Vision Sensor

B50S113
Part Number

- **Image processing functions**
- **MultiCore technology**
- **Pattern matching**

The vision sensor weQubeVision is based on the wenglor MultiCore technology. The functions 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.

Technical Data

Optical Data	
Lens thread	C-Mount
Resolution	736 × 480 Pixel
Image Chip	monochrome
Image chip size	1/3"
Pixel Size	6 × 6 μm
Service Life (T = +25 °C)	100000 h
Frame Rate	25 Hz
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (Ub = 24 V)	< 200 mA
Response Time	40 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)	263,03 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	●
PROFINET	●
EtherNet/IP™	●

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.
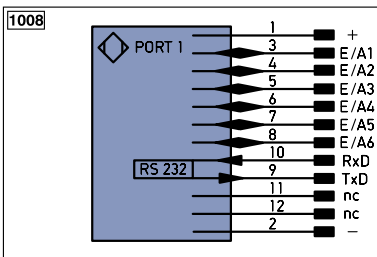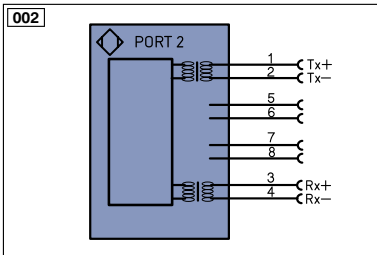
Complementary Products

Illumination Technology
Lens
Protective Housing ZSZ-0x-01
Software
weQubeDecode License Upgrade DNNL002
weQubeOCR License Upgrade DNNL003

Image Processing and Smart Cameras

All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel

X2
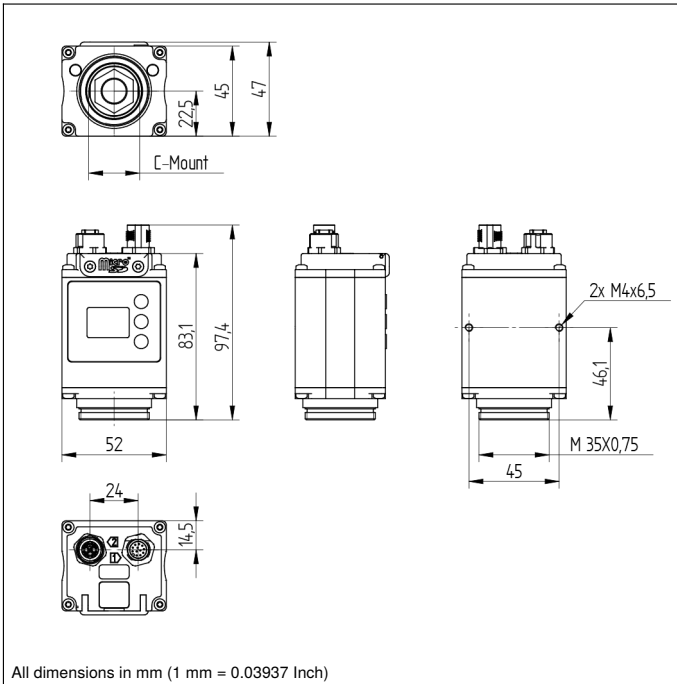
20 = Enter Button
22 = UP Button
23 = Down Button
60 = Display

002

PORT 2

1 — Tx+
2 — Tx−
5
6
7
8
3 — Rx+
4 — Rx−

1008

PORT 1

1 — +
3 — E/A1
4 — E/A2
5 — E/A3
6 — E/A4
7 — E/A5
8 — E/A6
10 — RxD
9 — TxD
11 — nc
12 — nc
2 — −

RS 232

Legend

+	Supply Voltage +	PT	Platinum measuring resistor	EN$_{ARS422}$	Encoder A/Ā (TTL)		
−	Supply Voltage 0 V	nc	not connected	EN$_{BRS422}$	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		
V̄	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)	A$_{MW}$	Valve Output	O$_{LT}$	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		SnR	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	La	Emitted Light disengageable	GY	Grey		
BI_D+/−	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White		
EN$_{0RS422}$	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink		
		EDM	Contactor Monitoring	GNYE	Green/Yellow		