



Picture: Monitor, ECU, Camera

ProViu®360

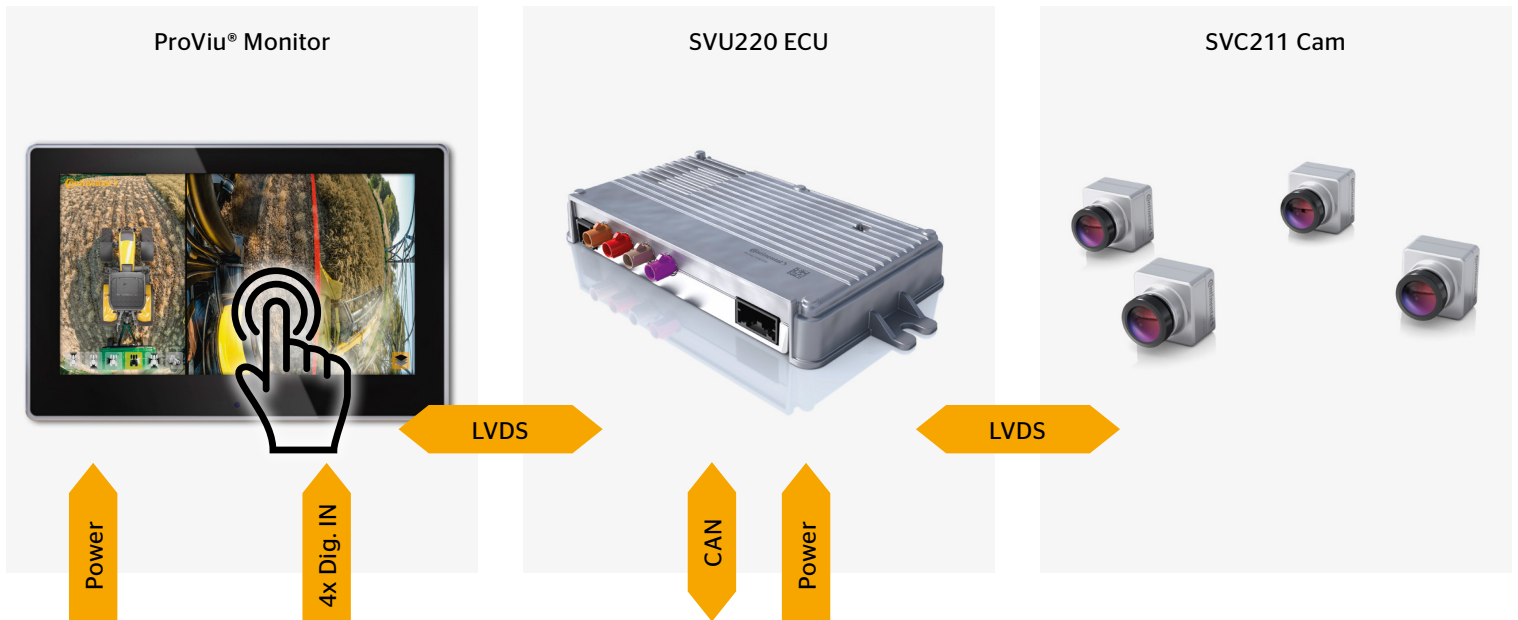
Product Information

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 four 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



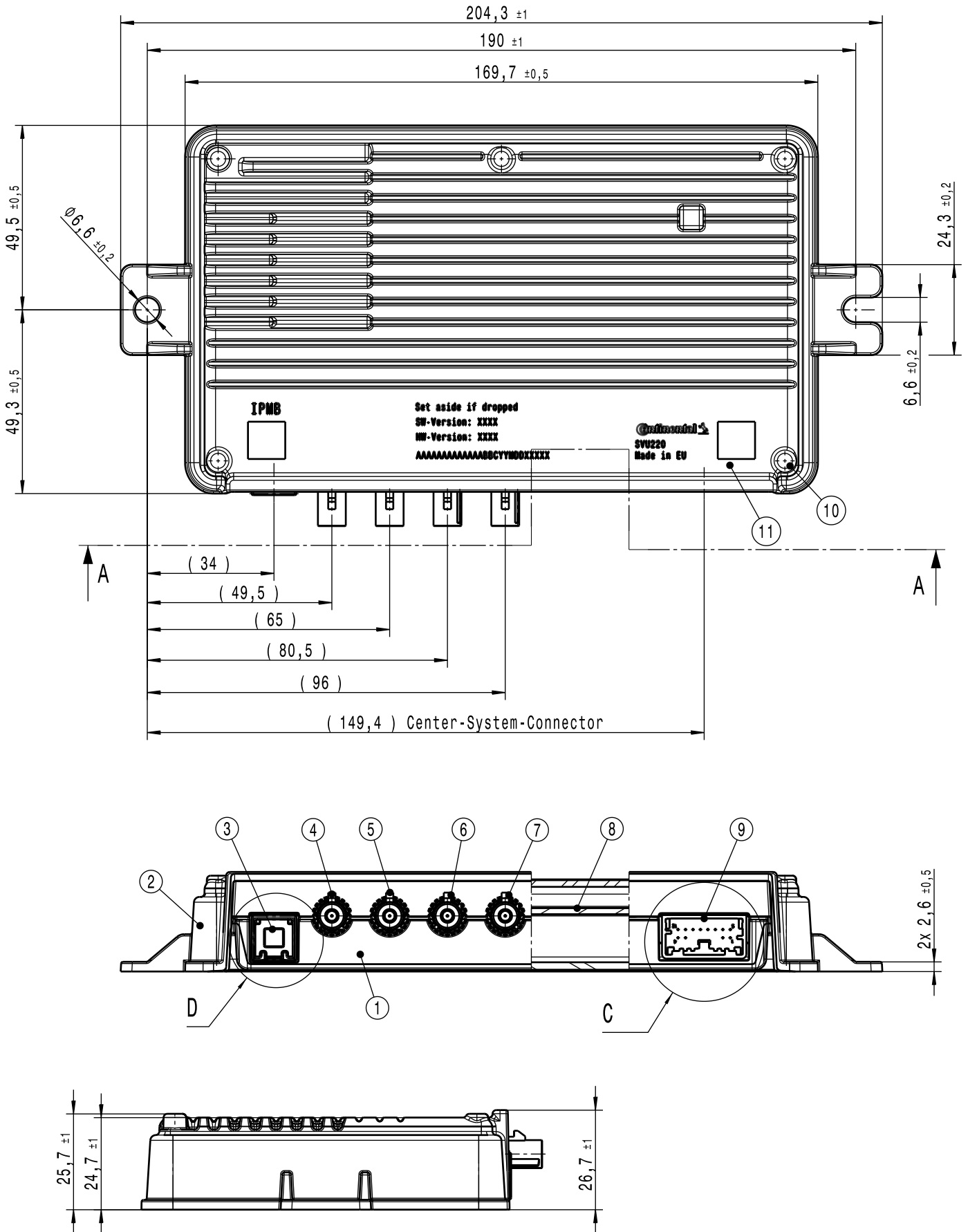
Technical Data ECU

Video Output Resolution	1280 x 720 pixel
Programming Interface	CAN-Bus
Camera Inputs	4
Housing	Die-cast Aluminium, AISi12Cu1
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 R-118 for cables 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 (±X, ±Y, ±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 R-118 for cables & 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

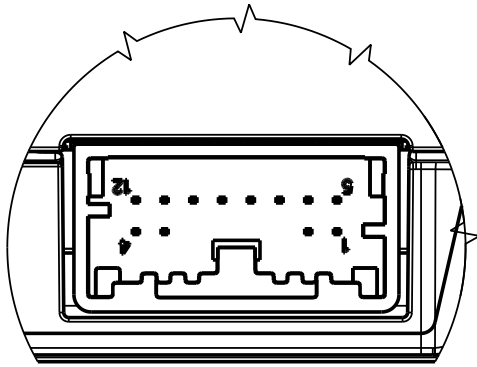
Dimensions ECU



Please consider instruction for mounting from drawings.

Pin-Out ECU

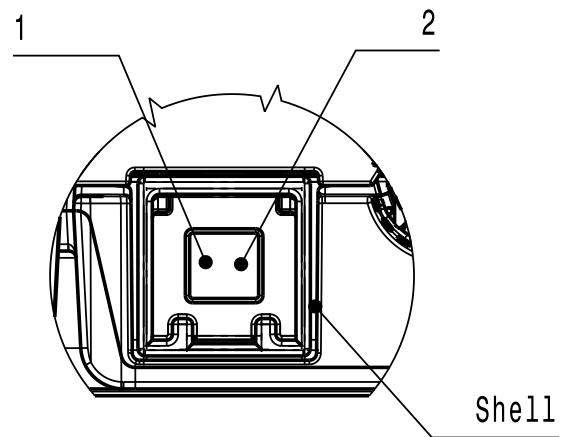
System Connector 9 - Molex Mini50 female 34824-1124)



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

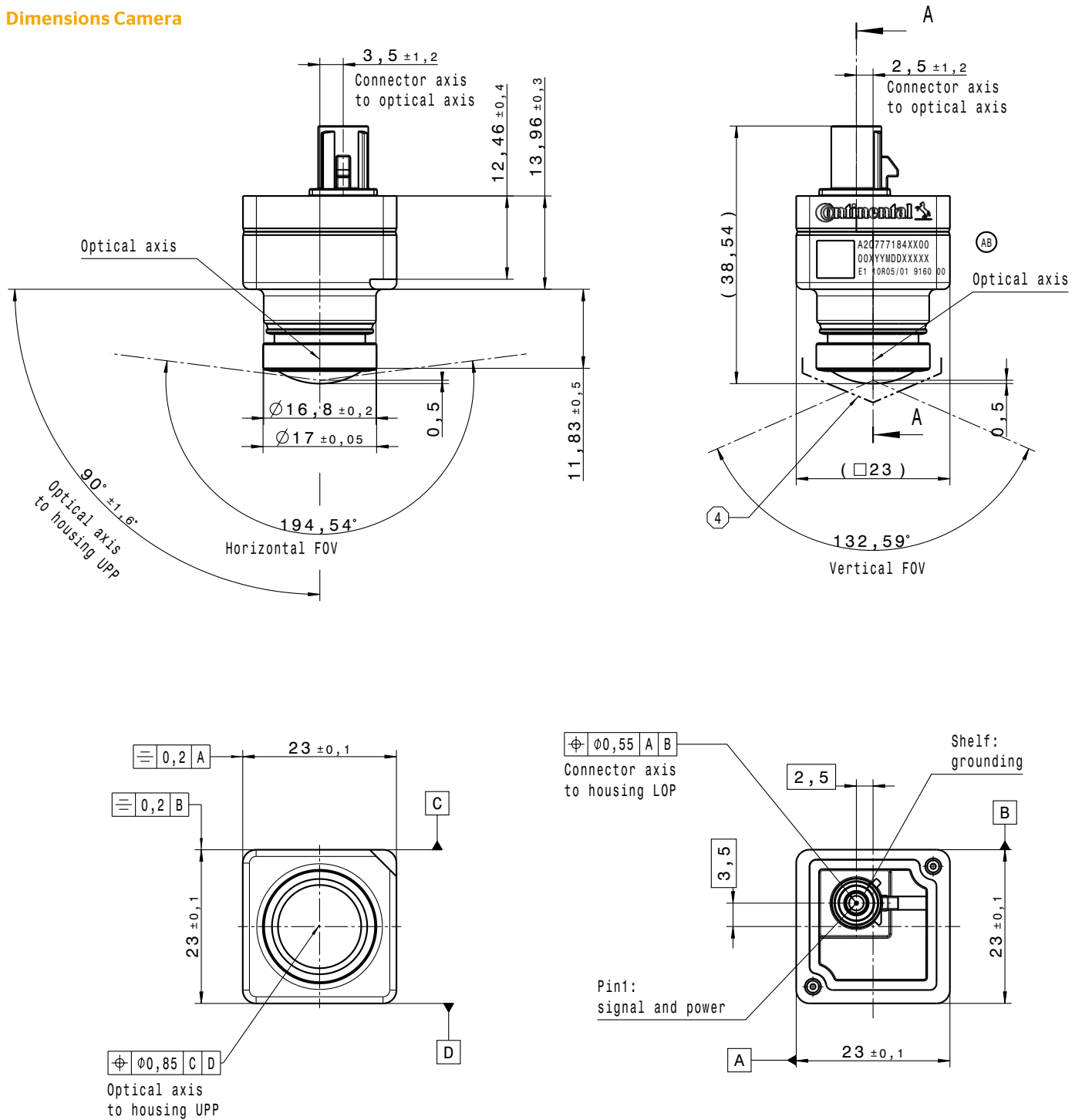
Video Connector 4-7 - Fakra Z-Coded

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

ProViu Standard Camera Cable:

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

Dimensions Camera

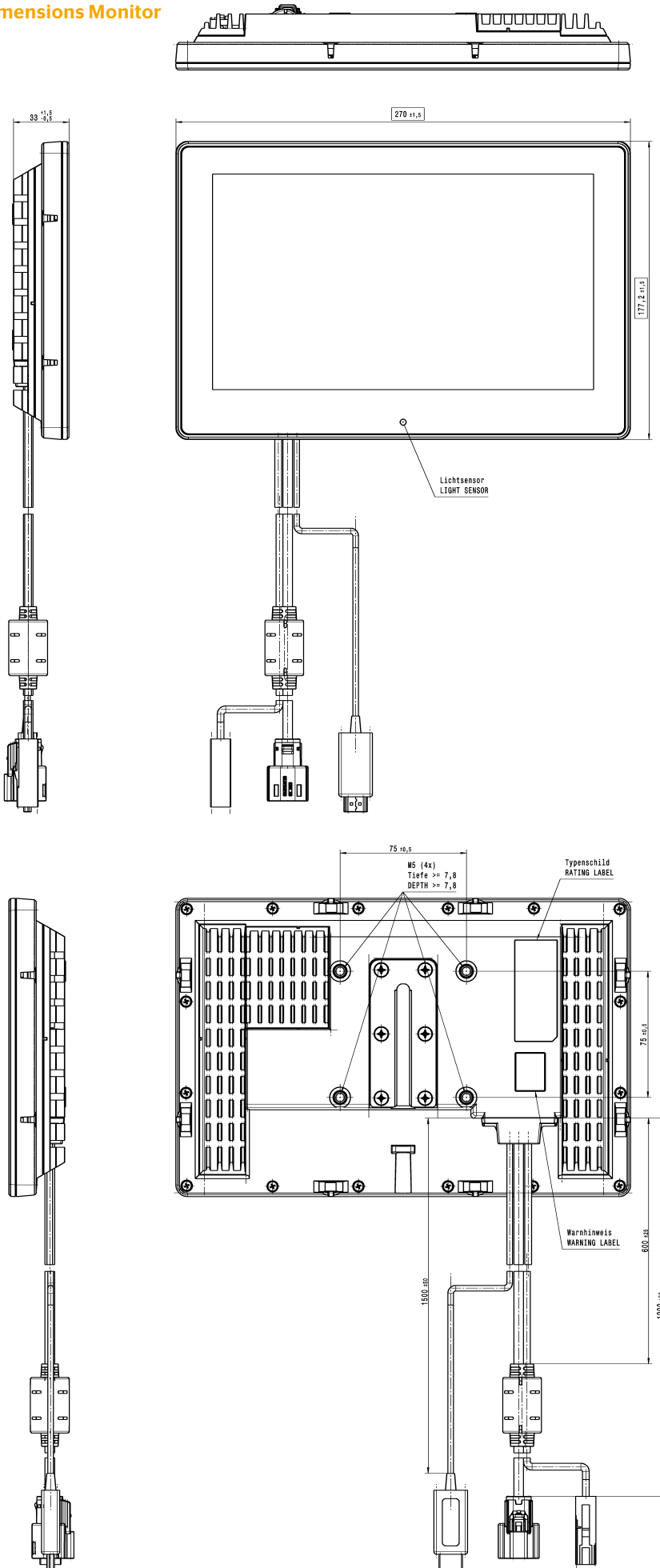


Level C represents upper side of the Camera.

Pin-Out Camera

Camera Connector A - A-Coded Waterproof Fakra

Dimensions Monitor



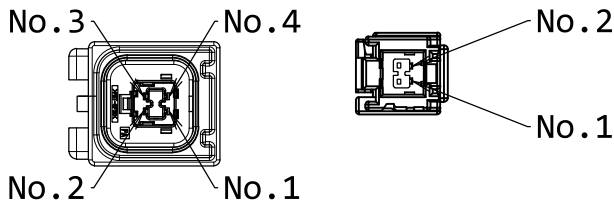
VESA mounting (75 x 75 mm) and slider foreseen. Portrait and landscape orientation possible.

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	A2C7735330501	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	2801480002301	1