



# icountOS Oil Sampler Manual

DD0000013\_EN Rev 5

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aerospace  
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electromechanical  
**filtration**  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding

# Contents

<b>About this Manual .....</b>	<b>3</b>
Overview .....	3
Symbol glossary .....	4
Safety information .....	4
Laser Information .....	5
Exclusion of Liability .....	5
Conditions for safe use .....	5
Product Registration .....	5
EC Declaration of Conformity .....	6
Product Identification labels .....	7
Contamination Standards .....	7
<b>Introduction .....</b>	<b>8</b>
Principles of operation .....	8
Servicing and calibration .....	8
Benefits .....	9
<b>Product features</b> .....	<b>10</b>
Operator panel .....	10
Mounting .....	10
Dimensions .....	11
Hydraulic circuit .....	11
<b>The Results display screen</b> .....	<b>12</b>
ISO .....	12
NAS .....	12
<b>Pressure Reducing Valve (PRV)</b> .....	<b>13</b>
<b>Technical specifications</b> .....	<b>14</b>
<b>Software default settings</b> .....	<b>15</b>
<b>Battery charge/maintenance</b> .....	<b>15</b>
FCC note .....	15
<b>Connections .....</b>	<b>16</b>
<b>Electrical connections</b> .....	<b>16</b>
Connecting/Disconnecting .....	16
<b>Communication connections</b> .....	<b>17</b>
Connecting/Disconnecting .....	17
<b>Stand-alone or Network Setup</b> .....	<b>18</b>
No Network or Laptop connection available .....	18
Connecting to a Network or Laptop .....	19
<b>Low pressure connection setup</b> .....	<b>20</b>
Assembling the hose fittings .....	20
Removing the hose fittings .....	21
<b>High pressure connection setup</b> .....	<b>22</b>
Assembling the PRV and hose fittings .....	22
Removing the PRV and hose fittings .....	23
<b>icountOS Web Interface .....</b>	<b>24</b>
Home page .....	24
Unit Status page – ISO .....	24
Unit Status page – NAS .....	25
Data Log page .....	25
Configuration page – ISO .....	26
Configuration page – NAS .....	26
Configuration: Set Date and Time page .....	27
Contact Us page .....	28
<b>Reference .....</b>	<b>29</b>
Ordering information .....	29
Recalibration and servicing .....	31
Verification fluid .....	31
Returning the unit .....	31
<b>Addendum .....</b>	<b>32</b>
<b>PC Wireless Communication Connection</b> .....	<b>32</b>
Connecting computer (Windows XP or 7) .....	32
<b>Windows XP Instructions</b> .....	<b>33</b>
<b>Windows 7 Instructions</b> .....	<b>34</b>
<b>Windows XP or 7 Wireless Router Identifier</b> .....	<b>34</b>
<b>Smart Device Communication Connection</b> .....	<b>35</b>
<b>Wireless Information</b> .....	<b>36</b>

# About this Manual

## Overview

Parker Hannifin's icountOS is a laser particle oil sampler.

This mineral or aviation fuel based fluid contamination detector is designed for use in adverse conditions and is housed in an HPX<sup>®</sup> High Performance Resin case. With its Vortex<sup>®</sup> valve allowing pressure release without letting in water and its soft handle, icountOS has been designed with customers in mind, offering durability, functionality and future customisation options.



Durable HPX<sup>®</sup> case

Vortex<sup>®</sup> pressure release valve

Double-layer soft grip handle

The unit has two hydraulic connections that allow the fluid to be transferred through the unit for analysis. The icountOS (IOS1220) is supplied with low pressure hoses (ACC6NN031) and a Pressure Reducing Valve (ACC6NN027). The High pressure hose (ACC6NN034) is also available when connecting a PRV to your system.

The electrical supply is made via an M12 Round IP67-approved connector and the communications is made via an RJ45 IP68-approved connector. The unit is rated IP54 (unit open) and IP67 (unit closed).

## Symbol glossary

The following symbols are used in this manual.



### WARNING

Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use.

A Warning notice is used in situations where inattention or misuse could cause personal injury.



### CAUTION

A Caution notice is used in situations where inattention or misuse could cause damage to the equipment. If the equipment is used in a manner not specified by the manufacturer, the protection/performance may be impaired.



### CHECK

Notes merely call attention to information that is especially significant to understanding and operating the equipment. You may need to check the orientation or tightness of connections, for example.



### SAFETY EQUIPMENT

Some operations require special attention to safety, such as the use of safety glasses. Contact your local Parker Hannifin sales office if you have any concerns.



### SERVICE/REPAIR

Any servicing or repair work must be carried out by a Parker-approved service centre. Contact your local Parker Hannifin sales office for recalibration services.



### WARNING

A red band around a picture or instruction is used to emphasize that particular care is required to avoid the danger of personal injury or other hazard.



### CAUTION

A yellow band around a picture or instruction is used to emphasize that particular care is required in carrying out the instruction. Examples are checking that plugs are 'keyed' (i.e. correctly polarized) before they are fully inserted, or that hoses are fitted carefully so they do not leak.

## Safety information



Please read the operating instructions before use and refer to this Handbook whenever appropriate during use.

Before operating the icountOS ensure all electrical connections, hoses and fittings are securely fitted to the appropriate standards.



Check all hoses and fittings for wear and or damage. If replacements are required please order new parts using the Accessory Part Numbers on the **Ordering Information** section (page 29). Replace any loose or leaking hoses immediately.

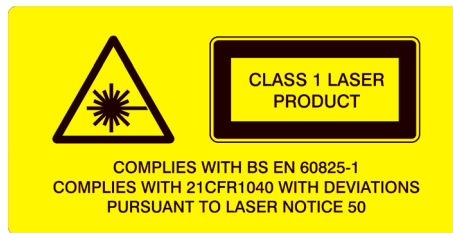


**WARNING: High pressure oil or fuel systems can present a danger of serious personal injury.**

## Laser Information

This product contains an infrared 5mW laser.

Any dismantling of the product may result in dangerous exposure to laser radiation. The following information about the laser is on a label on the top surface of the product.



**WARNING:** Users are not required to access the laser radiation source and should never do so.

## Exclusion of Liability

Parker has made every endeavour to ensure the accuracy of the content of this document, however errors cannot be ruled out. Consequently, we accept no liability for such errors as may exist or for any damage or loss whatsoever which may arise as a result of such errors.

All details are subject to technical modifications. Technical specifications are subject to change without notice.

### Conditions for safe use



To ensure compliance with the certification, users are NOT permitted to open the unit under any circumstances. Doing so will invalidate the unit's calibration and it would NOT subsequently be suitable for calibrated use.

## Product Registration



[www.parker.com/unlock](http://www.parker.com/unlock)

**NOTE:** Registering your product online at [www.parker.com/unlock](http://www.parker.com/unlock) allows us to offer a speedy response time should you have a Warranty claim or other difficulty within the first 12 months of purchase.



**NOTE:** Do not dispose of the original packaging, as this is required to return the icountOS to the Condition Monitoring Service Centre safely for recalibration and servicing.

# EC Declaration of Conformity



## EC Declaration of Conformity

Document No. DD0000016 Rev B

Parker Hannifin Manufacturing (UK) Ltd  
Hydraulic Filter Division Europe  
Condition Monitoring Centre  
Brunel Way  
Thetford  
Norfolk  
IP24 1HP  
United Kingdom

### Product(s):

The following icountOS\* (Oil Sampler) product ranges come under this certificate approval:-

Product part number with a prefix of iOS\* and 9406\*\*

**The Product(s) described above are in conformity with the essential requirements of the following directives:**

*89/336/EEC amended by 92/31/EEC, 93/68/EEC and repealed by 2004/108/EC*

### Test Standards:

*EN61326-1:2006 Electrical Equipment for measurement, control and laboratory use – Electromagnetic compatibility (EMC) – Group 1, Class B Equipment (Emissions Only)  
Method: CISPR11 / EN61000-3-2,3,11,12*

*EN61326-1:2006 Electrical Equipment for measurement, control and laboratory use – Electromagnetic compatibility (EMC) – Industrial Location Immunity (Immunity Section Only)  
Method: IEC 61000-4-2,3,4,5,6,8,11*

*CFR47 : 2010 Code of Federal Regulations: Pt. 15 Subpart B Radio Frequency Devices – Unintentional Radiators  
Method: ANSI C63.4:2003*

*EN61010-1:2001 Safety requirements for electrical equipment for measurement, control and laboratory use Part 1 General Requirements*

*2006/42/EC Machinery Directive*

**Signed for and on behalf of Parker Hannifin Manufacturing (UK) Ltd, Thetford**

23/03/15

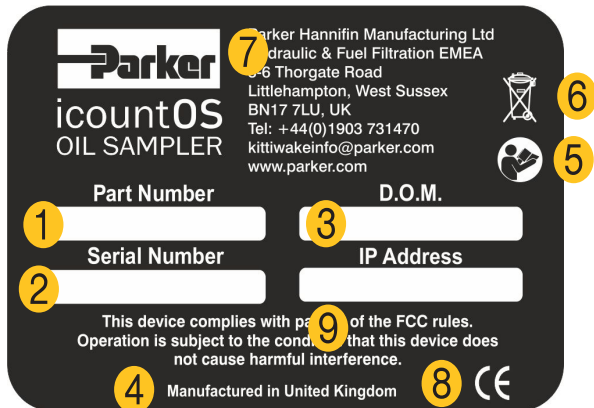
Mark Hayman  
Engineering Manager

Date

CMC E12 Issue 1, May 07

# Product Identification labels

On the case lid



## KEY

- 1 Part number reference
- 2 Serial number
- 3 Date of manufacture (D.O.M.)
- 4 Country of manufacture
- 5 Refer to Handbook
- 6 Waste electrical and electronic equipment (WEEE) directive – life disposal is the responsibility of the user
- 7 Name and address of manufacturer
- 8 Conformity marking of product by notified body
- 9 IP Address

# Contamination Standards



See the Parker 'Guide to Contamination Standards' (DD0000015) – available on your CD. This publication makes available industry-recognized cleanliness specifications for both hydraulic fluid and fuel samples.



# Introduction

Parker Hannifin's icountOS represents the most up-to-date technology in solid particle contamination analysis. The icountOS is a compact, durable, lightweight integrated laser-based particle detector module that provides a cost-effective solution to fluid management and contamination control.

## Principles of operation

The icountOS measures particle contamination continuously and updates the output options every second. The interval can be defined by the user so that measurements may be taken as often as required.

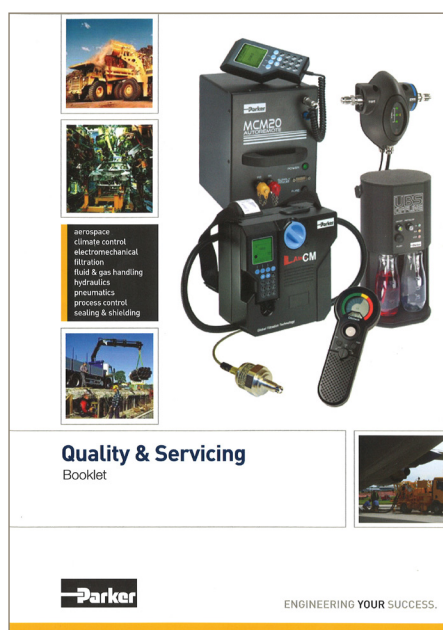
In contrast to other Parker particle counters (such as the CM20, LCM20, ACM20 or MCM20), the icountOS allows the user to set the duration of the test and frequency of the measurements taken. The results are reported immediately, but also stored in the unit's internal memory and may be downloaded later for analysis by third-party applications (such as Microsoft® Excel).

The icountOS has high levels of controlled accuracy, stability and sensitivity.

## Servicing and calibration



Please refer to the Parker Hannifin **Quality and Servicing** Booklet (FDCB272UK), supplied on CD.



**NOTE:** Any servicing or repair work must be carried out by a Parker approved service centre. See page 31 for details.



## Benefits

- Independent monitoring of system contamination trends
- Calibration by recognised online principles confirmed by relevant International Organization for Standardization (ISO) procedures
- Specific ISO 4406 / NAS 1638 /ACFTD codes indicate contamination levels directly
- A low-cost solution to prolonging fluid life and reducing machine downtime
- Self-diagnostic software
- Mineral fluid-compatible and Fuel-compatible construction
- Percentage water saturation reporting through an integrated moisture sensor
- Robust, portable design (<5.5kg) with a soft handle and an optional carry strap (ACC6NN030)
- On-board Web page generation, allowing users to set their own testing parameters and code alarm limits
- On-board memory capable of storing in excess of 250,000 test results
- Flexible data exporting – as XML, CSV and TXT files
- Modular design for easy servicing
- On-board high quality pump and motor.



## Product features

- Durable HPX® case, with soft carry handle and optional shoulder strap for portability
- IP67 connection for charging internal battery
- IP68-rated RJ45 connection for communications with laptop or network
- IP54 protection (unit open); IP67 protection (unit closed).

## Operator panel



### KEY

- ① POWER On/Off switch
- ② PUMP On/Off switch
- ③ COMMS Communication connector
- ④ DC IN 12V power input from power pack with 2m cable
- ⑤ Results display
- ⑥ INLET (suction) for 6mm push-fit hose
- ⑦ OUTLET (return) for 4mm push-fit hose

## Mounting

Place the unit on a stable surface with easy access to the controls and visual access to the Results display.



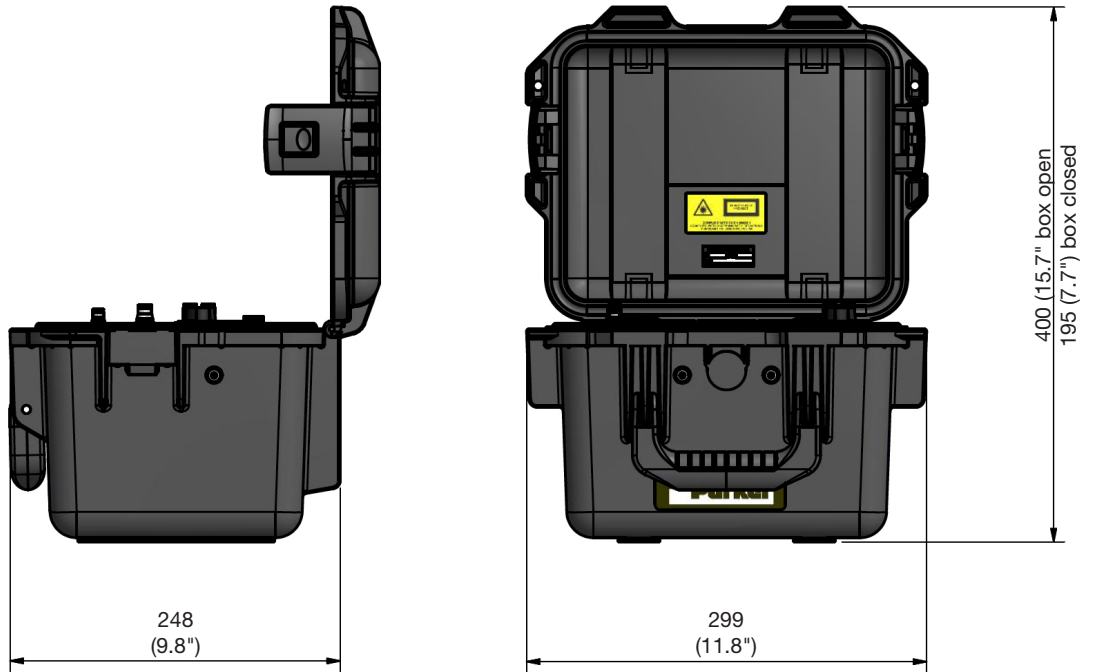
**CAUTION:** Do not open the icountOS when it is raining without providing separate protection against the rain.

**Take care not to drop the unit. This type of damage is not covered by the Warranty.**

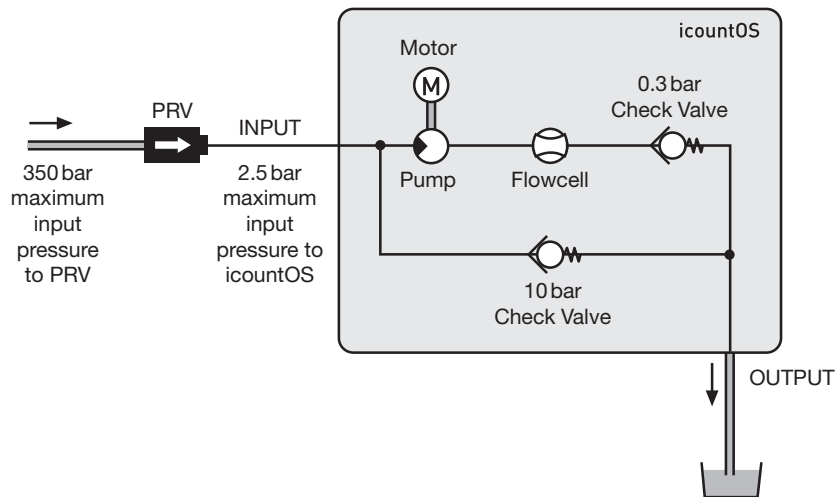
## Dimensions

Dimensions are given in mm (inches).

The Aviation Fuel option (IOS3210) is indicated by a white-on-black sticker fixed to the outside of the lid.



## Hydraulic circuit



**WARNING:** For input pressures over 2.5 bar, please use the Pressure Reduction Valve (ACC6NN027) – see page 13.

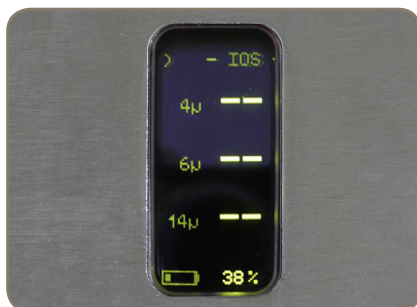
# The Results display screen



## KEY

- 1 The top line of the Results display screen scrolls to show MTD(C) (i.e. Medium Test Dust (Calibrated)), the Unit ID and the IP address. See 'Configuration page' on pages 26–27.
- 2 See the Parker 'Guide to Contamination Standards' (DD0000015) – available on your CD.
- 2 Channel sizes (4, 6 and 14µ in this case). Alternates with a display of alarm limit settings.
- 3 Numbers are ISO or NAS codes, directly indicating contamination levels in ISO 4406:1999 or NAS1638 reporting standards respectively. See 'Set Reporting Standard page' on page 28.
- 4 Internal battery charge level indicator
- 5 Relative Humidity percentage

## ISO



The display alternates between showing the channel sizes: 4, 6, 14µ



...and the alarm limit settings: 19, 18 and 15.



The contamination level numbers flash if alarm levels have been reached (see 'Configuration page – ISO', page 26).

## NAS



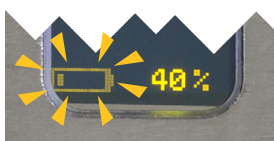
The display alternates between showing the reporting standard...



...and the alarm limit setting: 9.



The contamination level number flashes if the alarm level has been reached (see 'Configuration page – NAS', page 26).



If the battery charge level indicator is flashing, connect the power supply to maintain product performance.

## Pressure Reducing Valve (PRV)

A pressure compensated PRV device (Parker Hannifin part number ACC6NN027) has been developed to enable testing where inlet pressures in the hose exceeds 2.5 bar, up to a maximum of 350 bar.

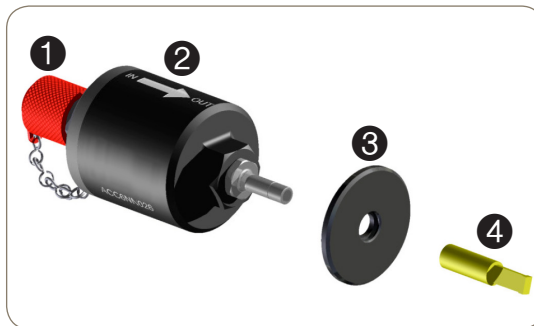
### FITTING/REMOVAL

See page 22 'High pressure connection setup' for details on fitting and removing the PRV.



**WARNING: Particular care is required to connect your icountOS unit to a high pressure system application. Please contact Parker Hannifin if you require further advice.**

### PRV



### KEY

- ① M16 cap with chain. Replace cap after use
- ② Pressure Reducing Valve (PRV)
- ③ PRV release tool
- ④ Nozzle dust cap. Replace cap after use.

Parameter	Range
PRV Inlet pressure	2.5 to 350 bar
PRV Outlet pressure	2.5 bar
Working viscosity	1 to 300 cSt

## Technical specifications

Feature	Specification
Product start-up time	Five seconds minimum
Measurement period	Default 30 seconds run time; 15 seconds data logging time
Reporting interval	Once per second
Principle of operation	Laser diode optical detection of actual particulates
International codes range	Up to ISO 22, NAS 12
Calibration	Calibration by recognised online methods confirmed by the relevant ISO procedures MTD – via a certified primary ISO 11171 automatic particle detector using ISO 11943 principles. Particle distribution reporting to ISO 4406:1999
Recalibration and Servicing	Required every 12 months
Working pressure	350 bar (5076 psi) maximum Pressures above 2.5 bar require the use of the PRV (ACC6NN027)
Flow range	icountOS system regulates flow to an optimal 60ml/minute (0.016 USGPM)
Fluid connection interface	INLET: 6mm push-fit DRAIN: 4mm push-fit
Ambient storage temperature for unit	-40°C to +80°C; -40°F to +176°F
Operating temperature for unit	-30°C to +60°C; -22°F to +140°F
Operating humidity range	5%RH to 100%RH
Fluid operating temperature (Oil)	+5°C to +60°C; +41°F to +140°F
Fluid operating temperature (Fuel)	-20°C to +60°C; -4°F to +140°F
Moisture sensor	Linear scale within the range 5%RH to 100%RH
Moisture sensor stability	±2%RH typical at 50% in one year
Moisture sensor calibration	±5%RH (over a compensated temperature range of +10°C to +80°C; +50°F to +176°F)
Computer compatibility	Parker supplies an IP68-rated RJ45 connection that may be connected to a laptop computer's RJ45 LAN port using the 2m cable supplied.
Power requirements	Supplied by an internal battery and/or an external power supply. <b>Parker recommend that the battery is put through a full discharge/full recharge cycle every three months. Please contact Parker for advice or if in doubt.</b>
Certification	IP54 rating (unit open) IP67 rating (unit closed) EC Declaration of Conformity (see page 6)

## Software default settings

Parameter	Value
Reporting standard	ISO 4406:1999
Particle limits	19 / 18 / 15
Measurement period (seconds)	60
Data logging interval (seconds)	60
Relative Humidity limit (%RH)	50
Unit identification	IOS
Unit location	(blank)

## Battery charge/maintenance



*On receipt of this product, the user must fully charge the battery for 12 hours minimum before use. Note: During this charging cycle the charger must not be removed from the mains supply.*

*Fully recharge after every use to maintain optimum battery life.*

*It is recommended that the iOS battery charger remains connected and switched on when not in use.*

Battery indication guide			
Battery level	Indicator	Typical capacity (%)	Notes
4 bars		>80%	If symbol is still pulsing in brightness it has not reached 100%
3 bars		60% - 80%	
2 bars		40% - 60%	
1 bar		20% - 40%	Recommend that the unit is put on charge
0 bar		10% - 20%	
<b>0 bar flashing</b>		<b>&lt;10%</b>	

### CHARGING WHEN THE PRODUCT IS SWITCHED OFF

Battery charging is indicated by the LED flashing twice every 5 seconds on the power switch. When charged, the power switch LED will flash once.

### CHARGING WHEN THE PRODUCT IS SWITCHED ON

The battery charging process is indicated by a solid LED, followed by two flashes on the power switch, as well as the progress bar indication on the display.

## FCC note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. The unique product identifier is the serial number.



# Connections

## Electrical connections

Only use the Parker Hannifin-supplied power supply with the icountOS. Check that you have the correct mains plug for your region.



**CAUTION:** The performance of the power supply is only valid when using the region-specific Parker supplied Power Supply Cable (ACC6NN040/041/042). The electrical power adaptor should only be used in dry environments.

## Connecting/Disconnecting



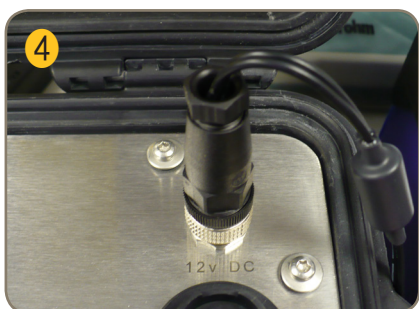
1 Connect mains cable to power supply



2 Unscrew dust cap and remove



3 Attach 4-way plug and fasten



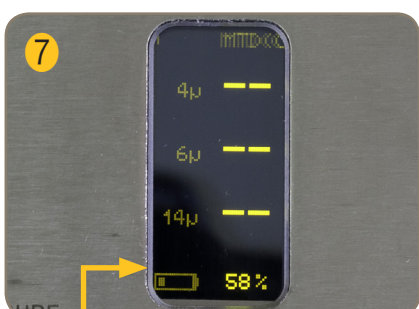
4 Plug power supply into mains and switch on



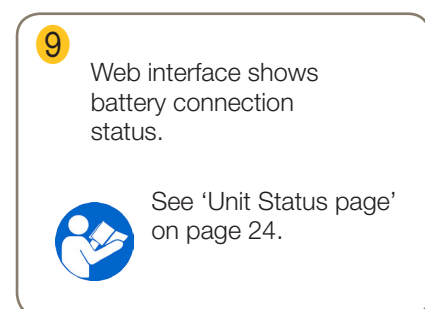
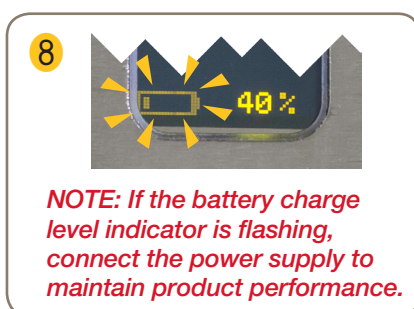
5 Plug power supply into mains and switch on



6 Power on icountOS. The button will flash, indicating 'On charge'.



7 Check charge level





## Communication connections

The RJ45 LAN connection cable uses IP68-rated cables and a robust connection interface.



**CAUTION:** Ingress Protection (IP) is only valid when using the Parker Hannifin supplied RJ45 LAN connection cable (ACC6NN028).

### Connecting/Disconnecting



1 Remove dust cap from icountOS



2 Remove the RJ45 dust cap



3 Insert RJ45 connector



4 Ensure the RJ45 is fully screwed down. Do not over-tighten.



5 Insert RJ45 into PC/Laptop

**NOTE:** Make sure that cables are connected and stored correctly to avoid any damage.

## Stand-alone or Network Setup

### No Network or Laptop connection available

1

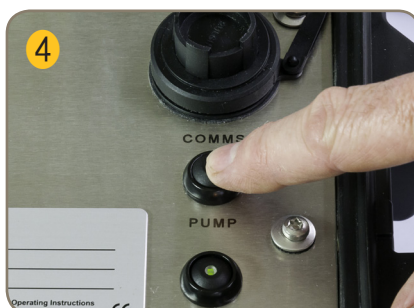
See **Electrical connections** set up  
(page 16)

2

See **Hydraulic connections** set up  
(low pressure, page 20–21;  
high pressure, page 22–23)



Press **POWER** switch



Press **PUMP** switch



Pump on, test starts



Results displayed

## Connecting to a Network or Laptop

1

See **Electrical connections** set up  
(page 16)

2

See **Communication connections** set up  
(page 17)

3

See **Hydraulic connections** set up  
(low pressure, page 20–21;  
high pressure, page 22–23)



4

Power on

5



Open Internet Explorer

6

Type **http://IOS**  
in the url window

“IOS” is the unit ID default name. If the unit ID is changed (see page 26, ‘Configuration page’ item 5), then use that name. Loading may take a few seconds.

The TCP/IP parameters are automatically configured using DHCP.

7

The Home page appears for the device.

See ‘icountOS Web Interface’, page 24.

## Low pressure connection setup

We recommend that the icountOS is positioned in a safe, stable area, as close as possible to the system output and only the hose fittings provided are used.

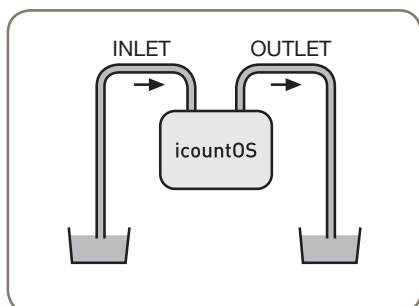


**CAUTION:** The correct connection methods and safety standards must be applied when fitting the icountOS onto a pressure system. Please follow the instructions in this Handbook, or contact Parker Hannifin for advice if in doubt.

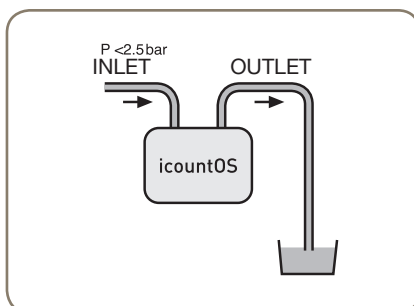


**CAUTION:** If there is any fluid leakage or residue around the inlet or outlet ports, please clean with an appropriate lint-free cloth and cleaning materials.

### Assembling the hose fittings



Option 1



Option 2



1 Locate hoses. Note that the colour of the hoses supplied may vary.



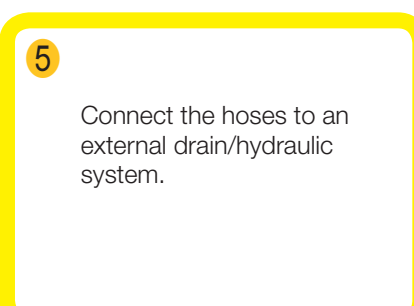
2 Remove and store the blanking plugs (ACC6NN033). Replace the plugs once testing is complete, to avoid leakage and external contamination.



3 Connect **OUTLET** ( $\varnothing$  4mm) hose (yellow hose may be supplied). Check that hose is firmly located.



4 Connect **INLET** ( $\varnothing$  6mm) hose. Check that hose is firmly located.

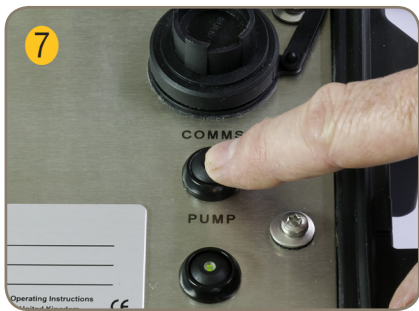


5 Connect the hoses to an external drain/hydraulic system.



6 Press **POWER** switch. Check charge levels and connect power supply if necessary (see page 16).



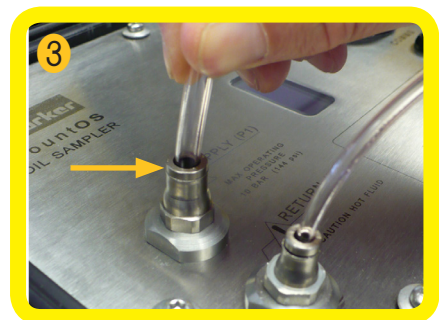
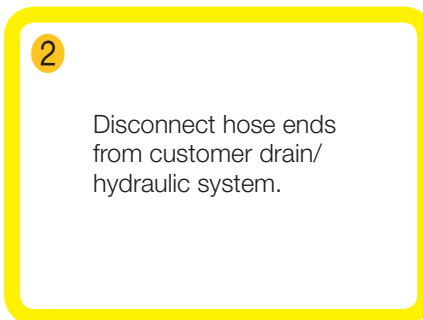


Press **PUMP** switch

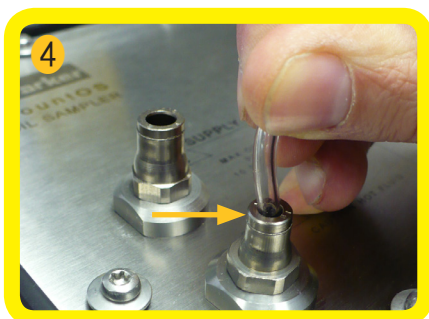
## Removing the hose fittings



Switch off the inlet pressure and the **POWER** switch before removing the hoses. The power light may still flash if connected to a mains supply.



To remove **INLET** (Ø 6mm) hose, press down the connector sleeve and pull the hose out. There may be a small fluid leakage here.



To remove **OUTLET** (Ø 4mm) hose, press down the connector sleeve and pull the hose out.



To avoid fluid leaking after use, fit the blanking plugs (ACC6NN033)



Close the unit

## High pressure connection setup

High pressure is defined for this unit as more than 2.5 bar, with a maximum of 350 bar.

We recommend that the icountOS is positioned in a safe, stable area, as close as possible to the system output and only the hose fittings provided are used.



The icountOS (IOS1220) is supplied with Low Pressure hoses (ACC6NN031) and Pressure Reducing valve (PRV) (ACC6NN027). High Pressure hoses are also available when connecting to your system (ACC6NN034).

**WARNING: The correct connection methods and safety standards must be applied when using an icountOS with a high pressure system. Please follow the instructions in this Handbook; contact Parker Hannifin for advice if in doubt.**

### Assembling the PRV and hose fittings



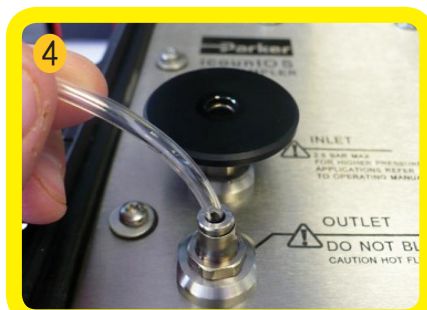
Orientate PRV removal tool



Press firmly



Removal tool located



Attach OUTLET ( $\varnothing$  4mm) hose



Remove PRV cap



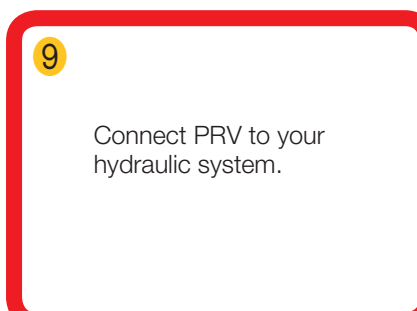
Add pressure fitting pipe



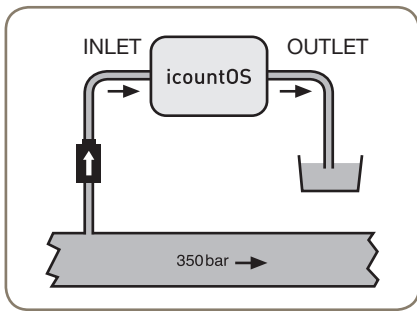
Press PRV firmly into INLET port



Check for flush fitting



Connect PRV to your hydraulic system.



Press **POWER** switch. Check charge levels and connect power supply if necessary (see page 16).



Press **PUMP** switch

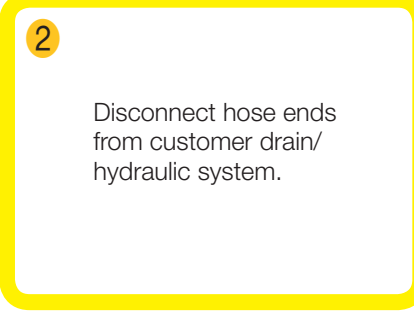


Results displayed

## Removing the PRV and hose fittings



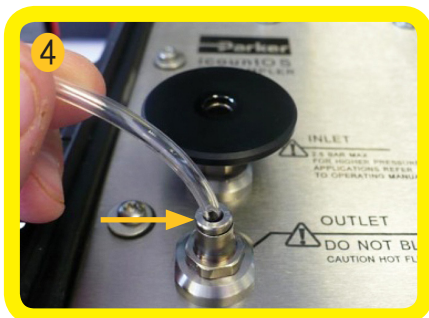
Switch off the inlet pressure and the **POWER** switch before removing the hoses. The power light may still flash if connected to a mains supply.



Disconnect hose ends from customer drain/hydraulic system.



To remove the PRV, press down on the removal tool and pull the PRV out. There may be a small fluid leakage here.



To remove **OUTLET** (Ø 4mm) hose, press down the connector sleeve and pull the hose out.



To avoid fluid leaking after use, fit the blanking plugs (ACC6NN033)

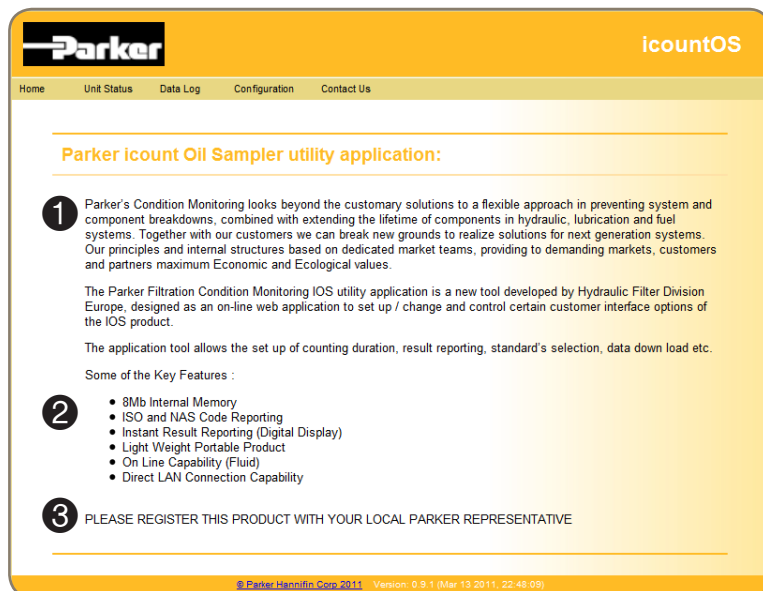


Close the unit



# icountOS Web Interface

## Home page



**Parker icount Oil Sampler utility application:**

- 1 Parker's Condition Monitoring looks beyond the customary solutions to a flexible approach in preventing system and component breakdowns, combined with extending the lifetime of components in hydraulic, lubrication and fuel systems. Together with our customers we can break new grounds to realize solutions for next generation systems. Our principles and internal structures based on dedicated market teams, providing to demanding markets, customers and partners maximum Economic and Ecological values.

The Parker Filtration Condition Monitoring IOS utility application is a new tool developed by Hydraulic Filter Division Europe, designed as an on-line web application to set up / change and control certain customer interface options of the IOS product.

The application tool allows the set up of counting duration, result reporting, standard's selection, data down load etc.

Some of the Key Features :

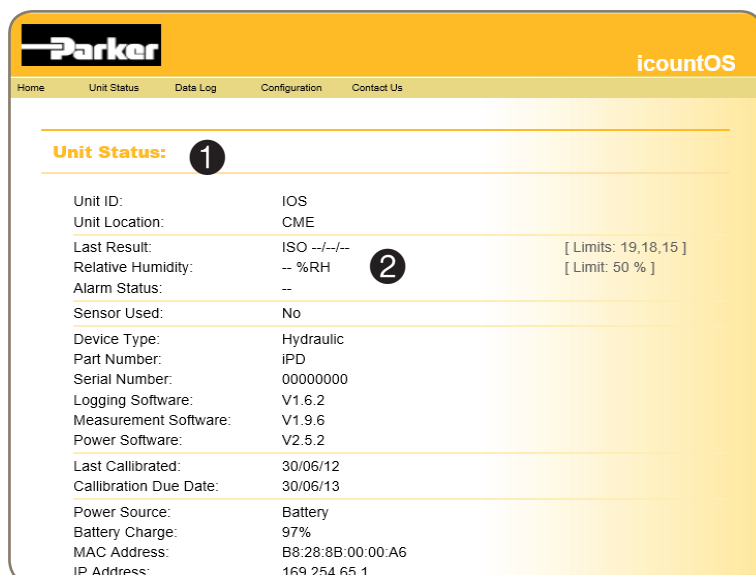
- 2
  - 8Mb Internal Memory
  - ISO and NAS Code Reporting
  - Instant Result Reporting (Digital Display)
  - Light Weight Portable Product
  - On Line Capability (Fluid)
  - Direct LAN Connection Capability
- 3 PLEASE REGISTER THIS PRODUCT WITH YOUR LOCAL PARKER REPRESENTATIVE

© Parker Hannifin Corp 2011 Version: 0.9.1 (Mar 13 2011, 22:48:09)

### KEY

- 1 Product description
- 2 Key features
- 3 Register the product at [www.parker.com/unlock](http://www.parker.com/unlock)

## Unit Status page – ISO



**Unit Status:** 1

Unit ID:	IOS	
Unit Location:	CME	
Last Result:	ISO --/--/--	[ Limits: 19,18,15 ]
Relative Humidity:	-- %RH	2 [ Limit: 50 % ]
Alarm Status:	--	
Sensor Used:	No	
Device Type:	Hydraulic	
Part Number:	iPD	
Serial Number:	00000000	
Logging Software:	V1.6.2	
Measurement Software:	V1.9.6	
Power Software:	V2.5.2	
Last Calibrated:	30/06/12	
Calibration Due Date:	30/06/13	
Power Source:	Battery	
Battery Charge:	97%	
MAC Address:	B8:28:8B:00:00:A6	
IP Address:	169.254.65.1	

### KEY

- 1 The Unit Status page is a list of current values for various parameters for the connected icountOS unit.
- 2 Last result used ISO reporting standard. ISO Class and Relative Humidity limits are shown.



## Unit Status page – NAS

**Unit Status:** ①

Unit ID:	IOS	
Unit Location:	CME	
Last Result:	NAS --	[ Class: 9 ]
Relative Humidity:	-- %RH	[ Limit: 50 % ]
Alarm Status:	--	
Sensor Health:	No	

②

### KEY

- ① The Unit Status page is a list of current values for various parameters for the connected icountOS unit.
- ② Last result used NAS reporting standard. NAS Class and Relative Humidity limits are shown. The rest of the page is identical to 'Unit Status page – ISO'.

## Data Log page

**Data Log:**

①  Start measuring  Stop measuring

**Recent Samples:**

Data logging is **Enabled**

Date/Time	Result	% RH	Location
01/01/2013 08:01:51	ISO = 15/14/14	50	CME
01/01/2013 08:02:01	ISO = 15/14/14	50	CME
01/01/2013 08:02:11	ISO = 15/15/14	50	CME
01/01/2013 08:00:36	ISO = 15/14/14	49	CME
01/01/2013 08:00:46	ISO = 15/14/14	49	CME
01/01/2013 08:00:56	ISO = 15/14/14	49	CME
01/01/2013 08:01:33	ISO = 15/15/15	49	CME
01/01/2013 08:01:43	ISO = 15/14/14	49	CME
01/01/2013 08:01:53	ISO = 15/14/14	49	CME
01/01/2013 08:03:10	ISO = 15/14/14	49	CME
01/01/2013 08:03:20	ISO = 15/14/14	49	CME
01/01/2013 08:03:30	ISO = 15/14/14	49	CME

④

⑤ Logged 2,683 records ( 4.1% of memory used )

②     ③

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### KEY

- ① Start and Stop data logging
- ② Save data in one of three data formats:
  - TXT format
  - CSV (Comma Separated Variables)
  - XML (eXtended Markup Language)
- ③ Clear data logging memory
- ④ List of the five last samples taken
- ⑤ Memory usage. **Note that once memory reaches capacity, old data is overwritten without warning.**

## Configuration page – ISO

**Configuration:**

Reporting Standard: ISO 4406:1999

1 4µ Limit: 19

2 6µ Limit: 18

3 14µ Limit: 15

4 Relative Humidity Limit: 50 %

Online/Offline: Offline

Test Mode: Manual

3 Measurement Period: 60 seconds

4 Data Logging Interval: 60 seconds  
*( Changes to test parameter only take effect when measurement next starts. )*

Data logging: Enabled


5 Auto Power-off Time: Disabled *( Disabled when external power is applied. )*

6 Unit ID: IOS

Unit Location: CME

7 Set Date and Time...

### KEY

- 1 ISO alarm limit settings for:
    - 4µm channel
    - 6µm channel
    - 14µm channel
  - 2 Alarm limit setting for Relative Humidity
  - 3 Measurement period – the time the icountOS is collecting results (default = 60 seconds)
  - 4 Data logging interval – the interval that test results are stored / displayed by icountOS (default = 60 seconds)
  - 5 Unit ID name (see page 19)
-  Enter characters A-Z and numbers 0-9 only.



The top line of the Results screen scrolls to show MTD(C) (i.e. Medium Test Dust (Calibrated)), the Unit ID and the IP address

- 6 Unit location (default = blank)
- 7 Proceed to Set Time and Date page (see page 27)

## Configuration page – NAS

**Configuration:**

NAS Class: 1 9

Relative Humidity Limit: 50 %

Measurement Period: 5 seconds

### KEY

- 1 NAS Class alarm limit setting  
The rest of the page is identical to 'Configuration page – ISO'.

## Configuration: Set Date and Time page



**Parker** icountOS

Home Unit Status Data Log Configuration Contact Us

**Set Date and Time:**

1 Day: 14 Month: 3 Year: 2011

2 Hours: 09 Minutes: 32

3 Save Date and Time

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### KEY

- 1 Set the date, in the format dd/mm/yyyy
- 2 Set the time, in the format hh/mm (use the 24-hour clock)
- 3 Confirm the selected date and time.

## Contact Us page

**Parker** icountOS

Home Unit Status Data Log Configuration Contact Us

**Contact Us:**

1 Parker Hannifin (UK) Ltd  
Condition Monitoring Centre  
Thetford  
Norfolk  
IP24 1HP  
United Kingdom

2 Telephone: +44 (0) 1842 763299  
E-mail: [conmoninfo@parker.com](mailto:conmoninfo@parker.com) 3

© Parker Hannifin Corp 2011 Version: 0.9.1 (Mar 13 2011: 22:48:09)

### KEY

- 1 Contact address
- 2 Contact telephone
- 3 Contact email.

# Reference

## Ordering information





The icountOS is supplied with an ACC6NN029 Accessory Kit, including a Power Supply electrical connection of your choice (i.e. with a UK, EUR or US plug).

Key	Fluid type	Calibration	Connection	Options
IOS1220EUR	Mineral	MTD	Online	No options
IOS1210EUR	Mineral	MTD	Offline	No options

Key		Fluid type		Calibration		Connection		Options	Region
IOS	1	Mineral	1	ACFTD	1	Offline	0	No options	UK
	3	Aviation fuel (4 channels)	2	MTD	2	Online			EUR
									USA

**NOTE:** For Aviation Fuel option (IOS3210), please contact Parker Hannifin before ordering.

## ACCESSORY PART NUMBERS

Description	Part number
Power Supply (UK 2m cable)	ACC6NN040
	
Power Supply (EUR 2m cable)	ACC6NN041
	
Power Supply (US 2m cable)	ACC6NN042
	
Pressure Reducing Valve (PRV)	ACC6NN027
	

RJ45 LAN Connector Cable,  
2m



ACC6NN028

Accessory Kit  
(Includes one Power Supply  
and electrical connector, RJ45  
patch cable and low pressure  
hose connectors.)



ACC6NN029UK  
ACC6NN029US  
ACC6NN029EUR

Carry Strap  
(If required, this option must  
be selected when placing the  
order.)



ACC6NN030

Low Pressure Hoses (4mm and  
6mm), 1.5m



ACC6NN031

Packing Box



ACC6NN032

Blanking plugs (4mm and  
6mm)



ACC6NN033

High Pressure Hose.  
For use with PRV only.



ACC6NN034 (1m)  
ACC6NN037 (2,5m)

Verification Fluid



SERMISC067

Lid seal pack (x5)

ACC6NN036

## Recalibration and servicing



Parker recommends that the icountOS is both serviced and recalibrated **every 12 months**.

For your nearest Condition Monitoring Service Centre, view:

[www.parkerhfde.com/condition-monitoring-solutions/global-service-centres/locator/](http://www.parkerhfde.com/condition-monitoring-solutions/global-service-centres/locator/)

### Verification fluid

The performance of the icountOS may be verified by the operator using specially dosed samples of oil. This Verification Fluid is available from Parker Hannifin as Part Number SER.MISC.067.

### Returning the unit



***WARNING: Do not dispose of the original packaging, as this is required to return the icountOS to the Condition Monitoring Service Centre safely for recalibration and servicing.***



If the original box is not available, a box with the correct packing material is available from Parker Hannifin as Part Number ACC6NN032.

# Addendum

## PC Wireless Communication Connection

Switch the icountOS unit on and allow it to go through the screen boot-up sequence, then switch on the icountOS Wireless (Button illuminates).



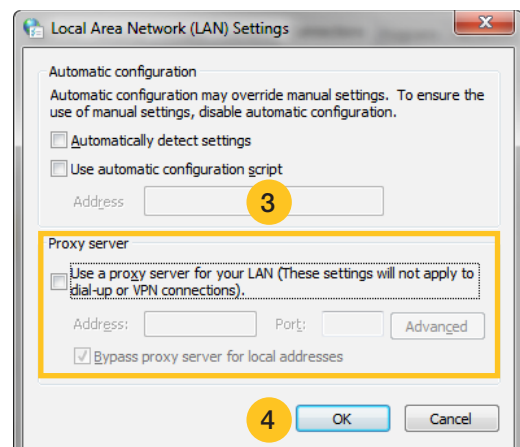
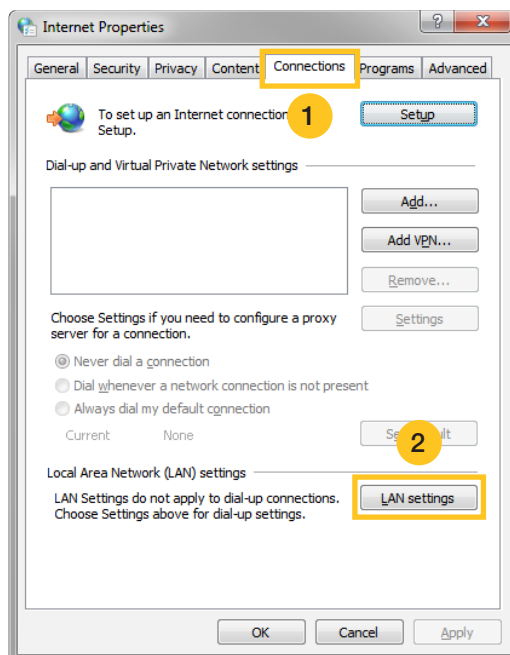
### Connecting computer (Windows XP or 7)



Ensure the computer wireless device is enabled.

#### ENSURE YOUR COMPUTER PROXY SERVER IS DISABLED.

Select **Internet Options** to display Internet Properties window.



Ensure the Proxy Server is disabled (un-ticked).

Select **OK** and then close all previous windows.

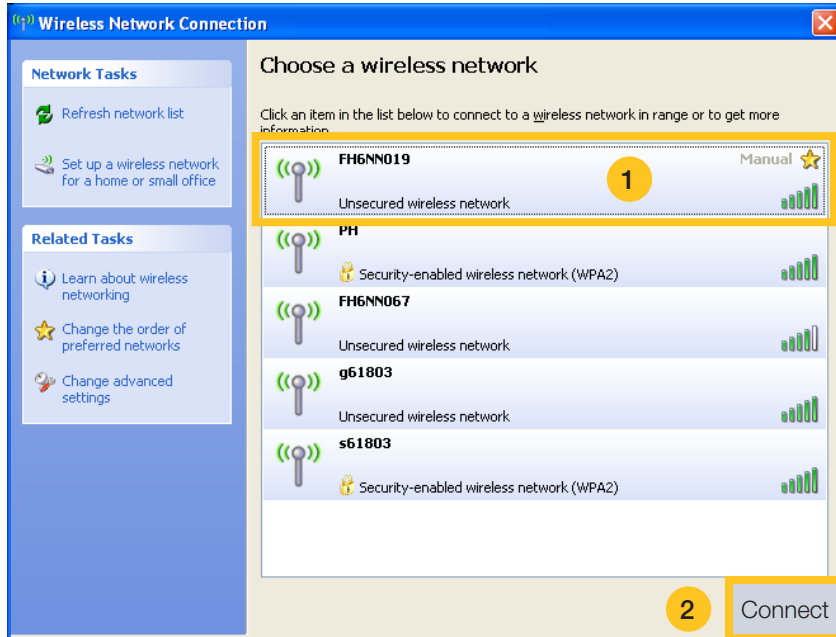


## Windows XP Instructions

Via your desktop, select the Wireless network icon to launch the Wireless Network Connection window.



Locate and select for the icountOS unit (identified as the icountOS serial number).



Select connect.



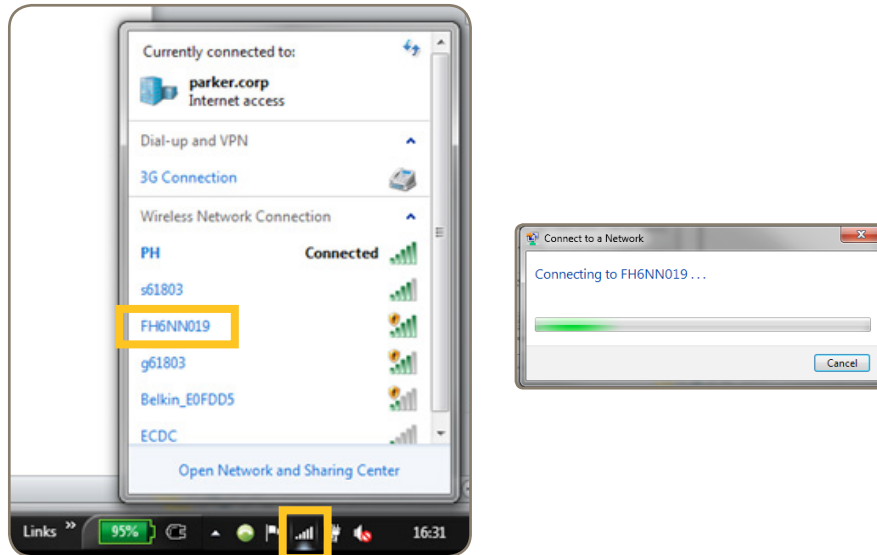
The icountOS should now be connected. Close all windows.

***Please contact your IT department or IT provider if you have any wireless connection problems.***

## Windows 7 Instructions

Via your desktop, select the Wireless network icon to launch the Wireless Network Connection window.

Locate and select the icountOS unit (identified as the icountOS serial number)



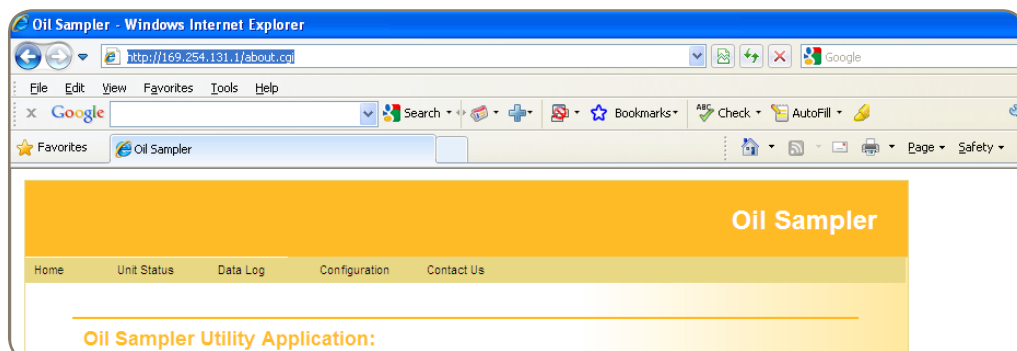
Right click and Connect.

The icountOS should now be connected. Close all windows.

***Please contact your IT department or IT provider if you have any wireless connection problems.***

## Windows XP or 7 Wireless Router Identifier

- Each Wireless icountOS unit has its own connection name.
- The factory default name is IOS.
- The IP address is stated on the product.
- Launch your Web browser and type the product IP address into the address bar.



The product web page should now be displayed. All settings can now be adjusted / set as per the product manual.

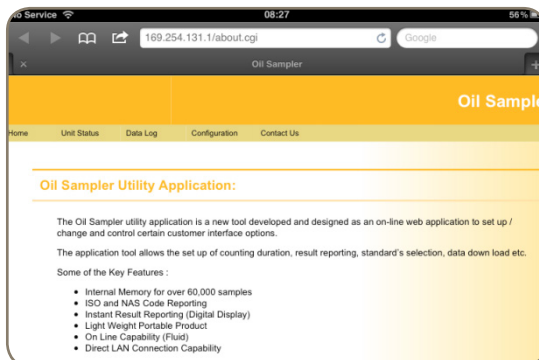
# Smart Device Communication Connection

Navigate to your Wi-Fi network settings.

Locate and select the product serial number.



Now launch your Internet browser and type the product IP address into the address bar.



The product web page should now be displayed. All settings can now be adjusted / set as per the product manual.

---

***Multiple users can connect to one unit but we recommend that only one user makes any changes to the settings at any one time!***

---

***Please remember to turn the wireless switch OFF when you have finished your testing as it will drain the battery charge if left on.***

---



---

***All functionality including data results downloading can be performed wirelessly.***

---

## Wireless Information

### COPYRIGHT & TRADEMARKS

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<http://www.tp-link.com>

### FCC STATEMENT



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

## FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

“To comply with FCC RF exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.”

## CE Mark Warning



This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

## National restrictions

This device is intended for home and office use in all EU countries (and other countries following the EU directive 1999/5/EC) without any limitation except for the countries mentioned below:

Country	Restriction	Reason/remark
Bulgaria	None	General authorization required for outdoor use and public service
France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
Italy	None	If used outside of own premises, general authorization is required
Luxembourg	None	General authorization required for network and service supply(not for spectrum)
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
Russian Federation	None	Only for indoor applications

Note: Please don't use the product outdoors in France.

## DECLARATION OF CONFORMITY

For the following equipment:

Product Description: **150Mbps Wireless N Nano Router**

Model No.: **TL-WR702N**

Trademark: **TP-LINK**

We declare under our own responsibility that the above products satisfy all the technical regulations applicable to the product within the scope of Council Directives:

Directives 1999/5/EC

The above product is in conformity with the following standards or other normative documents

**ETSI EN 300 328 V1.7.1: 2006**

**ETSI EN 301 489-1 V1.8.1:2008& ETSI EN 301 489-17 V2.1.1:2009**

**EN60950-1:2006**

Recommendation 1999/519/EC

**EN62311:2008**

Directives 2004/108/EC

The above product is in conformity with the following standards or other normative documents

**EN 55022:2006 +A1:2007**

**EN 55024:1998+A1:2001+A2:2003**

**EN 61000-3-2:2006**

**EN 61000-3-3:1995+A1:2001+A2:2005**

Directives 2006/95/EC

The above product is in conformity with the following standards or other normative documents

**EN60950-1:2006**

Directive (ErP) 2009/125/EC

Audio/Video, information and communication technology equipment- Environmentally conscious design

**EN62075:2008**

Person is responsible for marking this declaration:



**Yang Hongliang**

**Product Manager of International Business**

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[www.parker.com](http://www.parker.com)

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(24-hour)

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