Smart Camera

B50M102

Part Number

weQube

- ● **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.
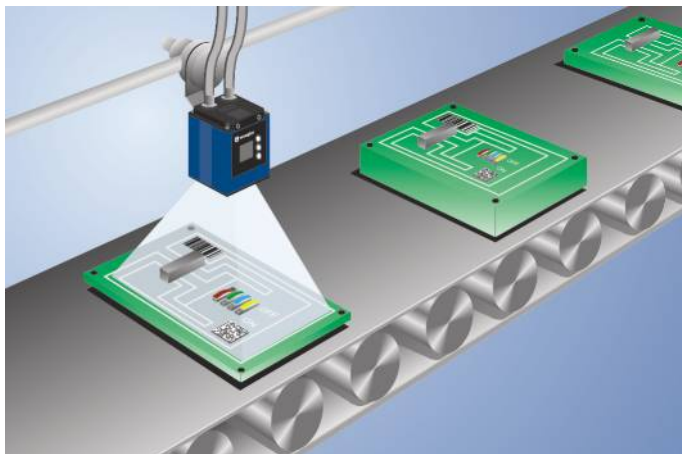
Technical Data

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	●
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.
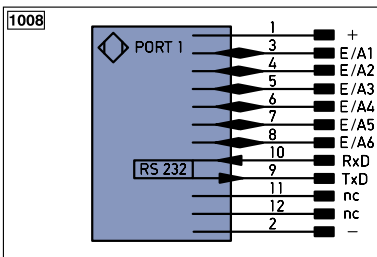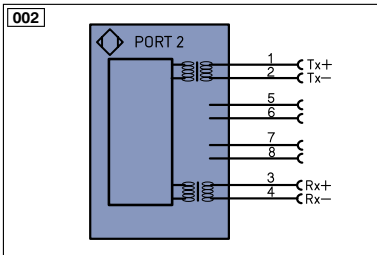
Complementary Products

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

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	0_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

Table 1

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