



Picture: Monitor, ECU, Camera

ProViu®360

Product Information

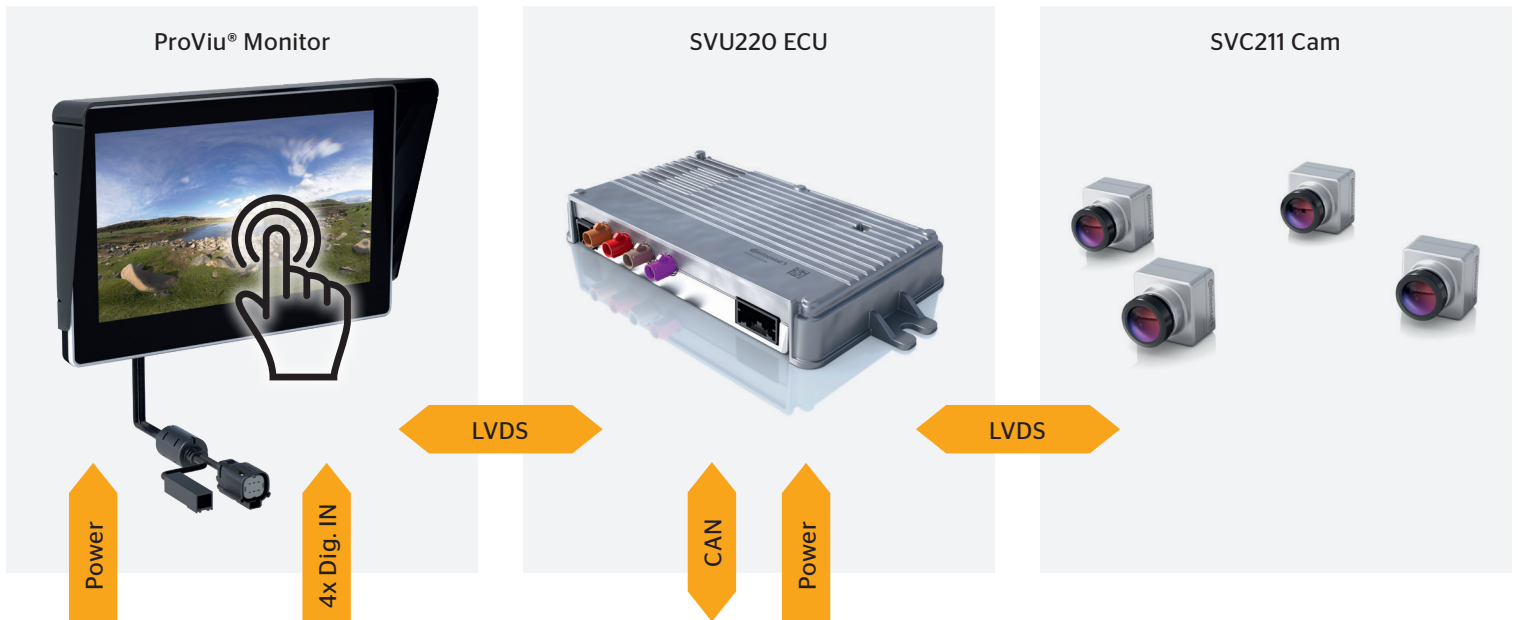
Description:

ProViu®360 is full digital surround view system using megapixel cameras and providing HD image on monitor.

The Surround View System provides a complete 360° view around the entire vehicle. Allowing for simple blind spot mitigation, this intelligent camera system delivers a wide range of benefits in multiple everyday scenarios. Surround View was originally designed to give the driver new and previously unobtainable viewpoints of their vehicle, using typically 4 cameras and an ECU. The ProViu®360 System gives the driver a real-time surrounding view of the vehicle and reduces the risk of damage to persons or property thanks to this comprehensive view of the vehicle's surroundings.

Features:

- › High definition automotive cameras with outstanding performance
- › Enhanced image quality in HD resolution
- › Full digital surround view system
- › Dynamic 3D views & overlays
- › Genuine real time delivery at 30fps
- › 2nd generation based on years of experience
- › CAN-Bus and other GPIOs
- › Simplified calibration process
- › Flexible software tool chain for customization



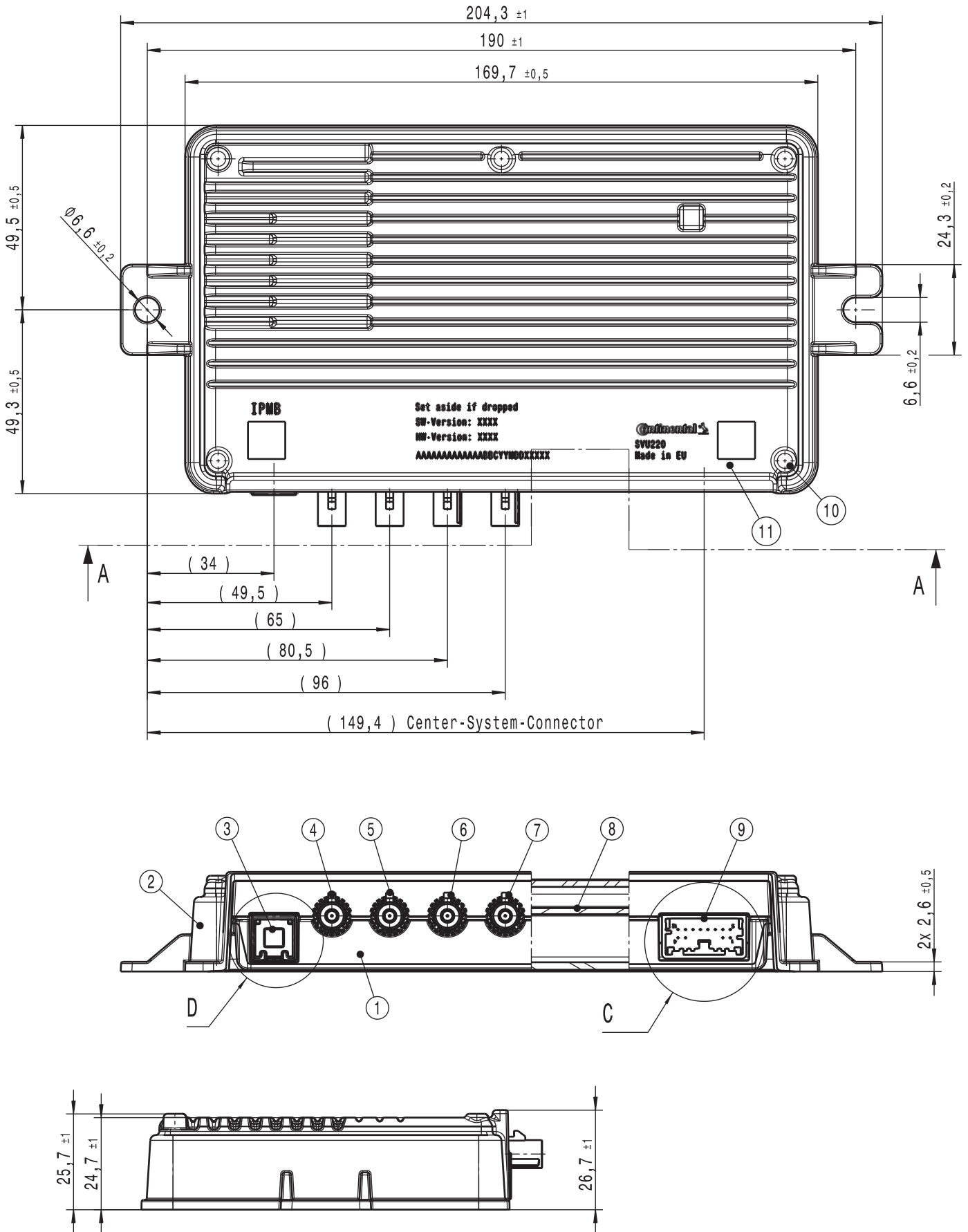
Technical Data ECU

Video Output Resolution	1280 x 720 pixel
Programming Interface	CAN-Bus or FlexRay
Camera Inputs	4
Housing	Die-cast Aluminium, AlSi12Cu1
Nominal Voltage	12 V, for 24 V vehicles a DCDC converter is available
Operating Voltage	8-16 V (DC-DC converter available for 24 V)
Over Voltage protection	According 2004/104/EG and ISO16750-2:2010(E)
Reverse polarity protection	Yes
Current consumption	max. 2 A @ 12 V
Operating temperature	-40 to +85 °C
Storage temperature	-40 to +95 °C
Video Signal	GMSL (MAX9259) FMVSS compliant ECE R-46 compliant
Video output connector	JAE MX49A02HQA
Camera input connector	FAKRA Connector CAM4 RIGHT CAM Coding H (violet) FAKRA Connector CAM3 LEFT CAM Coding I (beige) FAKRA Connector CAM2 REAR CAM Coding L (carmine-red) FAKRA Connector CAM1 FRONT CAM Coding M (pastel-orange)
System connector	Molex 12 Pin 34897-81420
EMC in conformity with (Electromagnetic compatibility)	CE ECE-R10 (E Mark) FCC IMDS, Reach, RoHS
Vibration	ISO 16750-3, IEC 60068-2-6, IEC 60068-2-14 Nb peak to peak amplitude: 10 mm 5 Hz to 200 Hz acceleration: 4,9 to 44,1 m/s ² 54 sweeps (18 per axis) Duration: 18 hrs
Mechanical shock	100 g, 10 ms - 6x in each opposite direction of each perpendicular axis
Protection class	IP5K2
Weight	450 g

Technical Data Cameras	Wide Angle Fisheye Camera with Infrared Filter
Imager	OV10640
Video Output Resolution	1280 x 800 pixel, 30 fps
Field of View	HFOV: >190° VFOV: 130°
Housing	Aluminium
Connector Type	Waterproof Fakra A Coded
Video Signal	FPD-Link III (TI DS90UB913A-Q1)
Operating temperature	-40 to +85 °C
Storage temperature	-40 to +105 °C
EMC in conformity with (Electromagnetic compatibility)	CE ECE-R10 (E-Mark) & FCC IMDS, Reach, RoHS
Vibration	ISO 16750-3, IEC 60068-2-6, IEC 60068-2-14 Nb peak to peak amplitude: 10 mm 5 Hz to 200 Hz acceleration: 19,6 to 58,9 m/s ² 54 sweeps (18 per axis) Duration: 18 hrs
Mechanical shock	DIN EN 60068-2-27: 2010 Peak acceleration: 500 m/s ² , Duration of pulse: 6 ms, Pulse shape: shock form: semi-sinusoidal 10 shocks per direction ($\pm X$, $\pm Y$, $\pm Z$) 100 g, 10 ms - 6x in each opposite direction of each perpendicular axis
Protection class	IP6K7 (connector attached, lens part IP6K9)
Supply Voltage	Power over Coax
Weight	23 g

Technical Data Monitor	HD Touch Monitor
Display	10.1"
Video Input Signal	GMSL (MAX9260)
Resolution	1280 x 720 pixel (16:9)
Brightness	800 cd/m ² typ.
Contrast	Min. 600:1
Touch / Bonding	5 points capacitive, optical bonding & circular polarizer
Operating temperature	-30 to +75 °C
Storage temperature	-40 to +85 °C
Housing	268.2 (L) mm x 177.7 (H) mm x 33.0 (D) mm
Connector	System connector: Molex 33472-0601 Video connector: JAE MX49C 04 F Q1
EMC in conformity with (Electromagnetic compatibility)	CE ECE-R10 (E-Mark) & FCC IMDS, Reach, RoHS
Environmental tests	ISO16750 - ZE - S - ZA - G - B - IP67 ZE: Operating voltage range 8 V to 32 V ZA: Operating temperature range as code letter B, but upper temperature of 75 °C
Protection class	IP 67
Supply Voltage	12 V / 24 V
Weight	1.6 kg

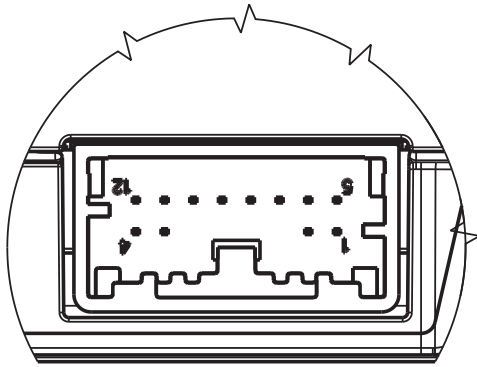
Dimensions ECU



Please consider instruction for mounting from drawings.

Pin-Out ECU

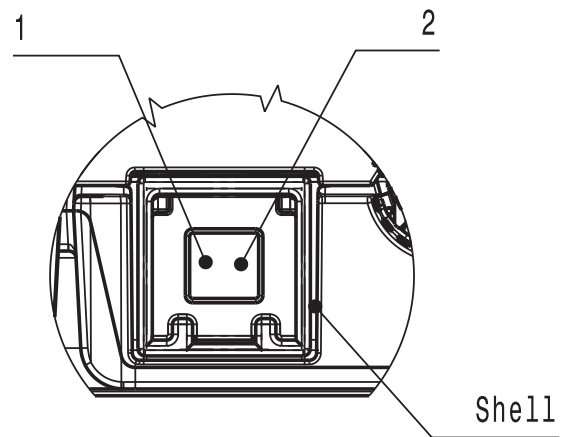
System Connector 9 - Molex Mini50 female 34824-1124)



Detail C

Number	Configuration
01	Ubat (12 V)
02	Not connected
03	Not connected
04	Not connected
05	Not connected
06	CAN GND optional
07	GND
08	CAN-H
09	CAN-L
10	Not connected
11	Not connected
12	Not connected

Monitor Connector 3 - MX49A02FQ1



Detail D

Number	Configuration
01	SER OUT P
02	SER OUT N
Shell	Ground GND

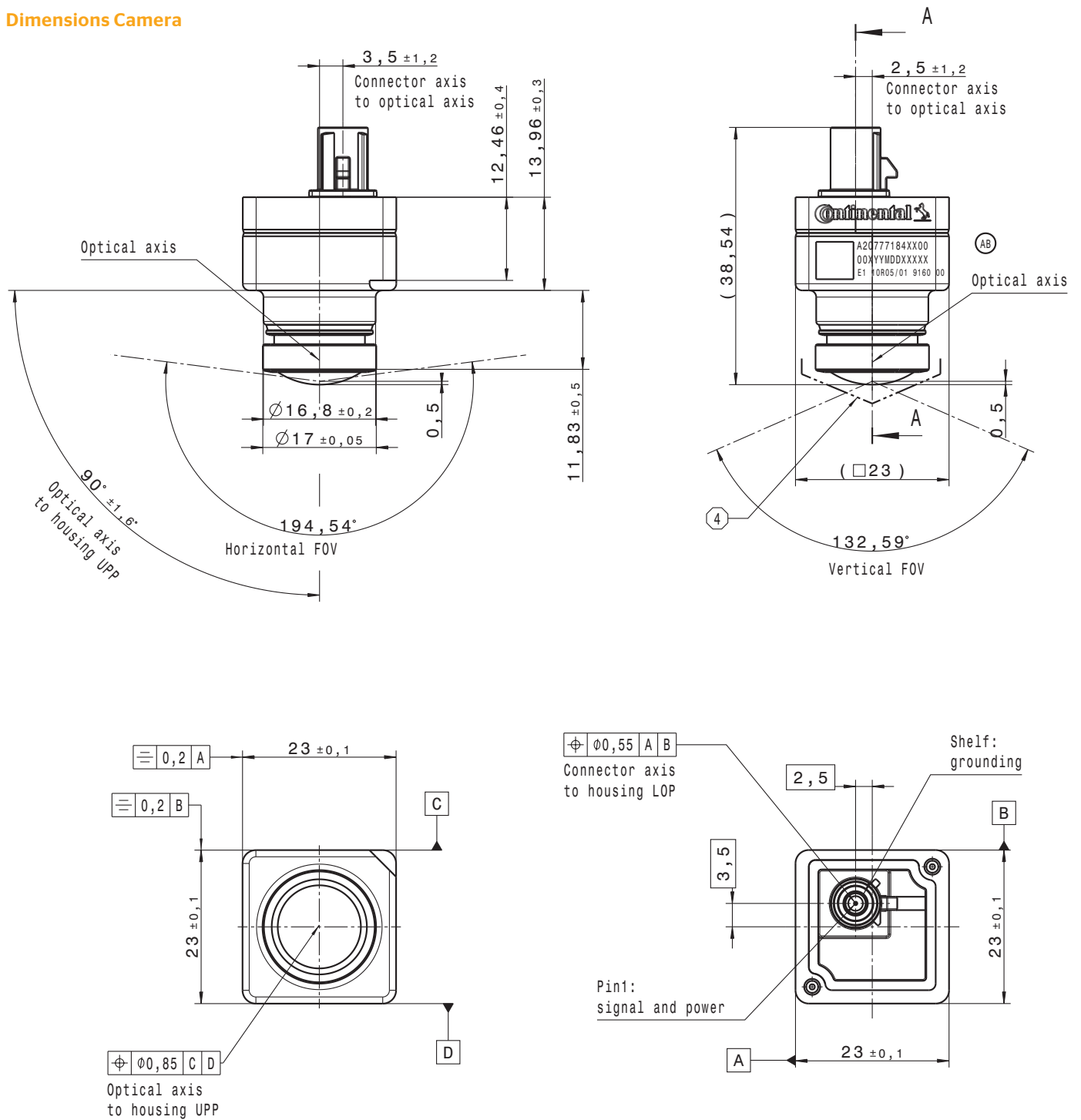
Video Connector 4-7 - Fakra Z-Coded

Connector Pos.	Camera	Color	Coding
4	FRONT CAM	pastel-orange	M or Z (universal)
5	REAR CAM	carmine-red	L or Z (universal)
6	RIGHT CAM	beige	I or Z (universal)
7	LEFT CAM	violet	H or Z (universal)

ProViu Standard Camera Cable:

Leoni Dacar® 462-Koax-50-1,52-2,87/T105

Dimensions Camera

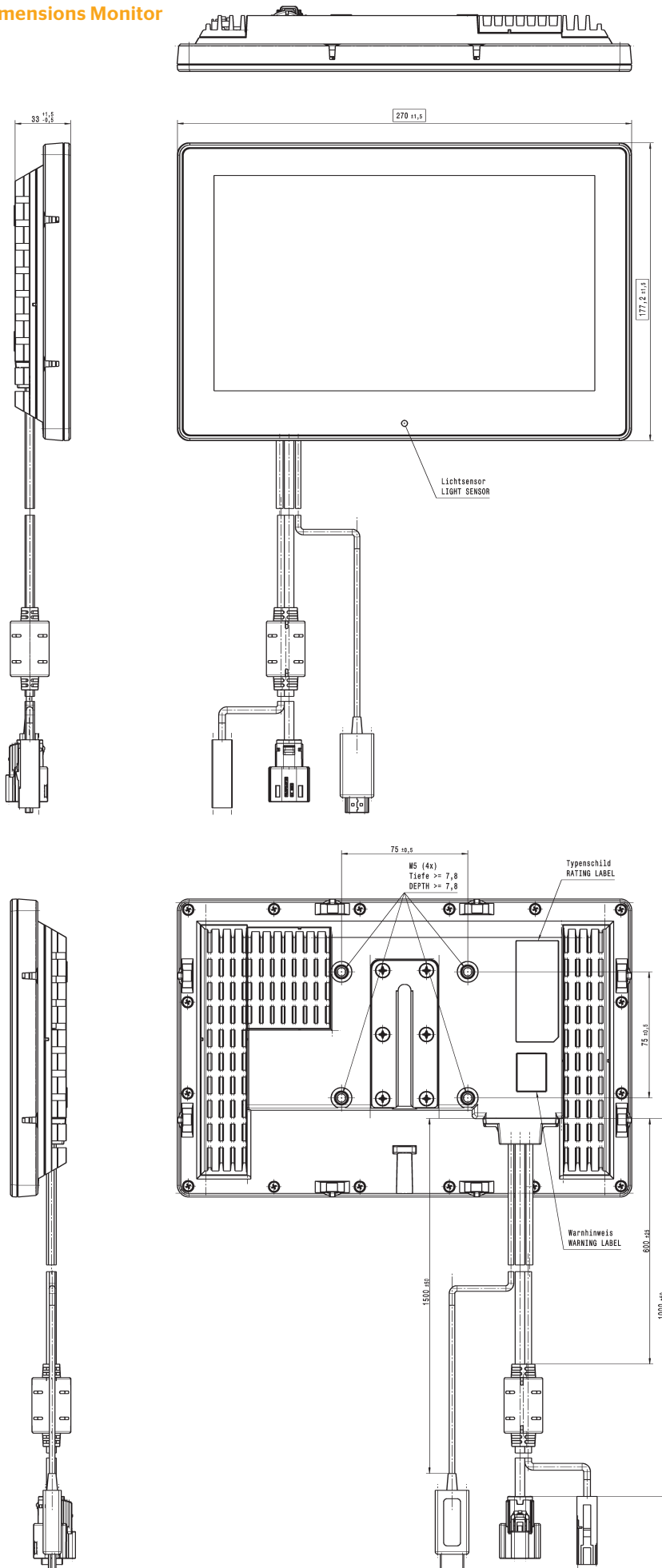


Level C represents upper side of the Camera.

Pin-Out Camera

Camera Connector A - A-Coded Waterproof Fakra

Dimensions Monitor



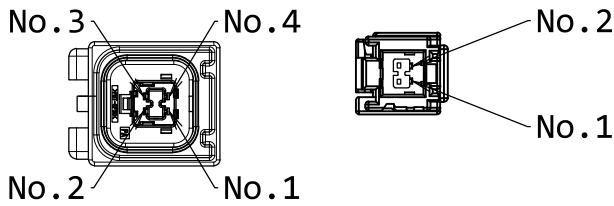
VESA mounting (75 x 75 mm) and slider foreseen. Portrait and landscape orientation possible.

Monitor Pin-Out

Monitor Video-Connector A - MX49C04MQ1

Monitor-Side CN1:

ECU-Side CN2:



CN1 TERMINAL NO.	WIRING	CN2 TERMINAL NO.
3		1
2		2
SHELL	SHIELD	SHELL

Monitor Vehicle Connector B - Molex MX150 Male Connector, 3.5 mm Pitch, 6 Way, 2 Row Mfr. Part No. 33482-0601

Pin	Color	Description
Pin 1	red	12/24V
Pin 2	black	GND
Pin 3	green	Dig-In 1
Pin 4	yellow	Dig-In 2
Pin 5	blue	Dig-In 3
Pin 6	brown	Dig-In 4

ProViu Standard Monitor Cable: TWINAX CABLE AWG28 x 1P

Part numbers

Product	Part Number	Packaging Qty
ProViu®360 ECU	A2C7735330401	1
ProViu®360 Camera	A2C7771840101	1
ProViu®360 Monitor	2801401001301	1
ProViu®360 Cable ECU-Vehicle	2801405001301	1
ProViu®360 Cable Monitor-Vehicle	2801405002301	1
ProViu®360 Cable ECU-Camera 5 m	2801405003301	1
ProViu®360 Cable ECU-Camera 10 m	2801405004301	1
ProViu®360 Cable ECU-Camera 15 m	2801405005301	1
ProViu®360 Cable ECU-Monitor 5 m	2801405006301	1
ProViu®360 Cable ECU-Monitor 10 m	2801405007301	1
ProViu®360 Cable ECU-Monitor 15 m	2801405008301	1
ProViu®360 Camera Housing (SOP July 2021)	2801406002301	1