

Technical Specifications MOBOTIX 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</p>

MX///6

General Product Information

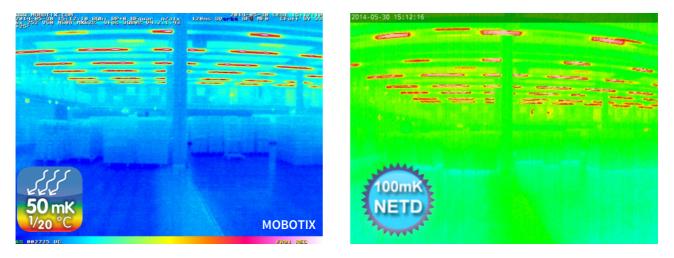
Basic Information On Thermal Imaging Technology

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.



Border control

Perimeter protection

Privacy zones

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

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Technical Specifications: M16B Thermal/M16B Thermal TR

second aptical KMP sensor module (day/color on right/black and white to be ordered service) may self-assembly for easy self-assembly in the whole image area, up to 20 independent temperature measurement of (ach pix) independent temperature events, accurate up to 4-10°C independent events,	Camera Variants	M16B Thermal	M16B Thermal TR
Main Differences Temperature measurement of Uni mage display to 42 and the whole image area, put 0.20 independent emergence of Uni mage display to 47 avec put 0.20 independent emergence of Uni mage display to 47 avec put 0.20 independent emergence of Uni mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit mage display to 47 avec put 0.20 independent emergence of Unit vector of Unit mage display to 47 avec put 0.20 independent emergence of Unit vector of Unit mage display to 47 avec put 0.20 independent emergence of Unit vector of Unit mage display to 47 avec put 0.20 independent emergence of Unit vector of Unit mage display to 47 avec put 0.20 independent emergence of Unit vector	Specialties	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	
Display Number Network Number Network Thermal sensor, horiz,/vert. image angle 25/19* Mx::MIGTB-T079 - Thermal sensor, horiz,/vert. image angle 25/19* Mx::MIGTB-T119 - Calibrated Thermal sensor, horiz,/vert. image angle 25/19* Mx::MIGTB-T119 - Calibrated Thermal sensor TR/Thermal Radiometry, horiz, /vert. image angle 25/19* - Mx::MIGTB-R079 Calibrated Thermal sensor TR/Thermal Radiometry, horiz, /vert. image angle 27/13* - Mx::MIGTB-R119 Calibrated Thermal sensor TR/Thermal Radiometry, horiz, /vert. image angle 27/13* - Mx::MIGTB-R277 Calibrated Thermal sensor TR/Thermal Radiometry, horiz, /vert. image angle 12*7/13* - Mx::MIGTB-R277 Calibrated Thermal sensor TR/Thermal Radiometry, horiz, /vert. image angle 12*7/13* - Mx::MIGTB-R277 Calibrated Thermal sensor TR/Thermal Radiometry, horiz, /vert. image angle 12*7/13* - Mx::MIGTB-R277 Thermal image sensor Uncooled microbolometer, 336 x 252 pixels, Pixel Pitch 17 µm, IR range 7,5 to 13.5 µm Typ. 50 mK, <79 mK (50 mK is 6quue to there sensor TR/Thermal Radiometry, here sensor module with Sensor module with Gameral	Main Differences	center of the image (Thermal Spot, 2x2	independant temperature events, accuracy
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 17/13* Mx-M16TB-R119 Calibrated Thermal sensor TR/Thermal Radiometry, horiz,/vert. image angle 57/19* Mx-M16TB-R237 Calibrated Thermal sensor TR/Thermal Radiometry, horiz,/vert. image angle 17/13* Mx-M16TB-R237 Discourd microbolometer, 35 x 252 pixels, Pixel Pitch 17 µm, IR range 7,5 to 13,5 µm Mx-M16TB-R237 Sensitivity NETD (thermal resolution) Typ. 50 mK, <7 9m K (50 mK is equal to temperature changes of 0,05*C)	Thermal Lenses/Sensors, 50 mK, 336 x 252 (Factory-Assembled)	M16B Thermal	M16B Thermal TR
Thermal sensor, horiz,/vert, image angle 17'/13" Mx:M16TB-T237 Calibated Thermal sensor TR/Thermal Radiometry, horiz,/vert, image angle 25'/19" Mx:M16TB-R079 Calibated Thermal sensor TR/Thermal Radiometry, horiz,/vert, image angle 25'/19" Mx:M16TB-R119 Calibated Thermal sensor TR/Thermal Radiometry, horiz,/vert, image angle 25'/19" Mx:M16TB-R237 Calibated Thermal sensor TR/Thermal Radiometry, horiz,/vert, image angle 17'/13" 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 equat to temperature changes of 0,05°C)	Thermal sensor, horiz./vert. image angle 45°/32	Mx-M16TB-T079	-
Calibrated Thermal sensor TR/Thermal Radiometry, horiz, Vert, image angle 25/192 - Mx:M16TB-R079 Calibrated Thermal sensor TR/Thermal Radiometry, horiz, Vert, image angle 25/192 - Mx:M16TB-R079 Calibrated Thermal sensor TR/Thermal Radiometry, horiz, Vert, image angle 25/192 - Mx:M16TB-R019 Calibrated Thermal sensor TR/Thermal Radiometry, horiz, Vert, image angle 25/192 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 sensor, horiz./vert. image angle 25°/19°	Mx-M16TB-T119	-
horiz_/vert_image angle 45'/32 - MX-MLB1E-R079 Calibrated Thermal sensor TR/Thermal Radiometry, horiz_/vert_image angle 25'/13' - MX-MLBTE-R217 Calibrated Thermal sensor TR/Thermal Radiometry, horiz_/vert_image angle 17'/13' - MX-MLBTE-R237 Calibrated Thermal sensor TR/Thermal Radiometry, horiz_/vert_image angle 17'/13' - MX-MLBTE-R237 Thermal image representation Typ. 50 mK, <79 mK (50 mK is equal to temperature changes of 0,05'C)	Thermal sensor, horiz./vert. image angle 17°/13°	Mx-M16TB-T237	-
horiz_/vert. image angle 25'/15" - MX-MLB IE-K119 Calibrated Thermal sensor TR/Thermal Radiometry, horiz_/vert. image angle 17'/13" MX-MLB IE-K119 Calibrated Thermal sensor Uncooled microbolometer, 336 x 252 pixels, Fixel 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)	Calibrated Thermal sensor TR/Thermal Radiometry, horiz./vert. image angle 45°/32	-	Mx-M16TB-R079
horiz/vert. image angle 17/13" - MXXN1615-K237 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)	Calibrated Thermal sensor TR/Thermal Radiometry, horiz./vert. image angle 25°/19°	-	Mx-M16TB-R119
Sensitivity NETD (thermal resolution) Typ. 50 mK, < 79 mK (50 mK is equal to temperature changes of 0,05°C)	Calibrated Thermal sensor TR/Thermal Radiometry, horiz./vert. image angle 17°/13°	-	Mx-M16TB-R237
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) Max. accuracy of temperature measurement +/- 20°C +/- 10°C Optical Lenses/Sensors, 6MP, 3072 x 2043 M16B Thermal M16B Thermal TR Maxiable With Optional Sensor Module) Day/Color: Mx-O-SMA-S-6D016 Night/Black&White: Mx-O-SMA-S-6D016 Sensor module with Fisheye Lens B016 (180° x 180°), night version optionally with long-pass filter (LPF) Day/Color: Mx-O-SMA-S-6D036 Sensor module with Ultra Wide Lens B036 (103° x Day/Color: Mx-O-SMA-S-6D036 Night/Black&White: Mx-O-SMA-S-6D036 Sensor module with Super Wide Lens B041 (90° x Day/Color: Mx-O-SMA-S-6D031 Day/Color: Mx-O-SMA-S-6D031 Sensor module with Wide Lens B041 (90° x Day/Color: Mx-O-SMA-S-6D031 Night/Black&White: Mx-O-SMA-S-6D031 Sensor module with Wide Lens B041 (90° x Day/Color: Mx-O-SMA-S-6D031 Night/Black&White: Mx-O-SMA-S-6D031 Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D031 Diy/Color: Mx-O-SMA-S-6D031 Sensor module with St	Thermal image sensor	Uncooled microbolometer, 336 x 252 pixels, Pixel Pitch 17 μm , IR range 7,5 to 13,5 μm	
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Temperature measuring method (via camera) In the center of the image (2x2 pixels) Complete image areas (customizable temperature measuremnt windows) Max. accuracy of temperature measurement +/- 20°C +/- 10°C Optical Lenses/Sensors, GMP, 3072 x 2043 (Available With Optional Sensor Module) M16B Thermal M16B Thermal TR Day/Color: Mx-O-SMA-S-6D016 Night/Black&White: Mx-O-SMA-S-6D016 Night/Black&White: Mx-O-SMA-S-6D016 Sensor module with Fisheye Lens B016 (180° x 180°), night version optionally with long-pass filter (LPF) Day/Color: Mx-O-SMA-S-6D036 Sensor module with Ultra Wide Lens B036 (103° x Day/Color: Mx-O-SMA-S-6D036 Sensor module with Super Wide Lens B041 (90° x Day/Color: Mx-O-SMA-S-6D041 Sensor module with Wide Lens B051 (60° x 45°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D061 Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D061 Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D19 Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D19 Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D19 Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6	Thermal image representation	False colors or black and white	
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Optical Lense/Sensors, GMP, 3072 x 2048 (Available With Optional Sensor Module) M16B Thermal M16B Thermal TR Sensor module with Optional Sensor Module) Day/Color: Mx-O-SMA-S-6D016 Night/Black&White: Mx-O-SMA-S-6D016 Day/Color: Mx-O-SMA-S-6D016 Sensor module with Fisheye Lens B036 (103° x 77"), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D036 Sensor module with Ultra Wide Lens B036 (103° x 77"), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D036 Sensor module with Super Wide Lens B041 (90° x 67"), night version optionally with LPF Day/Color: Mx-O-SMA-S-6L036 Sensor module with Wide Lens B061 (60° x 45"), night version optionally with LPF Day/Color: Mx-O-SMA-S-6L061 Sensor module with Wide Lens B079 (45° x 34"), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D061 Sensor module with Standard Lens B079 (45° x 34"), night version optionally with LPF Day/Color: Mx-O-SMA-S-6N079 Sensor module with Tele Lens B119 (31° x 23"), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D119 Sensor module with Distant Tele Lens B237 (15° x 11"), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D237 Sensor module with Super Tele Lens B500 (8° x 6"), night/Black&White: Mx-O-SMA-S-6D500 Day/Color: Mx-O-SMA-S-6D500 Sensor module with Distant Tele Lens B500 (8° x 6"), night Version optionally with LPF Day/Color: Mx-O-SMA-S-6D500	Temperature measuring method (via camera)	In the center of the image (2x2 pixels)	
Made Mith Optional Sensor Module) Made Mither Mith Made Mither Mither Sensor module with Pisheye Lens B016 (180° x 180°), night version optionally with long-pass filter (LPF) Day/Color: Mx-O-SMA-S-6D016 Night/Black&White: Mx-O-SMA-S-6D016 Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D036 Sensor module with Super Wide Lens B041 (90° x 67°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D041 Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D041 Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D061 Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D061 Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D079 Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D119 Sensor module with Distant Tele Lens B237 (15° x 11°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D237 Sensor module with Super Tele Lens B500 (8° x 6°), night Version optionally with LPF Day/Color: Mx-O-SMA-S-6D237 Sensor module with Super Tele Lens B500 (8° x 6°), night Version optionally with LPF Day/Color: Mx-O-SMA-S-6D237 Sensor module with Super Tele Lens B500 (8° x 6°),	Max. accuracy of temperature measurement	+/- 20°C	+/- 10°C
Sensor module with Fisheye Lens B016 (180° X 180°), night version optionally with long-pass filter (LPF)Night/Black&White: Mx-O-SMA-S-61016 LPF/Black&White: Mx-O-SMA-S-61036Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPFDay/Color: Mx-O-SMA-S-60036 LPF/Black&White: Mx-O-SMA-S-61036Sensor module with Super Wide Lens B041 (90° x 67°), night version optionally with LPFDay/Color: Mx-O-SMA-S-60041 LPF/Black&White: Mx-O-SMA-S-60041Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPFDay/Color: Mx-O-SMA-S-60061 LPF/Black&White: Mx-O-SMA-S-60061 LPF/Black&White: Mx-O-SMA-S-60079Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPFDay/Color: Mx-O-SMA-S-60079 LPF/Black&White: Mx-O-SMA-S-60079Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPFDay/Color: Mx-O-SMA-S-60119 Night/Black&White: Mx-O-SMA-S-601237 LPF/Black&White: Mx-O-SMA-S-601237 Night/Black&White: Mx-O-SMA-S-60237 Night/Black&White: Mx-O-SMA-S-60237 Night/Black&White: Mx-O-SMA-S-601237 Night/Black&White: Mx-O-SMA-S-60500 Night/Black&White: Mx-O-SMA-S-60500 Night/Black&White: Mx-O-SMA-S-60500 Night/Black&White: Mx-O-SMA-S-60500 Night/VBlack&White: Mx-O-SMA-S-60500 Night/VBlack&White: Mx-O-SMA-S-60500 Night/VBlack&White: Mx-O-SMA-S-60500 Night/VBlack&White: Mx-O-SMA-S-60500 Night/VBlack&White: Mx-O-SMA-S-60500 Night/VBlack	Optical Lenses/Sensors, 6MP, 3072 x 2048 (Available With Optional Sensor Module)	M16B Thermal	M16B Thermal TR
Sensor module with Ultra Wide Lens B036 (103° xNight/Black&White: Mx-O-SMA-S-6N036 LPF/Black&White: Mx-O-SMA-S-6L036Sensor module with Super Wide Lens B041 (90° xDay/Color: Mx-O-SMA-S-6D041 Night/Black&White: Mx-O-SMA-S-6D041 LPF/Black&White: Mx-O-SMA-S-6D041Sensor module with Super Wide Lens B061 (60° x 45°), 	Sensor module with Fisheye Lens B016 (180° x 180°), night version optionally with long-pass filter (LPF)	Night/Black&White: Mx-O-SMA-S-6N016	
Sensor module with Super Wide Lens B041 (90° xNight/Black&White: Mx-O-SMA-S-6N041 LPF/Black&White: Mx-O-SMA-S-6L041Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D061 Night/Black&White: Mx-O-SMA-S-6L061Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D079 Night/Black&White: Mx-O-SMA-S-6D079 Night/Black&White: Mx-O-SMA-S-6D079 Sensor module with Tele Lens B119 (31° x 23°), night Sensor module with Distant Tele Lens B237 (15° x 11°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D119 Night/Black&White: Mx-O-SMA-S-6L119 Day/Color: Mx-O-SMA-S-6L237 Night/Black&White: Mx-O-SMA-S-6L237 Night/Black&White: Mx-O-SMA-S-6L237 Night/Black&White: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L237 Day/Color: Mx-O-SMA-S-6L500 Day/Color: Mx-O-SMA-S-6L500 Day/Color: Mx-O-SMA-S-6L500 Day/Color: Mx-O-SMA-S-6L500		211/20000000000000000000000000000000000	
Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPFNight/Black&White: Mx-O-SMA-S-6N061 LPF/Black&White: Mx-O-SMA-S-6D079 Night/Black&White: Mx-O-SMA-S-6D079 Night/Black&White: Mx-O-SMA-S-6N079 LPF/Black&White: Mx-O-SMA-S-6D079Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D079 Day/Color: Mx-O-SMA-S-6D079Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D119 Night/Black&White: Mx-O-SMA-S-6D119 Night/Black&White: Mx-O-SMA-S-6L119Sensor module with Distant Tele Lens B237 (15° x 11°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D237 Night/Black&White: Mx-O-SMA-S-6L237Sensor module with Super Tele Lens B500 (8° x 6°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D500 Night/Black&White: Mx-O-SMA-S-6D500 Night/Black&White: Mx-O-SMA-S-6D500 Night/Black&White: Mx-O-SMA-S-6D500 Night/Black&White: Mx-O-SMA-S-6D500 Sensor module with CS-Mount (pp lens included)	Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPF	Day/Color: Mx-0 Night/Black&White:	D-SMA-S-6D036 Mx-O-SMA-S-6N036
Sensor module with Standard Lens B0/9 (45° x 34°), night version optionally with LPFNight/Black&White: Mx-O-SMA-S-6N079 LPF/Black&White: Mx-O-SMA-S-6D119Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D119 Night/Black&White: Mx-O-SMA-S-6N119 LPF/Black&White: Mx-O-SMA-S-6L119Sensor module with Distant Tele Lens B237 (15° x 11°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D237 Night/Black&White: Mx-O-SMA-S-6D237 LPF/Black&White: Mx-O-SMA-S-6D237 Night/Black&White: Mx-O-SMA-S-6D237 	Sensor module with Ultra Wide Lens B036 (103° x	Day/Color: Mx-0 Night/Black&White: LPF/Black&White: I Day/Color: Mx-0 Night/Black&White:	D-SMA-S-6D036 Mx-O-SMA-S-6N036 Mx-O-SMA-S-6L036 D-SMA-S-6D041 Mx-O-SMA-S-6N041
Sensor module with Tele Lens B119 (31° x 23°), nightNight/Black&White: Mx-O-SMA-S-6N119 LPF/Black&White: Mx-O-SMA-S-6L119Sensor module with Distant Tele Lens B237 (15° x 11°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D237 Night/Black&White: Mx-O-SMA-S-6N237 LPF/Black&White: Mx-O-SMA-S-6L237Sensor module with Super Tele Lens B500 (8° x 6°), night version optionally with LPFDay/Color: Mx-O-SMA-S-6D500 Night/Black&White: Mx-O-SMA-S-6N500 LPF/Black&White: Mx-O-SMA-S-6N500 LPF/Black&White: Mx-O-SMA-S-6N500 LPF/Black&White: Mx-O-SMA-S-6D500	Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPF Sensor module with Super Wide Lens B041 (90° x	Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White:	D-SMA-S-6D036 Mx-O-SMA-S-6N036 Mx-O-SMA-S-6L036 D-SMA-S-6D041 Mx-O-SMA-S-6N041 Mx-O-SMA-S-6L041 D-SMA-S-6D061 Mx-O-SMA-S-6N061
Sensor module with Distant Tele Lens B237 (15° x Night/Black&White: Mx-O-SMA-S-6N237 11°), night version optionally with LPF LPF/Black&White: Mx-O-SMA-S-6L237 Sensor module with Super Tele Lens B500 (8° x 6°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D500 Sensor module with Super Tele Lens B500 (8° x 6°), night version optionally with LPF Day/Color: Mx-O-SMA-S-6D500 Sensor module with CS-Mount (no lens included) Day/Color: Mx-O-SMA-S-6L500	Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPF Sensor module with Super Wide Lens B041 (90° x 67°), night version optionally with LPF Sensor module with Wide Lens B061 (60° x 45°),	Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: I Day/Color: Mx- Night/Black&White: I	D-SMA-S-6D036 Mx-O-SMA-S-6N036 Mx-O-SMA-S-6L036 D-SMA-S-6D041 Mx-O-SMA-S-6N041 Mx-O-SMA-S-6L041 D-SMA-S-6D061 Mx-O-SMA-S-6N061 Mx-O-SMA-S-6L061 D-SMA-S-6D079 Mx-O-SMA-S-6N079
Sensor module with Super Tele Lens B500 (8° x 6°), night version optionally with LPF Night/Black&White: Mx-O-SMA-S-6N500 LPF/Black&White: Mx-O-SMA-S-6L500 Day/Color: Mx-O-SMA-S-6L500	Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPF Sensor module with Super Wide Lens B041 (90° x 67°), night version optionally with LPF Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPF Sensor module with Standard Lens B079 (45° x 34°),	Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: I Day/Color: Mx- Night/Black&White: I	D-SMA-S-6D036 Mx-O-SMA-S-6N036 Mx-O-SMA-S-6L036 D-SMA-S-6D041 Mx-O-SMA-S-6D041 Mx-O-SMA-S-6L041 D-SMA-S-6D061 Mx-O-SMA-S-6D061 Mx-O-SMA-S-6L061 D-SMA-S-6D079 Mx-O-SMA-S-6L079 D-SMA-S-6D119 Mx-O-SMA-S-6N119
Sansor module with (N-Mount included)	Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPF Sensor module with Super Wide Lens B041 (90° x 67°), night version optionally with LPF Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPF Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPF	Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: I	D-SMA-S-6D036 Mx-O-SMA-S-6N036 Mx-O-SMA-S-6L036 D-SMA-S-6D041 Mx-O-SMA-S-6N041 Mx-O-SMA-S-6L041 D-SMA-S-6D061 Mx-O-SMA-S-6D061 D-SMA-S-6D079 Mx-O-SMA-S-6L079 D-SMA-S-6D119 Mx-O-SMA-S-6N119 Mx-O-SMA-S-6N119 Mx-O-SMA-S-6L119 D-SMA-S-6D237 Mx-O-SMA-S-6N237
	Sensor module with Ultra Wide Lens B036 (103° x 77°), night version optionally with LPF Sensor module with Super Wide Lens B041 (90° x 67°), night version optionally with LPF Sensor module with Wide Lens B061 (60° x 45°), night version optionally with LPF Sensor module with Standard Lens B079 (45° x 34°), night version optionally with LPF Sensor module with Tele Lens B119 (31° x 23°), night version optionally with LPF	Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: LPF/Black&White: I Day/Color: Mx- Night/Black&White: I	D-SMA-S-6D036 Mx-O-SMA-S-6N036 Mx-O-SMA-S-6L036 D-SMA-S-6D041 Mx-O-SMA-S-6N041 Mx-O-SMA-S-6L041 D-SMA-S-6D061 Mx-O-SMA-S-6L061 D-SMA-S-6D079 Mx-O-SMA-S-6L079 D-SMA-S-6D19 Mx-O-SMA-S-6L119 Mx-O-SMA-S-6L119 D-SMA-S-6D237 Mx-O-SMA-S-6L237 D-SMA-S-6D237 Mx-O-SMA-S-6L237 D-SMA-S-6D500 Mx-O-SMA-S-6N500

Technical Specifications: M16B Thermal/M16B Thermal TR

Optical Lenses/Sensors, 6MP, 3072 x 2048 (Available With Optional Sensor Module)	M16B Thermal	M16B Thermal TR
Sensor module with CSVario Lens B045-100-CS	Day/Color: Mx-O-SMA-S-6DCSV Night/Black&White: Mx-O-SMA-S-6NCSV	
Image sensor with individual exposure zones	1/1.8" CMOS, 6MP (3072 x 2048), Progressive Scan Color or Black And White	
Light sensitivity in lux at 1/60 s and 1/1 s	Color Sensor: 0,1/0,005 Black And White Sensor: 0,02/0,001	
Hardware	M16B Thermal	M16B Thermal TR
Microprocessor	i.MX 6 Dual Core incl. GPU (1 GB RAM, 512 MB Flash)
H.264 Hardware-Codec	Yes, bandwidth limitation available;	output image format up to QXGA
Protection class	IP66 and IK06; with second 6MP sensor modu	Ile: 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)	-40 to 60°C/-40 to 140°F (co	ld boot from -30°C/-22°F)
Internal DVR, ex works	4 GB (microSD)	
Microphone/speaker	Yes/Yes	
16bit/16kHz HD wideband audio (Opus codec)	Yes (live and audio messages)	
Passive infrared sensor (PIR)	Yes	
Temperature sensor	Yes	
Shock detector (tamper detection)	Yes	
Power consumption (typically at 20°C/68°F)	9 W (10 W possible over the short term)	
PoE class (IEEE 802.3af)	Class 2 or 3 (variable), factory setting: class 3 (required for thermal operation)	
Interfaces Ethernet 100BaseT/MxBus/USB	Yes (MxRJ45)/Yes/Yes	
Interface RS232	With accessory (M	1X-232-IO-Box)
Mounting options	Wall, pole or ceiling (wall and	d ceiling mount included)
Dimensions (height x width x depth)	210 x 158 x	207 mm
Weight	1,320) g
Housing	PBT-30GF, cc	olor: 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	
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/MJP	
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	
Max. image format (dual image from both sensors)	2x 6MP (6144 x 2048)	

Technical Specifications: M16B Thermal/M16B Thermal TR

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		Yes	
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	Yes		
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 M16I	B Night M16B Day & Night	
Video motion detector	Yes		
MxActivitySensor	Yes		
Video Management Software	M16B Day M16	B Night M16B Day & Night	
MxManagementCenter		Yes	
Mobile MOBOTIX App	,	Yes	

