



19 200

ACTIVE
SENSORS

RS 485
MODBUS
3x DO
RTP VIDEO

2-LEVEL
FIRE ALARM

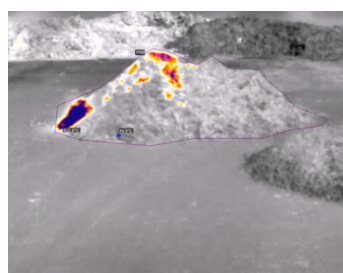
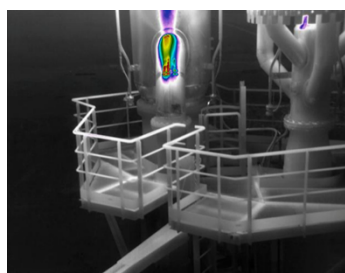
9x/SEC
SCAN SPEED

400 °C
752 °F
TEMPERATURE
RANGE



WORKSWELL SAFETIS EV-M

SMART EARLY FIRE DETECTION THERMAL SENSOR



Datasheet

Release date: 20th of October 2024

Version: 241020

SAFETIS EV-M technical specification

SAFETIS EV-M key features description	
Detection capabilities (real-time)	19 200 active temperature sensors for rapid detection
Onboard SMART evaluation	SAFETIS EV operating system does not require any additional PC or HW
Dual alarm detection	Two-level alarm rapid temperature detection user defined including digital/relay outputs for each ROI (warning alarm/critical alarm)
Control Protocol	Modbus RTU available via RS485 and Ethernet
Automatic area scanning	Automatic real-time area scanning up to 9 times per second
Thermal sensor specification	
Temperature pixel sensors	19 200 active temperature sensors
Sensor resolution	160 x 120 px
Sensor pixel size	12 µm
Spatial resolution (iFOV)	6.2 mrad
Temperature ranges	Standard -10 °C to 140 °C (14 °F to 284 °F) Optional -10 °C to 400 °C (14 °F to 752 °F)
Temperature sensitivity	0.1 °C (100 mK)
Internal NUC shutter	Yes
Detection speed (in seconds)	< 9 times per second rapid area scan speed (< 9 Hz, worldwide shipping)
Spectral range / detector	8 – 14 µm / Uncooled VOx microbolometer
Emissivity adjustment	Yes
Lens FOV and focus	FOV - horizontal 57° x vertical 43° f/1.1, fixed focus. FOV calculator tool is available online (visit FOV calculator)
Alarm outputs, control and network	
Alarm outputs	1 x Open collector potential signal (max. 24 VDC / 100 mA) 1 x Heartbeat pulse signal (max. 24 VDC / 100 mA) 1 x Alarm relay (max. 30 VDC / 1.5 A)
Control protocol	Modbus RTU available via RS485 and Ethernet
Industrial interface	RS485 (EIA/TIA-485-A)
Network interface	Ethernet, video streaming and control, 100 Mb/sec
Network protocols	Ethernet/IP, static IP address, subnet mask configuration, DHCP
Network video streaming	RTP color/monochromatic uncompressed video format in RGB format RTP radiometric uncompressed video format in temperature values
Onboard SMART evaluation	SAFETIS EV operating system does not require any additional PC or HW



Thermal sensor configuration via Desktop SW or Webserver	
Thermal sensor configuration	SAFETIS EV can be configured via Desktop SW or Webserver.
Thermal sensor configuration via SAFETIS EV webserver	Free webserver for SAFETIS EV configuration. After the configuration, webserver can stay connected via IP for 24/7 operation or disconnected. The settings are saved into the camera for independent protection.
Functions	Authentication and login Full camera configuration - Alarms, thresholds, digital outputs, video Maximum and minimum cross visualization for all ROIs Real-time image visualization ROI placement and configuration
Threshold alarm detection	Automatic temperature alarm threshold detection based on temperature values set by the user (warning alarm and critical alarm value)
Dual alarm detection	2 thresholds definable by user, configurable with digital/relay output
Temperature units	Celsius and Fahrenheit
ROI configuration	Up to 32 regions of interest (ROIs) in the image
ROI alarm output	In each ROI 2 independent threshold alarms can be set and connected to digital/relay output (warning alarm and critical alarm value)
Image rotation	Yes, 180° rotation
LED signalization	1x RGB status LED
FW update	Remote FW update from server or local application
Reset	1x button (camera reset and factory reset to default values)
Environmental data, connection and power supply	
IP protection (Encapsulation)	IP65
Operating temperature	-20 °C to 50 °C (23 °F to 122 °F)
Storage temperature	-35 °C to 80 °C (-31 °F to 176 °F)
Humidity	5 % to 95 % non-condensing
Dimensions and weight	80 x 63.3 x 102 mm (178 mm including the wall mounting) 3.15 x 2.49 x 4.01 in (7.00 in including the wall mounting)
Weight	< 300 grams (0.66 lb)
Connection	1 x 8pin (Ethernet) and 1 x 12 pin (Outputs, power supply, heartbeat)
Housing material	Durable aluminum body
Supply input	12 to 24 VDC, < 2.5 W (max. peak 5 W), M12 circular connector



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