

Vision Sensor

B50S004

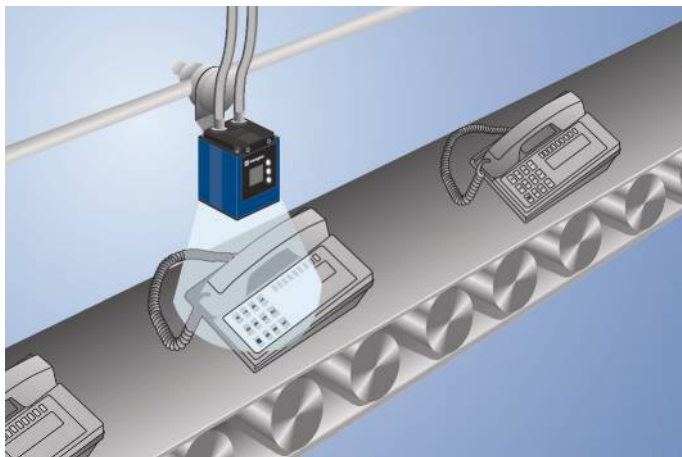
Part Number

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 |
| Image Chip | color |
| Light Source | White Light |
| Service Life (T = +25 °C) | 100000 h |
| Visual Field | see Table 1 |
| Frame Rate | 15 Hz |

| Electrical Data | |
|---|-----------------|
| Supply Voltage | 18...30 V DC |
| Current Consumption (U _b = 24 V) | < 200 mA |
| Response Time | 66 ms |
| Temperature Range | -25...55 °C* |
| 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 |
| Protection Class | III |

| Mechanical Data | |
|-----------------------------|------------------------|
| Setting Method | Ethernet |
| Housing Material | Aluminum |
| Degree of Protection | IP67 |
| Connection | M12 × 1; 12-pin |
| Type of Connection Ethernet | M12 × 1; 8-pin, X-cod. |

| 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 |

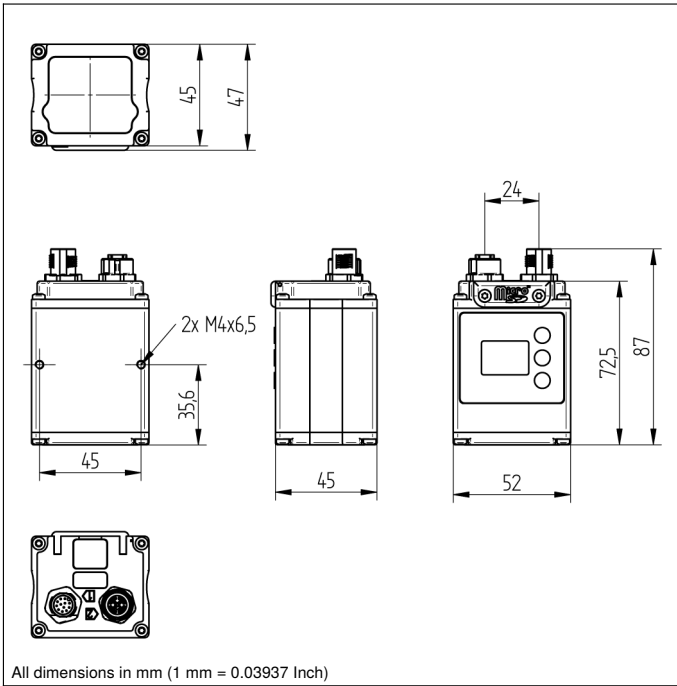
| | |
|-----------------------------------|---|
| Configurable as PNP/NPN/Push-Pull | ● |
| Switchable to NC/NO | ● |
| Illumination Output | ● |
| RS-232 Interface | ● |
| Ethernet | ● |

| | |
|-----------------------------------|------------|
| Connection Diagram No. | 002 1008 |
| Control Panel No. | X2 |
| Suitable Connection Equipment No. | 50 87 |
| Suitable Mounting Technology No. | 560 |

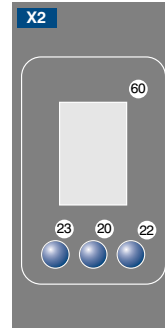
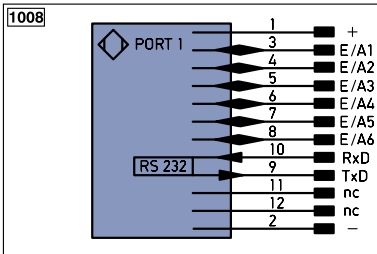
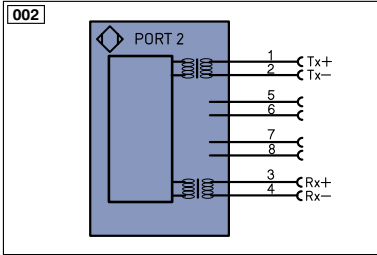
Display brightness may decrease with age. This does not result in any impairment of the sensor function.
 * -25 °C: Ambient conditions should not result in condensation; avoid the formation of ice on the front panel!
 55 °C: Continuous illumination at max. 1% or flash mode at 100% brightness with an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

Complementary Products

| |
|---------------------------------------|
| Disk with Polarization Filter ZNNG004 |
| Illumination Technology |
| Protective Housing ZNNS001, ZNNS002 |
| Software |
| weQubeDecode License Upgrade DNNL002 |
| weQubeOCR License Upgrade DNNL003 |



All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel

 20 = Enter Button
 22 = UP Button
 23 = Down Button
 60 = Display

Legend

| | | | | | |
|-----------------------|--|------------------|--------------------------------|--------------------------------------|---------------------|
| + | Supply Voltage + | PT | Platinum measuring resistor | EN ^A RS422 | Encoder A/Ā (TTL) |
| - | Supply Voltage 0 V | nc | not connected | EN ^B RS422 | Encoder B/B̄ (TTL) |
| ~ | Supply Voltage (AC Voltage) | U | Test Input | EN ^A | Encoder A |
| A | Switching Output (NO) | Ū | Test Input inverted | EN ^B | Encoder B |
| Ā | Switching Output (NC) | W | Trigger Input | A _{MIN} | Digital output MIN |
| V | Contamination/Error Output (NO) | W- | Ground for the Trigger Input | A _{MAX} | Digital output MAX |
| Ṽ | Contamination/Error Output (NC) | O | Analog Output | A _{OK} | Digital output OK |
| E | Input (analog or digital) | O- | Ground for the Analog Output | SY _{in} | Synchronization In |
| T | Teach Input | BZ | Block Discharge | SY _{OUT} | Synchronization OUT |
| Z | Time Delay (activation) | AWV | Valve Output | OLT | Brightness output |
| S | Shielding | a | Valve Control Output + | M | Maintenance |
| RxD | Interface Receive Path | b | Valve Control Output 0 V | rsv | reserved |
| TxD | Interface Send Path | SY | Synchronization | Wire Colors according to DIN IEC 757 | |
| RDY | Ready | SY- | Ground for the Synchronization | BK | Black |
| GND | Ground | E+ | Receiver-Line | BN | Brown |
| CL | Clock | S+ | Emitter-Line | RD | Red |
| E/A | Output/Input programmable | ± | Grounding | OG | Orange |
| | IO-Link | S _n R | Switching Distance Reduction | YE | Yellow |
| PoE | Power over Ethernet | Rx+/- | Ethernet Receive Path | GN | Green |
| IN | Safety Input | Tx+/- | Ethernet Send Path | BU | Blue |
| OSSD | Safety Output | Bus | Interfaces-Bus A(+)/B(-) | VT | Violet |
| Signal | Signal Output | L _a | Emitted Light disengageable | GY | Grey |
| Bl_D+/- | Ethernet Gigabit bidirect. data line (A-D) | Mag | Magnet activation | WH | White |
| EN ⁰ RS422 | Encoder 0-pulse 0-0̄ (TTL) | RES | Input confirmation | PK | Pink |
| | | EDM | Contactur Monitoring | GNYE | Green/Yellow |

Table 1

| Working Distance | 20 mm | 200 mm | 1000 mm |
|------------------|------------|-------------|--------------|
| Visual Field | 16 × 12 mm | 120 × 90 mm | 600 × 450 mm |

