CCPILOT V710
7" DISPLAY

+ **HEAVY LIFT** CONSTRUCTION

+ **AGRI**CULTURE

CCPILOT V710 is a *7" display* computer based on an *i.MX 8DualXPlus* application processor with a *powerful integrated GPU* to support premium HMI applications for instrumentation, video, control, automation, infotainment, and telematics.

The 7" *high brightness*, *IPS-type screen*, with optically *bonded tempered glass*, offers *best-in-class contrast* and viewing angles for superb visibility, and high scratch resistance without fogging.
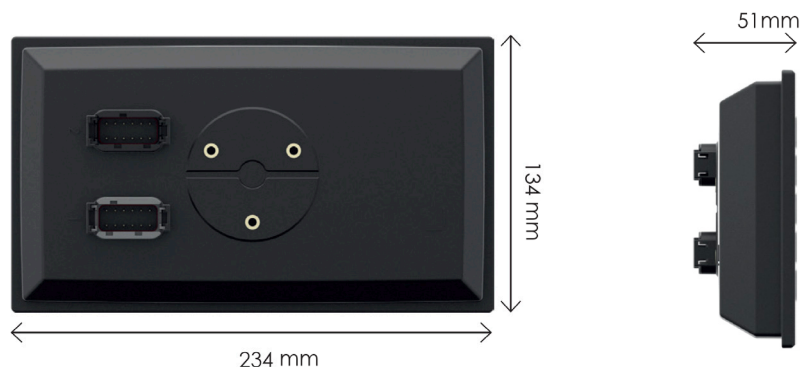
For intuitive tactile interaction in difficult conditions without compromising screen space the CCpilot V710 features *10 softkeys* and an *optional multi-touch PCAP touch screen*. Interfaces include Ethernet, CAN, high-speed USB, and optional Bluetooth and Wi-Fi for wireless connectivity.

System designers can choose the level, configuration, and development tools that fit their needs and can therefore work with, not against, the expertise and resources they already have.

With the *open platform* approach, customers can base their solution on a robust and secure base while keeping the flexibility to use in-house or 3rd party development resources.

With its vast software capabilities and state-of-the-art hardware, the CCpilot V710 is a future-ready platform for machine intelligence.

DIMENSIONS

51mm

134 mm

234 mm

1

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CCPILOT V710
7" DISPLAY

COMPUTING CORE

OVERVIEW	ARM dual core CPU with integrated GPU & Co-processor designed to meet automotive requirements and reliability
CPU	i.MX 8DualXPlus, (2 x Cortex A35 @ 1.2 GHz)
GPU	Vivante GC7000lite for hardware acceleration of 2D, 3D & vector graphics, 1600 Mpixels/s and 52 GFLOP
STORAGE	4 GB eMMC in robust pseudoSLC mode
RAM	1 GB 32 bit LPDDR4 @ 1200MHz

DISPLAY

TYPE	IPS Type with >88 degree viewing angles
COVER LENS	Tempered glass with AG coating
OPTICAL BONDING	Yes. IPS screen and cover lens optically bonded to achieve sunlight readability
SIZE AND RESOLUTION	7" WVGA, 800x480 pixels
COLOR DEPTH	24 bit
CONTRAST RATIO*	1000:1
BRIGHTNESS*	800 cd/m²
DIMMING	Yes, in steps, 1-100%

Typical values

HMI

TOUCH SCREEN	Option for PCAP with up to 10-point multitouch. Calibrated to support interaction with gloves and is in-sensitive to water drops from rain etc. Sensitivity is also adjustable based on operating conditions and application
SOFT KEYS	10 freely configurable buttons with dimmable and individual On/Off controlled LED:s
BUZZER	Yes, configurable frequency and volume.
STATUS LED	Dimmable RGB LED
AMBIENT LIGHT SENSOR	Yes, enabling automatic dimming

ENVIRONMENTAL SPECIFICATIONS

IP CLASS	IP65, IP66 and IP67
EMC CONFORMITY	2014/30/EU, ISO 14982:2009, ISO 13766-1:2018, EN12895:2015, EN ISO 13766-2:2018
VIBRATIONS	IEC 60068-2-64. Random, 0.02g²/Hz 5-2000Hz 3x3h
SHOCK	IEC 60068-2-27.±25g /6ms±3 x3, 15000 total shocks
TEMPERATURE RANGE (°C)	Operating: -30 to +70 Storage: -40 to +85

INTERFACES

CAN	2 x CAN ports, physical layer ISO 11898 2.0B. Configurable bit rate. CAN/FD support
USB	1 x USB 2.0 high speed
ETHERNET	1 x 10/100Base-T
WIRELESS	Option to add Wi-Fi and Bluetooth® (version 5)
POWER SUPPLY	9-36 VDC. CPU and communication operational down to 6 VDC
KEY SWITCH	1 Key switch input, for start-up/suspend/resume/shutdown
I/O	2 configurable inputs 2 configurable high side outputs

OPERATING SYSTEM

SYSTEM	CCLinux, custom Yocto based Linux system
KERNEL	5.15 (Long Term Support) or newer
BSP	Yocto 4.0 (Kirkstone) or newer
COMPUTING and GRAPHICS APIs	Support for advanced UX and computing tasks: OpenGL ES 3.1, Vulkan, OpenCL 1.2, OpenVG 1.1
BOOTUP TIME	Optimizable, with cold boot down to ~3sec

MECHANICAL

HOUSING MATERIAL	Valox 357x
INSTALLATION	Panel mounted or 3 point RAM mount
CONNECTORS	2 x Deutch multipin connectors for Power, Ethernet, CAN, USB and I/O
DIMENSIONS (mm)	234W x 134H x 51D
WEIGHT (kg)	0.723

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SOFTWARE FRAMEWORKS & TOOLS

DEVELOPMENT ENVIRONMENT	Virtual machine or Native Linux
PROGRAMMING	Supported languages include C++, C, QML, JavaScript, Python, HTML5, IEC61131-3
GCC COMPILER	aarch64-poky-linux-GCC 8.3.0 C++17 or newer
UI FRAMEWORKS	Qt Open Source and optional Qt Commercial. Support for Web frameworks
WINDOWING	Weston, Qt Wayland and direct EGLFS

APP. PLATFORM

LinX Software Suite, open and modular platform based on Qt, common for all CCpilot products. Examples of modules and components listed below.

GUI DESIGN	UX Designer, a pre-built virtual machine with Qt Creator, compilers, libraries, graphical components and templates
CAN NETWORKING	Fieldbus Access, easy configuration of J1939 and CANopen networks
REMOTE APP. ACCESS	VNC server and client, web browser and server
SOFT PLC	CODESYS 3.5
DIGITAL VIDEO	Ready-made solution for displaying digital camera streams over Ethernet. RTP, MPEG4, MJPEG, H.264 (4Kp30) and H.265

PLATFORM SUPPORT

Below you find specifications of features for which the product platform has inherent hardware support. These are not currently available in the standard product specified above but may be added over time in the generic evolution of the product, or added for a specific, larger customer program.

CAN FD	BSP/SDK can be developed on request
TOUCH SCREEN SENSITIVITY	Option to have touch controller calibrated for special use cases
SECURITY	RSA/AES, elliptic-curve cryptography, key storage, secure boot-up, signed applications, docker. Hardware level virtualization for multi OS systems
Qt AUTOMOTIVE	Supports Qt Automotive, featuring e.g. safe rendering and IVI applications
ANDROID	Supports Android
OS IN CO-PROCESSOR	Supports use of an RTOS in the integrated Cortex-M4F companion microcontroller (co-processor)

DRAWINGS

37,8
135
233
7,2
M5⌄8±0,2 (x3)
Ø 46
60
2

Preliminary

* The company reserves the right to make any kind of design or functional modification at any moment without prior notice

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