

Technical SpecificationsMOBOTIX M16B Thermal M16B Thermal TR



Twice As Secure. Even In Total Darkness.

The intelligent video system with an integrated high-performance thermal image sensor takes full advantage of the M16B camera design. Thanks to the two directly adjacent lenses, there is also a thermal overlay function with image overlay (thermal and optical) to pinpoint the exact location of hotspots like smoldering fires in a visible image. The MOBOTIX TR cameras feature a calibrated thermal image sensor. Thermal radiation measurements made across the entire image area can be used to trigger an event based on the temperature increasing above or decreasing below an individually set trigger level (camera alarm, network message, activation of a signal output etc.).

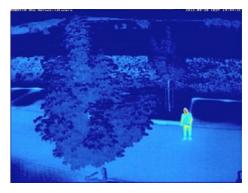
- Mx6 system platform 2nd generation, with MxBus, H.264 and ONVIF compatibility
- Fixed premium thermal image sensor with an NETD of 50 mK
- Thermal Radiometry For measurable added value: calibrated thermal image sensor
- Thermal field of view: 45°, 25° or 17°
- Additional image sensor module options
- Recording on an internal MicroSD card (4GB as standard)
- Integrated microphone and speaker
- MxActivitySensor can also be used in total darkness
- PoE thermal camera with a power consumption of < 10 W



General Product Information

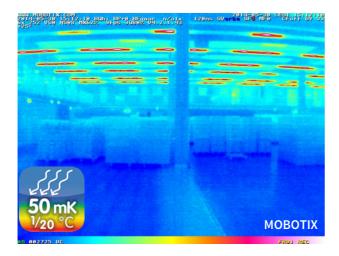
Basic Information On Thermal Imaging Technology

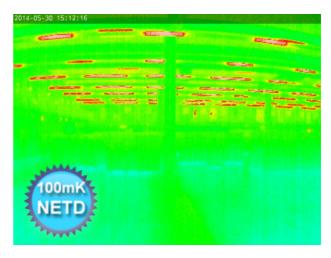
Thermal imaging technology is a contactless imaging procedure that makes it possible to see the thermal radiation from an object or body otherwise invisible to the human eye (mid-wavelength infrared). Thermal radiation is electromagnetic radiation emitted by a body based on its temperature. It is caused by thermal motion within a body's molecules. This is the result of accelerated charges that emit radiation in accordance with the laws of electrodynamics. Thermal imaging technology captures and displays temperature distribution across surfaces and objects. Thermographic cameras usually display heat intensity information in artificial colors (blue = cooler, red =



warmer). In terms of the number of pixels, the resolution is considerably lower than that for cameras capturing the visible spectral range.

Unlike cameras with optical image sensors, one of the decisive quality criteria for a thermal camera is the camera's ability to capture the slightest differences in temperature and to produce an image that displays these differences in colors. The NETD, or Noise Equivalent Temperature Difference, is used to measure the sensitivity of a thermal sensor and is expressed in millikelvin. With an NETD of 50 mK, MOBOTIX thermal cameras can visualize temperature variations starting at 0.05°C, which places them in the top range of cameras currently available for general use.





Thanks to an NETD of 50 mK, the MOBOTIX thermal image (left) shows significantly more details than a competitor's less powerful thermographic camera with an NETD of 100 mK (right).

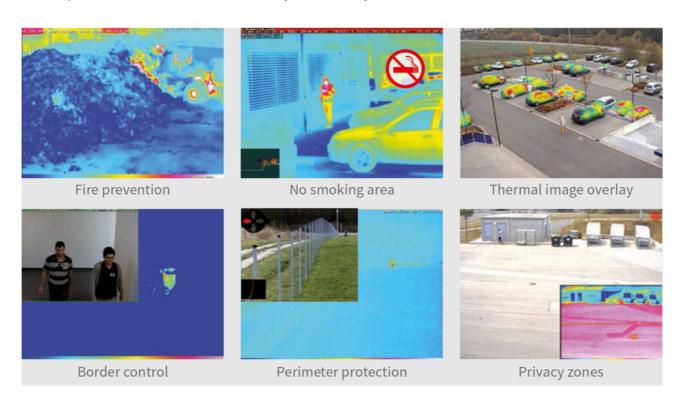
Respecting Privacy

The detected thermal profile of a thermal camera shows no identifiable details for identification of persons and can therefore guarantee privacy. As soon as an object is moving into the relevant surveillance area, MOBOTIX dual camera system can automatically switch from thermal sensor to the optical sensor, producing visible high resolution video. This unique MOBOTIX feature combines two aspects, respecting the privacy aspect and at the same time optimal video surveillance.



Temperature Events And Thermal Overlay

Thermal radiometry (TR) cameras from MOBOTIX generate automatic alarms, defined by temperature limits or temperature ranges, which is vital to detect potential fire or heat sources. Up to 20 different temperature triggers can be defined at the same time within so-called TR (Thermal Radiometry) windows or the whole sensor image can be used over the temperature range of -40 to +550 °C. In this way critical situations can be analyzed in the control room in order to plan the next steps for effective fire prevention. Critical assets like emergency generators, wind turbines or radio stations can be cost-effectively maintained and tested remotely. MOBOTIX thermal dual camera systems offer thermal overlay to localize so-called hot spots in the visual image to prevent larger damage. The standard Power-over-Ethernet (PoE) compatibility and the extremely low power consumption of only 6 watts allows operation of MOBOTIX thermal camera systems in every situation.



PLEASE NOTE - Special Export Regulations For Thermographic Cameras

Cameras with thermographic image sensors ("thermographic cameras") are subject to special U.S. and ITAR (International Traffic in Arms Regulation) export regulations:

According to currently valid export regulations from the U.S. and ITAR, cameras with thermographic image sensors or their component parts cannot be exported to countries that have been embargoed by the U.S./ITAR. The corresponding delivery ban also applies to all individuals and institutions included on "The Denied Persons List" (see www.bis.doc.gov under Policy Guidance > Lists of Parties of Concern). These cameras and their installed thermographic image sensors are not to be used for the design, development, or production of nuclear, biological or chemical weapons or installed in these systems.

Link to the Thermal End User Statement on MOBOTIX Website



Camera Variants	M16B Thermal	M16B Thermal TR
Specialties	IP Thermografic camera with/without Thermal Radiometry technology (TR) and Germanium lens (3 different image angles available); can be optionally equipped with a second optical 6MP sensor module (day/color or night/black and white to be ordered separately for easy self-assembly)	
Main Differences	Temperature measurement only in the center of the image (Thermal Spot, 2x2 pixels)	TR temperature measurement of each pixel in the whole image area, up to 20 independant temperature events
Thermal Lenses/Sensors, 50 mK, 336 x 252 (Factory-Assembled)	M16B Thermal	M16B Thermal TR
Thermal sensor, horiz./vert. image angle 45°/32	Mx-M16TB-T079	-
Thermal sensor, horiz./vert. image angle 25°/19°	Mx-M16TB-T119	-
Thermal sensor, horiz./vert. image angle 17°/13°	Mx-M16TB-T237	-
Calibrated Thermal sensor TR/Thermal Radiometry, horiz./vert. image angle 45°/32	-	Mx-M16TB-R079
Calibrated Thermal sensor TR/Thermal Radiometry, horiz./vert. image angle 25°/19°	-	Mx-M16TB-R119
Calibrated Thermal sensor TR/Thermal Radiometry, horiz./vert. image angle 17°/13°	-	Mx-M16TB-R237
Thermal image sensor	Uncooled microbolometer, 336 x 252 pixels, Pixel Pitch 17 μm , IR range 7,5 to 13,5 μm	
Sensitivity NETD (thermal resolution)	Typ. 50 mK, < 79 mK (50 mK is equal to temperature changes of 0,05°C)	
Thermal image representation	False colors or black and white	
Temperature measuring range (adjustable)	High Sensitivity: -40 to 160°C/-40 to 320°F – Low Sensitivity: -40 to 550°C/-40 to 1022°F	
Temperature measuring method (via camera)	In the center of the image (2x2 pixels)	Complete image areas (customizable temperature measuremnt windows)

Optical Lenses/Sensors, 6MP, 3072 x 2048 (Available With Optional Sensor Module)	M16B Thermal	M16B Thermal TR	
Sensor module with Fisheye Lens B016 (180° x 180°), night version optionally with long-pass filter (LPF)	Night/Black&White:	Day/Color: Mx-O-SMA-S-6D016 Night/Black&White: Mx-O-SMA-S-6N016 LPF/Black&White: Mx-O-SMA-S-6L016	
Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPF	Day/Color: Mx-O-SMA-S-6D036 Night/Black&White: Mx-O-SMA-S-6N036 LPF/Black&White: Mx-O-SMA-S-6L036		
Sensor module with Super Wide Lens B041 (90° x 67°), night version optionally with LPF	Day/Color: Mx-0 Night/Black&White: LPF/Black&White: I	Mx-O-SMA-S-6N041	
Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPF	Day/Color: Mx-0 Night/Black&White: LPF/Black&White: I	Mx-O-SMA-S-6N061	
Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPF	Day/Color: Mx-0 Night/Black&White: LPF/Black&White: I	Mx-O-SMA-S-6N079	
Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPF	Day/Color: Mx-0 Night/Black&White: LPF/Black&White: I	Mx-O-SMA-S-6N119	
Sensor module with Distant Tele Lens B237 (15° x 11°), night version optionally with LPF	Day/Color: Mx-0 Night/Black&White: LPF/Black&White: I	Mx-O-SMA-S-6N237	
Sensor module with Super Tele Lens B500 (8° x 6°), night version optionally with LPF	Day/Color: Mx-(Night/Black&White: LPF/Black&White: I	Mx-O-SMA-S-6N500	
Sensor module with CS-Mount (no lens included)	Day/Color: Mx- Night/Black&White:	O-SMA-S-6DCS Mx-O-SMA-S-6NCS	



Sensor module with CSVario Lens B045 100 CS Pay/Color: No. O SMA. S-GRCSV Night/Black&Whitt: No. O SMA. S-GRCSV Night/Black&Whitts Night/Black&Wh	Optical Lenses/Sensors, 6MP, 3072 x 2048 (Available With Optional Sensor Module)	M16B Thermal	M16B Thermal TR
Color or Black And White Color Sensor vith Individual exposure 20nes Color Sensor vith Individual exposure 20nes Color Sensor vith Individual exposure 20nes Color Sensor vith Individual 2005 and 1/1 s Ricoprocessor LNX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash) LNX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash) LNX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash) LNX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash) LNX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash) LNX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash) LNX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash) LNX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash) Not for use in hazardous areas (Ex area); no mounting behind glass windows Ambient temperature (range, incl. storage) And to 60°C/40 to 140°F (cold boot from 30°C/22°F) Internal DVR, ex works A GB (microSD) Microphone/speaker Yes/Yes L6bity/15kHz HD wideband audio (Opus codec) Yes (live and audio messages) Yes Temperature sensor Yes Shock detector (tamper detection) Power consumption (typically at 20°C/68°F) 9 W (10 W possible over the short term) Poet class (EEE 802.3af) Class 2 or 3 (variable), factory setting: class 3 (required for thermal operation) Interface R5232 With accessory (Mx.324-O-Box) Wounting options Wall, pole or ceiling (wall and ceiling mount included) Dimensions (height x width x depth) Weight 1.320 g Weight Standard accessory Protocols P	Sensor module with CSVario Lens B045-100-CS	•	
Hardware MIGB Thermal MIGB Thermal MIGB Thermal TR	Image sensor with individual exposure zones		
Microprocessor LMX 6 Dual Core incl. GPU (1 GR RAM, 512 MB Flash)	Light sensitivity in lux at 1/60 s and 1/1 s	· · ·	
H.264 Hardware-Codec Yes, bandwidth limitation available; output image format up to QXGA Protection class IP66 and IK06; with second GMP sensor module: IK04 with B036 to B237, IK06 with B016 Intended use Not for use in hazardous areas (Ex area); no mounting behind glass vindows Ambient temperature (range, incl. storage) A0 to 60°C/-40 to 140°F (cold boot from -30°C/-22°F) Intend DVR, ex works A GB (microSD) Microphone/speaker Yes/Yes Ifobit/16kHz HD wideband audio (Opus codec) Passive infrared sensor (PIR) Yes Temperature sensor Yes Yes Shock detector (tamper detection) Yes Power consumption (typically at 20°C/68°F) Power consumption (typically at 20°C/68°F) PoE class (IEEE 802.3af) Class 2 or 3 (variable), factory setting: class 3 (required for thermal operation) Interfaces Ethernet 100Baset/Musbus/USB With accessory (MX-232-IO-Box) Mounting options Wall, pole or ceiling (wall and ceiling mount included) Dimensions (height x width x depth) Weight 1,320 g PBT-30GF, color: white Detailed technical documentation Www.mobotix.com > Support > Download Center WTBF Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation Www.mobotix.com > Support > Download Center WTBF Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Protocols PNSS022-2010; RNSS024-2010 EN61000-61-2007; RN 61000-62-2005 EN6100-63-2007+A1:2011 EN61000-61-2007; RN 61000-62-2005 EN6100-63-2007-A1:2011 EN61000-61-2007; RN 61000-61-2007, RN 61000-	Hardware	M16B Thermal	M16B Thermal TR
Protection class IP66 and IK06; with second 6MP sensor module: IK04 with B036 to B237, IK06 with B016 Intended use Not for use in hazardous areas (Ex area); no mounting behind glass windows Ambient temperature (range, incl. storage) Internal DVR, ex works A GB (microSD) Microphone/speaker Yes, Yes Internal DVR, ex works A GB (microSD) Microphone/speaker Yes (live and audio messages) Passive infrared sensor (PIR) Yes Temperature sensor Yes Shock detector (tamper detection) Power consumption (typically at 20°C/68°F) Poed class (IEEE 802.3af) Interfaces Ethernet 100BaseT/MxBus/USB Interfaces Ethernet 100BaseT/MxBus/USB Interfaces Ethernet 100BaseT/MxBus/USB Multing options Multing options Wall, pole or ceiling (wall and ceiling mount included) Dimensions (height x width x depth) Weight 1,320 g Housing Standard accessory Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation www.mobotix.com > Support > Download Center MTBF ENS5032:2012 ENS5032:2012 ENS5032:2012 ENS5032:2012 ENS5032:2012 ENS5032:2013 FNP4, IPG, HTTP, HTTPS, FTP, FTPS, RTSP, UDP, SMMP, SMTP, DHCP (client and server), NTP (client and server), SIP (client and server) G-711 (PCMA and PCMU) and G-722 Manufacturer's warranty (since May 2018) Image Formats, Frame Rates, Image Storage Available video codecs My EG (MMP), 2048x1536 (QXA), 13020108 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multistreaming	Microprocessor	i.MX 6 Dual Core incl. GPU	(1 GB RAM, 512 MB Flash)
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Ambient temperature (range, incl. storage) Internal DVR, ex works A GB (microSD) Microphone/speaker Yes/ves 16bit/16kHz HD wideband audio (Opus codec) Passive infrared sensor (PIR) Yes Temperature sensor Shock detector (tamper detection) Power consumption (typically at 20°C/68°F) Power consumption (typically at 20°C/6	Protection class	IP66 and IK06; with second 6MP sensor mod	dule: IK04 with B036 to B237, IK06 with B016
Internal DVR, ex works Microphone/speaker Yes/Yes 18bit/16kHz HD wideband audio (Opus codec) Passive infrared sensor (PIR) Temperature sensor Nes Shock detector (tamper detection) Power consumption (typically at 20°C/68°F) PoE class (IEEE 802.3af) Class 2 or 3 (variable), factory setting: class 3 (required for thermal operation) Interfaces Ethernet 1008aseT/MxBus/USB Nes (MxRJ45)/Yes/Yes With accessory (Mx-232-10-Box) Mounting options Wall, pole or ceiling (wall and ceiling mount included) Dimensions (height x width x depth) Pet 3-306 F, color: white Standard accessory Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 bilind module, Quick Install Detailed technical documentation Online version of this document MTBF Protocols Protocols IPV4, IPV6, HTTP, HTTPS, FTP, FTPS, RTP, RTSP, UDP, SNMP, SMTP, DHCP (client and server), SIP (client and server) G-711 (PCMA and PCMU) and G-722 Manufacturer's warranty (since May 2018) Preceived on the server of the server of singurable format 4'3, 8'3, 16:9 or customized format (Image Cropping), such as 2592x1944 (SMP), 2048x1536 (QX6A), 1920x1080 (PILH), 1280x960 (MEGA) Multistreaming Multistreaming Nes Multistreaming Yes Multistreaming Nes Nes Nes Nes Nes Nes Nes Ne	Intended use	Not for use in hazardous areas (Ex area	a); no mounting behind glass windows
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PoE class (IEEE 802.3af) Class 2 or 3 (variable), factory setting: class 3 (required for thermal operation) Interfaces Ethernet 100BaseT/MxBus/USB Interface RS232 Mounting options Wall, pole or ceiling (wall and ceiling mount included) Dimensions (height x width x depth) Veight 1,320 g Housing PBT-30GF, color: white Standard accessory Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation Www.mobotix.com > Support > Download Center MTBF Postocols EN55032:2012 EN55022:2010; EN55024:2010 EN51000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-1:2007 EN 61000-6-2:2007 EN 61000-6-3:2007+A1:2011 EN 61000-6-3:2	Shock detector (tamper detection)	Yes	
Interfaces Ethernet 100BaseT/MxBus/USB Ves (MxRJ45)/Yes/Yes With accessory (MX-232-IO-Box) Mounting options Wall, pole or ceiling (wall and ceiling mount included) Dimensions (height x width x depth) Veight 1,320 g Housing PBT-30GF, color: white Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation Www.mobotix.com > Support > Download Center Online version of this document Www.mobotix.com > Support > Download Center MTBF Postocols EN55022:2010; EN55022:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-4:2007+A1:2011 AS/ NZS CISPR22:2009+A1:2010 CFR47 FCC part15B Protocols IPV4, IPV6, HTTP, HTTPS, FTP, FTPS, RTP, RTSP, UDP, SNMP, DHCP (client and server), NTP (client and server), SIP (client and server) G.711 (PCMA and PCMU) and G.722 Manufacturer's warranty (since May 2018) Image Formats, Frame Rates, Image Storage M16B Thermal M16B Thermal TR Available video codecs MxPEG/MJPEG/H.264 Image formats Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP	Power consumption (typically at 20°C/68°F)	9 W (10 W possible over the short term)	
Interface RS232 Mith accessory (MX-232-IO-Box) Mounting options Wall, pole or ceiling (wall and ceiling mount included) Dimensions (height x width x depth) Weight 1,320 g Housing PBT-30GF, color: white Standard accessory Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation www.mobotix.com > Support > Download Center Online version of this document MTBF 80,000 hours EN55032:2012 EN55022:2010; EN55022:2010 EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-4:2007+A1:2011 AS/ NZS CISPR22:2009+A1:2010 CFR4T FCC part15B Protocols IPv4, IPv6, HTTP, HTTPS, FTP, FTPS, RTP, RTSP, UDP, SNMP, SMTP, DHCP (client and server), NTP (client and server), SIP (client and server) G.711 (PCMA and PCMU) and G.722 Manufacturer's warranty (since May 2018) Image Formats, Frame Rates, Image Storage M16B Thermal M16B Thermal TR Available video codecs MxPEG/MJPEG/H.264 Image formats Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP	PoE class (IEEE 802.3af)	Class 2 or 3 (variable), factory setting: class 3 (required for thermal operation)	
Mounting options Wall, pole or ceiling (wall and ceiling mount included) Dimensions (height x width x depth) 210 x 158 x 207 mm Weight 1,320 g PBT-30GF, color: white Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation Www.mobotix.com > Support > Download Center Online version of this document MTBF >80,000 hours Certifications EN55032:2012 EN55022:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-4:2007+A1:2011 AS/ NZS CISPR22:2009+A1:2010 CFR47 FCC part15B Protocols IPV4, IPV6, HTTP, HTTPS, FTP, FTPS, RTP, RTSP, UDP, SMMP, SMTP, DHCP (client and server), NTP (client and server), SIP (client and server) G.711 (PCMA and PCMU) and G.722 Manufacturer's warranty (since May 2018) Image Formats, Frame Rates, Image Storage M16B Thermal M26B Thermal TR MxPEG/MJPEG/H.264 Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (SMP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP Yes	Interfaces Ethernet 100BaseT/MxBus/USB	Yes (MxRJ45)/Yes/Yes	
Dimensions (height x width x depth) 210 x 158 x 207 mm 1,320 g Housing PBT-30GF, color: white Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation Detailed technical documentation Www.mobotix.com > Support > Download Center MTBF > 80,000 hours Certifications EN55032:2012 EN55032:2012 EN55032:2012 EN55032:2012 EN55032:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-4:2007+A1:2011 AS / NZS CISPR22:2009+A1:2010 CFR47 FCC part15B Protocols IPv4, IPv6, HTTP, HTTPS, FTP, FTPS, RTP, RTSP, UDP, SNMP, SMTP, DHCP (client and server), NTP (client and server), SIP (client and server) G.711 (PCMA and PCMU) and G.722 Manufacturer's warranty (since May 2018) Image Formats, Frame Rates, Image Storage M16B Thermal MxPEG/MJPEG/H.264 Image formats Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (SMP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Wes Multicast stream via RTSP	Interface RS232	With accessory ((MX-232-IO-Box)
Housing PBT-30GF, color: white Standard accessory Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation www.mobotix.com > Support > Download Center Online version of this document www.mobotix.com > Support > Download Center MTBF > 80,000 hours EN55032:2012 EN55022:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:20074-A1:2011 EN61000-6-4:2007+A1:2011 AS/ NZS CISPR22:2009+A1:2010 CFR47 FCC part15B Protocols IPV4, IPV6, HTTP, HTTPS, FTP, FTPS, RTP, RTSP, UDP, SNMP, SMTP, DHCP (client and server), NTP (client and server), SIP (client and server) G.711 (PCMA and PCMU) and G.722 Manufacturer's warranty (since May 2018) 3 years Image Formats, Frame Rates, Image Storage M16B Thermal M16B Thermal TR Available video codecs MxPEG/MJPEG/H.264 Image formats Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP Yes	Mounting options	Wall, pole or ceiling (wall a	nd ceiling mount included)
Housing PBT-30GF, color: white Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Detailed technical documentation	Dimensions (height x width x depth)		
Standard accessory Screws, dowels, screw caps, 2 allen wrenches, module key, VarioFlex wall and ceiling mount with rubber sealing, 0.5 m ethernet patch cable, 1 blind module, Quick Install Www.mobotix.com > Support > Download Center Online version of this document Www.mobotix.com > Support > Download Center WTBF > 80,000 hours EN55032:2012 EN55022:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005	Weight	1,320 g	
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Online version of this document WWW.mobotix.com > Support > Download Center > 80,000 hours EN55032:2012 EN55032:2012 EN55022:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-4:2007+A1:2011 AS/ NZS CISPR22:2009+A1:2010 CFR47 FCC part15B Protocols IPv4, IPv6, HTTP, HTTPS, FTP, FTPS, RTP, RTSP, UDP, SNMP, SMTP, DHCP (client and server), NTP (client and server), SIP (client and server) G.711 (PCMA and PCMU) and G.722 Manufacturer's warranty (since May 2018) Image Formats, Frame Rates, Image Storage M16B Thermal M16B Thermal TR Available video codecs MXPEG/MJPEG/H.264 Image formats Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP Yes	Standard accessory		
MTBF > 80,000 hours EN55032:2012 EN55032:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005	Detailed technical documentation	www.mobotix.com > Support > Download Center	
Certifications EN55032:2012 EN55022:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-4:2007+A1:2011 AS/ NZS CISPR22:2009+A1:2010 CFR47 FCC part15B Protocols IPv4, IPv6, HTTP, HTTPS, FTP, FTPS, RTP, RTSP, UDP, SNMP, SMTP, DHCP (client and server), NTP (client and server), SIP (client and server) G.711 (PCMA and PCMU) and G.722 Manufacturer's warranty (since May 2018) 3 years Image Formats, Frame Rates, Image Storage M16B Thermal M16B Thermal TR Available video codecs MxPEG/MJPEG/H.264 Image formats Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP	Online version of this document	www.mobotix.com > Support > Download Center	
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Manufacturer's warranty (since May 2018) Image Formats, Frame Rates, Image Storage M16B Thermal Available video codecs MxPEG/MJPEG/H.264 Image formats Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP	Certifications	EN55022:2010; EN55024:2010 EN61000-6-1:2007; EN 61000-6-2:2005 EN61000-6-3:2007+A1:2011 EN61000-6-4:2007+A1:2011	
Image Formats, Frame Rates, Image StorageM16B ThermalM16B Thermal TRAvailable video codecsMxPEG/MJPEG/H.264Image formatsFreely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA)MultistreamingYesMulticast stream via RTSPYes	Protocols		
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Available video codecs MxPEG/MJPEG/H.264 Image formats Freely configurable format 4:3, 8:3, 16:9 or customized format (Image Cropping), such as 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP Yes	Image Formats. Frame Rates. Image Storage	M16B Thermal	M16B Thermal TR
Image formats 2592x1944 (5MP), 2048x1536 (QXGA), 1920x1080 (Full-HD), 1280x960 (MEGA) Multistreaming Yes Multicast stream via RTSP			
Multicast stream via RTSP Yes	Image formats	, , , , , , , , , , , , , , , , , , , ,	
Multicast stream via RTSP Yes	Multistreaming	Yes	
Max. image format (dual image from both sensors) 2x 6MP (6144 x 2048)		Yes	
	Max. image format (dual image from both sensors)	2x 6MP (6144 x 2048)	



Image Formats, Frame Rates, Image Storage	M16B Thermal	M16B Thermal TR
Max. frame rate for thermal images, Thermal Overlay and dual images (thermal & optical)	9 frames per second (fps)	
Max. frame rate for optional optical 6MP sensor module (fps, only single core used)	MxPEG: 42@HD(1280x720), 34@Full-HD, 24@QXGA, 15@5MP, 12@6MP, 6@2x 6MP MJPEG: 26@HD(1280x720), 13@Full-HD, 9@QXGA, 5@5MP, 4@6MP, 2@2x 6MP H.264: 25@Full-HD, 20@QXGA	
Number of images with 4 GB microSD (internal DVR)	CIF: 250,000, VGA: 125,000, HD: 40,000, QXGA: 20,000, 6MP: 10,000	
General Functions	M16B Thermal M16B Thermal TR	
Temperature measurement of 2x2 pixels in the center of the image (Thermal Spot)	Yes	Yes
TR temperature measurement in the whole image area	No	Yes
Event trigger for temperatures above or below a limit between -40 to 550°C/-40 to 1022°F	Yes	Yes
Digital zoom and pan	Y	/es
ONVIF compatibility	Yes (Profile S, audio support with	camera firmware V5.2.x and higher)
Genetec protocol integration	Yes	
Programmable exposure zones	Yes	
Snapshot recording (pre/post-alarm images)	Yes	
Continuous recording with audio	Yes	
Event recording with audio	Yes	
Time controlled flexible event logic	Yes	
Weekly schedules for recordings and actions	Yes	
Event video and image transfer via FTP and email	Y	/es
Playback and QuadView via web browser	Yes	
Bidirectional audio in browser	Yes	
Animated logos on the image	Yes	
Master/Slave functionality	Yes	
Privacy zone scheduling	Yes	
Customized voice messages	Yes	
VoIP telephony (audio/video, alert)	Yes	
Remote alarm notification (network message)	Yes	
Programming interface (HTTP-API)	Yes	
DVR/Storage Management	Inside camera via microSD card, externally via USB device and NAS, different streams for live image and recording, MxFFS with archive function, pre-alarm an post-alarm images, monitoring recording with failure reporting	
Camera and data security	User and group management, SSL connections, IP-based access control, IEEE802.1x, intrusion detection, digital image signature	
MxMessageSystem: Sending and receiving of MxMessages	Yes	
Video Analysis	M16B Day M16E	3 Night M16B Day & Night
Video motion detector	١	/es
MxActivitySensor	١	/es
Video Management Software	M16B Day M16E	3 Night M16B Day & Night
MxManagementCenter	١	/es
Mobile MOBOTIX App	Yes	



