**Product**

UniVario WMX5000 Heat Detector

**PART 1 - GENERAL**

1.1 SCOPE

This document provides specification details for UniVario WMX5000 Heat Detector. All items under this specification shall comply with all applicable code requirements and manufacturer’s recommendations.

1.2 APPROVALS

 The Heat Detector shall be tested, approved and/or listed by:

1. IEC/ ATEX/ AEx (NEC 505/506) (Zone 1, 2 Gas / 20, 21, 22 Dust)
2. NEC 500 Class I, II, III, Division 1, Groups A, B, C, D, E, F, and G
3. FM Approvals, comply to FM3210, FM3600, FM 3611, FM 3810
4. CSFM (California State Fire Marshall)
5. CE Marking, VdS
6. CCC (China Certification Corporation)
7. FGBU VNIIPO (All-Russian Research Institute for Fire Protection)

1.3 CODE, STANDARDS, AND REGULATION

The Heat Detector shall be installed per manufacturer’s instructions, including mounting, programming, and power requirements, and shall comply with one or more of the following codes and standards:

* 1. National Fire Protection Association (NFPA)
	2. National Electrical Code (NEC)
	3. FM Global
	4. Relevant industry code of practices

1.4 Typical Applications

The heat detectors shall response to fires with rapid and slow heat development from solid or liquid materials. It shall be suitable for areas with aggressive media, as well as for indoors and outdoors objects protection.

1.5 SUBMITTALS

* + 1. System shall be complete in all ways and shall include all engineering and electrical installation, all detection and control equipment, auxiliary devices and controls, alarm interfaces, functional testing, training, and all other operations necessary for a functional, UL Listed, and FM Approved system.
		2. Prepare product data and site drawings indicating the system layout, including location of heat detector unit, coverage per detector, power requirements, and detection sensitivity per detector.
		3. Show method and fixtures of each detector to the building (wall or ceiling) structure.
		4. System commissioning data shall be supplied as recommended per manufacturer’s instructions within 30 days of installation.
		5. As-Built Drawings:
			1. Upon completion of the installation, the Contractor shall, where applicable, revise heat detector design files, calculations, manuals, and operating instructions to agree with on-site conditions.
			2. Submit a copy of the manufacturer’s installation, operation, and maintenance manuals.
			3. Final construction drawings shall be stamped/sealed by a licensed Professional Engineer in the state where the work is being constructed, or a NICET level III or higher certified fire alarm technician.

1.6 QUALITY ASSURANCE

1. Manufacturer

The manufacturer shall have a minimum of 30 years of production experience in the manufacturing and design of heat detector devices and related suppression systems.

1. Detector Requirements
2. The heat detector is rate-of-rise/fixed temperature type. The system software shall provide system configuration, and system monitoring in a single program.
3. The detector shall continuously self-test for electronics failure.
4. The unit shall use a portable, external means of device to perform full, functional end to end testing of the detector and the fire protection system.
5. The heat detector shall provide various level of detection sensitivity
6. Installer

The equipment installer shall be authorized and trained by the manufacturer and shall have the ability to design a system based on code requirements. The installer shall be capable of providing calculations, design, and testing documents upon request.

**PART 2 - PRODUCT**

2.1 MANUFACTURER

 Approved heat detector manufacturer:

Viking Group, Inc.

Address:

5150 Beltway Dr. SE
Caledonia, Michigan 49316

 Manufacturer Approved Units: UniVario WMX5000 heat detector

2.2 Heat Detector (rate-of-rise/fixed temperature type)

The heat detector shall allow for various sensitivity classes per EN54-5 and/or specific coverage range to defined fire types and sizes.

The heat Detector shall provide up to 2 form C, programmable, latching or non-latching relays or the ability to connect directly to the FACP via the SLC. Events shall include alarm conditions, detector status, and faults. The date and time of each event shall be recorded.

2.3 DESIGN PARAMETERS

The heat Detector includes following key design attributes:

1. Detector has a heat sensitive element; the response shall be between 32°F and 194°F (221°F single-hole type)
2. Detector shall be selectable of all EN54-5 response classes A1, A2, B, C, and D
3. Detector shall have a R class index setting (rate of rise > 77°F/min
4. Detector shall have a S class index setting (rate-of-rise starts 86°F below set alarm temperature)
5. Detector shall have a single-hole option for closed duct mounting
6. Detector shall have a dip-switch option for an adjustable sensitivity
7. Detector shall have an event history and data logging memory
8. Detector shall have the option of a service and diagnose tool
9. Detector shall have the option to connect an external service test and reset button
10. Detector shall provide a service reed-contact test switch
11. Detector shall support an external indicator through open collector output Imax 10 mA, Vmax 30 VDC
12. Detector shall have the option for a LCD to display alarm, status and condition messages
13. Detector shallhave the option to provide addressable SLC Apollo XP95 loop protocol output
14.

2.4 MECHANICAL SPECIFICATIONS

The heat detector shall have the following key mechanical attributes:

1. The unit enclosure shall be two separate parts a base and the senor head
2. Enclosure size for the units shall be:
3. Detector base: die cast Aluminium 8-pole terminal block, 2 conduit or cable entries
4. Detector with base (L x W X H): 3-5/8'' x 5-1/8'' x 5.-1/2'' (92 x 130 x 140 mm)
5. Weight for the units shall be:
Detector with base and bracket (die-cast Aluminium): 2.2 lbs. (0.991 kg)
6. Colour of the units shall be: RAL 3000
The enclosure material shall be die-cast aluminium with red epoxy enamel finish.
7. The unit shall provide two conduit entries 1/2” NPT or optional M16 or M20

2.5 ELECTRICAL SPECIFICATIONS

The heat detector shall have the following key electrical attributes:

1. The operating voltage shall be 7.6-30 VDC.
2. Power consumption for the detector shall be:
3. Detector (standby): Max. 2.6 mA
4. Detector (alarm): Max. 18 mA
5. Standard alarm outputs shall include one conventional alarm line or optional one (1) single pull double throw (SPDT) relay contact:
6. Standard trouble outputs shall include one (1) conventional alarm line or optional one (1) single pull double throw (SPDT) relay contact follows:
7. Relay shall be rated for 1 amperes @ 60 VDC
8. The system shall have the option for pulse air purging unit to remove dust form the detector lens.
9. Wire gauge shall range from 24 to 12 AWG (0.5-2.05 mm). Wire or conduit shall enter the detector from either the top or the bottom of the device. Pluggable terminals shall be used to wire the detector.

2.6 ENVIRONMENTAL SPECIFICATIONS

1. The detector shall be capable of operating in temperatures from -4 °F to 176 °F Operating humidity shall range from 0 to 95 % RH non-condensing.
2. The system must meet the performance requirementsof FM 3210 and EN 54-5. The system shall have a protecting rating against solids and liquids of NEMA 6/IP67