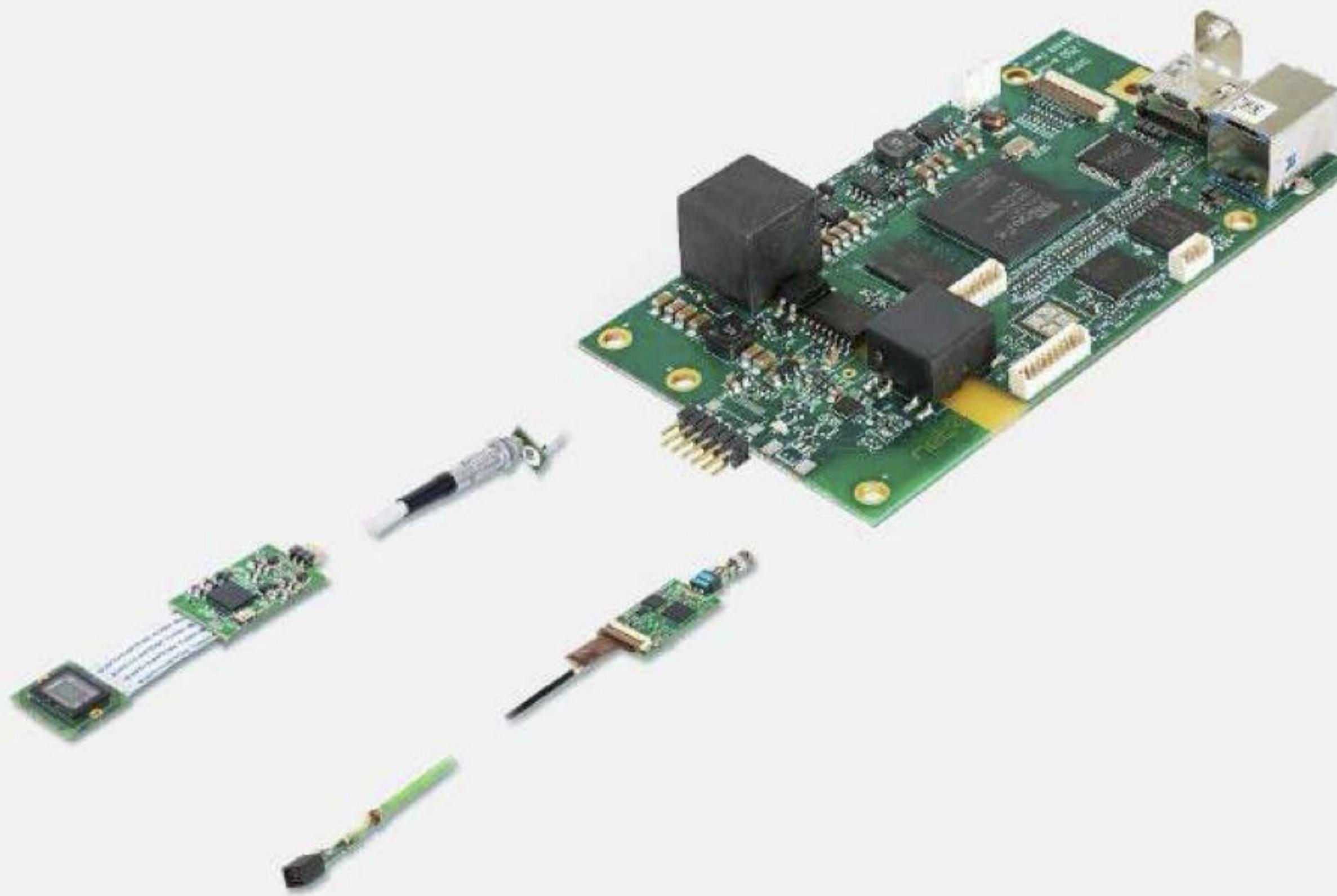




HDselect is a vision solution for medical endoscopy. The special feature enabling various endoscopy applications – flexible, rigid and single-use – to be controlled with a universal CCU offers major advantages to users. Regardless of what type of image sensor the camera control unit is combined with, the result is always excellent image quality in the output format 1920x1080p60. Thanks to the plug & play feature, the surgical assistant can quickly attach various endoscopes.



1 | 3

Type of Application	Multi-use				Single-use		
Camera Module Unit	CSH 131T-M	CSH 118C-M	CSH118F-M	HDR 3535 C5	CSH 131T	CSH 118C	CSH 118F
Image sensor	OCHTA	OV6946	OCHFA	IMX462 ²	OCHTA	OV6946	OCHFA
Sensor size	1/31"	1/18"	1/17.5"	1/2.8"	1/31"	1/18"	1/17.5"
Native resolution [pixel]	400 x 400	400 x 400	720 x 720	1920 x 1080	400 x 400	400 x 400	720 x 720
Max. display resolution [pixel]	1080 x 1080	1080 x 1080	1080 x 1080	1920 x 1080	1080 x 1080	1080 x 1080	1080 x 1080
Camera head size [mm]	0.65 x 0.65	1 x 1	1.15 x 1.15	18 x 18	0.65 x 0.65	1 x 1	1.15 x 1.15
Max. cable length: head to handpiece ³	2 m	2 m	2 m	50 mm	2 m	2 m	2 m
Type	CMOS						
Colour depth (HDMI-out)	8 bit						
Frame rate (HDMI-out) [fps]	60						
Board size [mm]	45 x 14.5	45 x 14.5	8.4 x 15	34 x 18	8.4 x 15	8.4 x 15	8.4 x 15
Operating temperature	0 to 40°C						

X 1 available with LED driver for continuous exposure setting

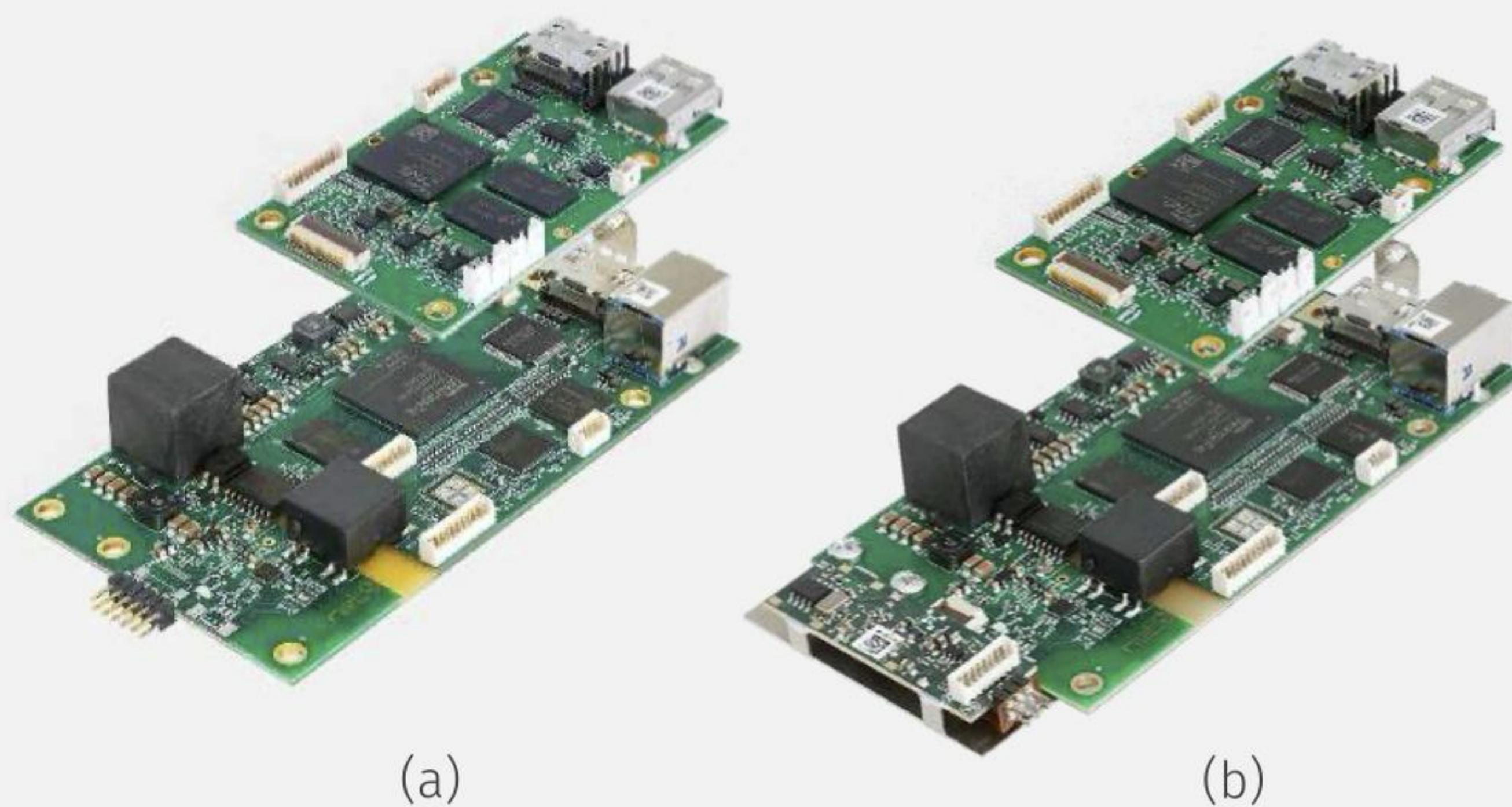
2 former image sensor IMX222 replaced by IMX462 as of Q3/2023

3 see drawing on page 3 for detailed information

**Camera Control Unit (CCU) and optional Recording Module**

The images on the right show the recoding module on top. In regard of the endoscopic application two CCU types are available:

- (a) CCU for multi-use applications
- (b) CCU for single-use applications with integrated Main PCB



2 | 3

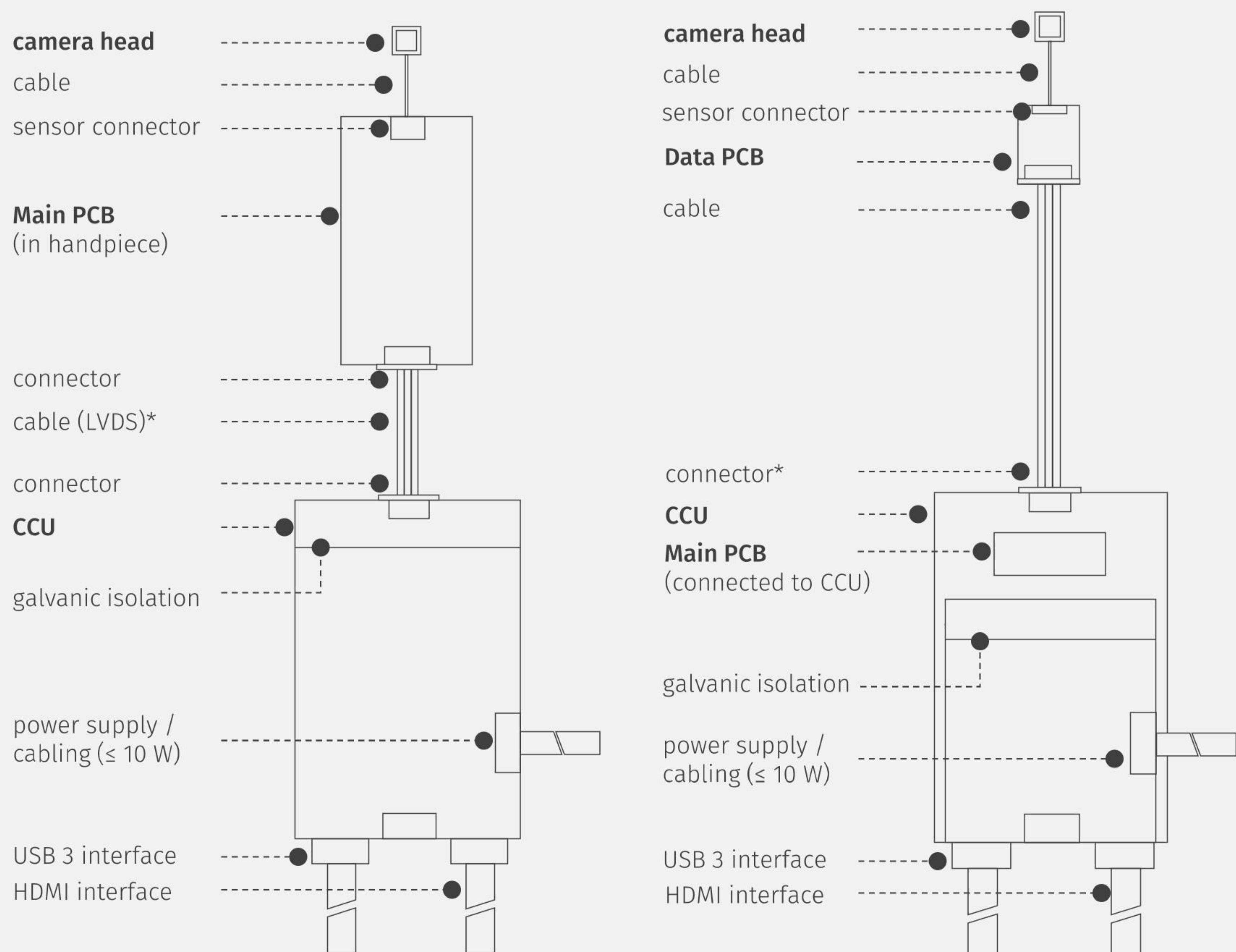
Type of Application		Multi-use				Single-use		
Camera Module Unit	CSH 131T-M	CSH 118C-M	CSH 118F-M	HDR 3535 C5	CSH 131T	CSH 118C	CSH 118F	
Cable from Camera Control Unit (CCU) to Main PCB							Cable from Main PCB to Data PCB	
Max. length [m]	3	3	3	5	2	2	2	
Diameter [mm]	6.2	6.2	6.2	6.2	3	3	3	
							Size of Data PCB	
							15 x 8.4 mm	
Camera Control Unit	HDR 1330 CHx				HDR 1330 CHx DP			
Cable connector	6 pin (NET specific configuration: power, GND, I2C, LVDS, program)							
✗ Patient safety	galvanic isolation (Type BF-classified / Body Floating)							
✗ Power consumption	P < 10 W, U = 12 V ±10 %							
✗ Power supply connector	3 pin ELCO, NET Standard							
✗ Power LED	optional							
Board size [mm]	110 x 60							
Interfaces								
✗ HDMI connector	1080p60 (DVI signal)							
✗ USB	USB 3.2 Gen1							
Software								
Direct Show Filter (Direct-X)	For use of camera in non-NET specific software, e.g. VLC media player, amcap							
Operating System	Compatible with Windows 32/64 bit							
NET Viewer	<ul style="list-style-type: none"> - Live video display - Video recording and capture function - Customization of logo on request 							
Settings	Brightness, contrast, white balance, saturation, hue, horizontal flip, color control, AE settings (e.g. exposure)							
Recording Module HDR1330 REC								
Board size [mm]	45 x 73							
✗ Patient safety	Type BF-classified / Body Floating							
Power	P = 3 W, U = 12 V ±10 %							
✗ Interfaces	HDMI 1080p60 (DVI signal) USB 2.0 host							
Features	Recording in 1080p30 AVI format, image capture							

Drawing

Type of Application

Multi-use

Single-use



*optional

Upon request: LED driver, keyboard, EMI approved housing.

Drawings and images not to scale.

Please note that all data and illustrations are not binding and subject to error, change and omissions without notice.