Vision Sensor

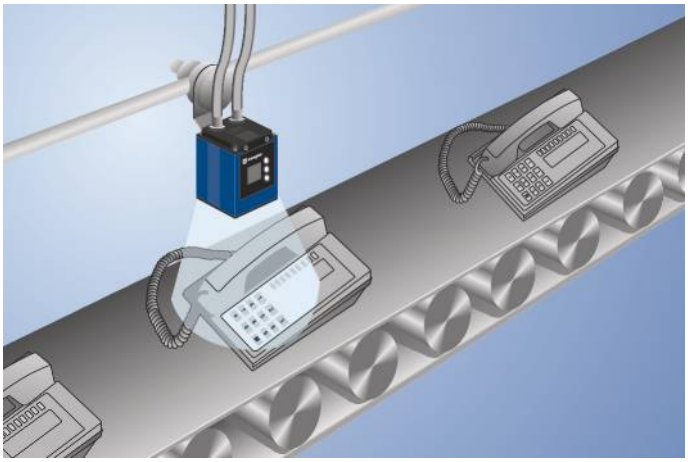
B50S003

Part Number

weQubeVision

- **Image processing functions**
- **MultiCore technology**

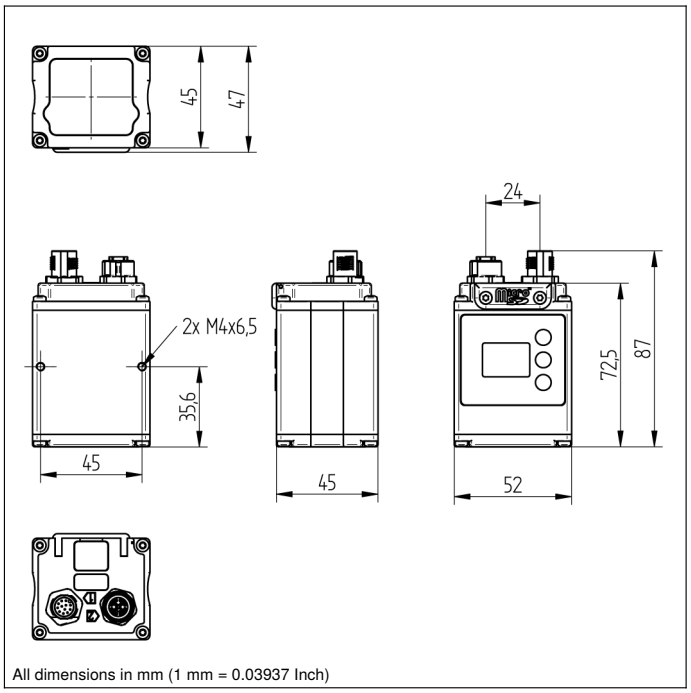
The vision sensor weQubeVision is based on the wenglor MultiCore technology. The functions autofocus, region of interest and tracking ensure optimal object detection. The following image processing modules are available: Dimensional accuracy check, sorting procedures, presence control, object counting, position output, pixel counting, filter options, and statistics evaluation.



Technical Data

Optical Data	
Working Range	≥ 20 mm
Resolution	736 × 480 Pixel
Resolution	0,35 MP
Focal distance	6,4 mm
Image Chip	monochrome
Image chip size	1/3"
Pixel Size	6 × 6 µm
Light Source	Infrared Light
Optics	Auto-focus
Risk Group (EN 62471)	1
Visual Field	see Table 1
Frame rate (fullframe)	25 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 (Ub = 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
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)	230,41 a
Function	
Presence Check	yes
Pixel Comparison	yes
Reference Image Comparison	yes
Tracking	yes
Object detection	yes
Dimensional accuracy check	yes
Web server	yes
License package	weQubeVision Standard
PNP NO	●

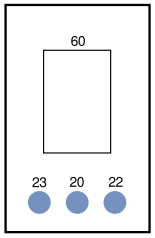
Display brightness may decrease with age. This does not result in any impairment of the sensor function.
* –25 °C: Ambient conditions should not result in condensation; avoid the formation of ice on the front panel!
55 °C: Continuous illumination at max. 1% or flash mode at 100% brightness with an exposure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



All dimensions in mm (1 mm = 0.03937 Inch)

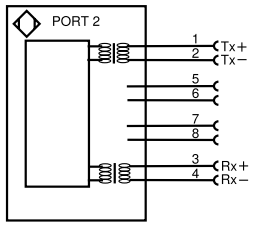
Ctrl. Panel

X2

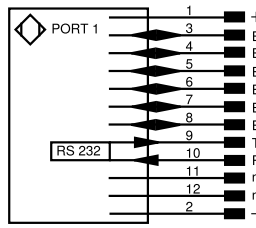


20 = Enter key
22 = Up key
23 = Down key
60 = display

002



1008



Legend					
+	Supply Voltage +	nc	Not connected	ENBRS422	Encoder B/B̄ (TTL)
–	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENB	Encoder B
A	Switching Output (NO)	W	Trigger Input	AMIN	Digital output MIN
Ā	Switching Output (NC)	W–	Ground for the Trigger Input	AMAX	Digital output MAX
V	Contamination/Error Output (NO)	O	Analog Output	AOK	Digital output OK
V̄	Contamination/Error Output (NC)	O–	Ground for the Analog Output	SY In	Synchronization In
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
T	Teach Input	AMV	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY–	Ground for the Synchronization	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	⏚	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
	IO-Link	Rx+/–	Ethernet Receive Path	GN	Green
PoE	ower over Ethernet	Tx+/–	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(–)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BI_D+/–	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
EN0 RS422	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)		

Table 1

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