EDGE COMPUTING UNIT

PS-ECU

PS-ECU is a compact on-board computer for buses and trains, specially designed for video processing with AI. This edge computing unit combines high performance and compactness.

This unit is the perfect platform to host embedded Deep Learning solutions and features a modern system architecture:

- Quad-core CPU, neural processing unit, 2D/3D graphics acceleration, hardware video encoding/decoding etc.
- Fits in a 19" rack with matching plug-in mounts and panel mounting accessories available from stock
- Compatible with popular open source Deep Learning frameworks

PS.LOAD - LIVE OCCUPANCY WITH AI

What belongs together, comes together - with the edge computing unit PS-ECU and the AI-based software PS.Load. The software turns cameras on buses and trains into intelligent devices by using algorithms to determine the actual passenger load in real time.

More insights into passenger flows offer new opportunities to optimize public transport operations. Smarter passenger guidance can increase efficiency and improve passenger interchange times. This solution opens up many options to make travel more comfortable for passengers.

TECHNICAL SPECIFICATIONS

Power supply	12 V DC to 36 V DC nominal EN 50155 class S2 compliant EN 50498 compliant ITxPT compliant Ignition input, programmable
Energy consumption	max. 10 W < 10 mW in Standby
Operating temperature	-20 °C to +65 °C (-4 °F to +149 °F)
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	max. 95 % continuous, max. 100 % occasional
Shock/vibration	IEC 60721, STM-E001, any orientation
Dimensions	151 mm x 110 mm x 43 mm
Weight	520 g
Ingress protection	IP20
Fire protection	EN 45545 compliant, UL94-V0
Reliability	MTBF > 300000 h in typical railway environment
Certifications	EN 50155 approval for railway vehicles ECE type approval for road vehicles CE and UKCA conformity Product safety 2001/95/EG

COMPUTER SPECIFICATIONS

CPU	NXP i.MX8M Plus SoC
RAM	2 GB LPDDR4
Storage	8 GB industry-grade SD
Interfaces	1 x 1000 Mbit/s Ethernet, M12 X-coded 1 x USB 3.0 type A 2 x digital input (isolated) 1 x digital output (isolated)
Other extras	6-axis acceleration sensor programmable pushbutton programmable 3-color status LED
Operating System	Linux
User interfaces	via IP network or USB No monitor port (headless unit)

>>> PS-ECU is also available as an extended configuration PS-ECU-X

What is the difference?

PS-ECU-X is especially designed for autonomous system solutions in buses and trains and therefore has extended connectivity options.