

CM Series

Compact 2D Imager Module for Kiosk Data Capture Operations

Honeywell's CM Series Compact 2D Imager Module provides a self-contained 1D and 2D barcode scanning solution, whether decoding mobile phone screens or paper. Its all-in-one, easy-to-mount design simplifies integration into your fixed mount enclosure. A selection of optics allow you to meet the performance requirements your application requires.

- CM3680SR-XXX: Standard Performance (Standard Range)
- CM5680SR-XXX: Enhanced Performance (Standard Range)
- CM5680WA-XXX: Specialized Performance (Wide Angle)
- CM2180MP-XXX: Specialized Performance (Megapixel)

DIFFERENTIATION

The CM Series offers many differentiating features that simplify installation (e.g., cable connector compatibility, more mounting options) and enhance performance (e.g., Wide Angle and Megapixel optics options, wider choice of non-laser aimers and illumination, enhanced scan time and print contrast, higher operating temperature range).

VALUE TO CUSTOMERS

Unique Design Simplifies Installation and Deployment

- **Compact size:** Cable connector extends off the side of the device instead of the back, reducing the depth of the product, which simplifies installation (28 mm H x 55 mm W x 48 mm D [1.10 in H x 2.17 in W x 1.89 in D] including connector) (see Figure 1)
- **Slider bracket:** Holds the customer-supplied micro-USB cable securely in place so it does not become disconnected easily (see Figure 2)



The CM Series Compact 2D Imager Module's unique design simplifies installation and deployment for a wide range of kiosk applications.

- **Ten mounting holes (five groups of two):** Positioned on the two sides, upper, lower, and front allow for vertical or horizontal mounting without the need for additional accessories, enhancing integration flexibility (see Figure 3)
- **Standard micro-USB cable connector:** Allows customers the ability to purchase a standard cable locally and in the length they need for their application, simplifying installation and minimizing costs

FEATURES & BENEFITS



Next-generation device provides 1D and 2D barcode scanning, whether decoding mobile phone screens or paper.



All-in-one design, compact size, standard micro-USB cable connector and ten mounting holes simplify installation and deployment.



Industrial-grade technology allows these modules to withstand both extreme hot and cold temperatures.



Motion tolerance provides snappy scanning and white illumination option helps to expedite read rate.



IP54 ingress protection rating and USB retention mechanism enhance reliability and help to minimize service or replacement calls.

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- **Reads UPC (Universal Product Codes) at below 25 mm [1.0 in] range (CM5680WA – Specialized Performance [Wide Angle]):** Allows the ability to fit smaller enclosures, providing design flexibility

Enhances Performance

- **Four optics options:** Allow customers the ability to choose the optics needed to meet their performance requirements (see Table 1)
 - Improves the customers' design cycle time because they can upgrade or change the optics without having to change mechanical constraints due to the same housing
 - All optics are compatible with Honeywell EZConfig Cloud for Scanning configuration software, a free service that facilitates fast and easy barcode scanner configurations and firmware updates in an intuitive interface, which simplifies and expedites deployment and technical support by eliminating the need for several tool sets in order to configure the CM Series
 - Allows customers the ability to choose from enhanced or specialized performance to meet the needs of the application without having to change suppliers (one-stop-shop)
- **Wide operating temperature range:** Customers can design solutions for use in more extreme hot and cold environments (see Table 5)
- **Motion tolerance:** Provides enhanced operational efficiency (see Table 1)
- **Illumination and aimers (see Figure 4):**
 - Choice of red or white LED illumination: Choose white to expedite decoding of colored barcodes and for customer-facing applications
 - Choice of green or red LED aimer line: Choose green for customer-facing applications because it is more visible
- **Barcode value-adds:** Offer optional functionalities beyond barcode scanning, including image capture, OCR (Optical Character Recognition) and software add-ons (Honeywell TotalFreedom™ Formatting Plug-In for automotive parts, boarding passes, and motor vehicle documents), which increases operational efficiencies and allows for multiple functions with one device

Enhances Reliability

- **IP54 ingress protection rating (with the use of a standard cable):** The enclosure has been designed to provide enhanced resistance to dust and splashing water, minimizing the risk of operation shutdown and service or replacement calls
- **USB retention mechanism:** Located at the back of the unit, this mechanism provides up to 5 kg [11.0 lb] of pulling force, minimizing the risk that the device will become unplugged when the kiosk is moved or serviced

Figure 1. Compact size



Figure 2. Slider bracket holding micro-USB cable



Figure 3. Ten mounting holes on five of six sides



Figure 4. Red or white illumination



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POTENTIAL APPLICATIONS

Medical:

- Diagnostic and analytical equipment, including blood analyzers, hematology analyzers, clinical chemistry analyzers, and lab automation systems

Industrial Services:

- Access control kiosks: rail, airport, resorts, events, car parks, border control
- Lottery terminals and lottery ticket checkers

- E-voting machines

- Retail point-of-sales self-checkout

- Smart lockers (pick-up kiosks for parcels and goods)

- Banking ATMs

Transportation:

- In-vehicle ticket validators in buses, subways, and trains

TABLE 1. PERFORMANCE AND OPTICS

CHARACTERISTIC	CM3680SR-BWO	CM5680SR-BRO, CM5680SR-CWO	CM5680WA-BRO	CM2180MP-BRO
	Standard Performance (Standard Range)	Enhanced Performance (Standard Range)	Specialized Performance (Wide Angle) One of the widest angles in its class saves room in the customer's design and allows the ability to reduce near field distance	Specialized Performance (Megapixel) Optics combine professional-grade barcode scanning and high resolution document capture
100% UPC READ RANGE (TYPICAL)	see Table 2			
IMAGE SIZE	640 x 480 pixels	844 x 640 pixels		1280 x 800 pixels
MOTION TOLERANCE	100 mm/s [4 in/s]	1270 mm/s [50 in/s]	1270 mm/s [50 in/s]	100 mm/s [4 in/s]
SCAN ANGLE	38° (horizontal), 29° (vertical) ±1°	42.4° (horizontal), 33.0° (vertical) ±1°	68° (horizontal) x 54° (vertical) ±1°	48° (horizontal), 31° (vertical) ±1°
SKEW ANGLE	±45°	±65°	±70°	±75°
PITCH ANGLE	±45°		±55°	±55°
ILLUMINATION	white LED	624 nm red LED, white LED	624 nm red LED	617 nm red LED
AIMER	640 nm visible red LED	528 nm visible green LED		no aimer
DECODE CAPABILITY	Aztec Code, Codabar, Codablock F, Code 11, Code 32(PARAF), Code 128, Code 2 of 5, Code 39, Code 93, Data Matrix, EAN/JAN-13, EAN/JAN 8, EAN-UCC Composite Codes, EAN-UCC Emulation, IATA Code 2 of 5, Interleaved 2 of 5, Matrix 2 of 5, MaxiCode, MicroPDF417, MSI, PDF417, Postal Codes (Australian Post, British Post, Canadian Post, China Post, Japanese Post, Korea Post, Netherlands Post, Planet Code, Postnet), QR Code, RSS Expanded, RSS Limited, RSS-14, TCIF Linked Code 39, UPC-A, PC E, Chinese Sensible (Han Xin) Code, Maxicode, Codablock A, UPC-A/EAN-13 with Extended Coupon Code, Coupon GS1			
OPTIONAL FUNCTIONALITIES	OCR (A & B); EasyParse for automotive parts, boarding passes and motor vehicle documents			
WARRANTY	2-year limited warranty; the warranty period starts at date of shipment from Honeywell to customer			

TABLE 2. TYPICAL READ RANGES (mm [in])

BARCODE	CM3680SR-BWO		CM5680SR-BRO		CM5680SR-CWO		CM5680WA-BRO		CM2180MP-BRO	
	Start	End	Start	End	Start	End	Start	End	Start	End
3 MIL CODE 39	—	—	—	—	—	—	15 [0.6]	73 [2.8]	—	—
5 MIL CODE 39	65 [2.6]	145 [5.7]	55 [2.2]	200 [7.9]	55 [2.2]	190 [7.5]	15 [0.6]	123 [4.8]	—	—
6 MIL CODE 39	—	—	—	—	—	—	—	—	105 [4.1]	325 [12.8]
10 MIL CODE 39	50 [2.0]	245 [9.6]	18 [0.7]	315 [12.4]	18 [0.7]	335 [13.2]	10 [0.4]	237 [9.3]	65 [2.6]	465 [18.3]
13 MIL UPC-A	60 [2.4]	275 [10.8]	45 [1.8]	420 [16.5]	45 [1.8]	380 [15.0]	21 [0.8]	264 [10.4]	50 [2.0]	515 [20.3]
15 MIL C39	50 [2.0]	345 [13.6]	27 [1.1]	445 [17.5]	28 [1.1]	415 [16.3]	—	—	45 [1.8]	570 [22.4]
6.7 MIL PDF417	65 [2.6]	130 [5.1]	40 [1.6]	185 [7.3]	35 [1.4]	180 [7.1]	15 [0.6]	110 [4.3]	125 [4.9]	240 [9.4]
10 MIL DATA MATRIX	60 [2.4]	130 [5.1]	42 [1.7]	205 [8.1]	40 [1.6]	180 [7.1]	10 [0.4]	120 [4.7]	120 [4.7]	265 [10.4]
15 MIL DATA MATRIX	65 [2.6]	175 [6.9]	25 [1.0]	295 [11.6]	20 [0.8]	260 [10.2]	—	—	70 [2.8]	395 [15.6]
20 MIL QR CODE	65 [2.6]	230 [9.1]	35 [1.4]	380 [15.0]	33 [1.3]	330 [13.0]	—	—	45 [1.8]	495 [19.5]

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TABLE 3. MECHANICAL

CHARACTERISTIC	Parameter
DIMENSIONS (L X W X H)	28 mm x 55 mm x 48 mm [1.10 in x 2.17 in x 1.89 in]
USB CORD PULL FORCE FROM RETENTION MECHANISM	5 kg [11.0 lb]
WEIGHT: CM3680SR-BW0 CM5680SR-BR0, CM5680SR-CW0 CM5680WA-BR0 CM2180MP-BR0	50 g ±5 g [1.76 oz ±0.18 oz] 54 g ±5 g [1.90 oz ±0.18 oz] 54 g ±5 g [1.90 oz ±0.18 oz] 52 g ±5 g [1.83 oz ±0.18 oz]
TERMINATION	micro-USB connector

TABLE 4. ELECTRICAL

CHARACTERISTIC	CM3680SR-BW0	CM5680SR-BR0, CM5680SR-CW0	CM5680WA-BR0	CM2180MP-BR0
OPERATING VOLTAGE	5 Vdc ±0.25 V			
CURRENT:				
IDLE	65 mA	100 mA	100 mA	80 mA
STANDBY (USB SUSPEND)	2.5 mA	2.5 mA	2.5 mA	2.5 mA
AVERAGE (MANUAL TRIGGER)	220 mA	400 mA	400 mA	250 mA
AVERAGE (STREAMING PRESENTATION)	210 mA	250 mA	300 mA	250 mA
AVERAGE PRESENTATION (DEFAULT MODE)	210 mA	350 mA	350 mA	250 mA
HOST SYSTEM INTERFACE	USB 2.0 full speed			

TABLE 5. ENVIRONMENTAL*

CHARACTERISTIC	Parameter
OPERATING TEMPERATURE**: CM3680SR-BW0 CM5680SR-BR0, CM5680SR-CW0, CM5680WA-BRC, CM2180MP-BR0	-20°C to 50°C [-4°F to 122°F] -30°C to 60°C [-22°F to 140°F]
STORAGE TEMPERATURE	-40°C to 70°C [-40°F to 158°F]
HUMIDITY	5% to 95% RH, non-condensing
DROPS	operational after 10 drops at 1.5 m [4.9 ft] to concrete
VIBRATION	random vibration, 5 G, from 22 Hz to 300 Hz, 2 hours/3 axes
LIGHT LEVEL	0 lux to 100,000 lux [0 foot-candles to 9,290 foot-candles]
MTTF	100,000 hours
ESD TOLERANCE: DIRECT DISCHARGE AIR DISCHARGE	±8 kV ±15 kV
SEALING	IP54

*Applies to all models unless otherwise noted.

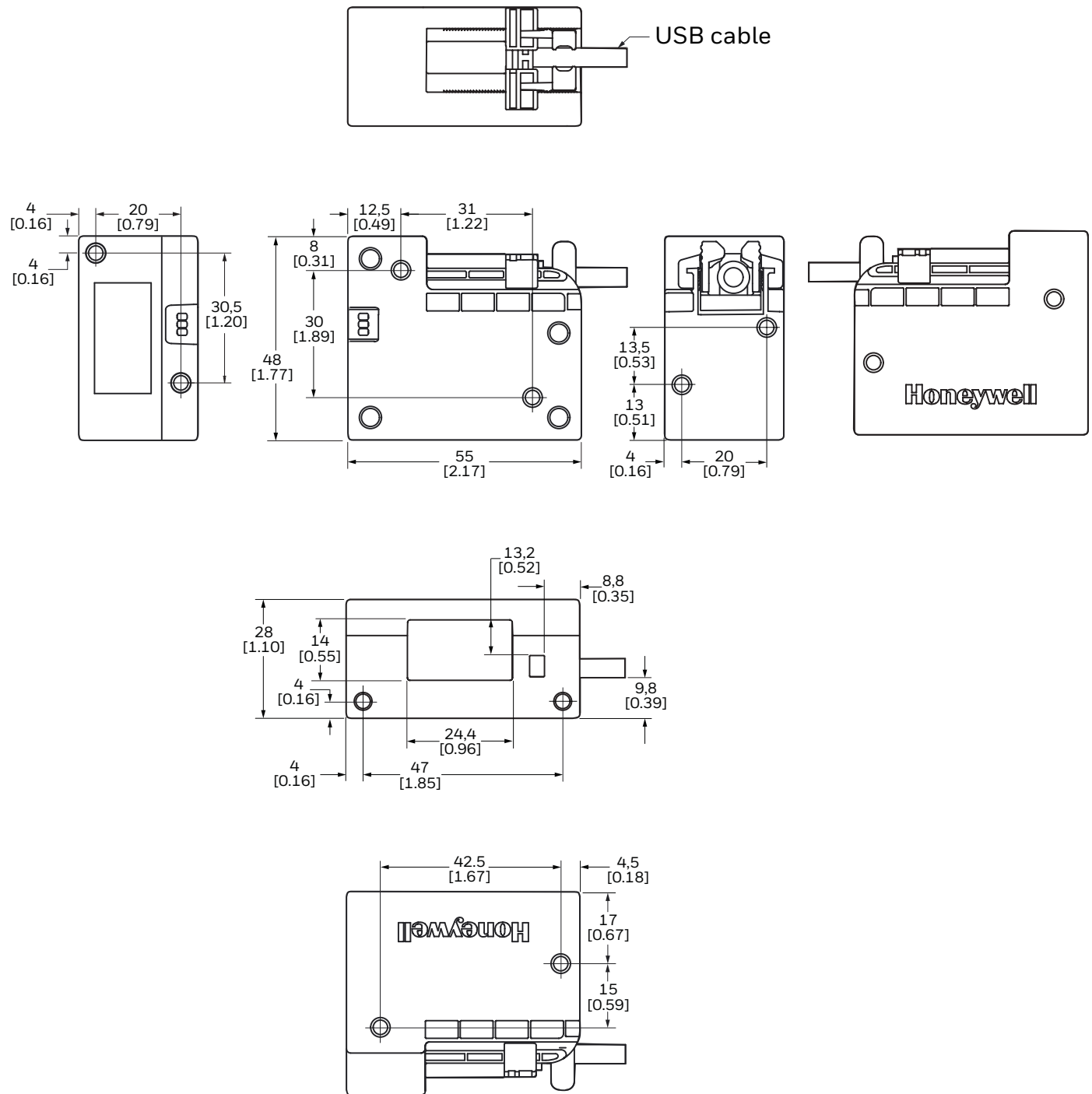
**Depth of field is reduced in extreme temperatures. Please contact your Honeywell representative for more information.

TABLE 6. COMPLIANCE AND REGULATORY

CHARACTERISTIC	Parameter
SAFETY	IEC 60950-1, EN 60950-1, UL 60950-1, FCC Part 15, Class B
LED	Risk exempt group LED product: IEC 62471:2006
EMC	FCC Part 15, ICES-003, CISPR 22, EN 55022
IMMUNITY	CISPR 24, EN 55024

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Figure 5. Mounting and Dimensional Drawing (For reference only: mm/[in.])



ADDITIONAL INFORMATION

- Quick Start Guide is available on the Honeywell web site at honeywellaidc.com
- User Guide is available upon request; contact your Honeywell representative

Find out more

To learn more about Honeywell's scan engines and barcode decoding software, visit honeywellaidc.com.

Honeywell Sensing and Internet of Things

9680 Old Bailes Road
Fort Mill, SC 29707
honeywell.com

NOTICE

MISUSE OF DOCUMENTATION

- The information presented in this datasheet is for reference only. Do not use this document as a product installation guide.
- A Quick Start Guide is available on the Honeywell website (honeywellaidc.com). Additional installation information is available upon request. Please contact your Honeywell sales representative.

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

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