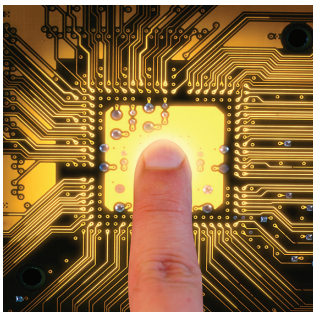
IQAN-MD5
Display Modules

Electronic Control Systems



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Application

The IQAN-MD5 is a family of display units, fully compliant with the IQANdesign platform system. The IQAN-MD5 is fully programmable for use in any machine application for primary use as a display in the IQAN ecosystem. The units have full graphical, diagnostic, and CAN gateway capabilities and are used with the easy IQAN programming tools. Together with the multi-master functionality in IQANdesign, it is recommended to use the IQAN-MD5 as a display.

The IQAN-MD5 comes in four sizes: 5", 8" and 10.1" in a wide format and 12.3" in a super wide format. Active display areas are 11x6.5cm, 17.5x10cm, 21.5x13.5cm, and 29x11cm.

The IQAN-MD5 family is designed to be weatherproof for outdoor use and withstand the mechanical environment of mobile off-road machinery.

Mechanical

The IQAN-MD5 displays have a rugged mechanical design with no moving parts and are completely sealed. The use of optically bonded display glass improves readability, avoids light refraction, and eliminates possible condensation since there is no air between the glass and LCD.

Display

The display units have a pleasing, aesthetic design that blends with modern cabin designs. A touchscreen interface is offered for interactive, intuitive HMI. The IQAN-MD5 is available with IP camera support, so there is no need for separate camera monitors. Virtually an unlimited number of cameras can be connected if connected via an IP switch.

Mounting is easy. Well-integrated, flush mount in cabin panels, or as a stand-alone mount compatible with RAM™ mount components. The displays may be mounted in landscape or portrait orientation for easy integration of HMI or mechanics.

Develop HMI with IQANdesign

The IQAN software tools are designed to be user-friendly and efficient, enabling both beginners and experts to create sophisticated and stylish interfaces quickly.

Key features like *Predefined Building Blocks*, *Guided Development*, *Drag-and-Drop Design*, *Auto-Generated Diagnostic Measurements and Adjustments*, *High-Level Toolchain*.

These features make the IQAN-MD5 family a powerful tool for anyone involved in HMI and machine control design. They streamline the design process, making it faster and more efficient, and they make the process more accessible to users of all skill levels.

Specifications

General	
Operating temperature	-30 to 70 °C
Storage temperature	-40 to 90 °C
Protection	IP65
Voltage supply	9-32 Vdc
Weight (5"/8"/10"/12")	430/750/1000/1150 (g)
Current supply 28V (idle)	180/410/430/490 (mA)
Current supply 14V (idle)	340/790/790/930 (mA)
Current supply RTC	~2 mA (28 Vdc) ~1 mA (14 Vdc)
Compliance marking	CE, UKCA, E-mark R10
Performance	
Processor	4xCortex A53, (1.25 GHz)
Memory	8 GB Flash 512 MB DRAM
Cycle time	50 to 100 ms
Communication interface	
CAN (2.0B/FD)	3
Protocols	IQAN proprietary, SAE J1939 and generic CAN
Ethernet 100Base-Tx	
IQAN-MD5-5	1
IQAN-MD5-8/10/12	2
Display	
Touch Interface	PCAP
5" (14 cm) display	16:9, 800x480 pixels
8" (22 cm) display	16:9, 1280x720 pixels
10.1" (27 cm) display	16:10, 1280x800 pixels
12.3" (32 cm) display	21:8, 1920x720 pixels
Backlight	LED
Connection	
Electrical connection	1 x Molex MX123, 56 pos
Outputs	
Digital outputs	2 x LS / 300 mA 1 x 5 Vdc / 150 mA
Inputs	
Digital inputs	8 [1]
Encoder input	2 [1]
Signal range	0 - 500 Hz, 50/50 signal

1) The inputs share the same physical pins. The user defines the channels/pins with IQANdesign.

Model code

Code	Description	Ratio
5	display, 5”	16:9
8	display, 8”	16:9
10	display, 10.1”	16:10
12	display, 12.3”	20:8

Ordering part numbers

IQAN-MD5-5	20085201
IQAN-MD5-8	20085202
IQAN-MD5-10	20085203
IQAN-MD5-12	20085204

Environmental Protection

EMC harmonized standards
ISO 14982:2009, ISO 13766:2018

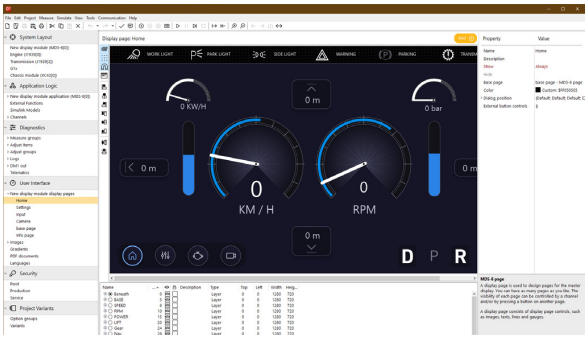
Climate environment
ISO 20653-2013 IP65 (water)
IEC 60068-2-30:2005 Db (damp heat, cyclic)
IEC 60068-2-78:2001 Cab (damp heat, steady state)
IEC 60068-2-2:2007 Bb (heat)
IEC 60068-2-1:2007 Ab (cold)
IEC 60068-2-14:2009 Nb (change of temperature)
IEC 60068-2-52:2017 Kb (salt mist, cyclic)

Mechanical environment
IEC 60068-2-64:2008 Fh (random)
IEC 60068-2-27:2008 Ea (bump)

See the IQAN-MD5 instruction book for further information.

Graphics design

It has never been easier to design a graphical user interface for your machine. With IQANdesign and the IQAN-MD5 family you have a what-you-see-is-what-you-get experience, by using built-in display controls such as gauges, touch screen buttons, indicator lamps and much more. Simply drag and drop the controls where you want them and change their properties to get your desired look and feel. You can even test drive your user interface directly on your PC to see how your design behaves.



IQANdesign - display page HMI design

A large graphics library with different gauge dials, all the common ISO standard symbols and much more is included in IQANdesign. Layers, groups, snap and align are helpful tools when designing complex graphical user interfaces. Space-saving controls, such as containers for lamp indicators that automatically only show the most critical errors or alarms, or for buttons that can be expanded when needed, are available, right out of the box.

Display pages

Display pages are used to display necessary information in different situations to the machine operator. The difference between this display and a "traditional" operator or driver environment is that all the information does not necessarily need to always be shown. By using several dedicated display pages it is possible to show enough of the correct information in different situations. A page can be configured to be shown by a trigger, for example the press of a button or when the driver seat is turned backward.

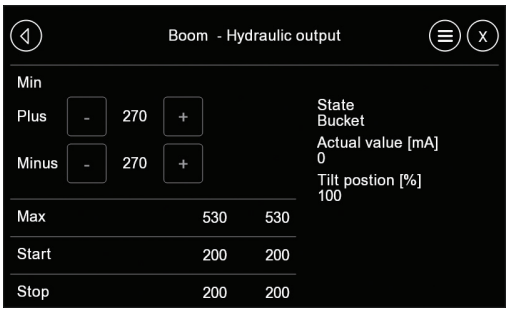
MD5 display page image

The display pages are well-integrated with your application logic. Controls, such as gauges, lamp indicators or texts, are easily connected to any input or output signal in your control system, with just a mouse click. No programming is needed.

IQANdesign and the IQAN-MD5 family have support for multiple languages. Every text displayed on the IQAN-MD5 can easily be translated into any language you like. Non-western languages, such as East Asian languages, can of course be used.

System menu

The IQAN-MD5 family comes with a pre-defined system menu with all the operations and settings you need. It is of course configurable by IQANdesign. You can define exactly what the machine operators will be able to measure and adjust and which logs they will be able to view. Measurements can be performed on groups of items and even graphically to let you see trends and correlations. Adjusting is done with user-friendly controls, such as sliders or up/down buttons.

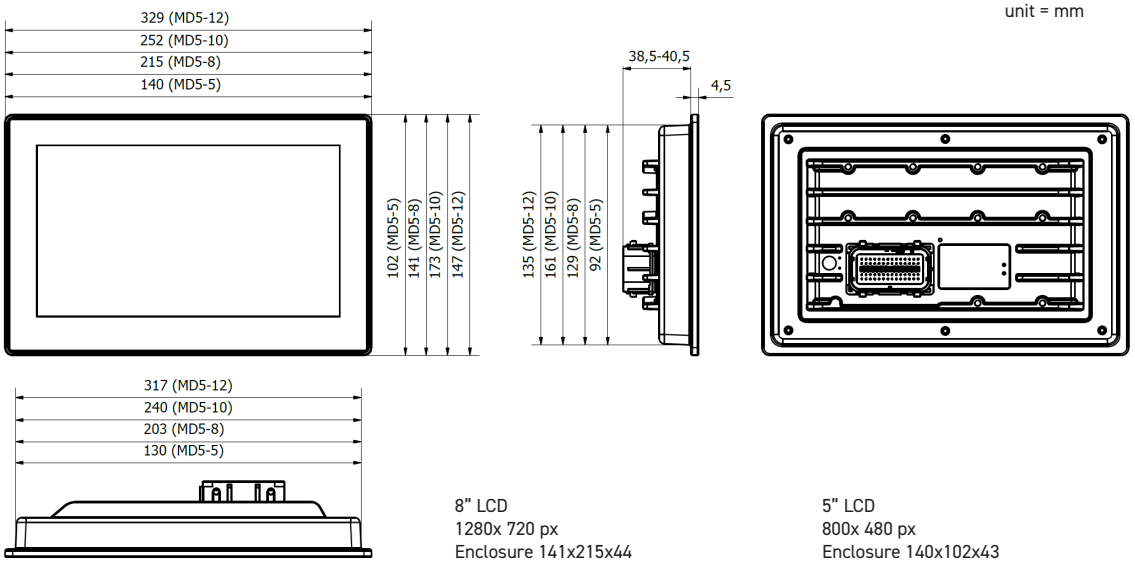


MD5 system menu image

The system menu is easy to navigate using the touch screen or an external encoder. It has a modern and neutral look that you can customize by yourself to fit your graphical profile. Both icons and text are used to make it clear where to click and where you are in the menu hierarchy.

Sensitive items can be protected by either PIN codes or login with a username and password. The built-in on-screen keyboard is used when entering PIN codes or logging in.

unit = mm



8" LCD
1280x 720 px
Enclosure 141x215x44

5" LCD
800x 480 px
Enclosure 140x102x43

10.1" LCD
1280x 800 px
Enclosure 173x252x44

12.3" LCD
1920x 720 px
Enclosure 147x329x45

WARNING

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