



# Metal wear debris sensor

Monitoring critical systems

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



ENGINEERING YOUR SUCCESS.

# Detecting system wear before catastrophic failure occurs to system components

## Parker's Kittiwake latest generation of metal wear debris sensors provides unbeatable detection performance for both ferrous and non-ferrous metals

It is known in the market that particles result from wear processes in hydraulic and lubrication systems. It is imperative to know, not just the number of particles which pass through your system, but also the size and metallic composition. The latest generation of our metal wear debris sensors goes beyond normal protection systems, offering real-time monitoring of the contamination in the system. This allows system users or service organizations to take immediate action on the first indication of change, thereby preventing all types of failures to system components.

## System Safety and Reliable operation by putting the system users or service organization in control

The Parker Kittiwake Metal Wear Debris sensor measures particles sizes from 40 micron to over 1000 micron, using proven inductive coil technology, making it suitable for continuous measurement of wear debris in a hydraulic and lubrication systems. Smart algorithms provide information about the particle size distribution count, differentiating between ferrous and non-ferrous wear particles. Our DebrisScan software puts the user in control by offering a customized communication between the metal wear debris sensor and main system controller.

## The severity of problems increases with the escalation in the production of larger wear debris particles

With both digital and analogue outputs, the metal wear debris sensor can be easily integrated into existing condition monitoring and operating systems. Whether it's validating the health of the system or alerting wear patterns, the sensor provides instant information, completing existing laboratory oil analysis programmes and helping the user make informed maintenance planning decisions

## Proven Technologies for demanding industries

Parker Kittiwake Metal Wear Debris Sensors are applied in a wide variety of demanding industries like:

- Oil & Gas market Top Drives, Mud Pumps
- Marine propulsion systems
- Wind Turbine gear boxes
- Industrial Power Train Drives



## Parker Kittiwake Advantages

- Robust design of sensor with improved IP67 rating
- Wide detection range of particle sizes
- DebrisScan software for system-tailored communication between sensor and system
- Ethernet and RS485 communication protocols
- ATEX certified version (on request)
- ½ "BPS connections for quick and easy installation
- Other port sizes are on request

## Maximize your pre-warning time before irreversible damage occurs



Examples of damaged gear wheel and roller bearing

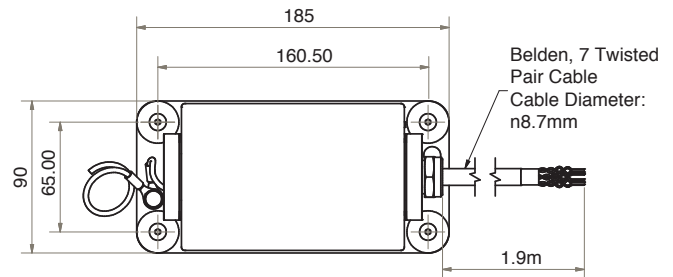
- Avoid unexpected standstill of systems
- Extend life time of system components
- Maximize system efficiency
- Lower Cost of Ownership thanks to predictable maintenance

# Effective integration of wear particle detection contributes to avoid unexpected system failure

## Interfaces

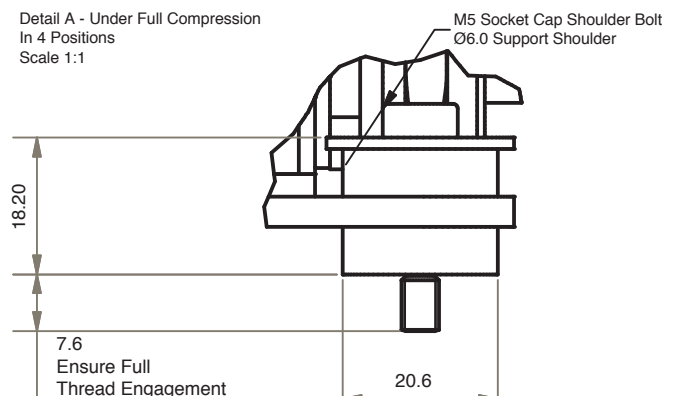
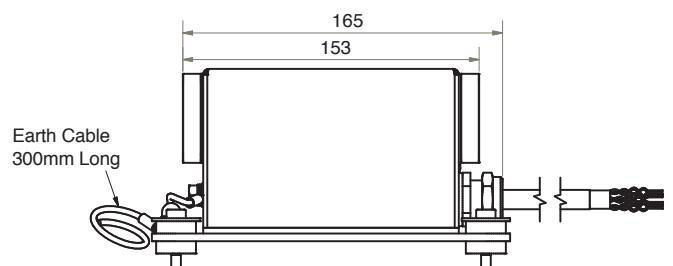
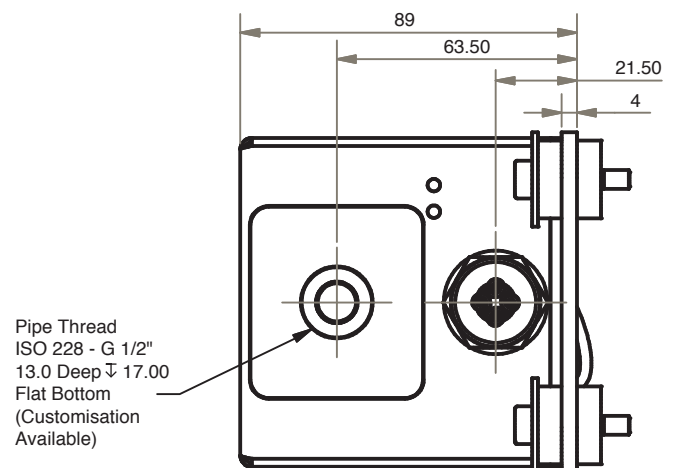
The MWDS supports the following interfaces:

- Modbus RTU over RS485
- Modbus over TCP/IP
- CANopen (please contact Parker Kittiwake)
- 4-20mA outputs (Indications of Particles per Minute and Mass per Hour)
- Alarm Line



## Specification

Ambient Temperature:	-20 to 70°C (-4 to 158°F)
Analogue Outputs:	2 x opto isolated 4 - 20 mA, 1 x alarm contacts (0.1 A max)
Communications:	Modbus over RS485 and TCP / IP*
Connections:	1/2"BSPP female
Detection:	> 40 micron (0.04 mm) [0.00157 inch] ferrous metal
Output:	> 135 micron (0.135 mm) [0.0531 inch] non-ferrous metal Simultaneous quantification of metallurgical composition and size category of particles in the fluid
Fluid Compatibility:	Petroleum, synthetic oils and water / oil emulsions
Fluid Temperature:	-20 to 85°C (-4 to 185°F)
Flow Rate:	0.3 - 1.9 ms-1
Sensor Bore:	Diameter 10 mm, length 120 mm
Max Fluid Pressure:	20 bar (290 psi)
Max Fluid Viscosity:	500 cSt
Power Supply:	18 - 30 V DC
Protection:	IP67
Weight:	3 kg



\*Contact Parker Kittiwake for enquiries about CAN

## Ordering information

Product Code	Description
FGK19567PA	Metallic Wear Debris Sensor

All sensors come complete with software for data downloading and trending. Contact Kittiwake for information about the wide range of installation accessories and alternative options that are available to suit your specific application.

# 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

**BY – Belarus,** Minsk

Tel: +375 17 209 9399  
parker.belarus@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,** Athens

Tel: +30 210 933 6450  
parker.greece@parker.com

**HU – Hungary,** Budapest

Tel: +36 1 220 4155  
parker.hungary@parker.com

**IE – Ireland,** Dublin

Tel: +353 (0)1 466 6370  
parker.ireland@parker.com

**IT – Italy,** Corsico (MI)

Tel: +39 02 45 19 21  
parker.italy@parker.com

**KZ – Kazakhstan,** Almaty

Tel: +7 7272 505 800  
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,** Leca da Palmeira

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: +380 44 494 2731  
parker.ukraine@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 7000-99

**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,** Apodaca

Tel: +52 81 8156 6000

### 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 5374

