systems

Indoor & outdoor access control network systems

Site intrusion detection, assessment & response systems (IDAS)

Perimeter security systems

Land & coastal borders surveillance & control systems

Command & control & communication, computers, intelligence & surveillance systems (C4IS)

Building & facility management systems

Road traffic control & management systems

Intelligent transport systems (ITS)

Traffic law enforcement systems

Traffic command & control systems

Single-space intelligent car parking guidance systems

Robotic car park systems

Electronic vehicle registration systems (EVR)

Remote alarm Management Systems

# Technical Projects

## **Computer Site Preparation Division 2/3**

Data Cabling and Networking Systems

Raised Flooring Systems

Site Preparation Works for Computers / Servers / Commercial and Computer Rooms

Renovation Works related to Site Preparation Works – Electrical, Mechanical, Lightings, Gypsum Boards, Painting, Flooring, etc.

## **Security, Safety & Control Solutions (3/3):**

Security Documents, ID Cards, Gov Papers, and Passports Systems

Police & Armed Forces Equipment

Bomb Detection & Contamination Systems

Package Scanning Systems

Weapon Consignment Detection

Popup Barriers Systems

Weapon Sight Systems

Vehicle, Man, and Weapon Night Vision Systems

Anti-Shuttering, Anti-Explosives, Bullet-Proof Glazing Solutions

Armored & Bullet-Proof Vehicles

Industrial Thermal Imaging Systems

Industrial Control & Operation Simulation Systems

Public Address & Conference Room Systems

# Technical Projects

## **Telecommunication Solutions:**

Radio, Microwave, and WiFi Communication Networks

Signal Intelligence Systems

IP-based Communication Networks

Indoor & Outdoor Fiber Optic Communication Networks

Bugging and Surveillance Countermeasure Systems

Data Acquisition Systems

Communication Encryption Systems

Jamming Systems

Industrial Telephone Systems

GSM Telecom Central & Tower Equipment Installation, & Commissioning Services

Telecom Systems Deployment Audit Services

# Technical Projects

## **Information Technology Solutions:**

Warehouse Management Solutions  
Electronic Voucher Prepaid Top-up Solutions  
IT System Risk Management & Security Audit Services  
Maintenance & Spare Parts Logistics Management Systems  
Data Warehousing Systems (DWS)  
Electronic Document Management Systems (EDMS)  
Hospital Management Systems  
Electronic Medical Records Management Systems (EMRS)  
Core Banking Solutions  
Oil & Gas Operation & Management Solutions  
Power Plants O&M Solutions  
Construction Management Systems  
Industrial Process Control & Automation Systems

# Technical Projects

## **Aviation & Aerospace Solutions:**

Air Traffic Management Systems

Meteorological & Automatic Weather Observation (AWO) Systems

Ground (DVOR, DME, ILS) Radio Navigation Systems

Airport Surveillance Radar Systems (ASR)

Aviation Refueling Systems

Aircraft Avionics Systems

Electronic Warfare Systems

Full Mission & Operational Flight Simulation Systems

ATC Simulation Systems

Commercial & Military Aircraft Spare Parts

# Clients List

**Arab National Bank**

**Riyadh bank**

**SAAB Bank**

**Unified Asset Real**

**Fast Metro**

**Al-Khateeb United Trading EST.**

**King Fahad specialist Hospital –Dammam**

**King Fahad Medical city**

**King Faisal Hospital**

**Madden –Data center**

**Saudi Cyprian Contraction Co.**

**MIRAN Contracting Co. LTD**

**Al- Othaim Group – Data Center**

**AMAQ Contracting**

**M.N.Bin Rajeh &Partners Contracting co.**

**Kahed Fahad albois Contracting co.**

**B T. Al Saudia - Najran university data center**

**Jazan university –IT department – data center**

**Ministry Of Defense – Air Force**

**Ministry Of Defense – Military Police & Security (Airbases, Camps)**

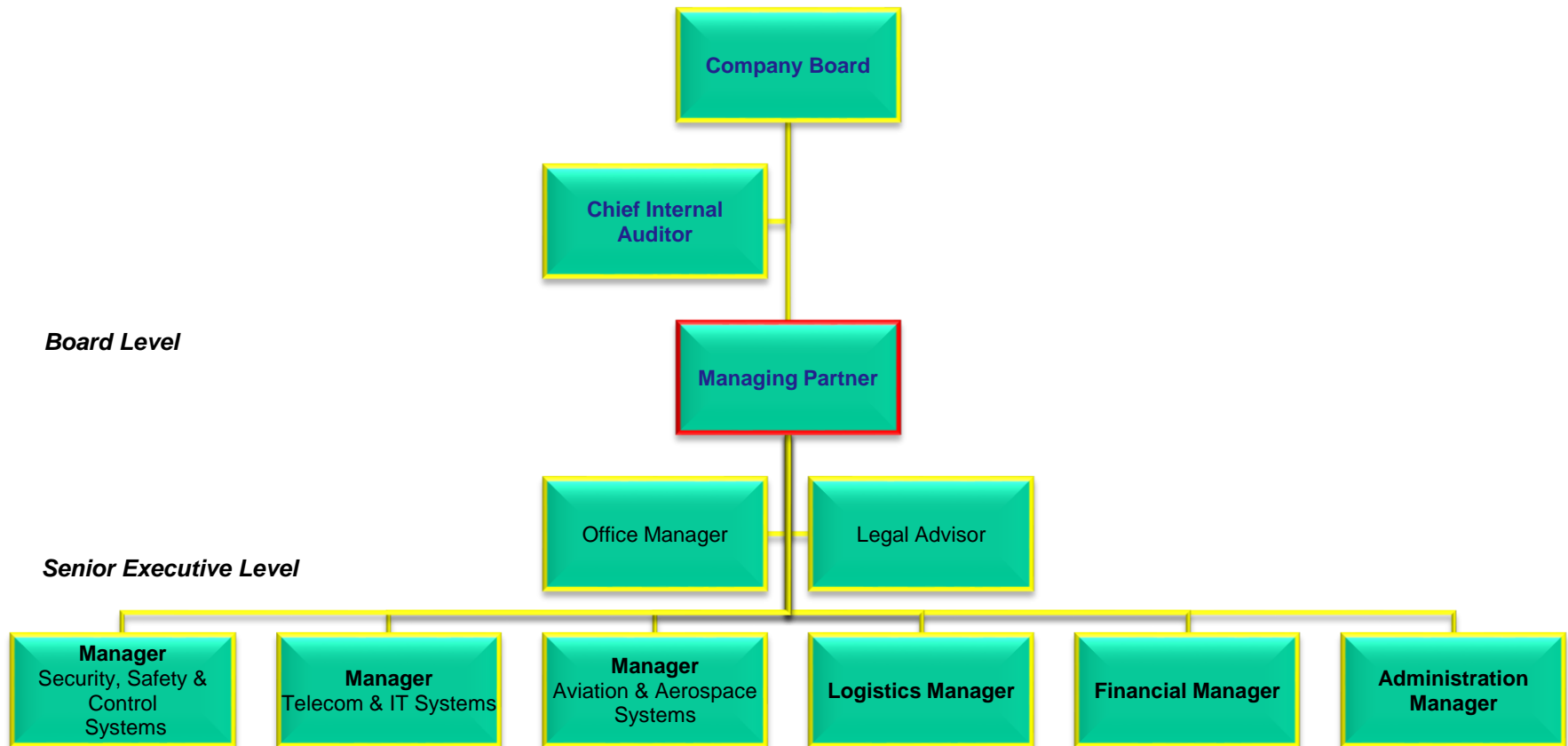
**Ministry Of Defense – Special Operations Forces**

**Al - Sawaed Company**

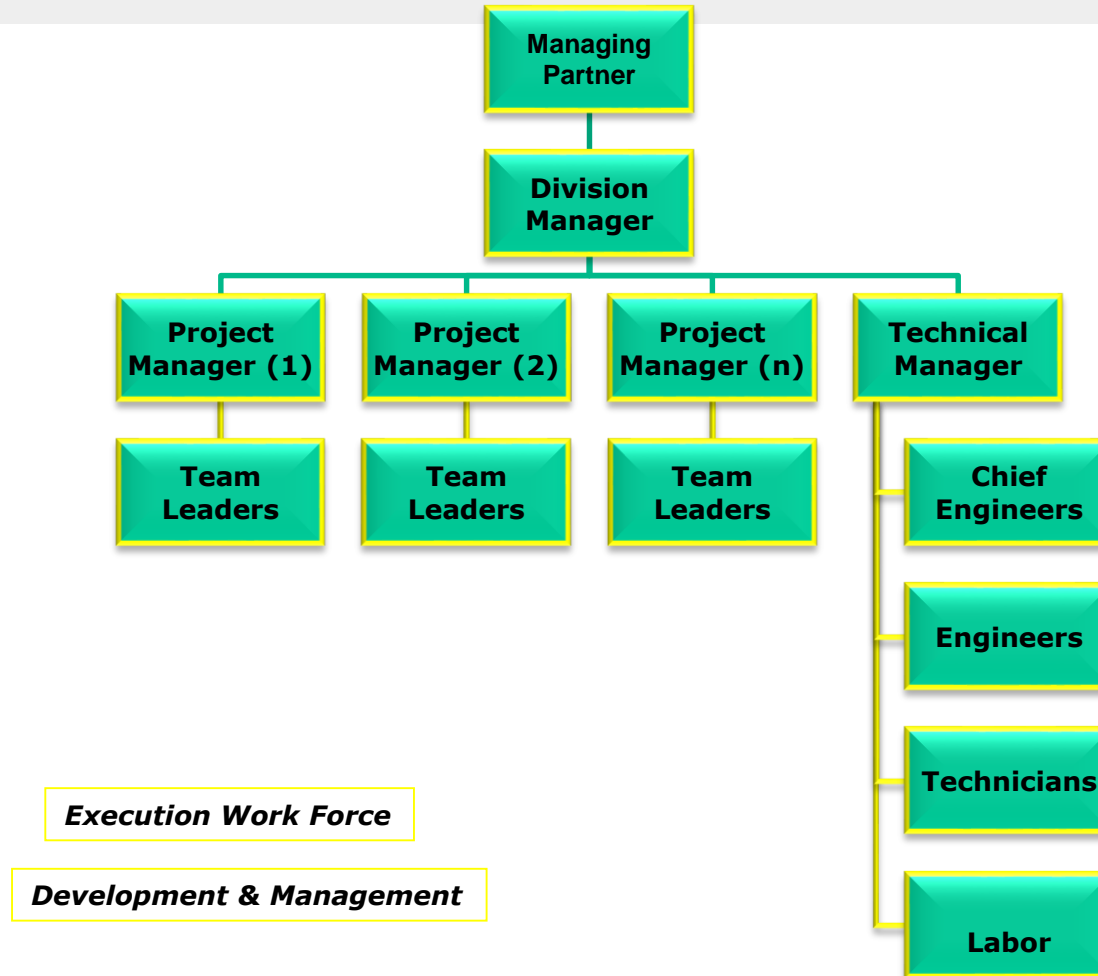
**Qasar AL-Salam Jeddah**

**King khalid International Air port Riyadh**

# Organization Charts (1)



# Organization Charts (2)





# References

- **Nov 2006:** Al-Fares International School, Installation of Fire Fighting Alarm system, approved by the Civil Defense, for the Girls Section School in Riyadh. Also, installation of complete wireless and wired Internet Network for the Computer Science LAB.
- **May 2007:** CITEX, Installation of Complete integrated CCTV with DVR system, Access Control System, as well as Conference room system, including ceiling speakers, Amplifiers, projector with complete satellite system.
- **Sept 2007:** SHEL, Installation of Explosion proof doors for Shell Offices in Qatif.
- **Oct 2007:** Private Villa, Installation of complete CCTV System, Intrusion Alarm System activated wirelessly and via keypad, as well as installation and integration of wireless and wired internet network for the villa.
- **Nov 2007:** BURSAH, Installation of Access Control and CCTV System for BURSAH experts office in Riyadh.
- **2008:** CITEX, Design of Complete integrated CCTV with DVR system, Access Control System, as well as new network with Giga Speed.
- **2008:** TNI, Design of Complete integrated CCTV with DVR system, Access Control System, as well as Conference rooms system, including ceiling speakers, Amplifiers, wireless projectors with complete satellite and DVD systems, with wireless projector screens. Design of total Server Room with whole accessories.

**2008:** Janssen-CILAG, Installation of Complete integrated CCTV with DVR system, Access Control System, as well as Conference rooms system, including ceiling speakers, Amplifiers, wireless projectors with complete satellite and DVD systems, with wireless projector screens. Design of total LAN Network and installation as well as the IP Telephone System

- **2009:** Quality Horizons, Tayba Group, Installation of Complete Access Control System, as well as Conference rooms & Public Address System, including ceiling speakers, Amplifiers, wireless projectors with complete satellite and DVD systems, with wireless projector screens. Installation of Fire Fighting Alarm system
- **2009:** Riyadh Schools, Installation of Complete integrated CCTV with DVR system
- **2010:** Capital Market Authority (CMA) NCCI Building New Office, Installation of complete integrated CCTV & Access Control, Fire Alarm, and MATV System
- **2010:** EET have prepared the full datacenter in Jazan for Jazan University Including all requirements.
- **2010:** EET have prepared the full datacenter in Najran for Najran University Including all requirements.
- **2010:** EET have install AVAYO raised floor in Odhaliya ARAMCO gas plant in DATA & communication center.
- **2010:** EET have Install AVAYO raised floor in KING ABDULLAH palace data center as well as FM200 in the control room.

- 2011: Prepare the computer labs for English labs at all cities for Dammam University with AVAYO Raised flooring system.
- 2011: Prepare the complete data center for Othaim group in all branches in the kingdom of Saudi Arabia.
- 2012: Ministry of interior (Prince Ahmad bin Prince Naif office) Communication building EET install the AVAYO raised floor and FM200.
- 2012: EET installed the AVAYO raised floor In Jeddah STC main exchange as well as cooling system and FM200.
- 2012: EET install the environment control system in Dammam University Datacenters.
- 2012: EET have install FM200 system and cooling in row at MOFA data center in Riyadh (CANON T4)
- 2012: Al Rumaizan group Data center prepared by EET.
- 2012: EET install the FM 200 in all branches of ANB. Data centers.
- 2012: EET install the FM 200 in Riyadh Military Hospital data center.
- 2013: Saudi Aero Space Engineering Industries Jeddah complete data center.
- 2013: EET install the Bare Steel Cementations HAAVYA raised floor in different buildings at Business Gate Project.
- 2013: EET install the Bare Steel Cementations HAAVYA raised floor in KKMA (MODA)
- 2013: EET install the Bare Steel Cementations HAAVYA raised floor in university Of Dammam. ( Dammam)

2014:	EET install the HPL steel cementitious HAAVYA raised floor in university of Dammam (Hafri Baten)	
2014:	EET install the HPL steel cementitious HAAVYA raised floor in Riyadh Air Base Training Wing. (MODA)	
2015:	EET install the Bare Steel cementitious raised floor HAAVYA in Omrania Building Riyadh	
2016:	EET install the HPL Steel cementitious raised floor HAAVYA in MODA Had Office at Exit 10. Ongoing project.	
2016:	Install the Calcium Sulphate bare 0 % gape Raised flooring system in King Salman Science OASIS	Riyadh
2016:	Supply and installation of Raised Flooring system at Olaiya Tower Riyadh (35,000 SQM)	
2017 :	Supply and install Monitoring system in Ministry of Interior	
2017 :	Supply and installation of FM 200 in ministry of interior	
2017 :	Maintenance Contract of NTI Monitoring system, CCTV cameras, Bio-let access door, UPS system and Generator in Prince Sattam University Alkharaj	
2018 :	Supply and installation of FM 200, NTI Monitoring System, Generator, Tripp-lite UPS in Ministry of Defence Riyadh (Prince Palace Riyadh Badia)	
2018:	Supply and installation of FM 200, Raised Flooring system ,fibre and UTP complete job, Tripp-lite UPS and Complete Electrical job in Ministry of Defence Riyadh (Dewan project)	system
2018:	Supply and installation of Raised Flooring System Lindner in Data Center With Wooden Ramp	
2018:	Installation of FM 200 and NTI monitoring System at Ministry of interior (Riyadh, Jeddah, Dammam, Fardania)	Saad,
2018:	Installation of FM 200 , Raised Flooring System, and all electrical work in Ministry of foreign affairs	Riyadh

- 2018: Supply and installation of Raised Flooring System Lindner in Data Center (Prince Palace (Dewan) Riyadh)
- 2018: Supply and installation of Raised Flooring System Lindner in Data Center (Prince Palace (Badia) Riyadh)
- 2018: maintenance Contract for FM200 in Arab National bank in All over kingdom.
- 2018: Maintenance Contract for UPS, AC's and Generator in AGFUND from 2013 to up now ...
- 2018: Maintenance Contract for UPS, AC,s AKCP Monitoring system CCTV cameras and Generator from
- 2018: Installation termination and Configuration of CCTV system in Riyadh Cargo (domestic and international area)
- 2019 installation of Raised Flooring System Lindner Salbookh (Al rashid Trading Est.)
- 2019: installation of Raised Flooring System Lindner Madina (Al rashid trading Est)
- 2019: Maintenance Contract for UPS, AC's and Generator in AGFUND from 2013 to up now ...
- 2019: Maintenance Contract for UPS, AC,s AKCP Monitoring system CCTV cameras and Generator in Vision invest from 2016 to up now.....
- 2019: Maintenance Contract for FM200 in Arab National Bank in all over Kingdome
- 2019: maintenance Contract for Monitoring System and UPS System in King Abdul Aziz Center for National Dialogue
- 2019: Maintenance Contract for Monitoring system AC, Chillers, UPS System , NTI Monitoring Systems, Canon monitoring System in Ministry of Foreign affairs (MOFA)
- 2019: Installation termination and configuration of data Points and CCTV system in Ministry of Health ARAR and SAKAKA (Aljouf)
- 2020: Installation termination and configuration of UPS system in Dr. Mohammed Alfagih Hospital Riyadh
- 2021: Supply and installation of FM 200 system King Abdullah City Riyadh

- 2021: installation of raised Flooring system King Abdullah city Riyadh
- 2021: Supply and installation of FM 200 system King Saud Medical University Riyadh
- 2021: maintenance of Generator Unified Asset and property management Riyadh
- 2021: supply and Installation of UPS Tabuk university Tabuk
- 2021: Installation of APC UPS at Neom City for Smart technology
- 2022: Maintenance Contract for AKCP Monitoring system, AC system, UPS system of Vision Invest...
- 2022: Maintenance Contract for FM200 in Arab National Bank in all over Kingdome
- 2022: Maintenance Contract for Generator for UAPM Riyadh
- 2022: Maintenance Contract for AC,s and UPS Fast metro main data Center
- 2022: Installation of LNL Access control panel for Saab Bank Madina
- 2022: Installation of LNL Access control panel for Saab Bank Abha
- 2022: Installation of LNL Access control panel for Saab Bank Khamis Mushait
- 2023: Installation of LNL Access control panel for Saab Bank Jizan
- 2023: Installation of LNL Access control panel for Saab Bank Najran
- 2023: Installation of LNL Access control panel for Saab Bank Taif
- 2023: Installation of Shelter Shed for Miahona ware House Near KKIA



## Contacts

For more information, please contact:

**Eng. Nour Koniahli**  
**sales@eet-ksa.com ,**  
**nour@eet-ksa.com , nor4848@Hotmail.com**  
**Executive Manager**  
**Electronic Equipment Trading Est.**  
**P.O. Box: 325645,**  
**Riyadh 11371**  
**Kingdom of Saudi Arabia**

**Eng. Faisal Nadeem**  
**info@eet-ksa.com**  
**Nadeem@eet-ksa.com**

**Tel: +966 11465 9714**  
**Fex: +966 11465 9714**  
**Mob (Saudi): +966 533854786**

<b>Tel:</b>	<b>+966 11465 9714</b>
<b>Fax:</b>	<b>+966 11465 9714</b>
<b>Mob (Saudi):</b>	<b>+966 533454561</b>

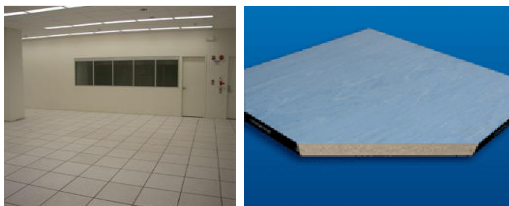
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**[WWW.EET-KSA.COM](http://WWW.EET-KSA.COM)**



## II.1 Technical Specification of Data center

### 1. Raised Flooring System



Proposed Raised Flooring System shall be supplied and installed taken in consideration the Air Conditioning system including the following specification:

- 1.1 High-density chipboard panels.
- 1.2 Panel thickness of 38.5mm.
- 1.3 Module size of 600 × 600 mm
- 1.4 0.5 mm steel sheet on the panel underside.
- 1.5 Synthetic edge protection.
- 1.6 Concentrated load 4000-6000 Newton
- 1.7 Distribution load 30 Kg/sq. meter – 60 Kg /sq. meter
- 1.8 B1/B2 Building material class According to DIN 4102.
- 1.9 F 30 fire resistant class according to DIN 4102
- 1.10 Thermal conductivity of approximately 0.58W/Mk.
- 1.11 Electrical conductivity of  $10^9$  Ohms.
- 1.12 Covering HPL 577 (High pressure Laminate).
- 1.13 perforated tiles
- 1.14 unifiliar made in Italy or Lindner made in Germany
- 1.15 Supply and installation perforated tiles max.15% from total area of data center quantity





1.16 supply and installation of false ceiling fire rated typed



## **2. Air Conditioning System**

The Air Conditioning System consists of the following types:

- Precision Air Conditioning Unit for Data Center
- Comfort Air-conditions units.

A- The proposed Precision Airedale Made IN UK Air Conditioning Unit must be supplied and installed with the following specifications:



- 2.1 Computer room environment control close air conditioning unit with 5 tons. Airflow with remote condensing unit.
- 2.2 Outdoor air cooled condenser suitable for high ambient temperature 50 centigrade degrees. Dry pub, filter should be serviceable without shutting down unit and shall be rated not less than 20% efficiency rating (based on ASHRAE 52-76 method)
- 2.3 Microprocessor Control System; automatic control for normal operation modes (cooling, heating, humidification and de-humidification) and must be indicated with colored LED's is display panel with audible and visual alarms.
- 2.4 Temperature rate : 20 – 25 centigrade degrees
- 2.5 Humidity range : 45% - 55%
- 2.6 Must have infrared humidifier with a capacity of 5 kg/hr. with auto-fluty system



- 2.7 Electric Reheated : 15 kw controlled in 2 stages
- 2.8 Electrical connections must be suitable for 220 volts, 3 phase, 60 Hz power supply
- 2.9 Installation and commissioning must be included
- 2.10 one year warranty after hand over
- 2.11 **humidity control : the above unites is control the Humidity and will be cylinder inside the unite with continuous water supply**



### 3 Monitoring System

#### Temperature and Humidity system



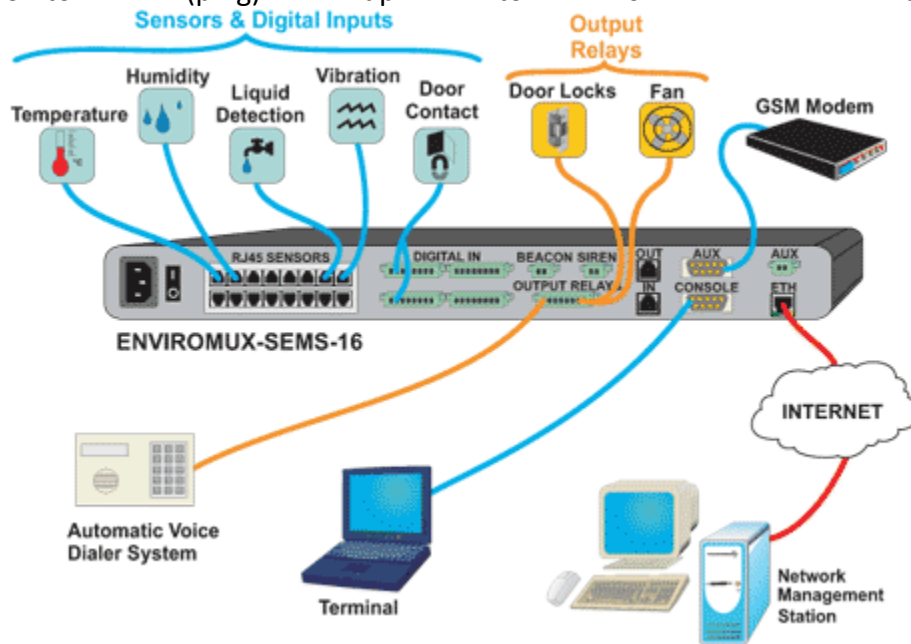
The ENVIROMUX® Server Environment Monitoring System monitors critical environmental conditions, such as temperature, humidity, liquid water presence, motion, intrusion, Door Monitor, CCTV system, generator, UPS system, power Monitor and vibration System. When a sensor goes out of range of a configurable threshold, the system will notify you via email, LEDs, alarm beacon, web page, network management (SNMP), voice phone calls (via Automatic Voice Dialer System), and SMS messages (via external GSM or 3G modem).

The system includes three internal sensors: temperature, humidity and power. It also supports 16 external configurable sensors and eight digital input sensors.

- Monitor and manage server room environmental and security conditions over IP.
- Create alarm signals with customized input parameters.
- Four output relays for control of external devices.
  - Relays activate upon alarm or via the user interface.
- Supports IP network video camera.
  - Live view of a facility from anywhere, anytime.
  - One integrated view - see different Web cameras side-by-side with physical and environmental parameters.
- Integrates with various Open Source monitoring packages — Nagios and MRTG.
- Provides power supply for all sensors.
- Internal battery backup.
  - Alerts are sent when there is a power outage and when power returns.
- Available sensors include: temperature, humidity, smoke, water, glass break, motion, Power alert .vibration, 4-20mA converter, voltage detector, and more.
- Available with optional dual power for connection to two separate power sources.
- Available with optional 48VDC or 24 VDC power.
- Up to four units can be used together to increase the number of sensors connected.

- Connect the units using CAT6 expansion cables.
- Uses a single Web interface for all systems connected.

• Monitor (ping) up to 64 IP network devices.



#### 4. Water Detection System

A liquid Detection System for the entire Data Center and electrical room with the following components:

- 4.1 Water Detect Control Panel wall mount with leader cable
- 4.2 Water sensor cable of sufficient length to cover the under raised floor and a/c
- 4.3 Fasteners and related accessories.



## **5. Fire Alarm System & Gas Extinguishing System**

Data room shall be protected with total flooring FM200 system and to cover the 3 levels of the room (room ,above false ceiling and below raised floor .

The fire Protection total flooding system shall be in accordance with the following regulations, British standards, and Approved Code of Practice .

BS 5839-1, for Fire Detection and Alarm  
BS 5306, series for Fire Extinguishing

DD 233, for Gaseous Fire Fighting Systems  
BS 6266, for Fire Protection for electronic data processing installations.

All total flooding systems shall have an electrical supply of 240 volts 60 Hz AC mains supply 24 volts DC operating supply. All panels shall have suitable indicating devices in the form of LED lamps to indicate the following:

- a. Power On
- b. Common Fault
- c. Battery Faults
- d. Zone Fault
- e. Common Fault
- f. System activated/discharged

All panels for such equipment shall have a battery back-up system capably of maintaining the system in the operational mode for a period of 8 hours. All batteries shall be rechargeable when installed into the panel and the panel is in the normal mode.

Stringent measures shall be incorporated into the system to avoid accidental discharge of the same, particularly when in the manual mode of operation.

Examples of such accidental discharge/failures are as follows:

- Failure of internal electronic components (resistors and or diodes)
- Failure of a multiple of components due to outside influences, e.g. power surge.
- Failure of the system and components due to the introduction of foreign bodies causing a short circuit (screws, nuts, bolts and washers)



No other fire detection system shall activate the deluge system in the event of a fire or false alarm; the deluge system shall be independent of any other fire system installed into the same area/building. There shall also be incorporated into the system an acceptable time delay in the actual discharge of the same, the purpose of this delay is to allow persons to evacuate the area in sufficient time so as not to come to any harm.



106 liter container include  
24V solenoid , bracket  
Manual actuator , pressure switch , FM200 agent Lever operated Control Head.  
Door caution plat(will be one at each entrance point to the risk )  
Manual Release Caution Sign  
Nozzle-aluminum .  
Pipes and fittings.  
Extinguishing control panel c/w power  
Supply and SLA batteries.  
Optical smoke detector c/w base.  
2nd Stage Electronic Siren.  
6" Fire Alarm Bell.  
Flashing Lights.  
Electrical Conduits and wires.  
Engineering, drawings and computer calculations.  
Programming, testing and commissioning





## 8- Electrical power supply panel



We will provide new suitable power supply panel into the computer room ( data center )  
. provide Main cable and circuit breaker by other

## 9- Electrical Outlets

Supply and installation 220 Volts duplex electrical outlets 8 per wall at 30 cm above raised floor level, we will label on each outlets.

## 10- CCTV system

### **ICIP-P5330-AIR**

2 MP Indoor/Outdoor, Full-Size 30x Zoom IR IP PTZ Camera



#### **IP CCTV**

A new, and sleek designed PTZ, with the critically acclaimed Amarelle image sensor - the ICIPP-5330-AIR PTZ camera. This camera is a fully weatherproof, day/night, high resolution IP camera. This PTZ adopts a unique design by physically separating the IR LEDs from the camera block itself, Resulting in perfect night time imaging without causing issues such as IR reflection. The optics on this Camera are a 30X powered zoom (4.3 – 129mm), delivering a crystal clear 1080P image. 0 lux is not a Problem for this camera, as the high intensity IR LED's are capable of illumination at distances up to 300'. this camera itself is ONVIF Profile S compliant, and can work as a standalone camera, or in Conjunction with an NVR to achieve longer recording durations. By complying with ONVIF specifications, This device is also well suited to integrate with a wide array of VMS.



### Features

- 4.3 ~ 129mm Lens, 30x Optical Zoom
- IR Distance up to 328'/100m
- Max 400°/s pan speed, 360° endless pan rotation
- DWDR, Day/Night (ICR), Ultra DNR, Auto iris, Auto focus
- IP66
  - ▶ • ONVIF as well

## ICIP-B2732Z

2 Megapixel Indoor/Outdoor, Mid-Size Bullet IR Network Camera



The ICIP-B2732Z is a 2 megapixel indoor/outdoor camera with and motorized auto focus 2.8mm ~ 12mm Varifocal lens. With an IP66 weather rating and 90' IR LEDs, the ICIP-B2732Z makes an excellent mid to long Range camera.

### Features

- 2.8 ~ 12mm varifocal lens
- Motorized Lens





- Max IR LEDs Length 90'
- IP66, PoE
- 30fps@1080P (1920x1080)
- DWDR, Day/Night (ICR), 3DNR

## ICIP-D5000VIR

### 5 Megapixel Motorized IR Dome Network Camera



This durable vandal dome contains an impressive 5 Megapixel Progressive Scan CMOS sensor, capable of outputting a crisp, clear high res image. The optics are a motorized 2.7 - 12mm vari-focal lens. This camera is IK 10, IP 66 rated and highly weatherproof. This camera is fully accessible via the entire ICR software suite, and is also compatible with third party ONVIF recorders and streamers. This camera also comes equipped with an audio input for external microphones, alarm I/O's, and support for POE power.

#### Features

- 2.7~12mm vari-focal motorized lens
- Max 12fps@5M(2560x1920) & 30fps@1080P(1920x1080)
- DWDR, Day/Night(ICR), 3DNR
- Max IR 60Ft



## ICIP-360L12

12 Megapixel 360° Indoor/Outdoor IR Network Dome Camera



A 12.0 Megapixel 360° Indoor/Outdoor Dome camera with a built in microphone. The ICIP360L12 series camera is a real-time, 360° situational awareness camera. It is capable of recording a wide area of surveillance, and de-warping the native Fish Eye view in order to watch a stream that is undistorted to the human eye.

### Features

- ☐ IR Max 30 Ft.
- ☐ IP66
- ☐ Built in Microphone
- ☐ PoE



☐ IC720 Platform Compatible

### **7-Uninterruptible Power Supply System (UPS)**



The UPS proposed APC UPS SYSTEM; it is designed to cover the whole server room equipment.

Rating power is 10 KVA, based on the load requirement. System should be furnished with the following specification:

- 7.1 Double Conversion (On Line) UPS
- 7.2 Rated Power : 10 KVA
- 7.3 Input Rated Voltage: 220V , 1 Phase + N, 60 Hz.
- 7.4 Power Factor : 0.8-0.9
- 7.5 Current Distortion : < 3%
- 7.6 Output Voltage : 220V , 1Ph + N
- 7.7 Frequency : 60 Hz. + or -1%
- 7.8 Voltage Distortion : 2%-3% for linear/nonlinear
- 7.9 Backup time 15 minutes at full load and mounted on locally manufactured racks  
with batteries internal ,
- 7.10 Ambient Temperature 0-25 centigrade degrees,  
noise level (dbA)-50
- 7.11 Equipped with communication and monitoring system

# SMARTONLINE™ 3-PHASE UPS SYSTEMS

- 220/380, 230/400 or 240/415 VAC

The Most Reliable and Cost-Effective Power Solutions for Your Data Center



SUPPORT  
UP TO  
320 KVA IN  
PARALLEL

## SMARTONLINE E3 SERIES (20-80 KVA)

**IDEAL OUTPUT POWER**  
PROTECTS CRITICAL SYSTEMS

**MODULAR ARCHITECTURE**  
ELIMINATES DOWNTIME

**1-TO-1 GENERATOR SIZING**  
LOWERS INSTALLATION COSTS

**EXTREME EFFICIENCY**  
LOWERS OPERATING COSTS

## SMARTONLINE T3 SERIES (30 KVA)

**RELIABLE OPERATION**  
KEEPS EQUIPMENT POWERED

**VERSATILE BATTERY SYSTEM**  
EXPANDS RUNTIME OPTIONS





# SMARTONLINE E3 SERIES UPS SYSTEMS

Extremely efficient protection for your most important equipment



## IDEAL OUTPUT POWER PROTECTS CRITICAL SYSTEMS

On-line, double conversion operation continuously delivers precision-regulated, pure sine wave output, isolating your critical systems from damaging and disruptive power problems.

## MODULAR ARCHITECTURE ELIMINATES DOWNTIME

Internal N+1 power module redundancy, parallel capability (up to four units) and fault-tolerant bypass features keep your critical systems highly available and productive around the clock.

## 1-TO-1 GENERATOR SIZING LOWERS INSTALLATION COSTS

An advanced IGBT rectifier produces best-in-class <4% THDi (input Total Harmonic Distortion), eliminating costly over-sizing requirements for generators, breakers and cables.

## EXTREME EFFICIENCY LOWERS OPERATING COSTS

Efficiency up to 97% significantly lowers power and cooling costs compared to multiple smaller units or legacy high-capacity units.

C O N T E N T S		
SMARTONLINE E3 SERIES	IDEAL OUTPUT POWER	3
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# SMARTONLINE T3 SERIES UPS SYSTEMS

Reliable protection for small and mid-range installations



## RELIABLE OPERATION KEEPS EQUIPMENT POWERED

On-line operation and fault-tolerant bypass features keep your equipment powered at all times.

## VERSATILE BATTERY SYSTEM EXPANDS RUNTIME OPTIONS

A hot-swappable battery system with convenient front-panel access allows you to customize battery backup runtime.

C O N T E N T S		
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# SMARTONLINE E3 SERIES UPS SYSTEMS

## IDEAL OUTPUT POWER

SmartOnline E3 Series UPS Systems isolate your critical equipment from power problems, including surges, line noise, harmonic distortion, electrical impulses, frequency variations, brownouts, overvoltages and blackouts. True on-line operation continually transforms AC input power into filtered DC power, then resynthesizes it into precision-regulated AC output with a pure sine wave. Strong overload capacity supports up to 150% output for up to 60 seconds. Reliable backup power with zero transfer time to battery keeps equipment operating safely through shorter power failures and allows time to shut down or switch to generator power during longer outages. Rapid recharging restores battery charge levels in as little as two hours.

## MODULAR ARCHITECTURE

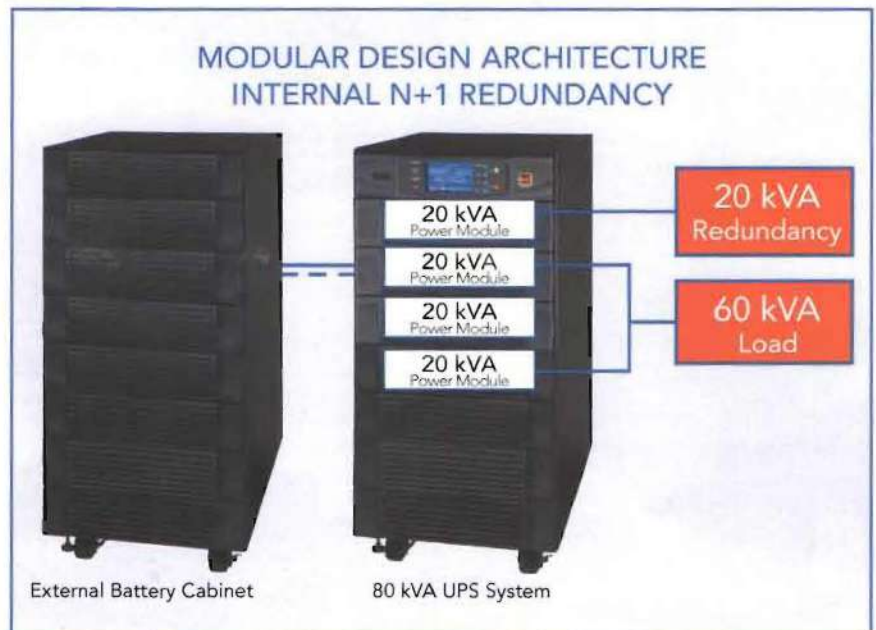
Intelligent, independent 20 kVA power modules provide internal redundancy. When the UPS is configured for N+1 redundancy, convenient hot-swap power modules can be replaced without powering down the connected load. In the event of a power module fault, the load is automatically distributed among the remaining modules. Because load redistribution happens without interrupting critical systems, mean time to recovery is zero—far superior to legacy UPS systems. In addition, redundant control circuits eliminate a single point of failure commonly found in less-reliable UPS designs. Dual input connections provide an additional level of redundancy by allowing each UPS system to be powered by two separate utility sources.

If service or repair requires UPS shutdown, all models include a manual bypass breaker and automatic bypass function that maintain system availability by passing through AC power until the UPS system returns to service.

## PARALLEL FEATURES

Increase fault tolerance or quadruple output capacity by connecting up to four SmartOnline E3 Series UPS Systems in parallel. If one UPS system is taken offline for maintenance, the other UPS systems automatically compensate to support the equipment load—without requiring additional programming.

SmartOnline E3 Series UPS Systems ship ready for parallel operation. Patented dual-DSP technology provides optimal synchronization of power sources.



*In an N+1 configuration, the supported load is at least 20 kVA less than the maximum output capacity of the UPS system. For example, an 80 kVA UPS is configured for N+1 redundancy when the connected load is 60 kVA or less.*



*Four 80 kVA SmartOnline E3 Series UPS Systems can provide redundant backup power for a 240 kVA load.*



*Four 80 kVA SmartOnline E3 Series UPS Systems can provide backup power for a 320 kVA load.*



## COMPACT FOOTPRINT

Each SmartOnline E3 Series UPS System packs enough power for multiple racks of equipment into a compact footprint, saving valuable data center floor space for critical systems and cooling. Wall-mounted distribution and bypass panels do not require additional floor space.



## ORDERING INFORMATION



MODEL	OUTPUT CAPACITY	NOMINAL INPUT/OUTPUT VOLTAGE	BATTERY CONFIGURATION
SU20KX	20 kVA/16 kW	220/380, 230/400 or 240/415 VAC (3Ø, 4-wire + ground, wye)	Internal batteries; room for two additional SURBC2030 internal battery packs; external battery cabinet optional.
SU40KX	40 kVA/32 kW	220/380, 230/400 or 240/415 VAC (3Ø, 4-wire + ground, wye)	Internal batteries; external battery cabinet optional.
SU60KX	60 kVA/48 kW	220/380, 230/400 or 240/415 VAC (3Ø, 4-wire + ground, wye)	No internal batteries; external battery cabinet required.
SU80KX	80 kVA/64 kW	220/380, 230/400 or 240/415 VAC (3Ø, 4-wire + ground, wye)	No internal batteries; external battery cabinet required.

### EXTERNAL BATTERY CABINETS (Hardwire connection. Multiple cabinets can be daisy-chained.)

BP480V26B	+/- 240 VDC external battery cabinet. Supports temperature-compensated battery charging for optimal charge levels and increased battery lifespan. Matches appearance and footprint of UPS system cabinet.
BPE480VB	Empty +/- 240 VDC external battery cabinet (similar to BP480V26B without batteries). Requires 40 user-supplied batteries (12VDC/26Ah). Includes wiring and fuses. Matches appearance and footprint of UPS system cabinet.
BP480V40C	+/- 240 VDC external battery cabinet. Supports temperature-compensated battery charging for optimal charge levels and increased battery lifespan. Matches appearance and footprint of UPS system cabinet.
BPE480VC	Empty +/- 240 VDC external battery cabinet (similar to BP480V40C without batteries). Requires 40 user-supplied batteries (12VDC/40Ah). Includes wiring and fuses. Matches appearance and footprint of UPS system cabinet.
BP480V55	+/- 240 VDC external battery cabinet. Heavy-gauge steel cabinet with 10-year design life batteries.
BP480V78	+/- 240 VDC external battery cabinet. Heavy-gauge steel cabinet with 10-year design life batteries.
BP480V103	+/- 240 VDC external battery cabinet. Heavy-gauge steel cabinet with 10-year design life batteries.
BP480V140	+/- 240 VDC external battery cabinet. Heavy-gauge steel cabinet with 10-year design life batteries.
SURBC2030	240 VDC internal battery pack for SU20KX.

### WALL-MOUNTED EXTERNAL MAINTENANCE BYPASS PANELS WITH KEYED SAFETY INTERLOCK SYSTEM

SU20KMBPK	Maintenance bypass panel for SU20KX only. Keyed safety interlock system prevents sequence of operation errors.
SU40KMBPKX	Maintenance bypass panel for SU40KX only. Keyed safety interlock system prevents sequence of operation errors.
SU60KMBPKX	Maintenance bypass panel for SU60KX only. Keyed safety interlock system prevents sequence of operation errors.
SU80KMBPKX	Maintenance bypass panel for SU80KX only. Keyed safety interlock system prevents sequence of operation errors.

### WALL-MOUNTED PARALLEL DISTRIBUTION PANELS (Required for parallel connection of UPS systems.)

SUPT20KX	Parallel distribution panel for parallel connection of SU20KX models only.
SUPT40KX	Parallel distribution panel for parallel connection of SU40KX models only.
SUPT60KX	Parallel distribution panel for parallel connection of SU60KX models only.
SUPT80KX	Parallel distribution panel for parallel connection of SU80KX models only.

### POWER MANAGEMENT ACCESSORIES

SNMPWEBCARD	Adds Ethernet network interface to UPS system for remote monitoring and control via SNMP, Web or telnet.
ENVIROSENSE	Monitors temperature and humidity. Monitors up to three additional sensors via contact closure interface. Requires SNMPWEBCARD.

### WARRANTIES AND SERVICES

Site survey services, start-up services, preventive maintenance services, extended warranties and on-site warranties are available. Visit [www.tripplite.com](http://www.tripplite.com) or contact your Tripp Lite sales representative for more information.



# SMARTONLINE T3 SERIES UPS SYSTEMS

## RELIABLE OPERATION

SmartOnline T3 Series UPS Systems protect your equipment from power problems, including surges, line noise, harmonic distortion, electrical impulses, frequency variations, brownouts, overvoltages and blackouts. On-line operation continually transforms AC input power into filtered DC power, then resynthesizes it into precision-regulated AC output with a pure sine wave. Reliable backup power with zero transfer time to battery keeps equipment operating safely through shorter power failures and allows time to shut down or switch to generator power during longer outages. Fault-tolerant bypass features keep your equipment powered at all times—even if the UPS system requires maintenance, repair or replacement.

## VERSATILE BATTERY SYSTEM

SmartOnline T3 Series UPS Systems have an expandable, hot-swappable battery system with convenient front-panel access. Model SU30K3/3INT includes three internal battery packs and has room to add one additional SURBC2030 battery pack. Runtime can also be expanded with external battery cabinets. Each SUBF2030 external battery cabinet has room for up to four SURBC2030 battery packs.



Expand battery backup runtime by installing additional internal battery packs and/or external battery cabinets.

## ORDERING INFORMATION

MODEL	OUTPUT CAPACITY	BATTERY CONFIGURATION
SU30K3/3INT	30 kVA / 24 kW	Includes three internal battery packs; room for one additional SURBC2030 battery pack.

### BATTERY EXPANSION (Multiple battery cabinets can be daisy-chained.)

SURBC2030	240 VDC internal battery pack for SmartOnline T3 UPS Systems and SUBF2030 external battery cabinets.
SUBF2030	External battery cabinet. Requires SURBC2030 battery packs (up to four per cabinet), sold separately.
BP240V99	240 VDC external battery cabinet with 10-year design life batteries.
BP240V120	240 VDC external battery cabinet with 10-year design life batteries.
BP240V1207C	240 VDC external battery cabinet with 10-year design life batteries. Built-in battery charger.
BP240V150	240 VDC external battery cabinet with 10-year design life batteries.
BP240V1507C	240 VDC external battery cabinet with 10-year design life batteries. Built-in battery charger.

### WALL-MOUNTED EXTERNAL MAINTENANCE BYPASS PANELS WITH KEYED SAFETY INTERLOCK SYSTEM

SU30KMBPK	Maintenance bypass panel for 30 kVA models. Keyed safety interlock system prevents sequence of operation errors.
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### POWER MANAGEMENT ACCESSORIES

SNMPWEBCARD	Adds Ethernet network interface to UPS system for remote monitoring and control via SNMP, Web or telnet.
ENVIROSENSE	Monitors temperature and humidity. Monitors up to three additional sensors via contact closure interface. Requires SNMPWEBCARD.
RELAYIOCARD	Programmable contact closure accessory card with six output contacts and one input contact.

### WARRANTIES AND SERVICES

Site survey services, start-up services, preventive maintenance services, extended warranties and on-site warranties are available. Visit [www.tripplite.com](http://www.tripplite.com) or contact your Tripp Lite sales representative for more information.

## ABOUT TRIPP LITE

Since 1922, Tripp Lite has established a global reputation for quality manufacturing, superior value and excellent service. Tripp Lite makes more than 1000 products to power, protect and connect electronic equipment, including UPS systems, replacement batteries, power distribution units, rack systems, surge suppressors, KVM switches, cables, laptop accessories, power strips and inverters. Learn more at [www.tripplite.com](http://www.tripplite.com).



**TRIPP LITE WORLD HEADQUARTERS** 1111 W. 35th Street, Chicago, IL 60609 USA, +1.773.869.1212, [www.tripplite.com](http://www.tripplite.com)

**TRIPP LITE AMÉRICA LATINA (MIAMI)** +1.305.406.2523, [info\\_la@tripplite.com](mailto:info_la@tripplite.com) • **TRIPP LITE CHILE (SANTIAGO)** +562.433.0301, [info\\_la@tripplite.com](mailto:info_la@tripplite.com)

**TRIPP LITE MIDDLE EAST (DUBAI)** +971.4.887.1633, [salesint@tripplite.com](mailto:salesint@tripplite.com) • **TRIPP LITE RUSSIA (MOSCOW)** +7.495.799.5607, [inforu@tripplite.com](mailto:inforu@tripplite.com)

**TRIPP LITE BELGIUM** +32.2.582.9946, [salesint@tripplite.com](mailto:salesint@tripplite.com)



# TRIPP-LITE HEALTHCARE POWER SOLUTIONS

Tripp Lite provides regulated power, battery backup and regulatory code compliance to support various healthcare applications.

## Mobile Power Applications



- Medical Carts • Display Equipment
- Testing and Diagnostic Equipment
- CPU-Based Systems

Add AC power to new or existing mobile medical carts and other equipment. Customize OEM mobile power solutions. Provide UL 60601-1 compliance and full isolation. Accommodate multiple battery types. Eliminate the need for rebooting when moving between rooms.

## Clinical Lab Equipment



- Immunoassay Systems • In Vitro Diagnostic Systems
- Microbiology Diagnostic Systems
- Clinical Chemistry Analyzers • Blood Analysis Machines
- Chemical Laboratory Equipment

Prevent data errors to provide accurate test results. Prevent diagnosis and treatment delays that compromise patient care. Prevent waste of costly testing materials and lab/staff time.

## Medical Equipment



- Surgical Equipment • Patient Monitoring Systems
- Patient Therapy Systems • Patient Care Equipment
- Infusion Pumps • Ventilators • Operating Room
- Emergency Room

Provide regulated power to ensure flawless performance. Provide UL 60601-1 compliance. Keep mission-critical equipment operational 24x7. Reduce service, repair and replacement costs.



## Tripp Lite UPS Systems

Tripp Lite UPS Systems maximize the reliability, safety and performance of sensitive medical equipment by protecting against common power problems that cause costly downtime, equipment damage and data loss.

Ranging  
from  
150 VA



**Medical-Grade Mobile Power Systems**  
mount to mobile carts and other equipment.



**Medical-Grade UPS Systems**  
provide full isolation to minimize shock potential.



## Diagnostic Imaging Systems



- Ultrasound Scanners • Mammography Units
- Magnetic Resonance Imaging (MRI) Systems
- Computed Tomography (CT) Scanners
- Positron Emission Tomography (PET) Systems
- Nuclear Medicine Equipment • X-ray Machines

*Prevent lock-ups, system errors, malfunctions and poor image quality that require rescans, compromise patient comfort/convenience and delay physician review/diagnosis.*

## Healthcare IT Equipment



- Servers • Network/Telecom Hardware • Storage
- Desktop Computers • Peripherals • Data Center
- Administrative/Business Offices
- Nurses' Stations • Reception

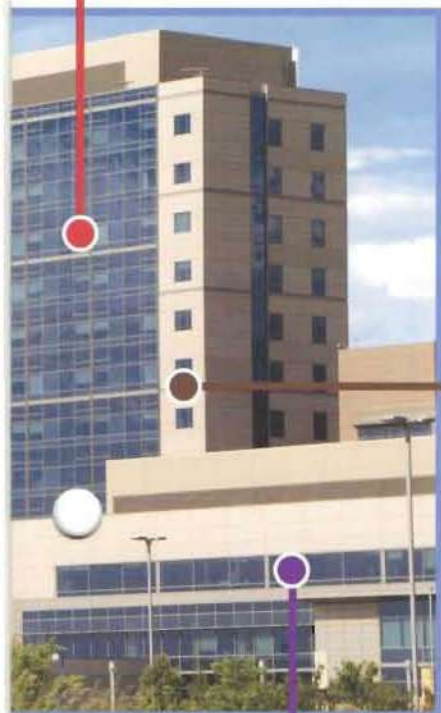
*Protect valuable data from loss or corruption.  
Keep vital communications operational.  
Prevent downtime and lost productivity.  
Support continuous operation during generator startup.*

## Ophthalmology Equipment



- Stereoscopic Visualization Systems
- Digital Imaging Systems and More

*Prevent equipment damage and interruptions to operation that interfere with testing.  
Ensure equipment reliability and performance.*



**SmartPro® Line-Interactive UPS Systems**  
provide automatic voltage regulation.

**SmartOnline™ UPS Systems**  
isolate sensitive equipment from power problems.



**SmartOnline 3-Phase UPS Systems**  
provide high-capacity centralized power.

**Up to 160 kVA**



## Tripp Lite UPS Systems for Healthcare

### Medical-Grade Mobile Power Systems

- 150 to 350 VA capacity
- Full isolation (reduces cumulative shock potential to less than 100 $\mu$ A)
- UL 60601-1 and UL 1778 compliant
- Pure sine wave output
- Work with multiple battery chemistry



### SmartOnline UPS Systems

- 750 VA to 20 kVA capacity
- Voltage regulation with true on-line operation
- Pure sine wave output
- Expandable runtime
- Zero transfer time



### Medical-Grade UPS Systems

- 330 VA to 2.5 kVA capacity
- UL 60601-1 and UL 1778 compliant
- Full isolation (reduces cumulative shock potential to less than 100 $\mu$ A)
- Hospital-grade plugs and outlets



### SmartOnline 3-Phase UPS Systems

- 20 to 80 kVA capacity (up to 160 kVA in parallel)
- True on-line operation
- Pure sine wave output
- Expandable runtime
- Built-in N+1 redundancy available



### SmartPro Line-Interactive UPS Systems

- 500 VA to 5 kVA capacity
- Automatic voltage regulation
- Pure sine wave output (most models)



Tripp Lite also manufactures a full range of Power Strips, Surge Suppressors and Isolation Transformers for integration into all medical equipment applications! For more information, go to [www.tripplite.com/medical](http://www.tripplite.com/medical)

### About Tripp Lite

Since 1922, Tripp Lite has established a global reputation for quality manufacturing, superior value and excellent service. Tripp Lite makes more than 2,500 products to power, protect, secure, cool, control and connect electronic equipment, including UPS systems, rack enclosures, cooling solutions, replacement batteries, power distribution units, surge suppressors, KVM switches, IP console servers, cables, adapters, display solutions, power strips and inverters.

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### Tripp Lite World Headquarters

1111 West 35th Street  
Chicago, IL 60609  
773.869.1234

[www.tripplite.com/medical](http://www.tripplite.com/medical)



# FM200 Equipment & Components - UL Listed

## Agent



**Product Code**  
300.205.001  
FM200

## FM200 Containers - Dot (UL)



Systems are configured around a range of containers specifically charged with the appropriate quantity of FM200. Containers are manufactured to meet the requirements of DOT4BW500 / DOT4BW(HSE)34.5.

**Product Codes**  
303.205.015  
8 Litre container assembly  
303.205.016  
16 Litre container assembly  
303.205.017  
32 Litre container assembly  
303.205.018  
52 Litre container assembly  
303.205.019  
106 Litre container assembly

**303.205.020**  
147 Litre container assembly  
**303.205.021**  
180 Litre container assembly



Label fitted to containers on UL listed systems

## Solenoid Actuator - Stackable (UL)



The solenoid actuator is used to electrically operate the container valve. The solenoid is operated at 24Vd.c. (Power Consumption - 4.8 Watts). It is fitted directly onto the top of the container valve by means of a knurled swivel coupling which enables the unit to be positioned as preferred for electrical connection. When fitting it is only necessary for the unit to be hand tight. The solenoid actuator is normally fitted to the container designated as the 'Master'. The actuator is an electro-mechanical device which

when energised causes the central pin to move downwards opening the schrader valve in the container valve. The central pin must be in the retracted position before the solenoid actuator is fitted, otherwise the container valve will be operated and the contents discharged. The power lead fitted with a DIN plug for connecting to the solenoid is to be ordered separately (P/C 304.001.001).

**Product Code**  
304.205.008  
24V Solenoid actuator

## Solenoid Actuator - Side Mounted (UL)



The solenoid actuator is fitted to a schrader assembly on the side of the valve body by means of a brass swivel nut. It is designed to be removable from the schrader assembly. As there will be pressure in the brass swivel nut, upon removal of the solenoid the pressure will be released. A 'pop' will be heard at the time of removal. It is essential that the schrader assembly is not dislodged or removed as this will cause an immediate and potentially hazardous discharge of FM200.

**Product Code**  
304.205.008  
24V Solenoid actuator (side mounted)

## Local Manual Actuator



The local manual actuator is used to mechanically operate the system at the container position. When fitting it is only necessary for the unit to be hand-tight. Accidental manual release is prevented by means of a steel safety pin. The steel safety pin must be removed to allow the use of the local manual actuator. After removing the safety pin, manual operation is caused by depressing the strike knob. The unit is designed so that it may be fitted directly onto the top of the container

**Product Code**  
304.205.003  
Local manual actuator

## Solenoid Actuator - Pneumatic Actuator (UL)



The pneumatic actuator is used where container operation is required by means of gas pressure from the system master container, remote manual release unit or from a pilot container. When fitting it is only necessary for the unit to be hand tight. The unit is designed so that it may be fitted directly onto the top of the container valve or be used in conjunction with a solenoid actuator, in which case it fits directly on top of the solenoid actuator.

A minimum pressure of 4 bar is required to ensure satisfactory operation.

Connection to the actuator is 1/4" B.S.P.

**Product Code**  
**304.205.004**  
Pneumatic actuator

## FM200 Container Brackets (UL)



The container brackets are designed to securely fix a single container to a wall or supporting structure. The containers are to be floor mounted only.

The bracket assembly comprises two steel straps, steel channel section (400mm long) and nut and bolt.

**Product Codes**  
**311.205.013**  
8-32 litre Container bracket assembly  
**311.205.014**  
52-180 litre Container bracket assembly

## FM200 Actuation Ancillary (UL)



**Product Codes**  
**306.205.003**  
Flexible pilot hose 1/4" BSP swivel female  
**309.013.003**  
Male tee 1/4" BSPP x 1/4" BSPT  
**309.013.004**  
Male elbow 1/4" BSPT x 1/4" BSPP  
**309.013.005**  
1/4" BSPT x 1/4" BSPP adaptor

## Supervisory Pressure Switch (UL)



The Supervisory Pressure Switch is an optional item that is Factory fitted at the time of order and is used to continuously monitor the container pressure.

In the event of the container pressure falling below 18 bar the switch will operate to provide an electrical signal.

The operating pressure is factory set and no adjustments may be carried out on site.

**Product Code**  
**305.205.006**  
Supervisory pressure switch

## Gas Released Pressure Switch (UL)



The Pressure Switch is normally mounted on a connection in the pneumatic actuation tubing and may be used to provide an electrical indication of release of FM200 or to perform ventilation shut-downs or other interlock functions.

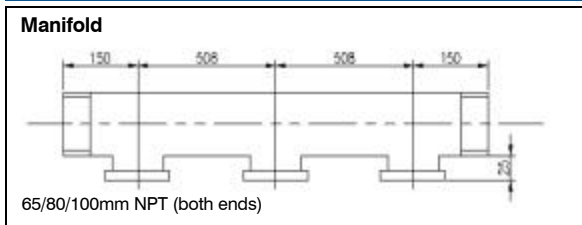
The pressure switch requires to be manually reset following operation.

A minimum pressure of 3 bar is required to ensure satisfactory operation. Connection to the pressure switch may be either 1/2" NPT (male) or 1/8" NPT (female).

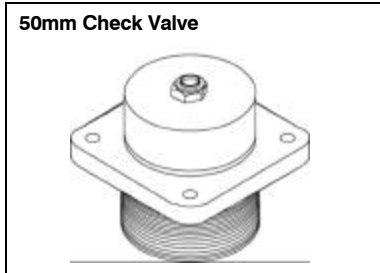
**Product Code**  
**305.205.007**  
Gas released pressure switch



## FM200 Manifolds (UL)



Manifolds are designed to enable all the containers in a row to be connected to the supply pipe and may be used in multi container applications or in main and reserve systems. All manifolds are pressure tested at the works to 90 bar. All Product Code Numbers include the manifold and Check Valves.



Type	Product Code
65mm x 2 port	307.205.012
65mm x 3 port	307.205.013
65mm x 4 port	307.205.014
80mm x 2 port	307.205.001
80mm x 3 port	307.205.002
80mm x 4 port	307.205.003
80mm x 5 port	307.205.011
100mm x 2 port	307.205.004
100mm x 3 port	307.205.005
100mm x 4 port	307.205.006
100mm x 5 port	307.205.007
100mm x 6 port	307.205.008
150mm x 3 port	307.205.009
150mm x 4 port	307.205.010
150mm x 5 port	307.205.015
150mm x 6 port	307.205.016
150mm x 7 port	307.205.017
150mm x 8 port	307.205.018
150mm x 9 port	307.205.019
150mm x 10 port	307.205.020

## FM200 Manifold Support Brackets



Manifold support brackets are designed to provide a firm fixing of the manifold to a wall or supporting structure. Two brackets are required for each manifold used.

### Product Codes

**311.205.015**  
65mm Manifold support bracket  
**311.205.010**  
80mm Manifold support bracket

### Product Codes

**311.205.011**  
100mm Manifold support bracket  
**311.205.012**  
150mm Manifold support bracket

## Discharge Hoses



The flexible Discharge Hose connects the container to the check valve on the manifold. A swivel fitting at the end of the hose allows ease of installation.

*NOTE: The purpose of the 32mm hose is to prevent excessive pressure loss experienced when using a 25mm hose from the 25mm FM200 container valve. Connection to the 25mm container valve is by means of a 32mm x 25mm adaptor included as part of the 32mm hose assembly.*

### Product Codes

**306.205.001**  
32mm Flexible discharge hose  
**306.205.002**  
50mm Flexible discharge hose

## FM200 Nozzles: Engineered: Brass (UL)



The Discharge Nozzles are available in a 180° and 360° pattern and are designed to uniformly distribute FM200 throughout the hazard area. The 180° type has seven ports and the 360° type has eight ports.

Nozzles are available in seven sizes and are drilled with the specific design requirement. Where the size of any hazard enclosure determines that one nozzle does not provide sufficient coverage the hazard should be theoretically sub divided into appropriately sized modules.

Nozzles are provided in brass as standard, but are available in stainless steel to order.

### Product Codes

**310.205.028**  
10mm x 180/360 Degree (state which)  
**310.205.029**  
15mm x 180/360 Degree (state which)  
**310.205.030**  
20mm x 180/360 Degree (state which)  
**310.205.031**  
25mm x 180/360 Degree (state which)  
**310.205.032**  
32mm x 180/360 Degree (state which)  
**310.205.033**  
40mm x 180/360 Degree (state which)  
**310.205.034**  
50mm x 180/360 Degree (state which)

FM200 - UL

FM200 Manual Release Caution Plate (UL)

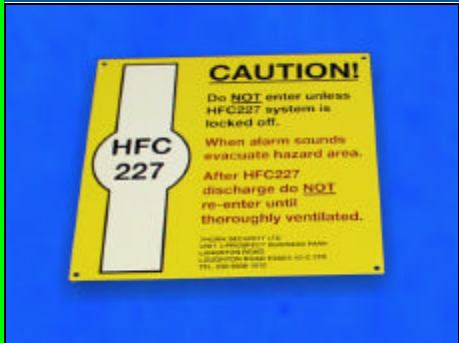


The Manual Release Caution Plate provides instructions to personnel on the use of manual controls. One plate is to be fixed adjacent to all positions from where FM200 can be released manually. Four 4mm fixing holes are provided.

**Technical Specification**  
 Dimensions: 210 x 75 mm

**Product Code**  
**314.205.003**  
 Manual release plate

FM200 Door Caution Plate - Lock Off (UL)



The Door Caution Plate (lock-off) provides instructions to personnel who may enter an area protected with FM200. This version of the caution plate is used when it is necessary to instruct personnel to place the system on manual control before entering the protected area. One plate is to be fixed to all entrance doors into an FM200 protected area. Four 4mm fixing holes are provided.

**Technical Specification**  
 Dimensions: 210 x 210 mm

**Product Code**  
**314.205.001**  
 Door caution plate (lock off)

FM200 Door Caution Plate - No Lock-Off (UL)



The Door Caution Plate (no lock-off) provides instructions to personnel who may enter an area protected with FM200. This version of the caution plate is used when it is permitted to leave the system on automatic control even while the area is occupied. One plate is to be fixed to all entrance doors into an FM200 protected area. Four 4mm fixing holes are provided.

**Technical Specification**  
 Dimensions: 210 x 210 mm

**Product Code**  
**314.205.002**  
 Door caution plate (no lock off)

**Features****Fire alarm control panel designed specifically for suppression release operation with:**

- Four initiating device circuits (IDCs)
- Two notification appliance circuits (NACs)
- Two releasing appliance circuits (RACs)
- Two special purpose monitor inputs (SPMs) that accept manual release request and manual abort request for Agent Release systems, and waterflow and supervisory for Preaction or Deluge systems
- Three auxiliary relays with selectable functions
- Easily selected activity timing options

**Suppression release operation includes:**

- Automatic extinguishing release
- Deluge and preaction sprinkler system release
- Dual or single hazard area protection
- *Combined agent release and preaction operation\*\**
- IDCs are selectable for cross-zoning or for activation from a single detection input
- Short circuit RAC supervision
- Compatible with Listed/Approved valves and actuators

**Audible Escalation of Events:**

- Single Audible Appliance Tone: Stage 1 activates Temporal or 20 bpm March Time pattern; Stage 2 activates 120 bpm March Time pattern to indicate release timer active; Release activates On Steady to indicate release timer expired and actuator is activated
- *Dual Audible Appliance Control\*\** (Single Hazard): RAC 2 provides a third NAC for dedicated Stage 1 Bell control; NACs 1 & 2 indicate release as On Steady

**Operator interface provides:**

- Status LEDs per circuit for Alarm, Trouble, and Supervisory (where appropriate)
- Acknowledge, Alarm Silence, and System Reset
- Operating mode selection and timer selections when in programming mode

**Related system components:**

- Coil supervision module 2081-9046, one per RAC
- Maintenance Switch, one per RAC
- Abort Switch

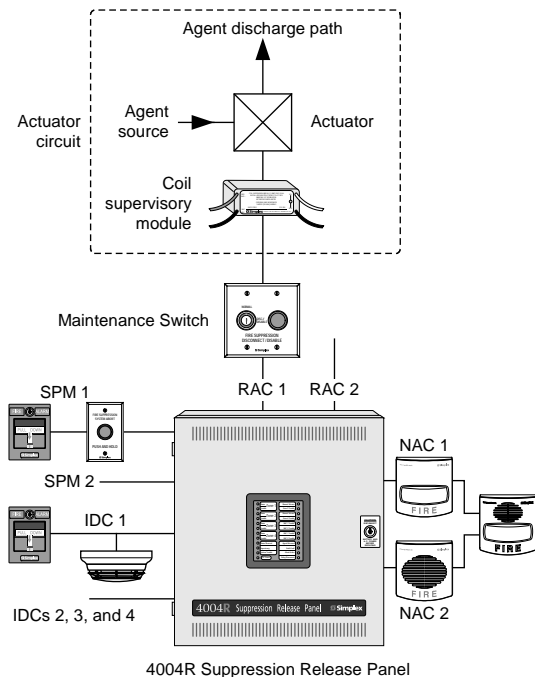
**Listed to**

- UL Standard 864 and ULC Standard S527

**Introduction**

**Dedicated for Suppression Release.** 4004R Suppression Release Panels provide conventional fire alarm control circuits and are equipped with the features required for a wide variety of single or dual hazard suppression release applications. Capabilities include automatic extinguishing agent release and deluge and preaction sprinkler control.

\*\* Requires Software Revision 4.01 or higher.



4004R Suppression Release Panel  
One-Line System Reference Drawing

**Introduction (Continued)**

**Flexible I/O Capabilities.** Four IDCs allow for either four separately monitored zones or two, cross-zoned connections. Two SPMs allow dedicated manual inputs for release or abort; for waterflow and supervisory, or release/abort and pressure, depending on system type. Two releasing appliance circuits (RACs) supervise to the actuator coils and activate the actuators when required. The two NACs and the three panel auxiliary relays provide status condition information.

**Easy Program Selections.** The operator panel has a program mode that allows selection of panel operation type and detailed operating selections using an easily selected sequential programming operation.

**History Log.** The last 50 events are stored in non-volatile memory. This information is accessed by connecting a technician's computer to the service port which is also used to set the date and time.

**Panel Feature Description**

**Operator Panel.** The operator panel has alarm and trouble status indicating LEDs for each input and output, visible through the locking cabinet door (refer to diagram on page 4). Unlocking the door provides access to the Acknowledge, Alarm Silence, and System Reset pushbutton switches.

\* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026:314 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex® product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products Westminster.



## Panel Feature Description (Continued)

(Refer to specifications on page 6 for more information.)

**Four Class B IDCs** provide coverage for either two cross-zoned areas or four separately zoned areas. IDCs are capable of supporting up to 30 Simplex current-limited smoke detectors or electronic heat detectors (see list on page 2) as well as manual stations and other compatible contact closure initiating devices. IDCs are capable of Class A operation with an optional adapter module and can be programmed as Style C (short or open initiates a trouble) for use with current limited devices only. Single hazard agent release applications monitor pressure switches with IDC 3 and tamper switches with IDC 4.

**Two Class B Special Purpose Monitoring Circuits (SPMs)** are dedicated for manual release or abort, waterflow and supervisory, or release/abort and pressure, depending on system type. Inputs are normally open switches. An abort switch stops release while activated and upon deactivation, the release operation occurs after a selectable time delay. Manual release inputs override abort switches and activate the release after selectable delays of from 0 to 30 seconds in 5 second increments. For Dual Hazard applications, current limited abort operation is required. SPMs are programmable as Style C and capable of Class A operation with the optional adapter module.

**Two Class B NACs** are provided for reverse polarity, notification appliance operation, each rated 2 A. Class A operation is available with the optional adapter module. NAC operation is selectable per application. Synchronized strobe operation requires a separate 4905 Series Strobe Synchronization Module (see product selection below), and a continuous, steady-on (non-coded) input from the NAC.

**Two Class B Releasing Appliance Circuits (RACs).** Rated 2 A each, these circuits are dedicated to operating release control actuators. RAC cutout timing is selectable as no cutout, 45 seconds, or 1, 3, 3.5, 4, 5, 6, 7, 21, 25, 34, 44, or 64 minutes. For bell/horn/strobe single hazard applications, RAC 2 functions as a third NAC (NAC 3).

**Auxiliary Power Output.** Two sets of output terminals are provided, one for continuous operation and the other for resettable operation, rated for 750 mA combined. Resettable terminals are provided for 4-wire smoke detector power.

**Standard Panel Auxiliary Relay Outputs.** Three relay outputs are available, selectable as normally open or normally closed, rated 2 A @ 30 VDC, 0.35 p.f. inductive:

**Aux Relay 1 (Trouble)** is energized when Normal and is de-energized with a common Trouble condition.

**Aux Relays 2 and 3** respond differently depending on the system type and whether single or dual hazard. Typical functions are:

**For Single Hazard Operation,** Aux Relay 2 is the common Alarm relay. Aux Relay 3 can be selected to indicate pre-discharge (release time delay started), common supervisory, waterflow, or pressure switch relay, depending on the system type.

**For Dual Hazard Operation,** Aux Relay 2 is for Hazard Area 1 common Alarm; Aux Relay 3 is for Hazard Area 2 common Alarm.

**Power Supply and Battery Charger.** During alarm, the power supply provides 3 A at 25.5 VDC, filtered and regulated. The temperature compensated battery charger provides 27.5 VDC for charging batteries up to 12.7 Ah, suitable for up to 90 hour standby and 10 minutes of alarm. A 4081 Series external battery cabinet with charger can be used for more battery backup (see battery selection below).

## Product Selection

### Release Control Panels

Model	Color	Listings	Description
4004-9301	Beige	UL, ULC, CSFM, & FM	Basic Releasing Panel; operates with AC input of: 120/220/230/240 VAC, 50/60 Hz (auto-select); includes: four IDCs, two NACs, two SPMs, two RACs, 3 auxiliary relays, 3 A power supply with battery charger, and NEMA 1/IP30 rated cabinet and door
4004-9302	Red	UL, ULC, CSFM, FM, & MEA (NYC)	

### Expansion Modules

Model	Description	Reference	
4004-9860	Auxiliary Relay Module; four dual contact relays selectable as N.O. or N.C.; rated 7 A @ 120 VAC resistive, 5 A @ 30 VDC, 0.35 p.f. inductive; unsupervised contacts	Two maximum	Select as required
4004-9864	Two Circuit Class A Adapter Module for IDCs, SPMs, or NACs	Four maximum	

### System Batteries

Model	Description	Reference
2081-9272	6.2 Ah battery, 12 V	These batteries can be mounted in the 4004R cabinet; select one battery model per system standby requirements; two batteries are required; for more capacity see data sheet S4081-0001 for a compatible external battery cabinet with charger
2081-9274	10 Ah battery, 12 V	
2081-9288	12.7 Ah battery, 12 V	

### Release Control Systems Accessories (refer to additional information listed on page 3)

Model	Description
2081-9046	Coil Supervision Module, <b>one required per RAC</b> ; refer to pages 6 and 7 for detail
2081-9048	Abort Supervision Module; encapsulated 560Ω, 1/2 W resistor; for Dual Hazard SPM; allows non-current limited Abort and Manual Release stations to be on same circuit; refer to pages 6 and 7 for detail
4081 Series	End-of-Line Resistor Harnesses; refer to data sheet S4081-0003
2099 Series	Manual Stations for Releasing Applications; refer to data sheet S2099-0010
4905-Series	Strobe synchronization modules; 4905-9914 for Class B, 4905-9922 for Class A; see data sheet S4905-0003 for details

## Reference Information, Compatible Simplex Detectors and other System Components

Model	Type		Data Sheet
4098-9601	Standard detector		S4098-0015
4098-9605	Reduced sensitivity detector		
4098-9602	Combination smoke and heat detector		
4098 Series	Ionization Smoke Detectors; 2-wire and 4-wire models		S4098-0018
4098-9612	135° F (57°C)	Fixed heat detector	S4098-0014
4098-9614	200° F (93°C)		
4098-9613	135° F (57°C)	Fixed with rate-of-rise heat detector	
4098-9615	200° F (93°C)		
2099-9149	Standard		S2099-0010
2099-9152	Style C, with 560 Ω internal resistor		
2080-Series	Maintenance Switches, flush or surface mount; indicator lamps require 24 VDC wiring		S2080-0010
	Abort Switches, surface or flush mount; available standard or with 1.2 kΩ, 1 W resistor		

## Expansion Modules and Accessories

**Auxiliary Relay Module 4004-9860** provides four additional relays. Dual hazard applications will require two modules for auxiliary relay operation. Each relay module has a manual disconnect switch that controls relays 2 through 4. (Trouble Relay 1 is not controlled.) Relay outputs are required to be connected to a 15 A maximum circuit breaker. (Relay specifications are detailed on page 6.)

### Auxiliary Relay Module Operation:

**Relay 1** activates on a common **trouble** associated with its hazard or a system trouble.

**Relay 2** activates on a common **alarm** associated with its hazard.

**Relay 3, selected for *original* operation**, activates for pressure switch, waterflow switch, or release timer as required per application type (hazard specific), or activates with the second zone for cross-zoned systems (hazard specific). “Original” operation allows direct panel replacement if required.

**Relay 3, selected for *enhanced* operation**, (software 4.01 or higher), activates to indicate pre-discharge, supervisory, or waterflow (application specific).

**Relay 4** activates when the hazard specific RAC activates or with pressure switch input (application specific).

### Dual Circuit Class A Adapter Module 4004-9864.

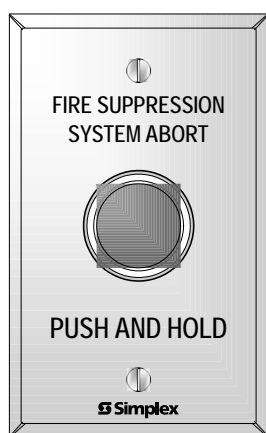
This module converts two Class B circuits to Class A operation. It consumes no additional current and is compatible with IDCs, SPMs, and NACs. Up to four modules may be mounted within the 4004R cabinet.

**Abort Switches.** For manual abort requests, these abort switches are available with or without a built-in 1.2 k $\Omega$ , 1 W resistor and are mounted on single-gang stainless steel plates. Abort switches are connected to the SPM inputs per system requirements.

Activity abort occurs while the switch is pushed and continues after releasing the switch for the selected Abort Release Time Delay. (See drawing below.)

**Maintenance Switch.** Proper service of release appliance circuits requires the ability to securely disconnect the release circuit during installation and maintenance. Simplex maintenance switches are controlled by keyswitch and initiate a supervisory condition when in disconnect/disable position. Models with lamp are on a double-gang plate and are powered from separate 24 VDC wiring. Mounting is on stainless steel plates and models are available as either surface or flush mount. (See drawing below.)

For additional Maintenance and Abort Switch information refer to data sheet S2080-0010.



Abort Switch



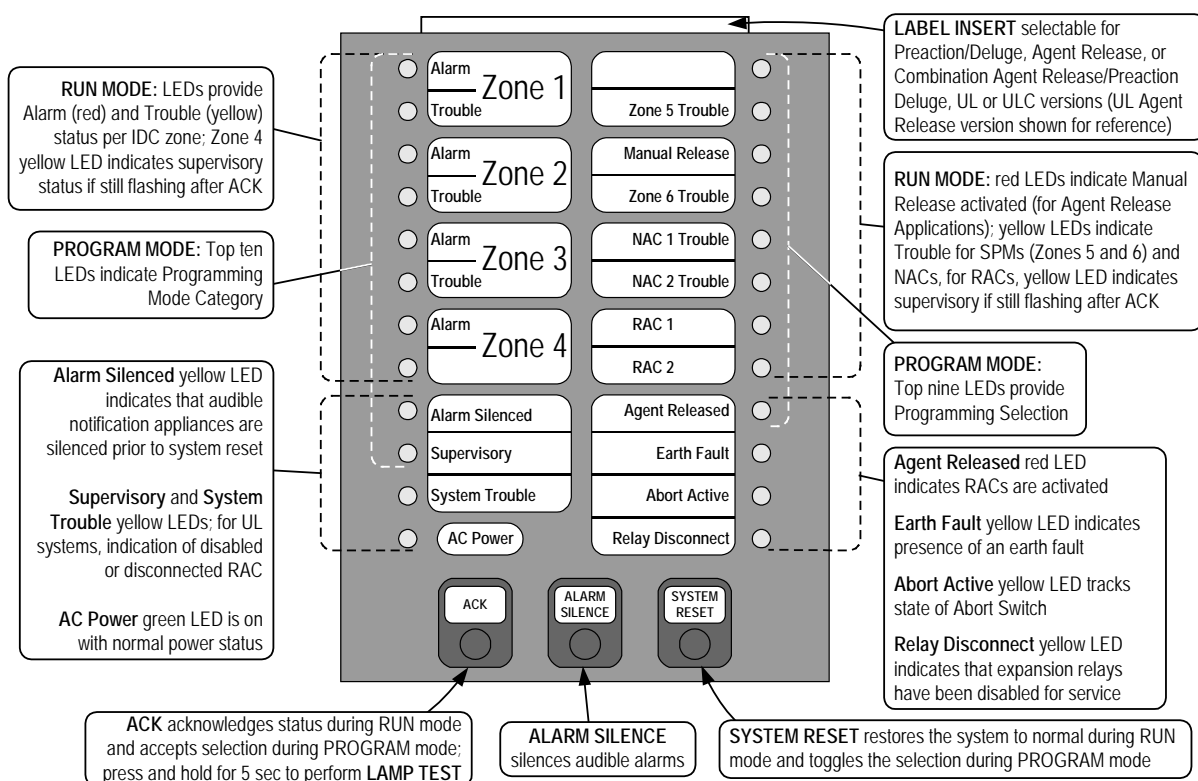
Maintenance Switch

## Programming Modes and Selection Choices

Sequence	Select <u>one</u> of 13 Application Modes (numbered 1 through 13 in <i>italics</i> )			
1	Agent Release	Single Hazard	Cross-Zoned 1	Combined Release (RACs activate together)
			Either Zone 2	
		Dual Hazard	Cross-Zoned 3	Independent Release (RACs are separate)
			Either Zone 4	
	Preaction/Deluge	Single Hazard	Cross-Zoned 5	Combined Release (RACs activate together)
			Either Zone 6	
		Dual Hazard	Cross-Zoned 7	Independent Release (RACs are separate)
			Either Zone 8	
	Agent Release; Single Hazard	Cross-Zoned 9	NYC Abort (not UL listed)	
	Agent Release & Preaction; Single Hazard	Cross-Zoned 10	RAC 2 provides Preaction Control;	
Either Zone 11		RAC 1 is Agent Release Control		
Agent Release, Bell/Horn/Strobe; Single Hazard	Cross-Zoned 12	RAC 2 operates as NAC 3 for Stage 1 Bell Control		
	Either Zone 13	(separate sound from release alarm)		

Sequence	Programming Mode Description	Description	
2	Select Relay Operation for Application Modes 1-9	Select "Original" operation mode or "Enhanced" mode (refer to Auxiliary Relay 3 information on page 3 for details)	
3	IDC and SPM Circuit Style	Class B/Class A or Style C	
4	Automatic Release Time Delay	Selectable in 5 second increments from 0 to 60 seconds (default is 60 seconds)	
5	RAC Cutout Timer	No cutout, 45 seconds, or 1, 3, 3.5, 4, 5, 6, 7, 21, 25, 34, 44, or 64 minutes	
6	Manual Release Time Delay	0, 5, 10, 15, 20, 25, or 30 seconds	
7	Abort Release Time Delay	UL Standard 864 listed	Immediate or 10 seconds remaining
		Not UL Standard 864 listed	IRI abort (cross-zoned systems only), NYC abort, or original release delay
8	NAC Coding (where selectable)	Temporal pattern or 20 beats per minute (first cross-zone alarm)	
9	Standard Operation	No inhibit or one minute inhibit selected as: both on until silence, NAC 1 on until reset and NAC 2 on until silence, or both on until reset;	
	Pre-Discharge Operation	<b>NOTE:</b> For Halon 1301, Halon 1211, or clean agent release, a pre-discharge NAC must be configured to warn of impending discharge, the release timer selects the duration of the pre-discharged signal	
10	Supervisory Latching	Latching or non-latching	
11	Supervisory Notification	LED and tone-alert only, or with: NAC 2 also on; Aux Relay 3 also on; or both NAC 2 and Aux Relay 3 also on	

## Operator Panel Function Reference



## Release Control System Reference

### Automatic Extinguishing Release Systems

automatically activate actuators for the release of a fire extinguishing agent (dry chemical, water spray, foam, CO<sub>2</sub>, Clean Agent, etc.) in response to fire detection device input.

### Automatic Extinguishing Release Systems with Separate Bell Control (single hazard) (SW rev. 4.01 or higher).

RAC 2 operates as a bell control NAC. When cross-zoned, stage 1 alarm activates the bell until the release timer starts. When not cross-zoned, stage 1 alarm activates the bell until expiration of the release timer. In both cross-zoned and non cross-zoned applications, NAC2 may be programmed to indicate either a tamper switch supervisory condition or the start of the release timer using a cadence pattern operation.

### UL and FM Extinguishing Release System Panels

**must have** a minimum of 24 hours of standby power. Initiating devices must be Listed/Approved for the application, and may be wired either Class A or B. Actuators must be electrically compatible with the control panel circuits and power supplies, and are wired Class B to provide coil supervision. (See details in next section.)

### Deluge and Preaction Sprinkler Systems

automatically activate water control valves in response to fire detection device input.

**Deluge Sprinkler Systems** employ open sprinkler heads and provide water flow when the fire detection system activates a common automatic water control valve. They are used to deliver water simultaneously through all of the open sprinkler heads. This type of system is applicable where the immediate application of large quantities of water over large areas is the proper fire response.

**Preaction Sprinkler Systems** are similar to deluge systems except that normally closed sprinkler heads are used and supervisory air pressure is maintained in the pipe. Operation requires both an activated sprinkler head and an activated fire alarm initiating device.

### Combined Agent Release and Preaction Systems

provides agent release *and* preaction control. (Available with software revision 4.01 or higher.) For applications where agent release may not be sufficient for fire control, sprinklers are put in preaction mode to allow waterflow to continue the fire response. (Preaction is assumed, selected deluge could be provided, determined by the sprinkler installation, panel operation is the same.)

**UL requirements** for Fire Alarm Systems Listed for Automatic Release or Deluge and Preaction Sprinkler Systems are the same as described above for Automatic Extinguishing Release Systems.

**FM Approved requirements** for Fire Alarm Systems for Automatic Release of Deluge and Preaction Sprinkler Systems require operation of specific compatible FM Approved Automatic Water Control Valves, a minimum secondary power capacity of 90 hours, and all circuits for the automatic release initiating devices must be capable of operation during a single open circuit fault condition (Class A).

## Release Control System Requirements

1. Actuators are connected as two-wire, Class B notification/releasing circuits **with only one 24 VDC actuator per circuit** to ensure supervision. Where applicable, two 12 VDC actuators in series or one 12 VDC actuator per circuit may be used (refer to the actuator manufacturer's installation documentation for additional details and requirements).
2. Coil Supervision Module, model 2081-9046, must be wired electrically before the actuator and located in the actuator wiring junction box. (See diagram on page 7.)
3. For UL Listed Automatic Extinguishing Release valves and actuators, refer to list on page 7.
4. For FM Approved Automatic Extinguishing Release, secondary standby must be a minimum of 24 hours with 5 minutes of alarm. Actuators must be electrically compatible.
5. For FM Approved Deluge and Preaction Sprinkler operation: IDCs must be Class A, wired to Listed/Approved devices; secondary standby capacity must be a minimum of 90 hours with 10 minutes of alarm; and the specified compatible Automatic Water Control Valves/Actuator must be used. (See list on page 8.)
6. Power supply loading and wiring distances must be per Installation Instructions 579-354.
7. Battery standby must be selected for proper actuator operation and may require a minimum voltage of 23 VDC depending on the actuator. Detailed battery calculation reference information is contained in Installation Instructions 579-354.
8. Maintenance Switches, one per RAC, are required per NFPA 72, the *National Fire Alarm and Signaling Code*, to allow the system to be tested or serviced without actuating the fire suppression systems. *Their use may not be allowed in some jurisdictions, always confirm local requirements.* When used, Simplex Maintenance Switches are required to ensure that operation initiates a supervisory condition.

## Additional System Device Information

1. Simplex Abort Switches are available when abort operation is required. When used, wire on Special Purpose Monitoring Circuits (SPMs) as Class A or Class B; Simplex model Abort Switches are required.
2. Manual Release Stations are used for direct activation of the release actuators with the appropriate time delay implemented by the fire alarm control panel.
3. See pages 2 and 3 for additional reference information.

## Additional Information

This data sheet is a summary of the extensive operating features and options available with the 4004R Release Control Panel. Complete details are covered in the *4004R Installation, Programming, and Operating Instructions* manual (publication 579-354) shipped with each 4004R. Compatible system devices are listed on page 3. For general information, refer to Factory Mutual Research Corporation (FMRC) "FMRC Approval Guide," FM Approval standard "Deluge Systems and Preaction Systems."

**PLEASE NOTE:** Proper operation of release control systems requires that the system design, installation, and maintenance be performed correctly and in accordance with all applicable local and national codes, and equipment manufacturer's instructions. No liability for total system operation is assumed or implied.

**Specifications** (Refer to diagram on page 7 and Instructions 579-354 for additional information)

**Power Ratings**

AC Input	Voltage Ratings	120 VAC, 60 Hz; 220/230/240 VAC, 50/60 Hz, auto-select
	Current Ratings	2 A maximum @ 120 VAC input; 1 A maximum @ 240 VAC input
Power Supply Output		3 A maximum available for external loads
Battery Charger		Temperature compensated, capable of recharging batteries required for 90 hour standby and 10 minute alarm (contingent on auxiliary power load)
Standby Current		100 mA; with IDCs fully loaded, tone-alert silenced, trouble LED on, charger off
Alarm Current		264 mA + external loads; (2 zones in alarm & 2 internal relays, NACs and RACs on)

**Standard Circuit Ratings** (NOTE: Total DC current = 3 A maximum; see NAC ratings for details)

Initiating Device Circuits (IDCs)	Supervisory	3 mA maximum; 3.3 k $\Omega$ end-of-line resistor per circuit
	Alarm Current	75 mA maximum
	Output Voltage	28 VDC maximum
	Capacity	Each IDC supports up to 30 detectors (smoke or electronic heat) and manual stations as required; wiring distance is limited to 50 $\Omega$ maximum
Special Purpose Monitoring Circuits (SPMs)	Application	For Manual Release, Abort Switches, or Supervisory functions only; not for detectors; wiring distance is limited to 50 $\Omega$ maximum
	For Dual Hazard Applications	Dual Hazard Application Abort Switches require a current limiting resistor of 1.2 k $\Omega$ , 1 W, or an external Abort Supervision Module per SPM
	Supervisory	6 mA; 3.3 k $\Omega$ end-of-line resistor per circuit
	Activated	75 mA maximum
	Output Voltage	28 VDC maximum
Notification Appliance Circuits (NACs)	Alarm Current	Special Application appliance rating = 2 A maximum on a NAC <b>NOTE:</b> Special Application appliance rating = full 3 A power supply rating
		Regulated 24 DC appliance power = 1.5 A maximum on a circuit <b>NOTE:</b> Regulated 24 DC <b>strobe</b> load = 1.35 A maximum total for power supply
	Output Voltage	Alarm = 26 VDC max.; supervisory = 29 VDC maximum; 10 k $\Omega$ end-of-line resistor
	Synchronized Strobe Operation	Requires NAC dedicated to strobe control with non-coded output; use an external Synch Module (4905-9914, Class A, or 4905-9922, Class B, see data sheet S4905-0003 for details); up to 33 strobes can be synchronized per 4004R
Notification Appliance Reference	Special Application Appliances	Simplex 4901 Series horns, 4904 and 4906 Series strobes, 4903 Series 4-wire horn/strobes; refer to Installation Instructions 579-354 for additional details
	Regulated 24 DC Appliances	Power for other appliances listed to UL Standard 1971 or UL Standard 464; use associated external synchronization modules where required
Release Appliance Circuits (RACs)	Output Current	2 A maximum per circuit
	Output Voltage	Activated = 26 VDC maximum; non-alarm = 29 VDC maximum; 10 k $\Omega$ end-of-line resistor
Auxiliary Power Output; for Special Application loads only		Two outputs are available, continuous operation or resettable operation; combined output is 750 mA maximum; output voltage = 19.25 to 27 VDC
Auxiliary Relay Outputs (Trouble, Aux Relay 2, Aux Relay 3)		Contacts rated 2 A @ 30 VDC, 0.35 p.f., inductive, selectable as N.O. or N.C. by jumper
Wiring Connections for Above and AC Input		Terminals rated for 18 AWG to 12 AWG (0.82 mm <sup>2</sup> to 3.31 mm <sup>2</sup> )

**Auxiliary Module Ratings**

Class A Adapter Module 4004-9684		Two circuits per module, rated same as circuits; not applicable to RACs (no additional current required)
Auxiliary Relay Module 4004-9860	Relay Type	Four relays with two outputs per relay; individually selectable as N.O. or N.C.
	AC Ratings	7 A @ 120 VAC, resistive
	DC Ratings	5 A @ 30 VDC, 0.35 power factor, inductive
	Module Current	12 mA standby; 70 mA with all four relays energized; @ 24 VDC
	Wiring	Terminals rated for 18 AWG to 12 AWG (0.82 mm <sup>2</sup> to 3.31 mm <sup>2</sup> )

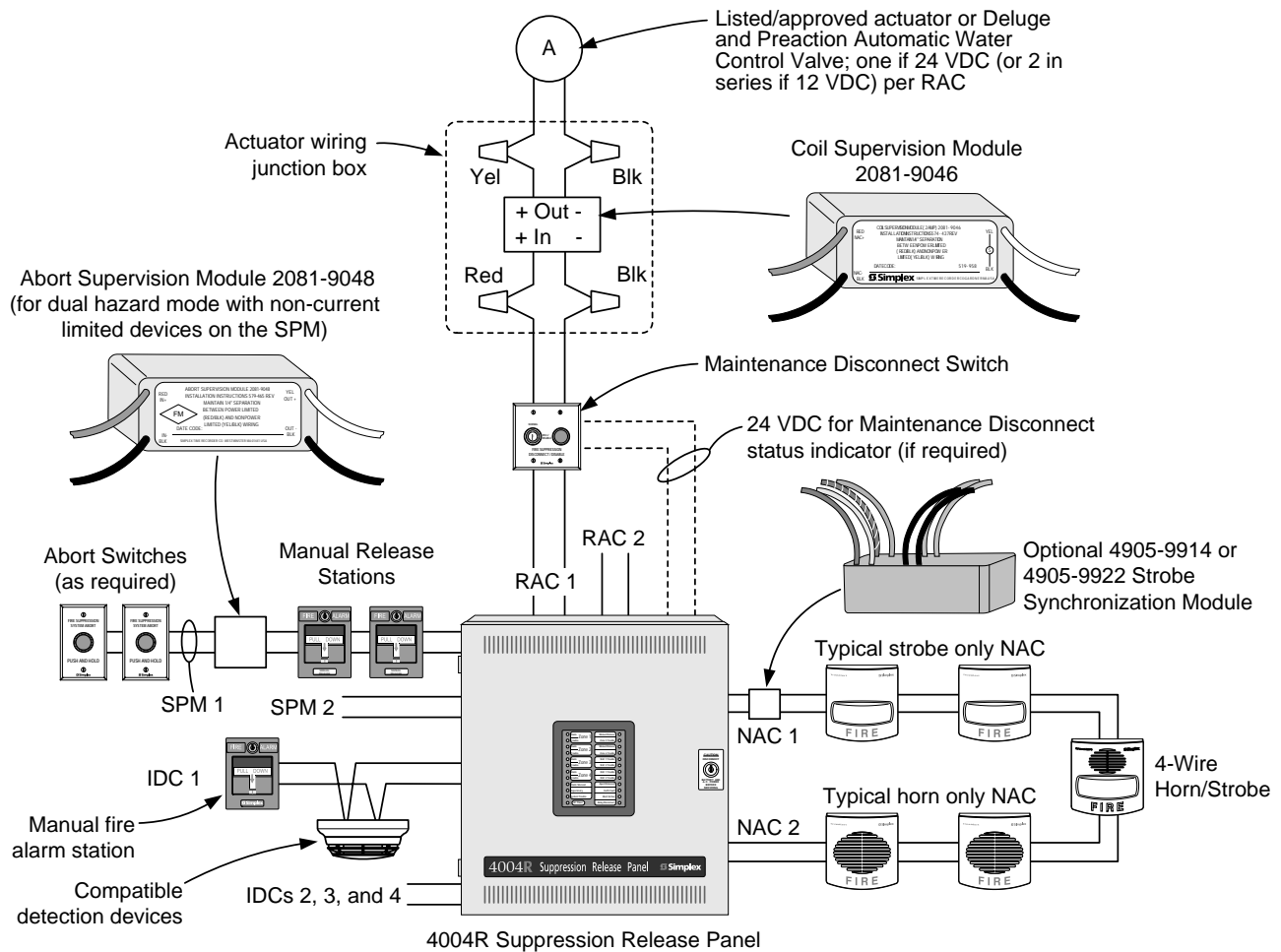
**2081-9046 Coil Supervision Module and 2081-9048 Abort Supervision Module** (see page 7 for additional details)

Construction	Epoxy encapsulated
Dimensions	1-3/8" W x 2-7/16" L x 1-1/16" H (34 mm x 62 mm x 27 mm)
Wiring	18 AWG (0.82 mm <sup>2</sup> ) wire leads, color coded
Coil Supervision Module Current Rating	2 A maximum; internally fused at 3 A, non-replaceable
Abort Supervision Module Resistance	560 $\Omega$ , 1/2 W

**Environmental Ratings**

Operating Temperature Range	32° to 120°F (0° to 49° C)
Operating Humidity Range	up to 93% RH, non-condensing @ 100.4° F (38° C) maximum

## 4004R System Connection Reference



### GENERAL WIRING NOTE:

Wiring shown is for reference only, refer to installation instructions for detailed wiring information.

## Compatible UL Listed Valves and Actuators

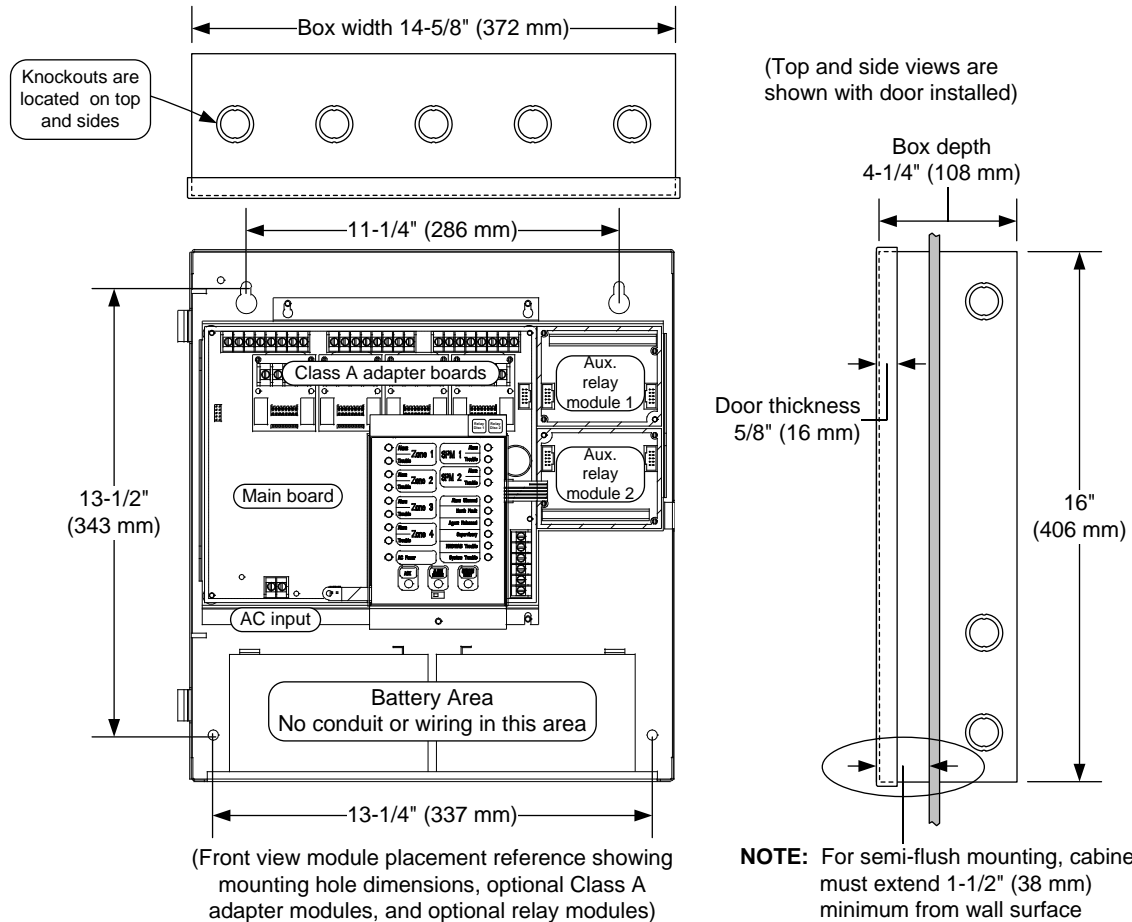
Manufacturer	Model Number	Electrical Ratings
ANSUL	AUTOMAN II-C Assembly (solenoid 17728; coil 25924)	24 VDC, 750 mA
	AUTOMAN II-C Explosion-Proof Releasing Device (solenoid 31492; coil 31438)	24 VDC, 750 mA
	AUTOMAN II-C Assembly (solenoid 68739; coil 25924)	24 VDC, 750 mA
	Solenoid Electric Actuator (solenoid 73111; coil 73097)	24VDC, 1 A
	*CV90 HF Electric Actuator 73327	24 VDC, 570 mA
	LP CO2 w/ASCO solenoid 422934	24VDC, 442 mA
	LP CO2 double action 24 VDC solenoid 430948	24VDC, 438 mA
	LP CO2 3-way selector valve solenoid 433419	24VDC, 438 mA
LPG	Electric Actuator 24 VDC solenoid 570537	24VDC, 250 mA
	Solenoid Electric Actuator (uses solenoid: Flow Control 609500/671S)	24 VDC, 542 mA
	Solenoid Coupling Assembly 21006401 (uses solenoid: Flow Control 609500/671S)	
	Solenoid Coupling Assembly 21006402 (uses solenoid: Flow Control 609500/671S)	
	LPG128/145/190/230-50/55 FM-200 valves (uses solenoid: Flow Control 609500/671S)	
	LPG128-90UL iFLOW and FM-200 valve (uses solenoid: Flow Control 609500/671S)	
ASCO	8210A107 (097617-005D coil)	24 VDC, 750 mA
	8210G207 (238310 coil)	24 VDC, 440 mA
	8211A107 (097617-005D coil)	24 VDC, 750 mA
	8262H182 (238910 coil)	24 VDC, 483 mA
	EF8210G001MBMO	24 VDC, 450 mA
	HV2628571 (23810 coil)	24 VDC, 442 mA
	HV2648581 (23810 coil)	24 VDC, 442 mA
	R8210A107 (097617-005D coil)	24 VDC, 700 mA
Hygood (TSP)	T8210A107 (097617-005D coil)	24 VDC, 700 mA
	304.205.010 – Electrical Actuator Suppression Diode	24 VDC, 250 mA
PyroChem	304.209.001 – Electrical Actuator Bridge Rectifier	24 VDC, 250 mA
	ECH Electrical Control Head (551201)	24 VDC, 1700 mA
	Explosion-Proof Electric Actuator (570147)	24 VDC, 396 mA
Skinner	Removable Electric Actuator (570209)	24 VDC, 200 mA
	71395SN2ENJ1N0H111C2 (Skinner coil H111C2)	24 VDC, 420 mA
	73212BN4TN00N0C111C2 (Skinner coil C111C2)	24 VDC, 420 mA
	73212BN4TNLVN0C322C2 (Skinner coil C322C2)	24 VDC, 830 mA
	73218BN4UNLVN0H111C2 (Skinner coil H111C2)	24 VDC, 410 mA
	73218BN4UNLVN0C111C2 (Skinner coil C111C2)	24 VDC, 410 mA
Star Sprinkler	D deluge valve, with solenoid 5550	Refer to manufacturer's documentation
Minimax	MX1230 without diode	24 VDC, 420 mA
Burkert	5282 2/2-Way Solenoid Valve	24 VDC, 333 mA
Versa	CGS-4292-NB3-S20000	24 VDC, 438 mA
Tyco Safety Products	Model TSP 304205030	24 VDC, 0.5A
	Model TSP 304700001	24 VDC, 830mA
Masteco	Model MSC-01	24 VDC, 1.7 A

\* For 24 VDC, 450 mA activation requires one actuator connected in series with a 73866 (21.5 ohm, 23 watt) in-line resistor shipping assembly ordered separately. For additional information refer to the manufacturer's technical documentation.

## Compatible FM Approved Water Control Valves

4004R Control Panels are assigned to FM Release Control Panel Group 3. Group 3 FM Approved Release Control Panels are compatible with all FM Approved Solenoid Valves rated at 22 Watts or less. For verification of agency listings and power requirements refer to the solenoid valve manufacturer's technical documentation.

## Mounting Reference Information



**NOTE:** A system ground must be provided for Earth Detection and transient protection devices. This connection shall be made to an approved, dedicated Earth connection per NFPA 70, Article 250, and NFPA 780.

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# Aerosol Extinguisher

for Fire Suppression Systems



*Dynamit Nobel Defence*

## Technical Data Sheet

Aerosol Fire Extinguishing Generator with thermal activation  
Dynameco 200-TA08

CE -0589

Registration Number: 0589-P1-000117  
Identification Number: BAM-0854/17



### Advantages / Benefits at a glance:

- Fire detection and extinguishing system all-in
- Independent system solution; no electric power supply necessary: „stand alone“
- Available also in other sizes: 3 m<sup>3</sup> (300-TA) up to 20m<sup>3</sup> (2000-TA)
- Simple installation and extensive system accessory
- Wide range of possibilities and flexible in different application fields
- System diversity of variants by different requirements in temperature ranges (e.g. 57°, 68°, 79°, 93°C)
- System acceptance and planning reliability by high efficiency and international approvals

With Dynameco -TA08 Dynamit Nobel Defence GmbH complemented the product range in the division of fire extinguishing systems. The product offers a wide range of application in case of total flooding and object suppression. After fire detection by the thermal activator, the fire is suppressed effectively by the approved aerosol generator. By means of this combination the Dynameco is even more effective and efficient. Low weight and space requirements as well as easy installation allow a high flexibility and integration in different applications in active fire protection

### Intended Purpose:

Aerosol-Generator for fire suppression by filling areas or directed fire extinguishing of individual objects.

### Operation:

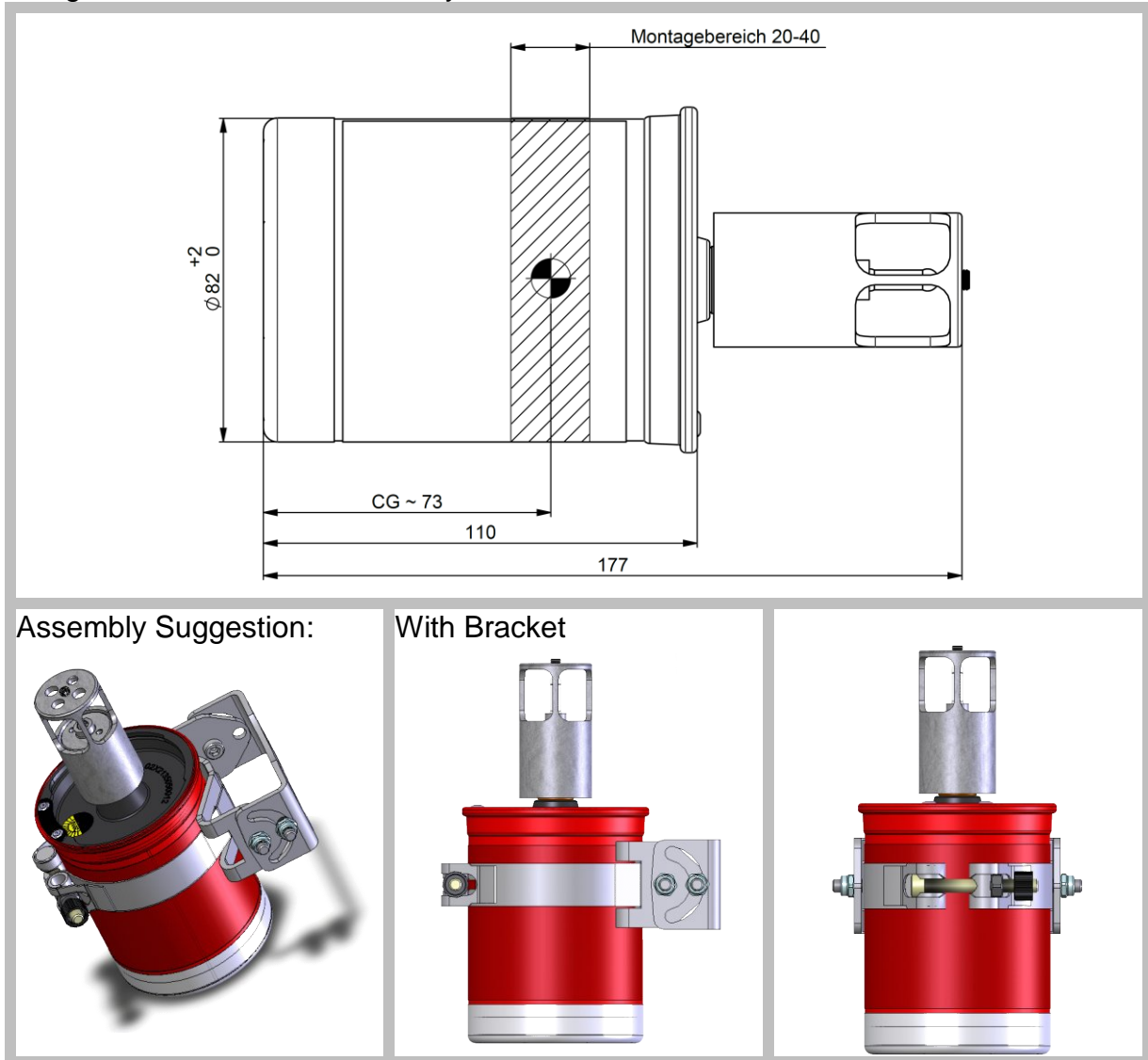
Release of aerosol extinguishing agent after electrical activation

# Aerosol Extinguisher

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## Assembling:

Using Bracket in Center of Gravity:



## SPECIFICATIONS:

Dimensions:

H = 110 mm (without activator)

H = 177 mm (incl. activator)

D = 82 mm

Total weight:

~ 1.225 kg (incl. activator)

Typical extinguishing volume:

~ 2.0 m<sup>3</sup>

AEROSOL exhaust time:

~ 5 sec.

# Aerosol Extinguisher

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## **Application Specific Data:**

Thermal activation temperatures:	Optional: 57°C, 68°C, 79°C or 93 °C (more on request)
Initiation time:	3 seconds after fracture of glass bulb
Storage:	Keep in cool and dry places
Temperature Range:	-40°C up to max. 15° below the thermal activation temperature
CE-type approval:	According to Regulation 2007/23/EG
Transport classification acc. to ADR/RID, IATA und IMDG::	CLASS 9
Approval mark – extinguishing agent:	PL-4/97 / Aerosol extinguishing agent.
Fire class:	A, B, F (limited) and C acc. to DIN EN2
Protection class:	IP67
Service life:	Extinguisher to be replaced after 5 years
Shelf life:	10 years
Handling:	Only by trained and adult persons (depending on national regulations)
Use / Application:	For fire extinguishing systems acc. instruction manual
Note:	Follow the installation instructions