Clairitec

HMI Solution & Graphic Products



7'' P/CAP Intelligent Display

Anti-vandalism version (IK09)

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Chapter 1: Versions history

Reference	Modifications	Date
DOC-20190920-1A-UK	Creation	20/09/2019

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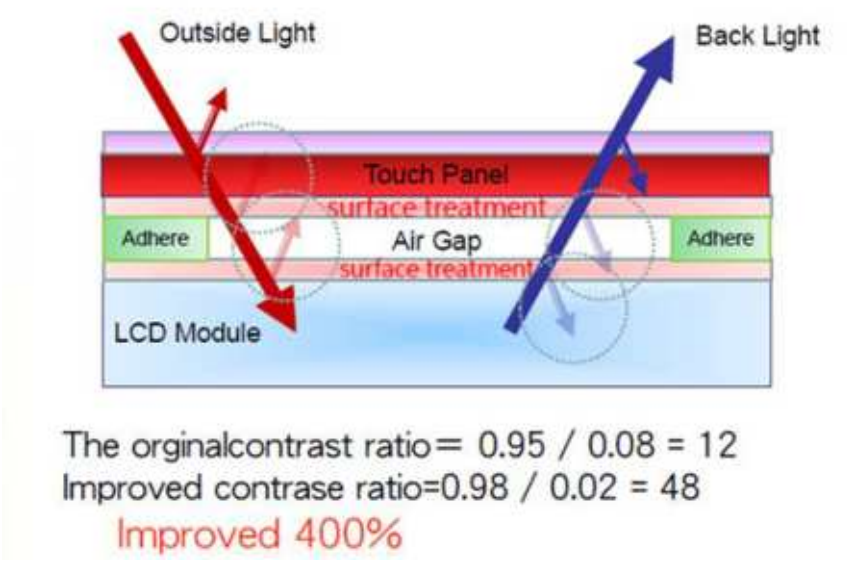
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Chapter 2: General description

The IK Intelligent Display is a "Plug & Play" graphic display module developed & produced in France.

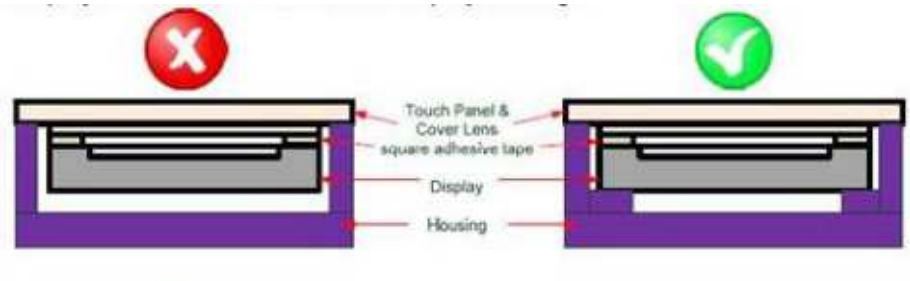
It consists of a TFT-LCD 7 "WVGA (800 x 480 pixels) display with integrated HMI board from CLAIRITEC and a metal protective cover.

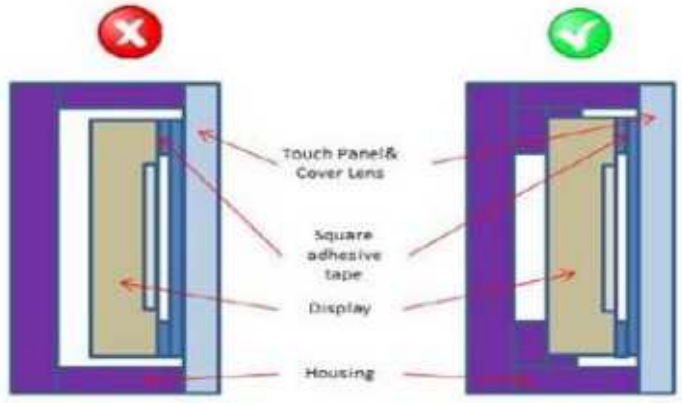
Unlike the standard version, the IK Intelligent Display is equipped with a 4mm tempered glass optically bonded on top of the touch panel to withstand an IK09 index (IK10 possible with thicker glass). Besides, this display is twice brighter than the standard version and sunlight readable.



The IK Intelligent Display is EMC compliant and withstands a temperature range from -20°C to +70°C.

It can fit easily into electronic equipment thanks to its 4 fixing points but a close attention must be paid to the integration in the system to withstand the IK index (the shock should not be transmitted to the 4 fixing points) :





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Chapter 3: Specification of the intelligent display

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Item	Specifications
Size	7'' Diagonal
Resolution	800 x RGB x 480 dots (WVGA)
Viewing direction	6 o'clock
Viewing area	155.3 (W) x 94.3 (H) mm
Horizontal / Vertical flip	Not available
Backlight	White LED
LED Lifetime	50k hours
Brightness	850 cd/m^2, sunlight readable
Viewing angle (typ.)	130° Vertical / 140° Horizontal
Touch screen	Capacitive / Minimum of 50 million touch times by finger
Operating temperature	-20°C ~ +70°C
Storage temperature	-30°C ~ +80°C
EMC compliant	NF-EN55032 class B (Frequency range 150 kHz to 2 GHz) NF-EN61000-4-2 (8 kV contact discharge / 15 kV air discharge) NF-EN61000-4-3 (Frequency range : 30 MHz to 1 GHz – 10 V/m)
Outline dimension	186.8 (W) x 104.4 (H) x 17.7 (D) mm
Weight	400 g. for stainless steel protective cover

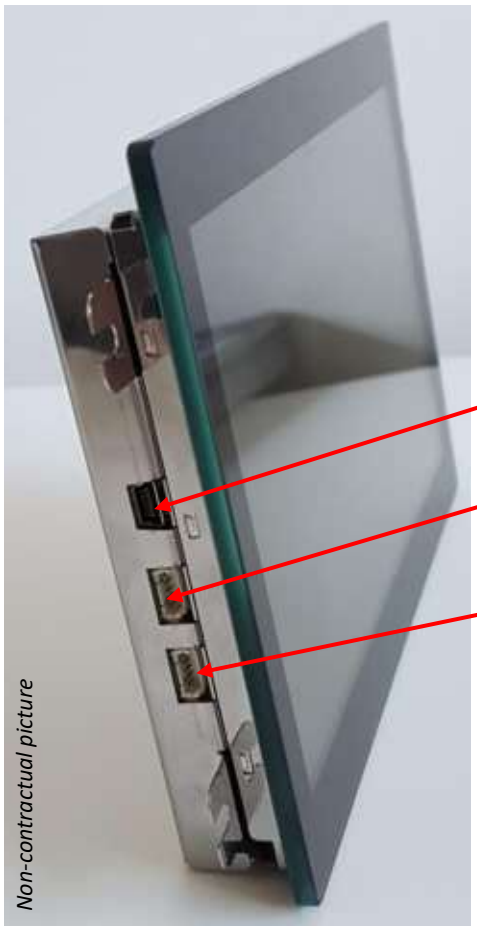
FUNCTIONAL CHARACTERISTICS

Item	Specifications
Color LCD Management	262k colors (display) – 16M (controller) TFT transmissive active matrix
Touchscreen Management	Advanced clicking area processing
Graphic Engine	Advanced display algorithms
Graphic pages Management	Two pages dynamically managed
Storage Memory	32 Mb
Graphical Layout Management	GraphConverter®3 software tool enables you to build your HMI's graphic library and upload it in the board flash memory
Communication Bus	RS232 serial (9600bds to 355Kbds) CAN 2.0B (100Kbds to 500Kbds) USB
Power Supply	5V (+/-2%) or 6-36V +/- 5%
Inrush current (5V version only)	1.5A / 500us
Maximum Consumption	4.5W

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Chapter 4: Description of connections

The Clairitec Intelligent Display has three communication connectors as shown in the photo below:

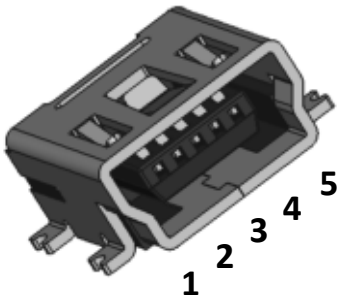


Connector N°1
USB
Connector N°2
RS232 TTL / CAN

Connector N°3
RS232 PC

CONNECTOR N°1: USB

This connector allows you to update firmware, and the graphics chart via a computer or a USB key. Thanks to its transfer via USB, the loading time is decreased. Requires a standard adapter USB -> mini USB, available in the starter kit.



Pin number	I/O	Description
1	Power	Power Supply +5V / 500mA max
2	I/O	USB -
3	I/O	USB +
4	-	Reserved
5	Power	GND

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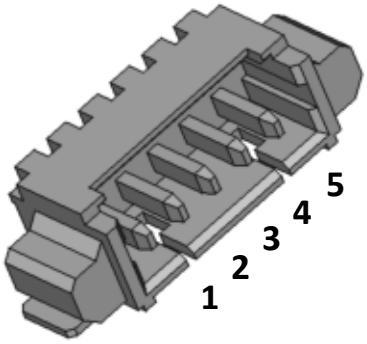
CONNECTOR N°2: RS232 TTL OR CAN

Connection Interface for serial communication EIA / RS232E or CAN2.0B between the Clairitec HMI board and your application board.

→ Update the firmware with the RS232 SpiderGraph protocol,
→ Update your graphic chart with the RS232 SpiderGraph protocol,
→ Send and receive commands with the RS232 or Can2.0B SpiderGraph protocol.

PCB base reference: Wurth: 653105131822
Molex: 53261-0571

Matting model: Wurth: 653005113322
Molex: 51021-0500



Pin number	I/O	Description
1	Power	Power Supply +12V
2	Power	GND
3	I/O	RS232 TTL TX or CAN H
4	I/O	RS232 TTL RX or CAN L
5	Power	GND

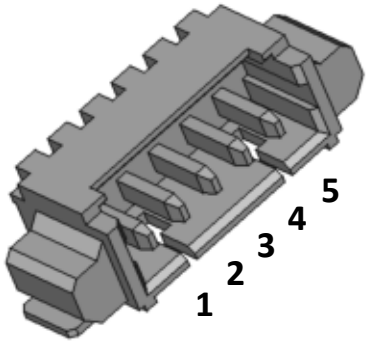
CONNECTOR N°3: RS232 PC

Connection Interface for serial communication EIA / RS232E between the Clairitec HMI board and your application board.

→ Update the firmware with the RS232 SpiderGraph protocol,
→ Update your graphic chart with the RS232 SpiderGraph protocol,
→ Send and receive commands with the RS232 SpiderGraph protocol.

PCB base reference: Wurth: 653105131822
Molex: 53261-0571

Matting model: Wurth: 653005113322
Molex: 51021-0500



Pin number	I/O	Description
1	Power	Power Supply +12V
2	Power	GND
3	O	RS232 TX (EIA/232)
4	I	RS232 RX (EIA/232)
5	Power	GND

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CONNECTOR N°4: ONLY FOR REAL TIME VIDEO VERSIONS

Connection interface for real time analogic video streaming (NTSC or PAL).





PCB base reference: Samtec: MCX7–J–P–H–ST

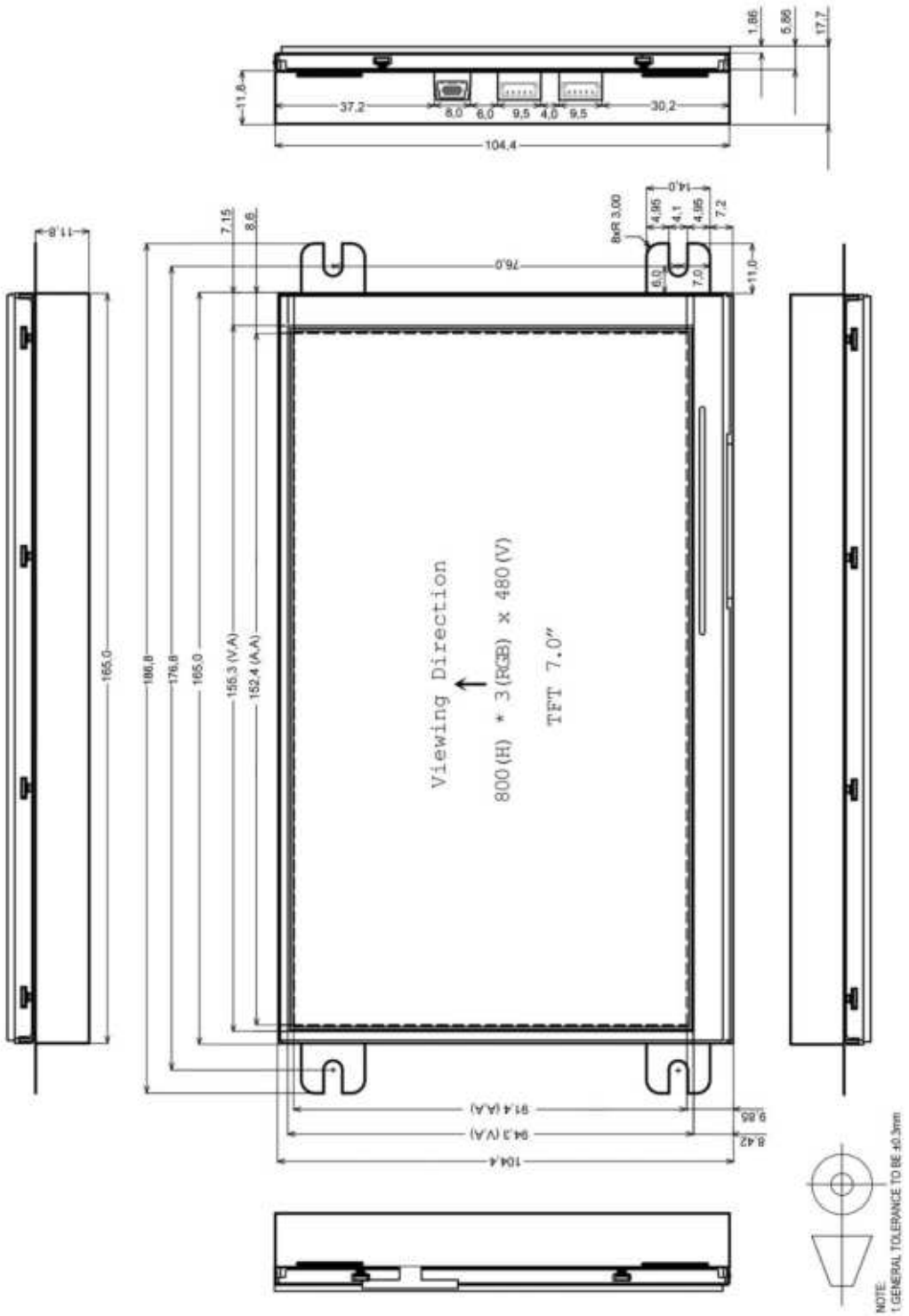
Matting model: Samtec: RF179 + 75 ohm cable
https://www.samtec.com/products/rf179

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Chapter 5: Mechanical description

Unit: mm

The dimensions of the coverglass are not included in this drawing as it is specific to the customer equipment and the integration method.



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Chapter 6: Clairitec's contact

Clairitec

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Clairitec services

Customer relation service: contact@clairitec.com

Technical support service: support@clairitec.com

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