# IDS NXT vegas GE18013M HALCON (Rev. 1.2)

## Specifications

### Sensor

| | |
|---|---|
| Sensor name | EV76C560ABT |
| Manufacturer | e2v |
| Sensor type | CMOS monochrome |
| Shutter | Global shutter |
| Resolution | 1.31 MPix |
| Resolution (horizontal x vertical) | 1280 x 1024 pixels |
| Aspect ratio | 5:4 |

### Optics

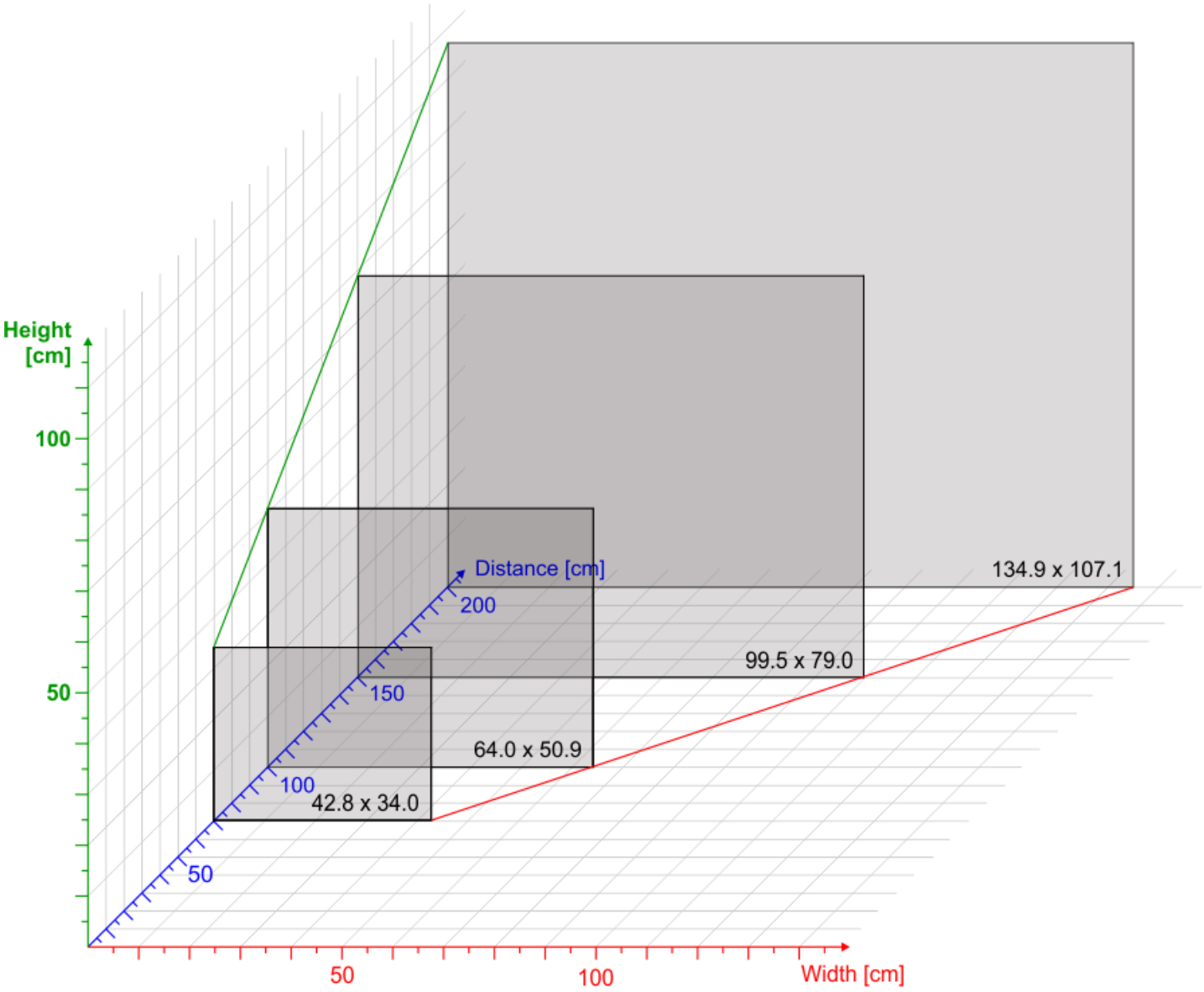
| | |
|---|---|
| Optics | M12, liquid lens |
| Focal length | 9.6 mm |
| Aperture (F) | F3.7 |
| Focus | Vari-focus |
| Focus range | 7 cm … 200 cm |

Subject to technical modifications (2019-02-19)



IDS Imaging Development Systems GmbH
Dimbacher Str. 6-8 · 74182 Obersulm · Phone +49 7134 96196-0 · E-mail: info@ids-imaging.com

## Field of view




## Lighting

| | |
|---|---|
| Integrated lighting | • 8 LEDs<br>• 240 mW per LED<br>• Switchable<br>• Light color red<br>• λ = 623 nm ±16 nm |

Subject to technical modifications (2019-02-19)



IDS Imaging Development Systems GmbH
Dimbacher Str. 6-8 · 74182 Obersulm · Phone +49 7134 96196-0 · E-mail: info@ids-imaging.com

### Optical display

| | |
|---|---|
| Display | • OLED<br>• 128 x 64 pixels<br>• Monochrome (yellow)<br>• 0.96“ diagonal<br>• 160° viewing angle<br>• Contrast 2000:1 |
| Status | • 2 LED (power supply/network)<br>• Two-color (red/green) |
| Acknowledgement | • 1 LED<br>• 114 mW<br>• Light color green<br>• λ = 525 nm ±10 nm<br>• Switchable |

### Acoustic display

| | |
|---|---|
| Beeper | • 1x for event message<br>• 1 kHz … 4 kHz<br>• Switchable |

### Distance measurement

| | |
|---|---|
| ToF sensor | • IR laser for distance measurement<br>• λ = 940 nm<br>• Class 1 laser |
| Measuring range | 7 cm … 100 cm |

### Control

| | |
|---|---|
| Pushbutton | 1x on the display |

## Mechanics

| | |
|---|---|
| Dimensions height x width x depth | 90 mm x 52.5 mm x 43.1 mm |
| Weight | 185 g |
| Material | • Front: Plastic ABS<br>• Back: Aluminum |
| Protection class | IP65 |
| Mounting | • T-slot nuts in the back, M4<br>• 2 slot profiles with distance 28 mm |

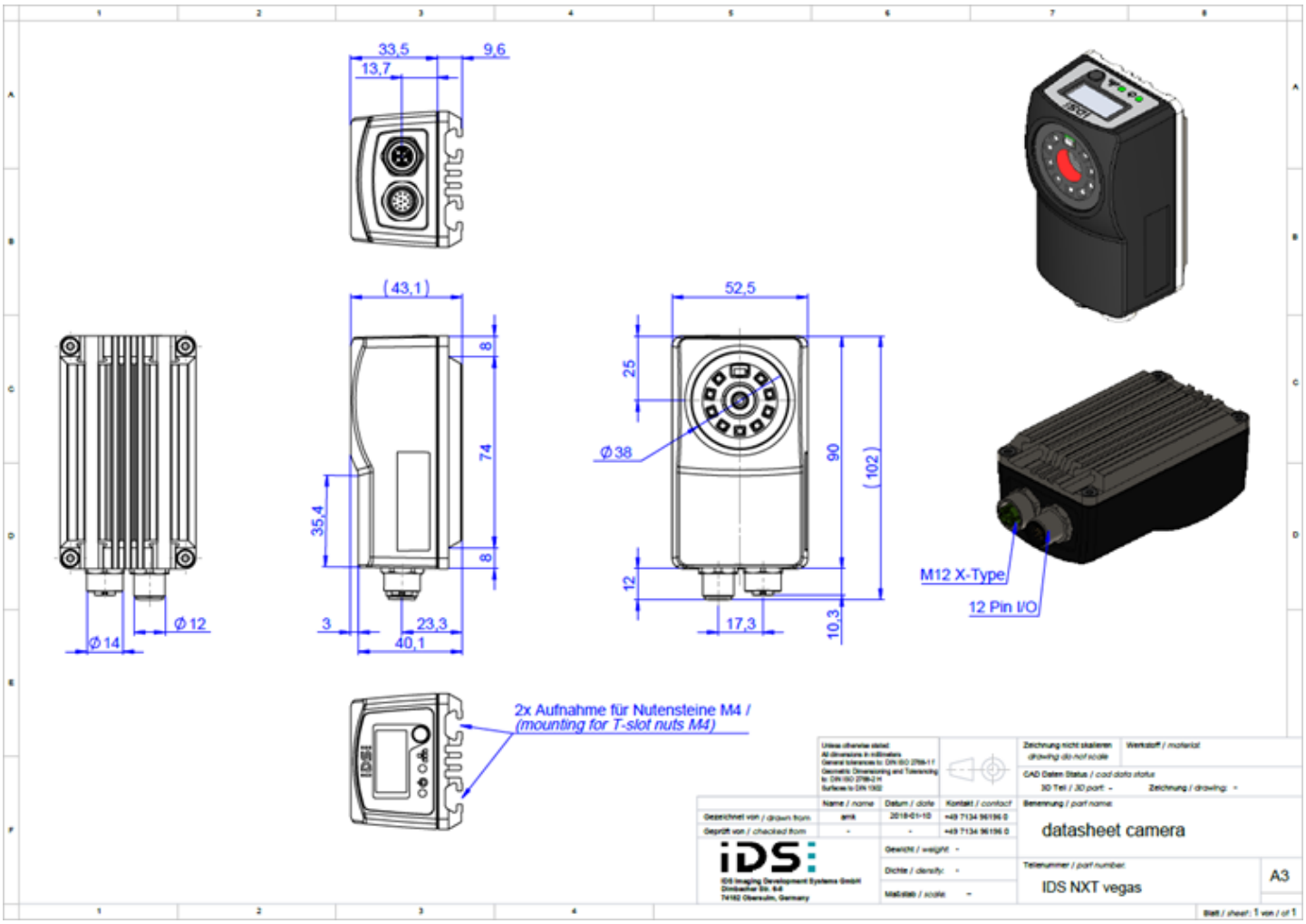
Subject to technical modifications (2019-02-19)



IDS Imaging Development Systems GmbH
Dimbacher Str. 6-8 · 74182 Obersulm · Phone +49 7134 96196-0 · E-mail: info@ids-imaging.com

### Technical drawing

The mechanical data can be found on our website directly under "Download Documents".




Subject to technical modifications (2019-02-19)



IDS Imaging Development Systems GmbH
Dimbacher Str. 6-8 · 74182 Obersulm · Phone +49 7134 96196-0 · E-mail: info@ids-imaging.com

## Ambient conditions

| | |
|---|---|
| Ambient conditions during operation | 0 °C … +45 °C<br>+32 °F … +113 °F |
| Ambient conditions during storage | -20 °C .... +70 °C<br>-4 °F … +158 °F |
| Relative humidity | 20 % … < 100 %, non-condensing |
| EMC | • EMC immunity: EN 61000-6-2:20025<br>• EMC emission: EN 61000-6-4:2007 + A1:2011 |
| Vibration and shock resistance | Complies with DIN EN 60068-2-6 and DIN EN 60068-2-27 |

## Electrical data

### Network

| | |
|---|---|
| Connector | • 8-pin X-Type M12 connector (MMT361A315)<br>• Complies with IEC/PAS 61076-2-109 |
| Ethernet | • 100-BASE-T<br>• 1000-BASE-T |

**Pin assigment M12 connector (MMT361A315)**

| Pin | Description | Designation 1000BASE-T | Designation 100BASE-T |
|---|---|---|---|
| 1 | MDX0+ | BI_DA+ | TX+ |
| 2 | MDX0- | BI_DA- | TX- |
| 3 | MDX1+ | BI_DB+ | RX+ |
| 4 | MDX1- | BI_DB- | RX- |
| 5 | MDX3+ | BI_DD+ | |
| 6 | MDX3- | BI_DD- | |
| 7 | MDX2+ | BI_DC- | |
| 8 | MDX2- | BI_DC+ | |

**M12 connector, camera view**


IDS Imaging Development Systems GmbH
Dimbacher Str. 6-8 · 74182 Obersulm · Phone +49 7134 96196-0 · E-mail: info@ids-imaging.com

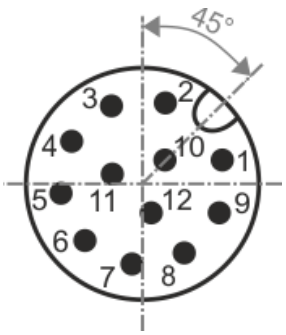
## Input/output

| | |
|---|---|
| I/O connector | 12-pin M12 connector IP67, A-coding, screw locking according to DIN EN 61076-2-101, male (Attend 216A-12MSR) |
| Input/output (total) | • 2 inputs with optocoupler<br>• 2 output with optocoupler<br>• 1 trigger input with optocoupler<br>• 1 flash output with optocoupler<br>• RS-232 |
| Trigger input | • 1 trigger input<br>• With optocoupler<br>• Selectable edge<br>• Settable delay<br>• Trigger debounce |
| Trigger mode | • External trigger (hardware trigger)<br>• Software trigger<br>• Freerun<br>• Distance trigger |
| Flash output | • 1 flash output<br>• With optocoupler<br>• Settable delay<br>• Settable duration |
| Serial interface | • 1 RS-232<br>• 300 Baud … 230400 Baud |


IDS Imaging Development Systems GmbH
Dimbacher Str. 6-8 · 74182 Obersulm · Phone +49 7134 96196-0 · E-mail: info@ids-imaging.com

**Pin assignment I/O connector (Attend 216A-12MSR)**

| Pin | Signal | Description |
|---|---|---|
| 1 | VBUS | Power supply, 12-24 V DC +20 % |
| 2 | VBUS GND | Reference level (ground) for power supply and RS-232 |
| 3 | Opto IN (0) | Trigger input with optocoupler |
| 4 | Opto IN (1) | Input 1 with optocoupler |
| 5 | Opto IN (COM) | Reference level for all Opto IN |
| 6 | Opto OUT (COM) | Reference level for all Opto OUT |
| 7 | Opto OUT (1) | Output 1 with optocoupler |
| 8 | Opto OUT (2) | Output 2 with optocoupler |
| 9 | RS232 (RX) | Serial interface |
| 10 | RS232 (TX) | Serial interface |
| 11 | Opto IN (2) | Input 2 with optocoupler |
| 12 | Opto OUT (0) | Flash output with optocoupler |
| Shield | Shield | Shield |




**I/O connector, camera view**

## Power supply

| | |
|---|---|
| Power supply | 12-24 V DC +20 % |
| Power consumption | 3 W … 5 W |

# System

| | |
|---|---|
| CPU | • Xilinx Zynq Z7010<br>• Dual Core ARM Cortex A9<br>• 667 MHz<br>• Double Precision Floating Point Unit |
| RAM | • DDR3<br>• 512 MByte |
| Flash | 1 GByte for error images, system logs, user settings, Vision Apps |
| System time | • RTC buffered<br>• Support of NTP |
| Operating system | Linux |
| Image processing | HALCON 13 Embedded |



IDS Imaging Development Systems GmbH
Dimbacher Str. 6-8 · 74182 Obersulm · Phone +49 7134 96196-0 · E-mail: info@ids-imaging.com