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IQAN-MD3 Display Modules

Electronic Control Systems



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Application

The IQAN-MD3 is a master unit that works with the expansion modules in the IQANdesign platform control system. The IQAN-MD3 is fully programmable for use in any machine application, as a graphical user interface and as a CAN gateway.

The IQAN-MD3 is constructed to be weatherproof for outdoor use. The unit will display vehicle data and system information.

Design and function

The IQAN-MD3 has a 3.5" QVGA color LCD display. There are five navigation buttons and four 'soft' function buttons to make interaction with the control simple for the operator.

The unit is designed to be easily mounted in a vehicle dashboard or exterior control panel. The unit has two sealed and keyed Deutsch DTM 12 position connectors.

The 32-bit microprocessor in the IQAN-MD3 uses the same kernel as our other IQANdesign master units. This allows application function groups to be imported between unit types. Additionally, display screens from the IQAN-MDL/-MDL2 are readily adapted to the IQAN-MD3. For time critical functions the sample rate can be set as low as 10 ms. The unit has a large internal memory for events and logging that is capable of storing 80,000 records.

The IQAN-MD3 analog inputs accept 0-5V signals from input devices or sensors. These inputs can also be set up as on-off inputs. A digital output is available and may be used for alarm or alert signals.

The IQAN-MD3 is connected to other units by two CAN buses. All CAN buses may be configured as ICP (IQAN CAN Protocol), SAE J1939 or Generic CAN. A third CAN bus may be used for diagnostics. The unit supports RS232 for modem (remote diagnostic) connection and USB for communication with a PC.

The IQAN-MD3 is made using selected components and conforms to strict international requirements.

Specifications

General

| | |
|----------------------------|--------------------------------------|
| Weight | 0.3 Kg |
| Temperature range | |
| Operating, ambient | -30 to 60°C (-25°C>LCD off >75°C) |
| Storage, ambient | -30 to 75°C |
| Protection | outdoor use |
| Voltage supply | 9 - 32 Vdc |
| Current consumption (idle) | 130 mA (28 Vdc) 190 mA (14 Vdc) |
| Screen resolution | 320 x 240 |

Performance

| | |
|----------------|-------------------|
| Processor | 32-bit (144 MHz) |
| Logging | 80K records |
| Sample time | min 10ms |
| Software tools | IQANdesign family |

Communication interfaces

| | |
|----------------------|-------------------------------------|
| CAN (ISO 11898) | 3 ¹ |
| Protocols | ICP, SAE J1939, CANopen, etc |
| RS-232 | 1 |
| Protocols | AT-Hayes,GSM07.07, GSM07.05, IDP |
| USB 2.0 ³ | 1 |

Outputs

| | |
|----------------|------------------|
| Digital output | 1 |
| Type | high side switch |
| Max load | 200 mA |

Inputs

| | |
|----------------|------------------|
| Voltage inputs | 7 |
| Signal range | 0 - 5 Vdc |
| Resolution | 1.2 mV |
| Digital inputs | (7) ² |
| Signal high | >4 Vdc |
| Signal low | <1 Vdc |

1) The 3rd CAN bus is recommended to be used only for diagnostic purposes. Works with IQANdesign 2.0 or later software.

2) The voltage and digital inputs share the same physical pins. The user defines the channels/pins with IQANdesign.

3) the USB driver circuit was updated on May 1, 2015

Ordering part number

IQAN-MD3-M15 20077793⁴

4) this p/n is used after May 1, 2015 and requires software versions 2.63 and 3.15 or higher.

Phased-out part number

IQAN-MD3 20072409
(replaced by 20077793 from May 1, 2015)

Environmental Protection

EMI

ISO 14982:1998 (radiated emission)
EN 55025:2003 (radiated emission)
ISO 11452-2:1995 (immunity vs EM field)
ISO 11452-4:2001 (immunity vs injected RF)
ISO 7637-2:1990 (immunity vs supply transients)
ISO 7637-3:1995 (immunity vs supply transients)

ESD

ISO 10605:2001 (handling)

Mechanical environment

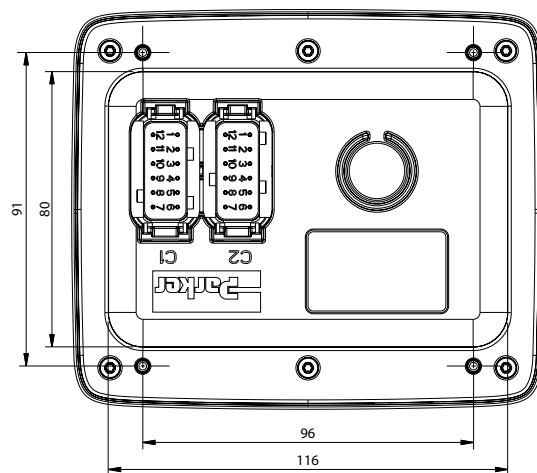
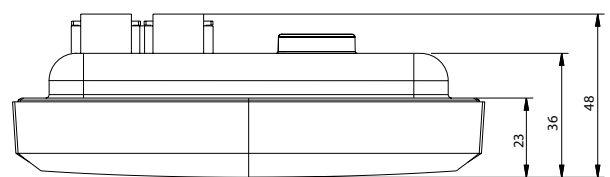
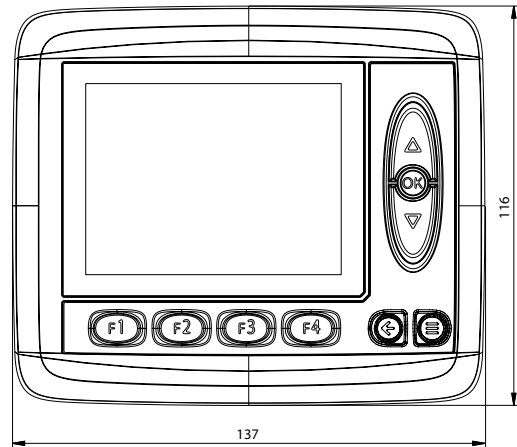
IEC 60068-2-64:1993 Fh (random)
IEC 60068-2-29:1987 Eb (bump)

Climate environment

IEC 60529:2001 IP66 (water)
DIN 40050 Part 9:1993 IP6K9K
IEC 60068-2-30:1985 Db (var1, damp, cyclic)
IEC 60068-2-78:2001 (damp heat, steady state)
IEC 60068-2-2:1993-01 Bb (heat)
IEC 60068-2-1:1993-02 Ab (cold)
IEC 60068-2-14:1984 Nb (change of temperature)

Chemical environment

IEC 60068-2-52:1996 Kb (salt mist, cyclic)



unit = mm

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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