

WECABIN DISPLAY i5

Intelligent HMI Solutions



WEcabin Display i5 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
- 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	IP66 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 connector for Expansion Module
Dimensions max.	142 x 108 x 49.7 mm
Signaling	Internal buzzer (90 dB)
Weight	470 g (with 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	10/100 Mbit/s (only for Standard & Plus versions)	
USB	2 x 2.0 Host full speed 12 MB	
RS-485 / RS-232	up to 150 kBd (only for Plus version)	

Inputs & outputs overview

4	Digital inputs	High side 0 – 32 V
4	Digital outputs	Low side 500 mA

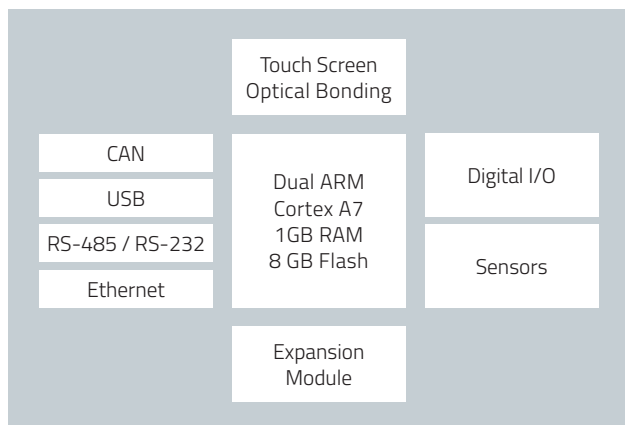
Display specifications

Display	5" TFT LCD 15:9
Resolution	800 x 480 WVGA 187 PPI
Backlight	LED
Brightness	500 cd/m²
Light sensor	Option for Plus version
ON / OFF LED	Option for Plus version
Orientation	Landscape or portrait programmable mode
Colors	24 bit
Contrast ratio	600:1
Cover glass	3.2 mm thickness tempered glass
TFT installation	Optical bonding

Physical input

Touch interface	PCAP multi touch screen with liquid bonding (touch only for Standard & Plus versions)
Buttons	6 silicon soft keys backlit on lower side (optional)

Hardware map

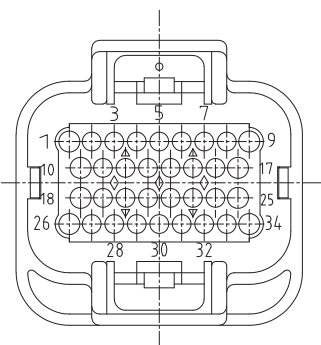


TE Connectivity AMP SUPERSEAL 34 Way Connector
Part No. 4-1437290-0



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	Road Vehicles	ISO 13750-2
Electrical loads	–	EN ISO 14982
Ingress protection	IP66K IP69K (front part) for the version without buttons	ISO 20653
Vibration & Shock	–	ISO 16750-3
Temperature	–	ISO 16750-4

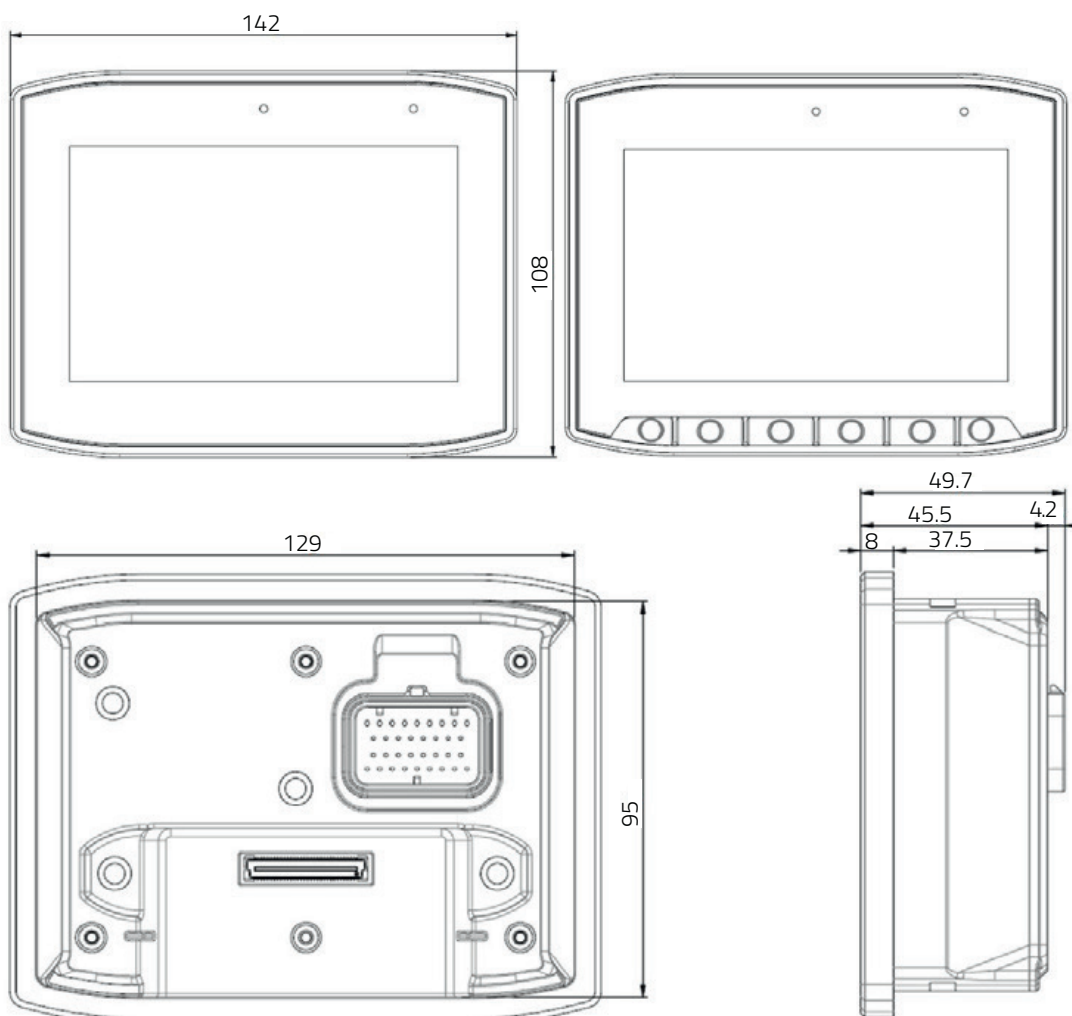
Programming environment

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

Dimensions & Mounting possibilities

Dimensions	
Front length	142 mm
Front height	108 mm
Rear length	129 mm
Rear height	95 mm
Width	49.7 mm

Mounting possibilities	
In-dash mounting	✓
RAM mounting	✓
VESA mounting	✗



Available versions

Versions	i5 Basic	i5 Standard	i5 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
Capacitive touch screen	X	✓	✓
Optical bonding	✓	✓	✓
5" Display, 800 x 480 (portrait/ landscape), 500 cd/m ²	✓	✓	✓
Light sensor on/off LED	X	X	✓
CAN bus	2	2	2
USB 2.0 port	2	2	2
Ethernet	X	✓	✓
RS-485 / RS-232	X	X	✓
4 x digital inputs high side 0 – 24 V	✓	✓	✓
4 x digital outputs low side 500 mA at 24 V	✓	✓	✓
Accelerometer, temperature sensor	X	X	✓



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