



| EXTCAM2010

HAZARDOUS LOCATIONS CERTIFIED STAINLESS STEEL THERMAL CAMERA

FEATURES

- Hazardous locations certified camera
- Electropolished AISI 316L stainless steel explosion proof P&T head
- AISI316L stainless steel construction
- Certifications for use in Zone 1 and 2, Group IIC T6 (Gas), and in Zone 21 and 22, Group IIIC T85° (Dust)
- Exceptional corrosion resistance
- Fiber Optic network connectivity

KEY BENEFITS

- Thermal temperature readings to monitor equipment, flame detection, and tank monitoring
- Gas Leak Detection and quantification for continuous monitoring of environments involving many industrial gases.
- More reliable continuous temperature readings under all system load conditions
- Real time performance flare monitoring and early detection of liquid carryover
- Reduced downtime due to unplanned outages by detection of problems before failures occur
- Reduced monitoring requirements for operations personnel
- Reduced product losses
- Regulatory compliance
- Trending analysis allows input into condition-based maintenance programs

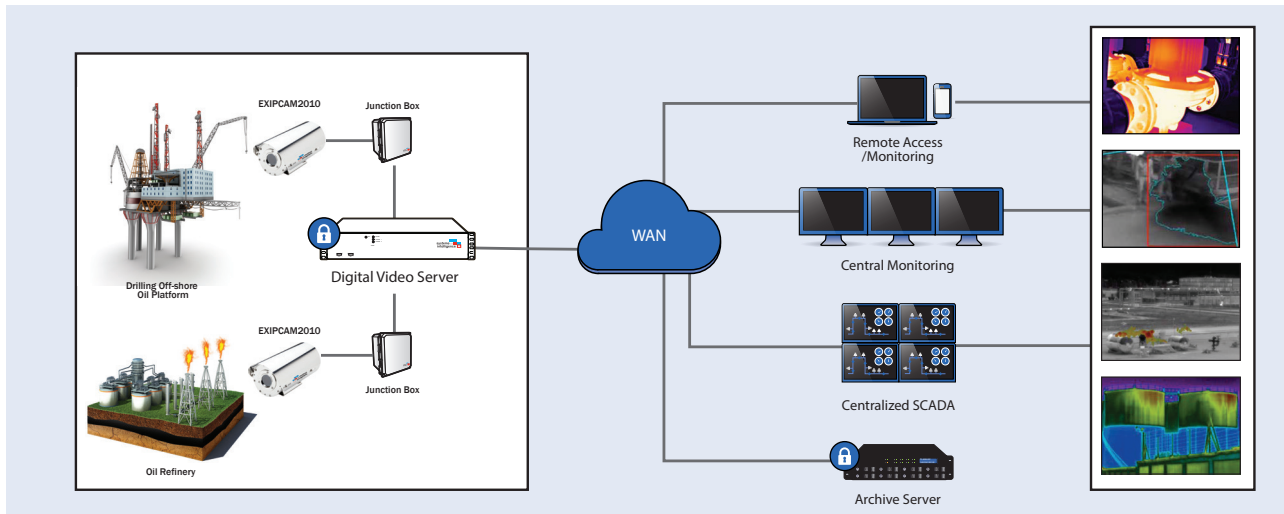
OVERVIEW

Continuous thermal monitoring systems are able to anticipate, detect, and respond rapidly to problems, thereby reducing the chance of failures and lost productivity. Detection of temperature increases in equipment with thermal monitoring sensors allows corrective maintenance operations before an unplanned outage occurs due to asset failure. Our OGI system offers a comprehensive solution that combines advanced IR optics, radiometry, image processing algorithms, machine learning, industrial standards compliance, and Industry 4.0 integration. It addresses the HSE needs of the industry by providing accurate and reliable gas detection capabilities. Our Flare Monitoring is highly versatile and can monitor several flares with a single sensor. Each flare can be monitored separately with shut-off, oversize or burning rain alarms, etc. EXTCAM2010 also monitors early detection of liquid carryover.

The Systems With Intelligence thermal monitoring solution includes a hardened digital video server (DVS) that digitally records video from multiple cameras and incorporates a suite of sophisticated video and thermal analytic algorithms for the detection of anomalies. The DVS includes software tools for video monitoring and analysis, features flexible networking capabilities, and provides automated alarm and event notification.



MONITORING ARCHITECTURE

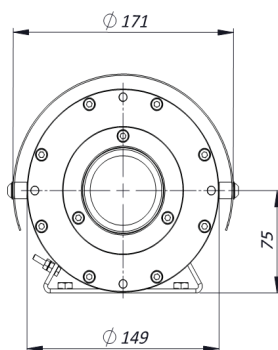


APPLICATIONS

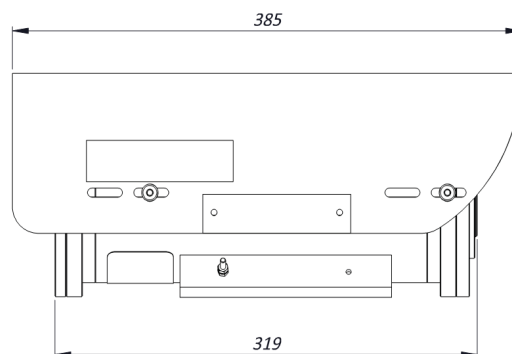
- Power transformers (oil levels, radiators and pump operation)
- Flame detection
- Flare monitoring
- Tank level monitoring
- Methane, SF₆, Methanol, Sulphur Dioxide, VOC's and refrigerant gas detection
- Batteries
- Generators
- Compressors

OVERALL DIMENSIONS Units: mm

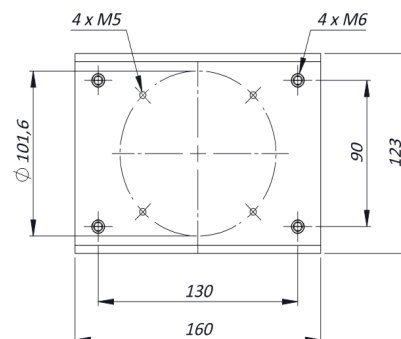
FRONT VIEW



SIDE VIEW



MOUNTING PATTERN



MAX EXTERNAL LENGTH

L1 [mm]	L2 [mm]
385	319
510	442
630	565

MAX INTERNAL USABLE AREA

Max internal dimensions [mm]	Max usable internal diameter [mm]
80x80x162	95
80x80x285	95
80x80x408	95



TECHNICAL SPECIFICATIONS

EXTCAM2010 SPECIFICATIONS

THERMAL – TEMPERATURE MONITORING

Spectral Band	7.5 to 13.5 um
Sensitivity	0.1° C
Frame rate	30Hz, 7.5Hz

THERMAL – FLARE MONITORING

Spectral Band	8 to 14 um
Accuracy	± 1°C or 1% (from 50°C to 500°C) ± 2°C or 2% (from 500°C to 1500°C)
Frame rate	30Hz, 7.5Hz

THERMAL – OIL TEMPERATURE MONITORING

Spectral Band	8 to 14 um
Accuracy	+2°C (0°C to 120°C)
Frame rate	30Hz, 7.5Hz

THERMAL – GAS LEAKAGE MONITORING

Spectral Band	7-9.5 (CH ₄ , SO ₂ , VOC's, Natural Gas and/or hydrocarbons leaks), 8-14 (SF ₆ and/or refrigerant gas leaks). MWIR available on demand
Accuracy	+1°C (0°C to 60°C)
Frame rate	30Hz, 7.5Hz

NETWORK

Interface	Fiber: 100FX SFP with LC connector RJ45: 10/100TX POE
Security	Password protection
Protocols	IPv4/v6, DHCP, HTTP, UDP, RTP/RTSP, UPnP, NTP, ICMP, ONVIF IP Camera Support
Software Interface	Web Server

ELECTRICAL

Thermostatically controlled heater	T[°C] ON = 53 ± 39°F (12 ± 4°C) T[°C] OFF = 68°F ± 37°F (20 ± 3°C)
Available voltages	24VAC, 120VAC (+/-10%) PoE available upon request.
Max power consumption	25W

ENVIRONMENTAL

Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Ingress Protection	IP66: Waterproof and Dust-Tight
Humidity	95%
EMC/EMI	IEC 61850-3; IEEE 1613; IEC 61000-6-2; IEC 61800-3

CERTIFICATIONS

Ingress Protection	EN 60529 (IP66/IP67); NEMA 4X
Rating	Class I, Zone 1, AEx db op pr IIC T6 Gb -40°C ≤ Tamb ≤ +60°C Zone 21, AEx tb IIIC T85°C Db -40°C ≤ Tamb ≤ +55°C Zone 21, AEx tb IIIC T90°C Db -40°C ≤ Tamb ≤ +60°C Class I, Zone 1, AEx db op pr IIB T5 Gb -40°C ≤ Tamb ≤ +75°C Zone 21, AEx tb IIIC T100°C Db -40°C ≤ Tamb ≤ +70°C Zone 21, AEx tb IIIC T105°C Db -40°C ≤ Tamb ≤ +75°C Class I, Div 2, Group A, B, C, D T6 -40°C ≤ Tamb ≤ +60°C * Class I, Div 2, Group C, D T5 -40°C ≤ Tamb ≤ +75°C *
* Suitable for Class I Div 2 using Zone 1 wiring methods as permitted per NEC Art. 501	
IECEX Standards	IEC 60079-0; IEC 60079-1; IEC 60079-28; IEC 60079-31
EMC	EN 50130-4; EN 55035 ; EN/IEC 61000-6-2 ; EN/IEC 61000-6-4
LVD	EN 60950-1; EN 60950-22
FCC	FCC part 15B
RoHS	2011/65/EU + 2015/863/EU (RoHS 3)
WEEE	2012/19/EU
North American Standards	FM Class 3600; FM Class 3810; ANSI/UL 61010-1; ANSI/UL 60079-0; ANSI/UL 60079-1; ANSI/UL 60079-28; ANSI/ISA 60079-31; ANSI/UL 50E; ANSI/IEC 60529 CSA C22.2 No. 0.4; CSA C22.2 No. 0.5; CAN/CSA C22.2 No. 61010-1; CAN/CSA-C22.2 No. 60079-0; CAN/CSA-C22.2 No. 60079-1; CAN/CSA-C22.2 No. 60079-28; CAN/CSA-C22.2 No. 60079-31; CSA C22.2 No. 94.2; CAN/CSA C22.2 No. 60529

ACCESSORIES

Wall mounting bracket
Pole mount adapter
Top pole mount adapter



CONFIGURATION



BASE UNIT	
EXTCAM2010	Thermal Camera in Explosion Proof Housing
POWER SUPPLY	
24	24VAC
THERMAL SENSOR	
THERMAL TEMPERATURE MONITORING	
VL01/VS01	25° x 20°, 25mm, 640x512 pixels (30Hz/7.5Hz)
VL02/VS02	45° x 37°, 13mm, 640x512 pixels (30Hz/7.5Hz)
VL03/VS03	32° x 26°, 19mm, 640x512 pixels (30Hz/7.5Hz)
VL04/VS04	18° x 14°, 35mm, 640x512 pixels (30Hz/7.5Hz)
VL05/VS05	12.4° x 9.9°, 50mm, 640x512 pixels (30Hz/7.5Hz)
GAS THERMAL TEMPERATURE MONITORING	
WL01/WS01	50mm, 640x480 (30Hz, 7.5Hz)
WL02/WS02	35mm, 640x480 (30Hz, 7.5Hz)
WL03/WS03	20mm, 640x480 (30Hz, 7.5Hz)
OIL AND GAS THERMAL LEAKAGE MONITORING	
XL01/XS01	50mm, 640x480 (30Hz, 7.5Hz)
XL02/XS02	35mm, 640x480 (30Hz, 7.5Hz)
XL03/XS03	20mm, 640x480 (30Hz, 7.5Hz)
	Other gases on demand SF6, Methanol or Refrigerants) or MWIR camera
OIL AND GAS THERMAL FLARE MONITORING	
YL01/YS01	50mm, 640x480 (30Hz, 7.5Hz)
YL02/YS02	25mm, 640x480 (30Hz, 7.5Hz)
YL03/YS03	20mm, 640x480 (30Hz, 7.5Hz)
YL04/YS04	14mm, 640x480 (30Hz, 7.5Hz)
MOUNTING ARM	
E09	Wall Mount Bracket for EX Housing
CABLE	
FO	On-board FO media converter



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