

Vision Sensor

B50S103

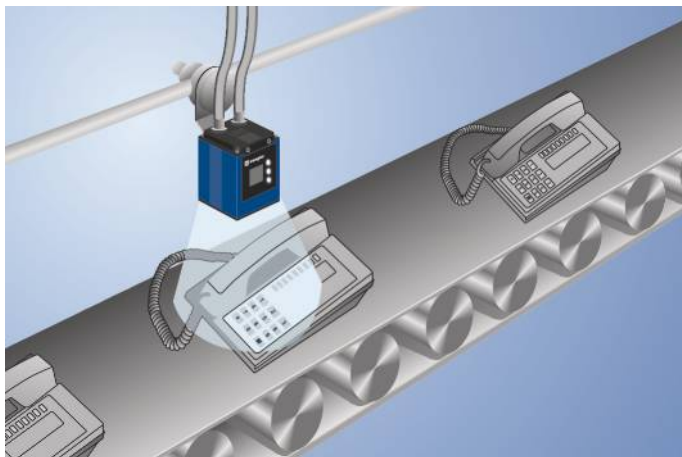
Part Number

weQubeVision



- Image processing functions
- MultiCore technology
- Pattern matching

The vision sensor weQubeVision is based on the wenglor MultiCore technology. The functions autofocus, region of interest and tracking ensure optimal object detection. The following image processing modules are available: Dimensional accuracy check, sorting procedures, presence control, object counting, position output, pixel counting, pattern matching, filter options, and statistics evaluation. Thanks to the integrated color image chip, all image processing functions are also available for remote applications.

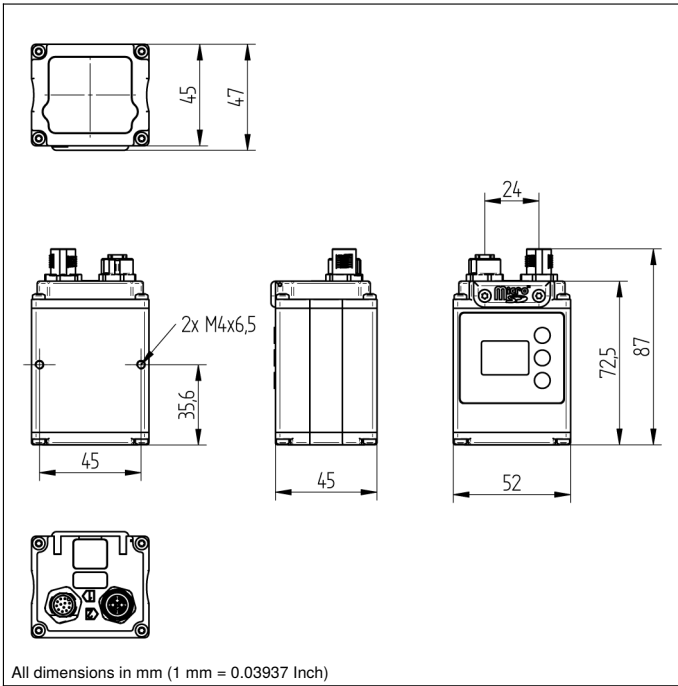


Technical Data

| Optical Data | |
|---|-------------------------|
| Working Range | ≥ 20 mm |
| Resolution | 736 × 480 Pixel |
| Resolution | 0,35 MP |
| Focal distance | 6,4 mm |
| Image Chip | color |
| Image chip size | 1/3" |
| Pixel Size | 6 × 6 μm |
| Light Source | White Light |
| Optics | Auto-focus |
| Visual Field | see Table 1 |
| Frame rate (fullframe) | 15 fps |
| Minimum object distance | 20 mm |
| Environmental conditions | |
| Temperature Range | -25...55 °C* |
| Atmospheric humidity | 5...95%, non-condensing |
| Electrical Data | |
| Supply Voltage | 18...30 V DC |
| Current Consumption (U _b = 24 V) | < 200 mA |
| Inputs/Outputs | 6 |
| Switching Output Voltage Drop | < 2,5 V |
| Switching Output/Switching Current | 100 mA |
| Short Circuit Protection | yes |
| Reverse Polarity Protection | yes |
| Interface | RS-232/Ethernet |
| Industry protocols | EtherNet/IP™ |
| Industry protocols | PROFINET I/O, CC-A |
| General protocols | FTP |
| General protocols | RS-232 |
| General protocols | TCP/IP |
| General protocols | UDP |
| Protection Class | III |
| Mechanical Data | |
| Housing Material | Aluminum |
| Degree of Protection | IP67 |
| UL Enclosure Type | 1 |
| Connection | M12 × 1; 12-pin |
| Type of Connection Ethernet | M12 × 1; 8-pin, X-cod. |
| Optic Cover | Plastic, PMMA, ABS |
| Safety-relevant Data | |
| MTTFd (EN ISO 13849-1) | 227,7 a |
| Function | |
| Presence Check | yes |
| Pixel Comparison | yes |
| Reference Image Comparison | yes |
| Tracking | yes |
| Object detection | yes |
| Dimensional accuracy check | yes |
| Pattern matching | yes |
| Web server | yes |
| License package | weQubeVision Standard + |

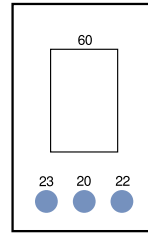
PNP NO

Display brightness may decrease with age. This does not result in any impairment of the sensor function.
 * -25 °C: Ambient conditions should not result in condensation; avoid the formation of ice on the front panel!
 55 °C: Continuous illumination at max. 1% or flash mode at 100% brightness with an exposure time of <= 5 ms; may affect the service life of the product.

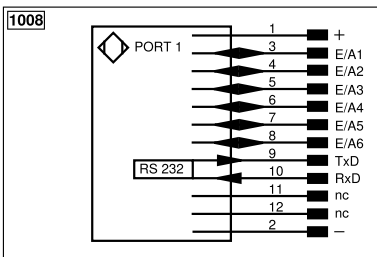
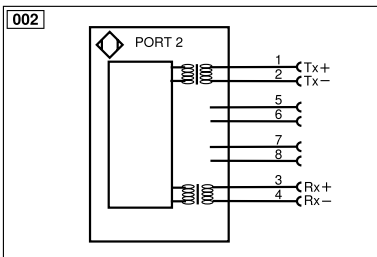


Ctrl. Panel

X2



20 = Enter key
 22 = Up key
 23 = Down key
 60 = display



| Legend | | | |
|-----------|--|----------|--|
| + | Supply Voltage + | nc | Not connected |
| - | Supply Voltage 0 V | U | Test Input |
| ~ | Supply Voltage (AC Voltage) | Ü | Test Input inverted |
| A | Switching Output (NO) | W | Trigger Input |
| Ā | Switching Output (NC) | W- | Ground for the Trigger Input |
| V | Contamination/Error Output (NO) | O | Analog Output |
| ȳ | Contamination/Error Output (NC) | O- | Ground for the Analog Output |
| E | Input (analog or digital) | BZ | Block Discharge |
| T | Teach Input | Amv | Valve Output |
| Z | Time Delay (activation) | a | Valve Control Output + |
| S | Shielding | b | Valve Control Output 0 V |
| RxD | Interface Receive Path | SY | Synchronization |
| TxD | Interface Send Path | SY- | Ground for the Synchronization |
| RDY | Ready | E+ | Receiver-Line |
| GND | Ground | S+ | Emitter-Line |
| CL | Clock | ± | Grounding |
| E/A | Output/Input programmable | SnR | Switching Distance Reduction |
| IO-Link | | Rx+/- | Ethernet Receive Path |
| PoE | Power over Ethernet | Tx+/- | Ethernet Send Path |
| IN | Safety Input | Bus | Interfaces-Bus A(+)/B(-) |
| OSSD | Safety Output | La | Emitted Light disengageable |
| Signal | Signal Output | Mag | Magnet activation |
| BI_D+/- | Ethernet Gigabit bidirect. data line (A-D) | RES | Input confirmation |
| ENo RS422 | Encoder 0-pulse 0/0 (TTL) | EDM | Contactor Monitoring |
| PT | Platinum measuring resistor | ENARs422 | Encoder A/Ā (TTL) |
| | | | Wire Colors according to DIN IEC 60757 |
| | | | BK Black |
| | | | BN Brown |
| | | | RD Red |
| | | | OG Orange |
| | | | YE Yellow |
| | | | GN Green |
| | | | BU Blue |
| | | | VT Violet |
| | | | GY Grey |
| | | | WH White |
| | | | PK Pink |
| | | | GNYE Green/Yellow |

Table 1

| Working Distance | 20 mm | 100 mm | 200 mm |
|------------------|----------|------------|-------------|
| Visual Field | 9 × 6 mm | 65 × 42 mm | 134 × 87 mm |

