# cm<sub>1</sub>

# Camera for Symphony MX modules





## Powerful camera for outdoor areas

This high-end camera module is made from high-quality materials such as glass and anodised aluminium. Thanks to its timeless and inconspicuous design, it is suitable for modern custom solutions.

The powerful camera module is connected to the Intercom module im3 or im6. An HS-Link cable from Commend with a length of up to 3 m (118 in) can be used for this purpose. The cm1 can be installed e.g. in Intercom stations specially designed to customer requirements, columns and automatic pay stations as well as smart city solutions.

With WDR ("Wide Dynamic Range"), the camera provides a clear and high-quality video image even in difficult lighting conditions, for example, overexposed or too dark areas.

# Features and highlights

- Built-in camera video processor
- Suitable for indoor and outdoor areas
- High protection against vandalism (mechanical impact resistance IK07)
- $-\,$  3 mm (0.12 in) thick and hardened front glass
- Durable to wind and weather thanks to high-quality components and protection class IP66 (at the front when installed)
- Ultra-wide field of view video camera
- Lens distortion correction
- Well-thought-out housing concept for an easy and safe mounting
- Wide Dynamic Range (WDR)



# cm1 Technical specifications

### Technical data

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IP rating:	IP66 (acc. to EN 60529) 1)
Mechanical impact resistance:	IK07 (acc. to EN 62262) 1)
Front panel:	hardened glass, 3 mm (0.12 in) hole diameter: 37 mm/1.46 in (± 0.1 mm/0.04 in)
Image sensor:	1/2.5 in RGB CMOS
Lens:	F2.4, fixed aperture, 150° diagonal angle, 145° horizontal angle, 123° vertical angle
Minimum illumination:	colour: 1.0 lux
Resolution (W x H):	max. 1920 x 1080 pixels <sup>2)</sup>
Frame rate:	up to 30 fps
Video features:	codecs: H.264 (SIP video and ONVIF), MJPEG (HTTP video and ONVIF) and RTSP ONVIF specification: ONVIF Profile S
Operating temperature range:	$-40~^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ ( $-40~^{\circ}\text{F}$ to +158 $^{\circ}\text{F}$ ) <sup>3)</sup>
Storage temperature range:	-40 °C to +70 °C (-40 °F to +158 °F)
Relative humidity:	up to 95%, not condensing
Connection:	HS-Link ⁴)
Power supply:	5 VDC via HS-Link cable
Approvals and compliances:	EN 61000-6-2, EN 61000-6-4, EN 55032 Class B, EN 55024, EN 55035, EN 62368-1 FCC Part 15 Class B, ICES-003 Class B IEC/EN/UL 62368-1, CB-Scheme (by UL), UL Listed (E351589)
Dimensions (ø x D):	with mounting ring: 62 x 25 mm (2.44 x 0.98 in) without mounting ring: 42 x 25 mm (1.65 x 0.98 in)
Weight incl. package:	approx. 160 g (0.35 lbs)
Accessories:	ASKHSLINK-03 (30 cm (12 in) cable) ASKHSLINK-05 (50 cm (20 in) cable) ASKHSLINK-10 (100 cm (40 in) cable) ASKHSLINK-30 (300 cm (118 in) cable)
1) At the front when installed (tested with stainless-steel front).	



 $<sup>^{1)}</sup>$  At the front when installed (tested with stainless-steel front).  $^{2)}$  The maximum resolution depends on the Intercom module (see respective data sheet).



### Extent of supply

- Camera module
- Mounting ring
- Gasket
- HS-Link cable (30 cm/12 in)
- 4 x M3 screw nuts
- Short reference

### System requirements

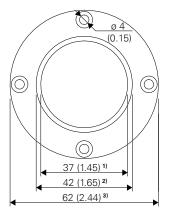
- im3 or
- im6

 <sup>&</sup>lt;sup>3)</sup> Applies only to cm1 Rev. AB or higher.
 <sup>4)</sup> The HS-Link connection is intended only for use with compatible Commend devices (see "System")

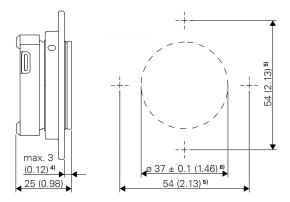
# cm1 Installation instructions

### **Dimensions**

Measuring units in mm (in), not to scale!



- <sup>1)</sup>Diameter glass front <sup>2)</sup>Diameter camera module
- 3)Diameter mounting ring



- 4)Max. front thickness
- 5)Positions for fixing the mounting ring (4 x)
- 6)Diameter cut-out for glass front

### Mounting instructions

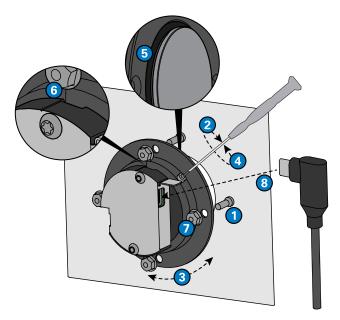
- Avoid direct sunlight.
- Observe the country-specific standards, guidelines and specifications for installation, mounting and configuration.
- If the device shall be installed flush, the front panel must not exceed a thickness of 3 mm (0.12 in).
- To be able to use the supplied screw nuts, M3 screws with a length of min. 6.5 mm (0.26 in) are recommended.
- Install the device carefully to avoid damaging the glass front.
- Before using the device, make sure the HS-Link cable is connected correctly and not damaged.
- After connecting the cm1 to the Intercom module, the Intercom module must be rebooted.
- Use moistened microfibre cloth for cleaning the glass front.

### Safety instructions

- This device shall be installed or replaced by trained and qualified personnel only.
- The front of the device is made of glass. Do not use the device when the glass is damaged.
- Only accessories that comply with the device's technical specifications shall be used.
- Use only the HS-Link cable in extent of supply or an ASKHSLINK-xx cable (available separately).
- Disconnect the HS-Link cable from the device for any maintenance.
- Do not make any modifications to the device.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.



### Mounting



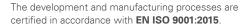
- Make sure that the four M3 threaded bolts are positioned correctly.
- (Only for a front thickness less than 3 mm/0.12 in) Slightly loosen the locking screw (hexagon, H2). Make sure that it does not fall out.
- ③ (Only for a front thickness less than 3 mm/0.12 in) Adjust the mounting ring to the front thickness by turning it until the camera glass is flush with the front. The notch on the top of the cm1 and the notch on the mounting ring have to be aligned for a horizontal video image.
- 4 (Only for a front thickness less than 3 mm/0.12 in) Tighten the locking screw (max. 1 Nm).
- Make sure that the gasket is located in the designated notch.
- Put the cm1 on the M3 threaded bolts. Make sure that the camera module is positioned correctly (notch points upwards and HS-Link connector points to the right).
- ② Use the M3 screw nuts included in the extent of supply to fix the cm1 to the M3 threaded bolts (max. 1 Nm).
- 3 Connect the HS-Link cable to the Intercom module. Make sure that the cable points downwards.

#### **ATTENTION**

The alignment of the camera module affects the camera image. For a horizontal camera image, follow the instructions in 3 and 6.

## Quality tested. Reliable. Smart.

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