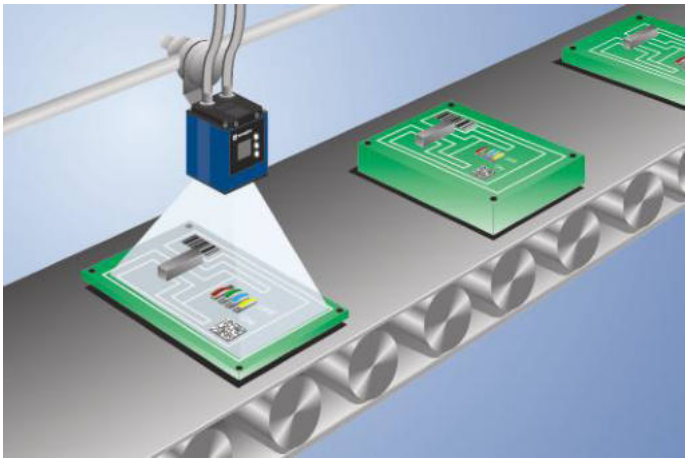
B50M003

Part Number

- **Image processing functions**
- **MultiCore technology**
- **OCR reading**
- **Pattern matching**
- **Reading of printed and directly marked 1D and 2D codes**

The smart camera weQube is based on the wenglor MultiCore technology and combines the function of the scanner and the vision sensors. Therefore, this product allows to capture all established 1D codes and various 2D code types. Autofocus, region of interest and tracking ensure reliable and stable image recording. The following image processing modules are available: Dimensional accuracy check, sorting procedures, presence control, object counting, position output, pixel counting, optical character recognition, pattern matching, filter options, and statistics evaluation.



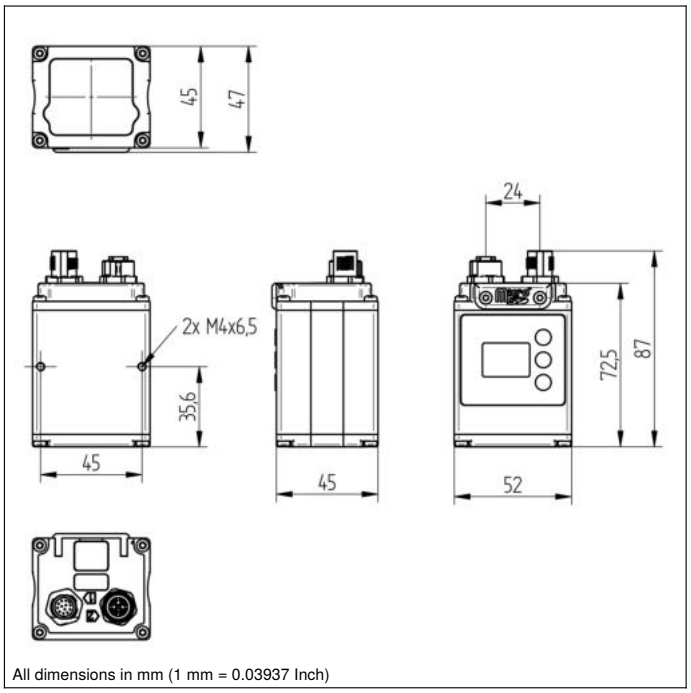
Technical Data

Optical Data	
Working Range	≥ 20 mm
Resolution	736 × 480 Pixel
Image Chip	monochrome
Light Source	Infrared Light
Service Life (T = +25 °C)	100000 h
Visual Field	see Table 1
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)	230,41 a
Function	
Presence Check	yes
Pixel Comparison	yes
Reference Image Comparison	yes
Tracking	yes
OCR	yes
Object detection	yes
Dimensional accuracy check	yes
1D and 2D code reading	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.

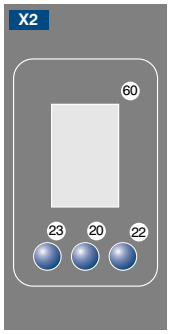
Complementary Products

- Disk with Polarization Filter ZNNG004
- Illumination Technology
- Protective Housing ZNNS001, ZNNS002
- Software

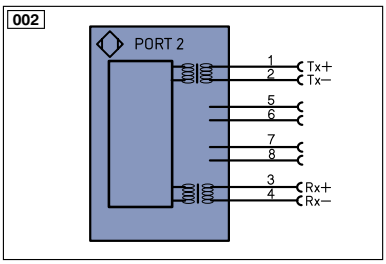


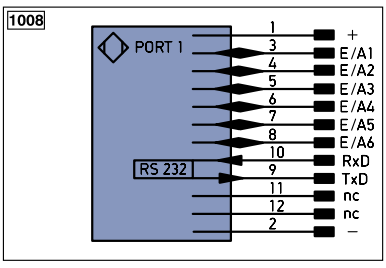
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



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





Legend

+	Supply Voltage +	PT	Platinum measuring resistor	$EN_{A\overline{A}}$	Encoder A/Ā (TTL)
–	Supply Voltage 0 V	nc	not connected	$EN_{B\overline{B}}$	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_W	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 IEC 60757	
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
$EN_{0\,RS422}$	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contactor Monitoring	GNYE	Green/Yellow

Table 1

Working Distance	20 mm	100 mm	200 mm
Visual Field	24 x 16 mm	74 x 48 mm	145 x 94 mm