

## MCS Series

### Modular 3D Compact Sensors

#### Sensor Module

Sensor: cx1280, cx2040,  
cx4090, cx4090HS  
Triangulation angle [°]: 15–45

#### Laser Module

Fan angle [°]: 20–75  
Wavelength [nm]: 405, 450, 520, 660  
Laser class: 2M, 3R, 3B

#### 2nd Sensor Module

Optional dual-head sensor  
configuration – for increased  
3D scan quality



#### Link Module

Variable length for your  
triangulation setup

- ✓ Next generation of laser triangulation compact sensors
- ✓ Modular configurable to perfectly meet your demands in terms of FOV, resolution and speed
- ✓ No NRE charge for customization
- ✓ Optional dual-head sensor for increased 3D scan quality
- ✓ All configurations are factory calibrated
- ✓ Robust design for maximum reliability

# Technical Specifications

## Sensor Modules

Type	cx1280	cx2040	cx4090	cx4090HS
Points per profile	1,280	2,048	4,096	4,096
X-FOV [mm]	25–1,800	35–1,800	90–1,800	90–1,800
Triangulation angle [°]	15, 20, 25, 30, 45	15, 20, 25, 30, 45	15, 20, 25, 30	15, 20, 25, 30
Resolution X [µm]	20–1,400	17–900	22–440	22–440
Resolution Z [µm]	1–30	1–20	1–14	1–14
Z-Range [mm]	40–1,500	35–1,500	100–1,500	100–1,500
Linearity [% of Z-Range]	±0.01	±0.01	±0.01	±0.01
Repeatability [µm]	1–100	1–100	1–100	1–100
Max. profile speed [kHz]	200	25	14.5	26
Module size [mm]	115 x 60 x 110 (L x D x H) 130 x 60 x 60 (L x D x H)	115 x 60 x 60 (L x D x H) 130 x 60 x 60 (L x D x H)	110 x 60 x 100 (L x D x H)	110 x 60 x 100 (L x D x H)

## Laser Modules

Type	cx405	cx450 (on request)	cx520 (on request)	cx660
Wavelength [nm]	405	450	520	660
Fan angle [°]	20, 30, 45, 60, 75	20, 30, 45, 60, 75	20, 30, 45, 60, 75	20, 30, 45, 60, 75
Working distance [mm]	128–1,500	128–1,500	128–1,500	128–1,500
Power [mW]	25–160	20–75	20–60	20–130
Safety class	2M, 3R, 3B	2M, 3R, 3B	2M, 3R, 3B	2M, 3R, 3B
Line thickness [µm]	60–600	60–700	90–990	90–990
Module size [mm]	44 x 60 x 60 (L x D x H)	44 x 60 x 60 (L x D x H)	44 x 60 x 60 (L x D x H)	44 x 60 x 60 (L x D x H)

## Link Modules

Length [mm]	0, 15, 30, 45, 65, custom length
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## Electrical and Data Interface

External trigger functions	Encoder, 2 IN, 2 OUT
Power supply [V]	10–24
Power consumption [W]	10
Power connector	17-pin M12 connector
Ethernet connector	8-pin A-coded M12 connector
Data interface	GigE Vision, GenICam
Protocols	GigE Vision, HTTP, mDNS

## Environmental

Protection degree	IP67
Operating temperature [°C]	0–50 (non condensing)
Shock	15 g (IEC 60068-2-27)
Vibration	2 g, 20–500 Hz (IEC 60068-2-6)

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