

WECABIN DISPLAY i7

Intelligent HMI Solutions



WEcabin Display i7 is an intelligent HMI solution for mobile machines and commercial vehicles developed by Würth Elektronik ICS.

Description:

- Robust housing for the use in tough environmental conditions
- High processing power and memory size
- High optical performance ensures good readability in all lighting conditions
- Optical bonding enhance visibility and reliability
- Optional plug-in expansion modules for additional functionalities and customisation possibility
- Easy to customise for individual design of graphical user interface (GUI) with WEcabin Designer.

Technical data

General information	
Processor	Dual Core ARM Cortex-A7
RAM	1 GB DDR3
Clock frequency	650 MHz
Flash memory	8 GB
FRAM	64 Kb
Real time clock	Rechargeable lithium battery
Operating temperature	-30 °C to +70 °C
Storage temperature	-40 °C to +85 °C
Ingress protection	IP 66 IP69K (front part) for the version without buttons
Operating voltage	8 V to 32 V DC
Power consumption	250 mA at 24 V
Stand-by mode consumption	2 mA
Housing	POLIMID PA6 UV
Connectors	AMP SUPERSEAL 34 Way connector, 60 pins connectors for Expansion Modules
Dimensions max.	221.5 x 143.5 x 47 mm
Signaling	Internal buzzer (90 dB)
Weight	900 g (without buttons)

Interfaces		
CAN bus	2 x CAN 2.0B	11/29 Bits extended address identifier
	Baud rate	50 kBit/s to 1000 kBit/s (250 kBit/s default value)
Ethernet	1 x 10/100 Mbit/s	
USB	2 x 2.0 Host full speed	12 MB, 100 mA
RS-485	1 x up to 150 kBd	
Wi-Fi	802.11n (optional)	
Bluetooth	BT4.0 (optional)	

Inputs & outputs overview		
4	Digital inputs	High side 0 – 24 V
4	Digital outputs	Low side 500 mA at 24 V

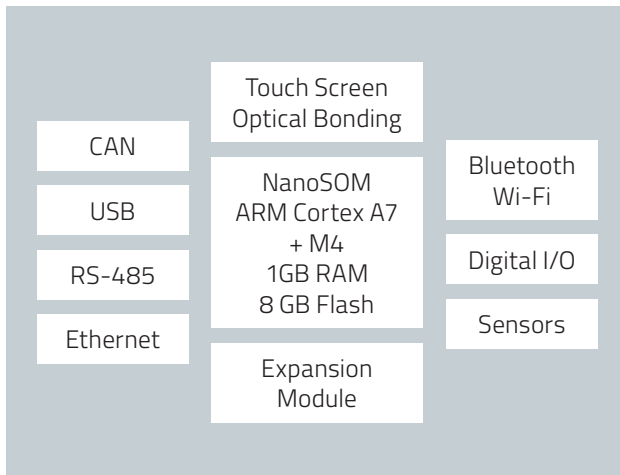
Display specifications	
Display	7" TFT LCD 16:9
Resolution	1024 x 600 WGVA 128 PPI
Backlight	LED
Brightness	500 cd/m ²
ON / OFF LED	Included
Orientation	Landscape or portrait programmable mode
Colors	24 bit
Contrast ratio	600:1
Cover glass	3.0 mm thickness tempered glass
TFT installation	Liquid optical bonding

Physical inputs	
Touch Interface	PCAP multi touch screen
Buttons	2 x 5 silicon soft keys backlitged (optional)

Sensors	
3-axis digital accelerometer	Optional
Temperature sensor	
Light sensor	

This item is a standard product, please consider the relevant datasheet notes. The user is responsible for the product's functionality in its purposed system environment.

Hardware map

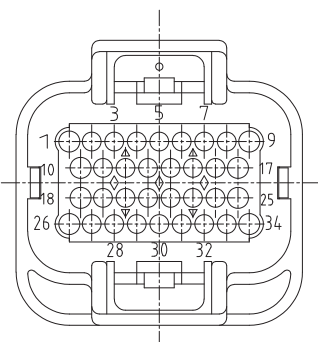


TE Connectivity AMP SUPERSEAL 34 Way Connector
Part No. 4-1437290-0v



TE Connectivity AMP SUPERSEAL 1.0 mm Connector
Receptacle Contact Assembly, AWG 16
Part No. 3-1447221-3

TE Connectivity AMP SUPERSEAL 1.0 mm Connector
Receptacle Contact Assembly, AWG 20
Part No. 3-1447221-4



Pinout of the connector

Pin assignment

Pin	Signal	Description
1	GND	Ground
2	IN2	Digital input 2
3	IN1	Digital input 1
4	USB1_GND	USB 1 Ground
5	RX_N	Receive negative
6	RX_P	Receive positive
7	TX_N	Transmit negative
8	TX_P	Transmit positive
9	VBAT	Power supply battery
10	IN4	Digital input 4
11	IN3	Digital input 3
12	GND	Ground
13	USB2_GND	USB 2 ground
14	VBUS2	USB 2 +5 V DC
15	VBUS1	USB 1 +5 VDC
16	GND	Ground
17	V_SW	Ignition voltage
18	OUT1	Digital output 1
19	OUT2	Digital output 2
20	CAN2_H	CAN 2 High (WEcabin Designer CAN 1)
21	CAN1_H	CAN 1 High (WEcabin Designer CAN 0)
22	USB2H_DM	USB 2 Data minus
23	USB1_DM	USB 1 Data minus
24	RXD	Serial port received data
25	GND24	Power supply ground
26	NC	Reserved, not connected
27	OUT3	Digital output 3
28	OUT4	Digital output 4
29	CAN2_L	CAN 2 Low (WEcabin Designer CAN 1)
30	CAN1_L	CAN 1 Low (WEcabin Designer CAN 0)
31	USB2H_DP	USB 2 Data plus
32	USB1_DP	USB 1 Data plus
33	TXD	Serial port transmitted data
34	SHIELD	Shield protection

Qualification

Test methods		
EMC	Automotive	ECE R10
EMC	Earth Moving and Construction Machinery	ISO 13766-1
EMC	Agricultural and Forestry Machinery	ISO 14982
Vibration & Shock	-	EN 60068-2
Ingress protection	IP66K IP69K (front part) for the version without buttons	ISO 20653
Salt spray	-	ISO 9227
Temperature	-	EN 60068-2
RED	-	ETSI EN 301-489 ETSI EN 300 328 EN 61010 EN 62311

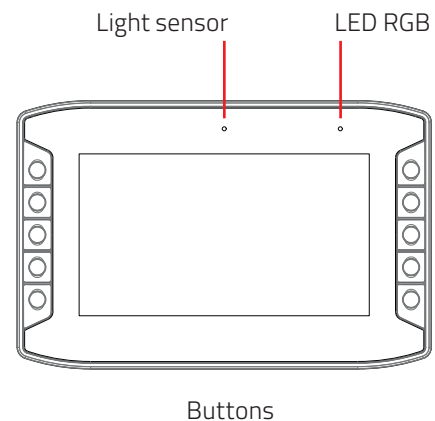
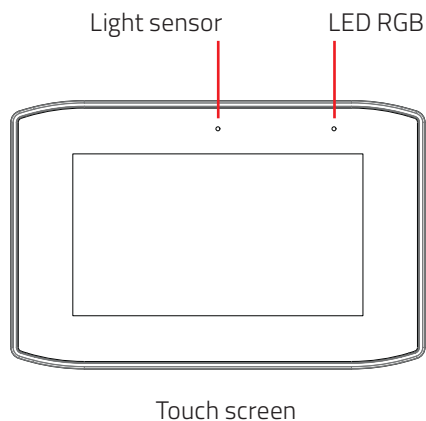
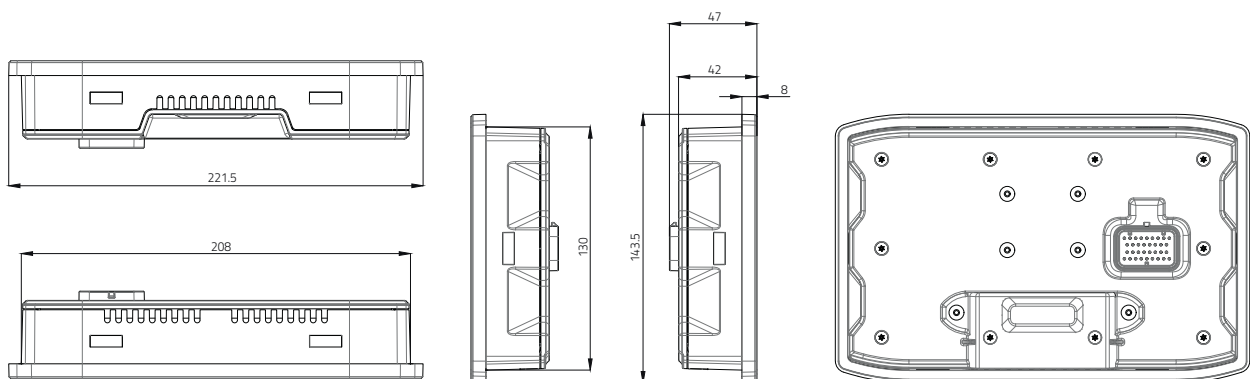
Programming environment

Software	
Operating system	Linux Embedded
Application programming	WEcabin Designer CoDeSys™ PLC (optional) QT™ (optional)

Dimensions & Mounting possibilities

Dimensions	
Front length	221.5 mm
Front height	143.5 mm
Rear length	208 mm
Rear height	130 mm
Width	47 mm

Mounting possibilities	
In-dash mounting	Fixing supports provided
Out-dash mounting	RAM Mount™ (type C)



Available versions

Versions	i7 Basic	i7 Standard	i7 Plus
Processor	Dual Core ARM Cortex A7	Dual Core ARM Cortex A7	Dual Core ARM Cortex A7
Memory	1 GB RAM, 8 GB Flash	1 GB RAM, 8 GB Flash	1 GB RAM, 8 GB Flash
FRAM	64 KB	64 KB	64 KB
Capacitive touch screen	X	✓	✓
Optical bonding	✓	✓	✓
7" Display, 1.024 x 600 (portrait/ landscape), 500 cd/m ²	✓	✓	✓
Light sensor on/off LED	X	✓	✓
CAN bus	2	2	2
USB 2.0 port	2	2	2
Ethernet	✓	✓	✓
RS-485	X	X	✓
4 x digital inputs	X	✓	✓
4 x digital outputs	X	✓	✓
Wi-Fi / Bluetooth	X	X	✓
Accelerometer, temperature sensor	X	X	✓
Keyboard (2 x 5 buttons)	✓	Optional	Optional

Part number	Description
X03440	i7 Basic with buttons
X03441	i7 Standard
X03442	i7 Standard with buttons
X03443	i7 Plus
X03444	i7 Plus with buttons



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