

Tipcode Scanner DM8700

Ultra-compact smart code reader with liquid lens, equipped with deep learning algorithms. Automatic focusing and decoding speeds are both at millisecond levels, offering a highly cost-effective decoding solution.

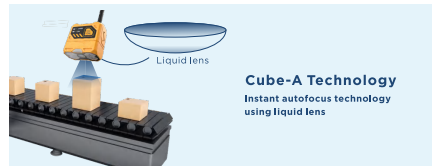
Product features

- Compact size, suitable for installation in tight spaces.
- Equipped with a liquid lens and built-in Tipcode's proprietary 'Cube-A Technology' focusing algorithm, enabling fast autofocus.
- The TUNE button on the device allows for one-touch automatic adjustment, saving on-site debugging time.

- Supports optional red/white dual-color light sources, providing polarization for complex scenarios.
- Designed with an M12-17PIN aviation plug, enabling simple single-cable connection.

Two built-in powerful proprietary algorithms, capable of handling complex decoding scenarios, achieving an ultra-high read rate of 99.99%.

Cube-A Technology utilizes liquid lens instant focus technology, requiring only a few sample images to drive rapid autofocus. Its sampling speed is nearly a hundred times faster than conventional autofocus algorithms, ensuring high-definition images for subsequent decoding.



Cube-A Technology
Instant autofocus technology using liquid lens

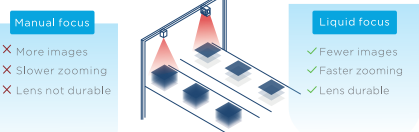
Tipcode deep learning image processing decoding algorithm accelerates decoding and positioning to an exceptional 5ms from an average of 30ms, resulting in a six-fold speed increase and significantly enhancing code reading efficiency.



Decoding and positioning speed increased sixfold

Liquid lens: millisecond-level single-shot autofocus speed

DM8700 uses an electrically controlled liquid lens based on the electrowetting effect, similar to the human eye's crystalline lens. By applying voltage to change the curvature of the liquid, it achieves smooth and rapid autofocus in just a few milliseconds, nearly a hundred times faster than mechanical autofocus code readers.

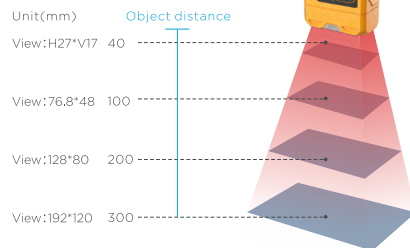


Compact size, easy installation, and high efficiency



Flexible working distance: 40-300mm

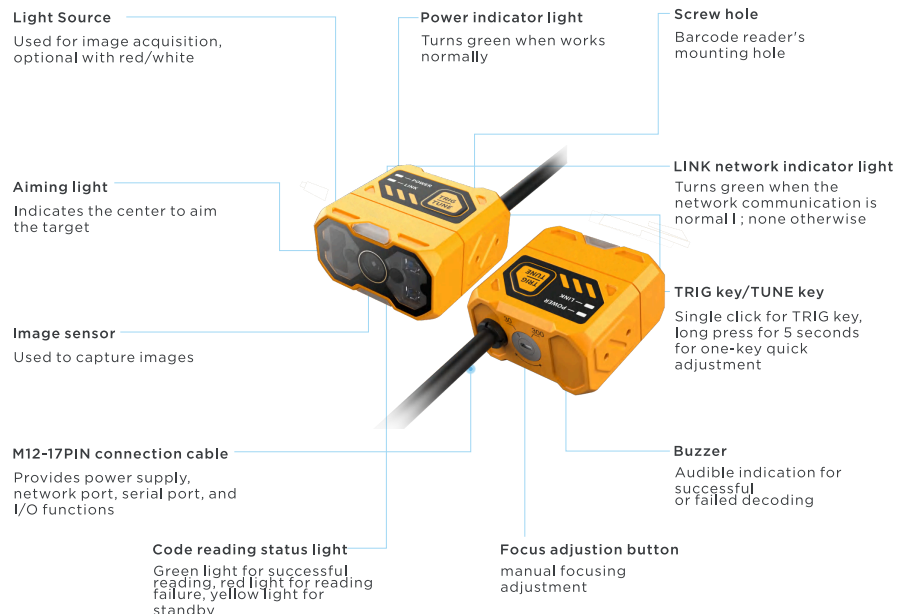
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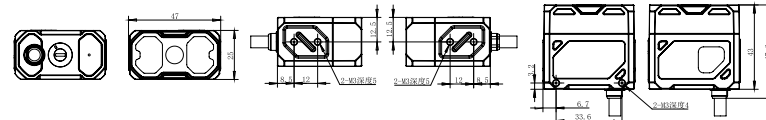
Applications



Physical structure



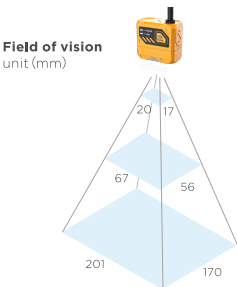
Dimensions



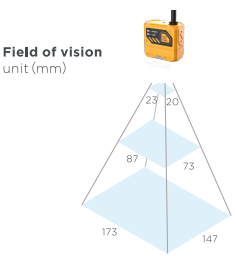
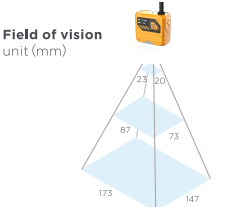
unit:mm

Reading parameters

DM8700 Manual Focus Series

Focal length (mm)	Working distance (mm)	Horizontal (mm)	Vertical (mm)	1D Pixel accuracy	2D Pixel accuracy	Lateral view indication
6	30	20	17	0,019	0,031	 Field of vision unit (mm)
	50	33	28	0,031	0,052	
	100	67	56	0,063	0,105	
	150	100	85	0,094	0,156	
	200	134	113	0,126	0,209	
	300	201	170	0,188	0,314	

DM8700 Liquid Focus Series

Focal length (mm)	Working distance (mm)	Horizontal (mm)	Vertical (mm)	1D Pixel accuracy	2D Pixel accuracy	Lateral view indication
6	40	23	20	0,022	0,036	 Field of vision unit (mm)
	100	58	50	0,054	0,091	
	150	87	73	0,082	0,136	
	200	116	98	0,109	0,181	
	300	173	147	0,162	0,270	
16	100	22	18	0,021	0,034	 Field of vision unit (mm)
	200	43	37	0,040	0,067	
	300	65	55	0,061	0,102	
	400	87	73	0,082	0,136	

Technical specifications

Model	DM8700 Liquid Focus Series	DM8700 Manual Focus Series
Resolution (HxV)	1288 x 1088	
Frame rate (fps)	60	
Colors/Black & white	Black & white	
Shutter	Global	
Exposure time	20μm - 1sec	
Pixel size	2,7μm x 2,7μm	
Target size	1/4"	
Focusing method	Liquid focusing	Manual focus
Focal length	6mm, 16mm	6mm
Barcode reading distance	40-300mm (@6mm) 100-400mm (@16mm)	30-300mm
Barcode types	1D barcodes: Code 39, Code93, Code128, EAN-8, EAN-13, Interleaved 2 of 5, UPC, Pharmacode 2D barcodes: Micro QR, QR code, DataMatrix Stacked barcodes: PDF417	

Structure

Position indicator	Two green dots indicate the center of the scanning position,
Status indicator	3 status LEDs and a buzzer
Polarizer	Provides optional polarization
Light source	Provides optional red/white light source

Communication Control & Electrical Parameters.

Input control	Two-channel optocoupler isolated inputs, supporting NPN and PNP types
Output control	Three non-isolated outputs
Communication protocol	TCP Server, TCP Client, ModBus TCP, ModBus RTU, Profinet, Ethernet/IP, MELSEC/SLMP, Fins, Serial
Communication interface	RS232, Ethernet
Power input	24 VDC
Power consumption	5W

Dimensions & Environmental Parameters

Outer dimensions	47*25*43mm
Weights	About 110g
Working temperature	0~45°C
Storage temperature	-20~70°C
Humidity	5%~95%RH (non-condensing)
Protection level	IP67

Note: The reading parameters are based on the standard test data from Tipcode.

Product selection catalog

DM8700 Tipcode Scanner Series



Product model	Light	Focal length	Polarization	Pixels	Focusing method
DM8700-100-000	White	6mm	Non-polarized	1,4MP (1288*1088)	Manual
DM8700-100-001	Red	6mm	Non-polarized	1,4MP (1288*1088)	Manual
DM8700-100-002	Red	6mm	Polarized	1,4MP (1288*1088)	Manual
DM8700-100-003	White	6mm	Polarized	1,4MP (1288*1088)	Manual
DM8700-100-030	White	6mm	Non-polarized	1,4MP (1288*1088)	Liquid
DM8700-100-031	Red	6mm	Non-polarized	1,4MP (1288*1088)	Liquid
DM8700-100-032	Red	6mm	Polarized	1,4MP (1288*1088)	Liquid
DM8700-100-033	White	6mm	Polarized	1,4MP (1288*1088)	Liquid
DM8700-103-030	White	16mm	Non-polarized	1,4MP (1288*1088)	Liquid
DM8700-103-031	Red	16mm	Non-polarized	1,4MP (1288*1088)	Liquid
DM8700-103-032	Red	16mm	Polarized	1,4MP (1288*1088)	Liquid
DM8700-103-033	White	16mm	Polarized	1,4MP (1288*1088)	Liquid

Accessory series

Model	Type
M12-17PIN-PC-3M	3m Ethernet/serial port cable
M12-17PIN-PC-5M	5m Ethernet/serial port cable
M12-17PIN-PC-10M	10m Ethernet/serial port cable
DM08DH	DM8700 diffuser
DM08HM	DM8700 magnifying glass (suitable for 16mm)
DM8700 mounting bracket	Mounting bracket
24V/60W desktop power adapter	Adapter

Accessories

Cable	Power source	Magnifying glass	L-shape mounting bracket	Diffuser
M12-17PIN connection cable	24V power adapter	DM8700 magnifying glass	L-shape mounting bracket + screws	Diffuser
				