



# Pro Display 10 ISOBUS Display Modules

Electronic Control Systems



ENGINEERING YOUR SUCCESS.

### Application

Parker Pro Display 10 ISOBUS is an HMI (Human Machine Interface) product with ISOBUS functions for agricultural machinery. The apps-based system ensures that all essential HMI functions for instrumentation, controls and adjustment can be integrated into a central HMI display. Customer can incorporate an unlimited number of apps into one display product, and the display is not limited to one particular control system integration. Pro Display 10 ISOBUS includes Parker's ISOBUS Suite app.

Pro Display 10 ISOBUS comes with a 10.1" touchscreen display and is intended for in-cab use.

### Hardware Properties

Pro Display 10 ISOBUS has a high-level display for demanding HMI needs. The processor, together with software toolkit, enables great graphical performance. The reliability of the core design is improved by chosen technologies.

The use of IPS technology display offers clear images with great colour reproduction from all viewing angles, allowing the display to be mounted in landscape or portrait orientation. A touchscreen interface enables an intuitive, rapid and accurate interaction with the display's applications.

Pro Display 10 ISOBUS offers a wide variety of communication interfaces. CAN bus supports communication up to 1 Mbps and enables simpler installation with software-controlled termination. Software updates can be made easily by using a memory stick via a USB port. There are internal antennae for wireless communication, and a connector for an external antenna for the FM-RDS radio. Pro Display 10 ISOBUS is capable of reproducing sound and showing videos with audio. Bluetooth can be used for remote display and diagnostics, mobile phone hands-free apps, as well as for music streaming services.

Besides two available camera interfaces, a number of IP-cameras can be connected via Ethernet switch or WLAN access point. Two mounting methods are available for Pro Display 10 ISOBUS. The display can be easily integrated into the panel using a steel bracket or can be mounted with adjustable RAM® Mount components.

Pro Display 10 ISOBUS offers different modes for fast system start up such as sleep mode, shutdown and operation.

### Specifications

#### General

Weight	1.42 kg
Operating temperature	-30°C - +70°C
Storage temperature	-40°C - +85°C
Protection	IP65
Voltage supply	12V and 24V (6 - 36 Vdc)
Camera supply	12 Vdc
CE marking	2014/30/EU
E-Mark	E17 10-R-040108

#### Performance

Processor (Advanced)	Freescale i.MX6dual (800 MHz)
RAM size	1 GB
Flash size	2 GB
External memory	Micro SD card
Software tools	Parker UX Toolkit

#### Communication interface

CAN	4
USB	2 (2.0 high speed host)
RS232	1 (TX, RX, GND)
Ethernet	1 (10 / 100 Mbps)
Wireless	Bluetooth <sup>1</sup> WLAN, 802.11 b/g/n

#### Infotainment

Audio	Line IN/OUT, Microphone IN, FM-RDS radio tuner
Video inputs	2 x analog composite

#### Display

Touch interface	PCAP
Display	10.1" IPS LCD, 16:10 <sup>2</sup>
Resolution	1280x800 pixels
Brightness	400 cd/m <sup>2</sup> (typical)
Backlight	White LED

#### Connection

Electrical connection	2 x Deutsch DTM04 12-pin
Ethernet	1 x M12 4/5-pin
USB	2 x M12 4/5-pin
Video input	1 x M12 5/6-pin
Radio antenna	1 x SMA for FM-RDS radio

#### Inputs/Outputs

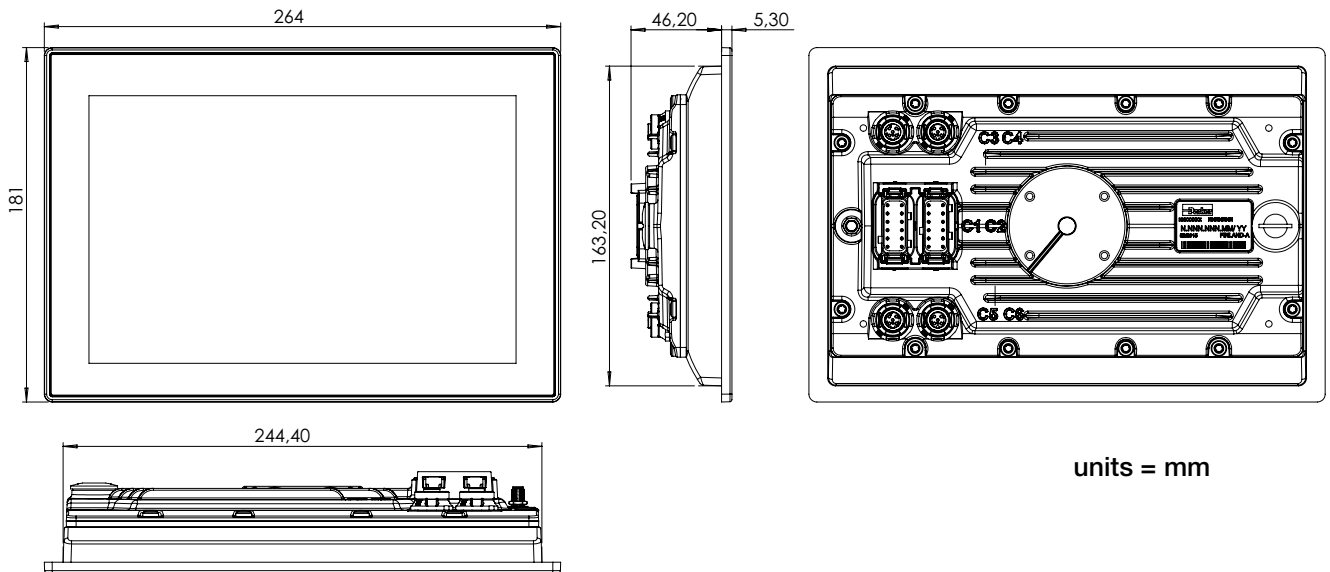
Digital inputs	1 x keylock, 1 x wakeup
Supply outputs	1 x +12V / 1A <sup>3</sup>
Digital outputs	1 x highside 200 mA <sup>4</sup>

#### Internal features

3-axis acceleration sensor
Voltage measurement / supply supervision
Real time clock with backup

- 1) Hands-free, serial port protocol, A2DP sink
- 2) Hardened glass with anti-glare coating
- 3) E.g. for camera supply
- 4) E.g. for audio amplifier wakeup

**Dimensions**



**Ordering Part Numbers**

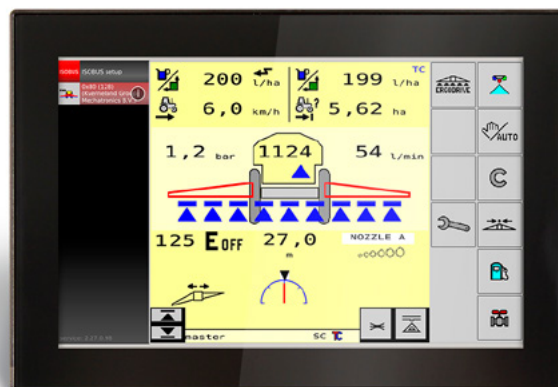
**Parker Pro Display, serial production**  
 Pro Display 10 ISOBUS (incl. ISOBUS Suite application license) 88PROD10AIS10

**Parker Pro Display, development**  
 Pro Display 10 Development 88PROD10AD10

**Accessories**

- 1" RAM mounting kit, Pro Display 10 65RAM1KIT
- Panel mounting kit with bracket, Pro Display 10 88PMK2PROD10
- M12 USB cable, Pro Display series 88CABPRODUSB
- Development cable kit, Pro Display Development 88CABPRODDHK
- Ethernet cable 1.5 meters, Pro Display series 20077780 (IQAN accessory<sup>1)</sup>)
- Prototype installation cables - C1, 2.5 meters, Pro Display series 5030125 (IQAN accessory<sup>1)</sup>)
- Prototype installation cables - C2, 2.5 meters, Pro Display series 5030126 (IQAN accessory<sup>1)</sup>)
- Connector kit for C1 & C2, grey & black, Pro Display series 20073081 (IQAN accessory<sup>1)</sup>)

1) IQAN Accessories are also found from Parker catalogue HY33-8319/UK

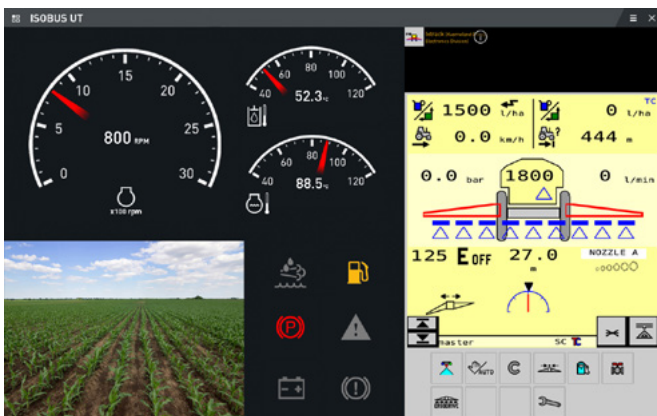


## ISOBUS Suite Application

Pro Display 10 ISOBUS comes with Parker's ISOBUS Suite application. There is no need for a separate display for ISOBUS functions, Pro Display's major benefit is its fully integrated design. ISOBUS functions can be integrated with all other machine HMI functions. Having just one HMI display in the machine cabin combines machine functionality, diagnostics, efficiency tools, and even infotainment and entertainment, in a centralised and cost-effective solution. Further benefits of integration include reduced operating complexity and risk of errors, which in turn improve efficiency and ergonomics for users.

ISOBUS Suite is an application for ISOBUS functions that includes ISOBUS UT, a user interface for ISOBUS-compatible implementations. Also included is a file server for the ISOBUS network to facilitate easy data transfer, and a task controller, which means the display is able to perform accurate variable-rate control and documentation of actual data values.

The easy scalability and adaptation of ISOBUS Suite are valuable features of the software. Such flexibility allows two different control systems to be shown simultaneously on the screen. App orientation can be landscape or portrait. The size of the app on the screen can be scaled runtime, the layout adapts automatically to available space. What's more, if required, the dynamic Parker ISOBUS Suite can be easily integrated with other applications from the OEM customer.



*Due to flexible solution, ISOBUS UT can be easily integrated with other essential machine HMI functions, such as instrumentation and rear view camera.*

## Develop Centralised HMI with Parker UX Toolkit

Parker UX Toolkit includes the software tools to develop machine HMI applications for Pro Display according to customer's own needs. Apps-based platform enables separation of system functionality into own apps and independent app development, as well as integration of 3<sup>rd</sup> party software.

Parker UX Toolkit provides the tools to simplify application development by integrating all essential functions in order to optimise the development flow. All included app examples and ready-made UI components can be utilised and modified freely.

## Design Applications

Parker Application Designer is the perfect tool for creating professional and user-friendly apps for Pro Display. Advanced scripting language (QML) and the WYSIWYG editor with ready-made components and style sheet are the key elements for the quick and easy programming of apps. Parker's Menu and Menu System apps provide a great framework for customized design.

The WYSIWYG editor (what-you-see-is-what-you-get) offers a simple and fast way of implementing your application. Application Designer enables the ease design of a custom graphical user interface, or the user can simply drag and drop the ready-made components. The components can be modified to fully reflect your own look and feel. The visualised content of an application can be evaluated instantly.

Parker UX Toolkit provides a feature called "System project", which standardises common system-specific data and rules to be used in the development of apps. The System project is a special project in Application Designer and can be imported into each app project. With System project, the app developer can rapidly begin building value-added functions instead of wasting time having to redefine the infrastructure of each app.

The platform supports multilingual applications. The new languages can be imported very easily by using a separate translation file.

## Create Reliable Communication

Intelligent data management includes ready-made device and protocol suites, as well as efficient inbuilt diagnostics and alarm features to define communication interfaces very quickly. Reliable communication between machine and app can be created easily using drag-and-drop protocol layers.

## Environmental Protection

### ESD

ISO 10605 (Electrostatic discharge operation & handling)

### IP

IEC 60529 (Ingress protection IP65)

### Athmosphere, corrosion

EN 60068-2-52 Test Kb (Salt mist)

ISO 15003 (Chemical brush exposure)

EN 60068-2-5 (Solar radiation)

### Electrical

ISO 16750-2 (Operation voltage, overvoltage, superimposed alternating voltage, reversed voltage, slow decrease and increase of supply voltage, momentary drop on supply voltage, reset behavior at voltage drop, line interruption, short circuit protection )

Parker (Power supply with and without battery, immunity to micro power cuts)

### Mechanical environment

IEC 60068-2-6 (Sinusoidal vibration)

IEC 60068-2-64 Test Fh (Random vibration)

IEC 60068-2-27 (Mechanical shock)

EN 60068-2-29 (Bump)

IEC 60068-2-6 (Resonance search)

Parker (Impact)

ISO 16750-3, 4.3 / IEC 60068-2-32 (Free fall)

### Climate environment

IEC 60068-2-14 test Na (Temperature shock)

IEC 60068-2-2 (High temperature, storage)

IEC 60068-2-1 (Low temperature, storage)

IEC 60068-2-78 (Damp heat)

IEC 60068-2-30 (Damp heat cyclic)

IEC 60068-2-14 test Nb (Temperature cycling)

IEC 60068-2-2 test B (High temperature, operational)

IEC 60068-2-1 (Low temperature, operational)

### EMI

ISO 7637-2 (Conducted transient emission, pulses 1, 2 & 3)

CISPR 25 ed3.0 (Radiated RF emission)

ISO 11452-1, ISO 11452-2 (Radiated RF susceptibility)

ISO 11452-8 (Immunity to low-frequency magnetic fields)

CISPR 25 ed3.0 (Conducted RF emission)

ISO 11452-1, ISO 11452-4 (Conducted susceptibility)

ISO 7637-2 (Transient - inductive load switching,

inductance, coupling, cranking, load dump)

ISO 7637-3 (Transient, signal lines, fast)

### Miscellaneous

EP 455 (Readability)



## 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.**

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure, and review the information concerning the product or system in the current product catalogue. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

## Offer of Sale

Please contact your Parker representation for a detailed "Offer of Sale".

# Parker Worldwide

## Europe, Middle East, Africa

**AE – United Arab Emirates,**  
Dubai

Tel: +971 4 8127100  
parker.me@parker.com

**AT – Austria,** Wiener Neustadt  
Tel: +43 (0)2622 23501-0  
parker.austria@parker.com

**AT – Eastern Europe,** Wiener  
Neustadt  
Tel: +43 (0)2622 23501 900  
parker.easteurope@parker.com

**AZ – Azerbaijan,** Baku  
Tel: +994 50 2233 458  
parker.azerbaijan@parker.com

**BE/LU – Belgium,** Nivelles  
Tel: +32 (0)67 280 900  
parker.belgium@parker.com

**BG – Bulgaria,** Sofia  
Tel: +359 2 980 1344  
parker.bulgaria@parker.com

**BY – Belarus,** Minsk  
Tel: +48 (0)22 573 24 00  
parker.poland@parker.com

**CH – Switzerland,** Etoy  
Tel: +41 (0)21 821 87 00  
parker.switzerland@parker.com

**CZ – Czech Republic,** Klecany  
Tel: +420 284 083 111  
parker.czechrepublic@parker.com

**DE – Germany,** Kaarst  
Tel: +49 (0)2131 4016 0  
parker.germany@parker.com

**DK – Denmark,** Ballerup  
Tel: +45 43 56 04 00  
parker.denmark@parker.com

**ES – Spain,** Madrid  
Tel: +34 902 330 001  
parker.spain@parker.com

**FI – Finland,** Vantaa  
Tel: +358 (0)20 753 2500  
parker.finland@parker.com

**FR – France,** Contamine s/Arve  
Tel: +33 (0)4 50 25 80 25  
parker.france@parker.com

**GR – Greece,** Piraeus  
Tel: +30 210 933 6450  
parker.greece@parker.com

**HU – Hungary,** Budaörs  
Tel: +36 23 885 470  
parker.hungary@parker.com

**IE – Ireland,** Dublin  
Tel: +353 (0)1 466 6370  
parker.ireland@parker.com

**IL – Israel**  
Tel: +39 02 45 19 21  
parker.israel@parker.com

**IT – Italy,** Corsico (MI)  
Tel: +39 02 45 19 21  
parker.italy@parker.com

**KZ – Kazakhstan,** Almaty  
Tel: +7 7273 561 000  
parker.easteurope@parker.com

**NL – The Netherlands,** Oldenzaal  
Tel: +31 (0)541 585 000  
parker.nl@parker.com

**NO – Norway,** Asker  
Tel: +47 66 75 34 00  
parker.norway@parker.com

**PL – Poland,** Warsaw  
Tel: +48 (0)22 573 24 00  
parker.poland@parker.com

**PT – Portugal**  
Tel: +351 22 999 7360  
parker.portugal@parker.com

**RO – Romania,** Bucharest  
Tel: +40 21 252 1382  
parker.romania@parker.com

**RU – Russia,** Moscow  
Tel: +7 495 645-2156  
parker.russia@parker.com

**SE – Sweden,** Spånga  
Tel: +46 (0)8 59 79 50 00  
parker.sweden@parker.com

**SK – Slovakia,** Banská Bystrica  
Tel: +421 484 162 252  
parker.slovakia@parker.com

**SL – Slovenia,** Novo Mesto  
Tel: +386 7 337 6650  
parker.slovenia@parker.com

**TR – Turkey,** Istanbul  
Tel: +90 216 4997081  
parker.turkey@parker.com

**UA – Ukraine,** Kiev  
Tel: +48 (0)22 573 24 00  
parker.poland@parker.com

**UK – United Kingdom,** Warwick  
Tel: +44 (0)1926 317 878  
parker.uk@parker.com

**ZA – South Africa,** Kempton Park  
Tel: +27 (0)11 961 0700  
parker.southafrica@parker.com

## North America

**CA – Canada,** Milton, Ontario  
Tel: +1 905 693 3000

**US – USA,** Cleveland  
Tel: +1 216 896 3000

## Asia Pacific

**AU – Australia,** Castle Hill  
Tel: +61 (0)2-9634 7777

**CN – China,** Shanghai  
Tel: +86 21 2899 5000

**HK – Hong Kong**  
Tel: +852 2428 8008

**IN – India,** Mumbai  
Tel: +91 22 6513 7081-85

**JP – Japan,** Tokyo  
Tel: +81 (0)3 6408 3901

**KR – South Korea,** Seoul  
Tel: +82 2 559 0400

**MY – Malaysia,** Shah Alam  
Tel: +60 3 7849 0800

**NZ – New Zealand,** Mt Wellington  
Tel: +64 9 574 1744

**SG – Singapore**  
Tel: +65 6887 6300

**TH – Thailand,** Bangkok  
Tel: +662 186 7000

**TW – Taiwan,** Taipei  
Tel: +886 2 2298 8987

## South America

**AR – Argentina,** Buenos Aires  
Tel: +54 3327 44 4129

**BR – Brazil,** Sao Jose dos Campos  
Tel: +55 800 727 5374

**CL – Chile,** Santiago  
Tel: +56 2 623 1216

**MX – Mexico,** Toluca  
Tel: +52 72 2275 4200



### EMEA Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI, FR, IE, IL,  
IS, IT, LU, MT, NL, NO, PL, PT, RU, SE, SK, UK, ZA)

### US Product Information Centre

Toll-free number: 1-800-27 27 537

www.parker.com