

MCONN 7

CONNECTED DISPLAY – 7"



The **MConn 7** is our new generation of Connected Displays with a powerful 32-bit multi-core ARM Cortex-A9 processor, with 2D, 3D, and Vector Graphics hardware acceleration. Featuring a multi-touch 7" PCAP touchscreen, operators can take advantage of many gestures found on tablets today, including pinch-to-zoom, rotation, flick, and many more.



The display comes packed with a rich set of wired interfaces, including CAN (2x), LIN, Digital INs (12x), Digital OUTs (4x), Analog Ins (6x) Ethernet, USB (2x), Audio, Camera inputs (4x), and, optionally as prototypes, radio interfaces - 4G/LTE, GPS, Wi-Fi, Bluetooth and AM/FM.

All MConn7 device are running on Embedded Linux OS.



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SPECIFICATION

PROCESSOR

MAIN PROCESSOR	NXP i.MX6, 32-bit Cortex-A9 ARM processor Single, Dual, or Quad core 1.2 GHz (commercial grade) 1 GHz (automotive grade)
CO-PROCESSOR	Watchdog, analog inputs, and CAN functions.
RAM	1 GB DDR3 4 GB DDR3
GPU	2D, 3D, Vector Graphics Hardware Acceleration
VIDEO	1080p, 30fps, encoding and decoding
STORAGE	4 GB eMMC for OS and user application. Up to 512 GB available on micro-SD card for additional applications or logging
BOOT TIME	< 8 second boot possible, 2 seconds to splash screen CAN ready in < 0.5s on coprocessor

DISPLAY

SCREEN SIZE	7" WVGA
RESOLUTION	1024 x 600 pixels
BRIGHTNESS	800 cd/m ²
COLOR DEPTH	24 bit
CONTRAST RATIO	560:1
VIEWING ANGLE	$\theta_L = 75^\circ$ $\theta_R = 75^\circ$ $\theta_T = 70^\circ$ $\theta_B = 75^\circ$
BACKLIGHT	User programmable, 0-100%
TOUCHSCREEN	PCAP, 5-point multi-touch (optional)
MULTI-SCREEN CAPABILITY	Dual Screen output available on HDMI receptacle (can be mirrored or independent)

ENCLOSURE

MATERIAL	ABS Plastic, with Gore membrane
MOUNTING	VESA 50, optional mounting bracket
CONNECTORS	1x TE 1-776231-1 (Power, GND, CAN, LIN, I/O) 1x TE 776261-1, 14-position (4x camera, audio) 1x HDMI Type A (secondary display) 2x SMA connectors (optional, GPS, Radio) 2x USB connector with optional dust cap 1x Gigabit Ethernet connector
IP CLASS	IP54 IP65 (optional)
EMC/EMI	ISO 10605, CISPR 25
IMMUNITY	ISO 7637-2, ISO 16750-2
SHOCK	ISO 16750-3, 20G
VIBRATION	ISO 16750-3, Test VII
TEMPERATURE RANGE	Operating: -20°C to 70°C Storage: -30°C to 80°C
SIZE	200.6mm x 139.1mm x 35mm

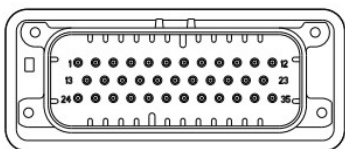
OTHER	
BUZZER	2.3kHz Tone, PWM Capable, 85 dB
Real Time Clock	Onboard battery to keep track of time while unit is powered off

SOFTWARE	
OPERATING SYSTEM	Linux Android, QNX, WEC7 - upon request
SOFTWARE IDE	Qt5 Crank Software, Altia – upon request
SOFTWARE UPDATES	USB, Ethernet, Wi-Fi, Cellular, CAN

INTERFACES	
CAN	2x CAN, 20 kbps – 1Mbps
LIN	1x LIN, 1 kbps – 20 kbps
ETHERNET	Gigabit Ethernet, 10/100/1000 Base-T Available for digital cameras
USB	2x USB 2.0 (with optional dust cap)
CAMERA	4x Analog video inputs NTSC or PAL, Single-Ended or Differential
AUDIO	Stereo out, Mic in
INPUTS	12 digital inputs 6 analog inputs (2 inputs for frequency measurements)
OUTPUTS	4 digital outputs (high side drivers with 2A each)
CELLULAR *	4G/LTE
GNSS *	NMEA data, dedicated GPS antenna connection
Wi-Fi *	802.11 bgn, +20 dBm TX, -97 dBm RX
BLUETOOTH *	Bluetooth 4.0, +20 dBm TX, -94 dBm RX
RADIO TUNER *	AM/FM/WX Tuner with RDS decoder
POWER SUPPLY	9-32 VDC. CPU operational down to 7 VDC
IGNITION	Ignition input for CPU

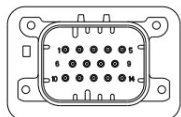
*Only available as prototypes. Subject to consultation between customer and supplier.

I/O INTERFACE



Mating Connector: AMPSEAL 776164-1

Pin	Function	Pin	Function	Pin	Function	Pin	Function	Pin	Function	Pin	Function
1	Digital In	7	Digital Out	13	VCC_LIN	19	Analog In	25	Digital In	31	Digital In
2	Digital In (freq. meas.)	8	Digital In	14	LIN	20	Analog In	26	CAN1_L	32	CAN2_L
3	Digital Out	9	Analog In	15	GND	21	GND	27	CAN1_H	33	CAN2_H
4	Digital Out	10	Analog In	16	VCC	22	Analog In	28	Digital In	34	Digital In
5	Digital In (freq. meas.)	11	Digital In	17	Analog In	23	VCC	29	Digital In	35	Digital In
6	Digital Out	12	Digital In	18	GND	24	GND	30	Ignition		



Mating Connector: AMPSEAL 776273-1

Pin	Function	Pin	Function	Pin	Function	Pin	Function	Pin	Function
1	Video1+	4	Audio L	7	Video3-	10	Video4+	13	Audio Mic
2	Video1-	5	Audio R	8	Video2+	11	Video4-	14	GND
3	Video3+	6	GND	9	GND	12	Video2-		

OPTIONS

LCD SURFACE TREATMENT	Anti-Glare Anti-Reflection Optically Bonded or non-Optically Bonded (optional)
LCD BACKLIGHTING	IPS Backlight
MOUNTING	Bracket for panel mounting Bracket for pedestal mounting

POSSIBLE OPTIONS

	BASIC	AV-SINGLE	AV-QUAD	WIFI- EDITION *	GSM- EDITION *	ALL-in-ONE *
AUDIO IN / OUT	-	✓	✓	-	-	✓
VIDEO IN (4-CH)	-	✓	✓	-	-	✓
AM / FM TUNER *	-	-	-	-	-	✓
WI-FI *	-	-	-	✓	-	✓
BLUETOOTH *	-	-	-	✓	-	✓
GNSS *	-	-	-	✓	✓	✓
LTE / GSM *	-	-	-	-	✓	✓
CPU	Single Core	Single Core	Quad Core	Single Core	Single Core	Quad Core
RAM	1 GB	1 GB	4 GB	1 GB	1 GB	4 GB
SD-STORAGE	8 GB	8 GB	64 GB	8 GB	8 GB	64 GB
INGRESS PROTECTION	IP54					IP65
CAN, LIN	✓					
DIGITAL IN	12					
DIGITAL OUT	4					
ANALOG IN	6 (2 inputs for frequency measurement)					
USB 2.0	2					
ETHERNET	✓					
LINUX OS / QT	✓					
PART NUMBER	1.145.120.0181	1.145.124.0151	1.145.424.0151	1.145.120.5181	1.145.120.2181	1.145.455.7172

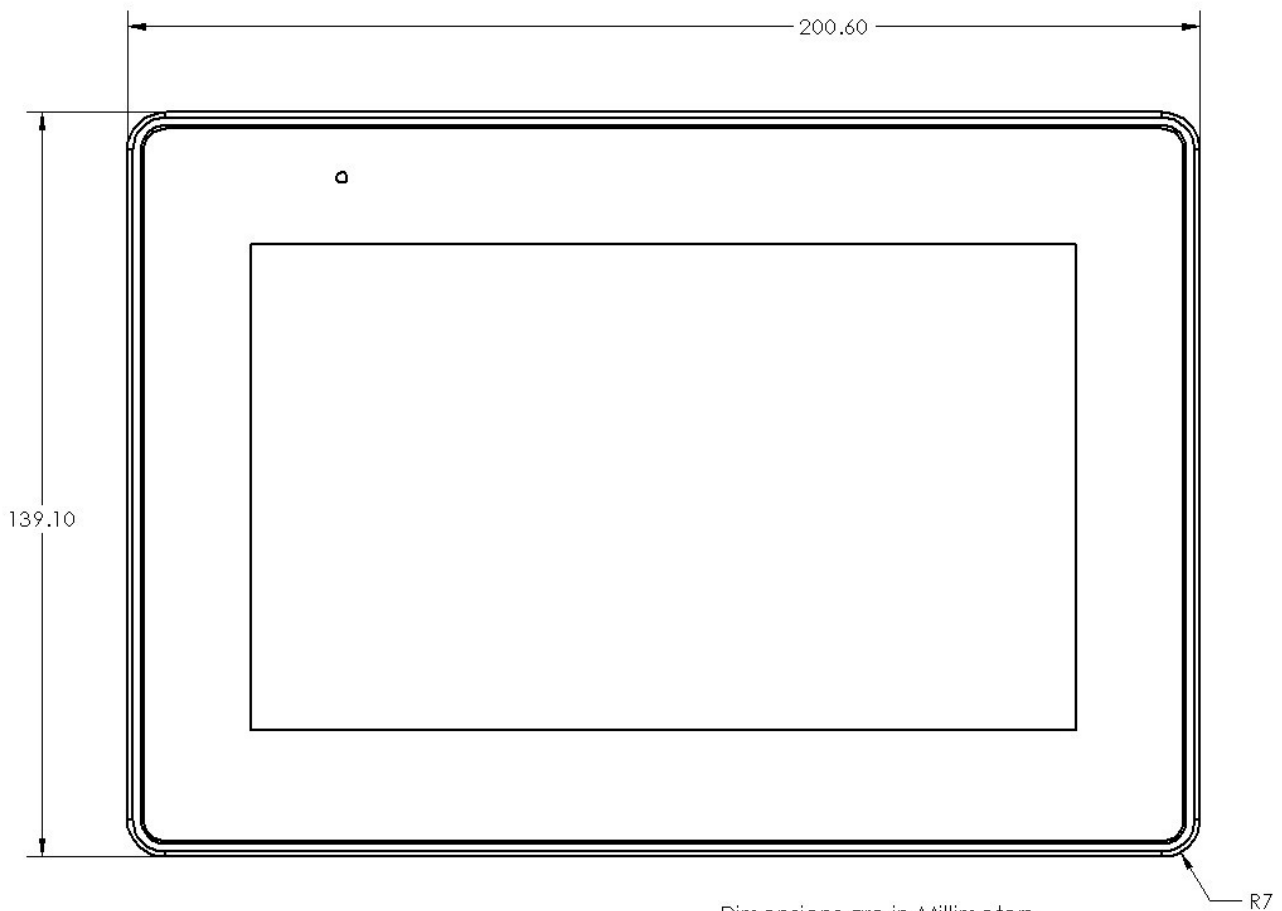
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ACCESSORIES

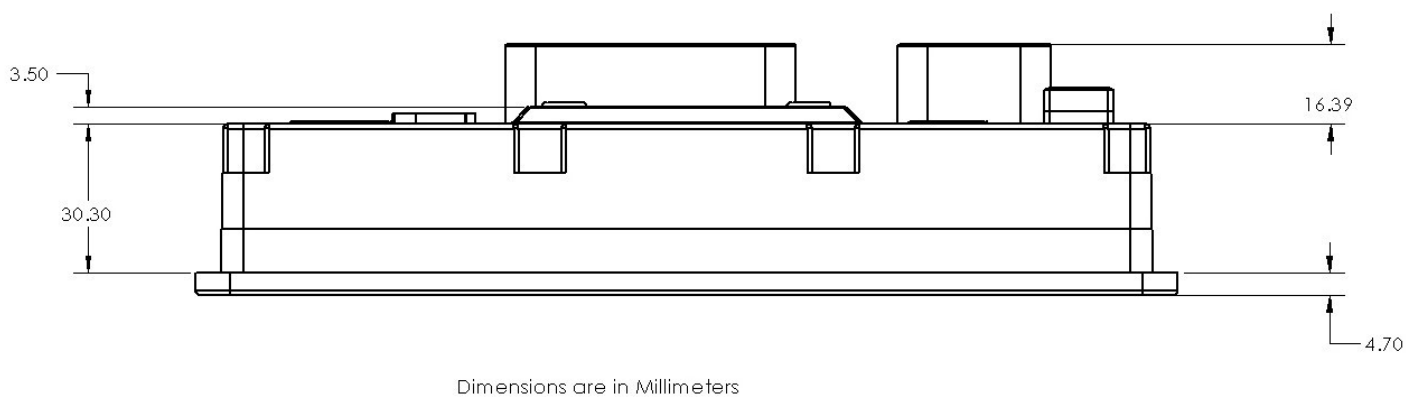
Programming cable	502247
Mating connector / AMPSEAL 776164-1, 35pin	501833
Mating connector / AMPSEAL 776273-1,14pin	501831
Crimp contact / AMPSEAL 770520-1	501834

DIMENSIONS

Front View



Top View



DIMENSIONS

