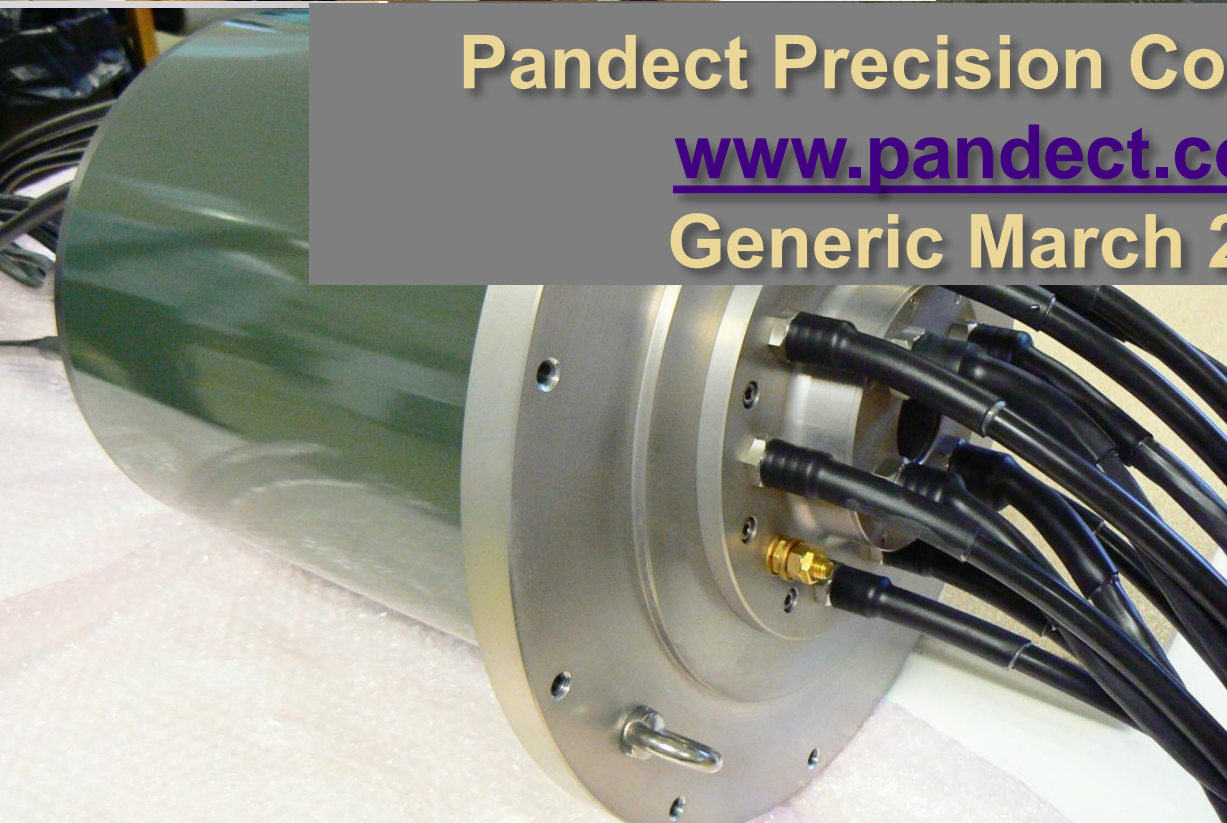


Pandect Precision Components
www.pandect.co.uk
Generic March 2024





PANDECT

- Established in 1948, Pandect has been producing defence-quality precision electro-mechanical components for over 70 years.
- In 1964 Pandect Precision Components was formed to specialise in sliding electrical component technology for high-reliability applications which now accounts for all sales- slip ring assemblies – SRA's.
- Pandect designs and manufactures slip rings exclusively from its UK site in High Wycombe in the UK (30Km north west of London Heathrow Airport).
- Main markets are defence and aerospace. We also supply into the UK civil nuclear market.
- We employ 40-50 full-time people at the site, which has floor space of 2,120m², though we are able to readily expand to about 70 people due to a local pool of experienced contract staff.



Markets

Approx 50% by turnover is into the UK

Export ranking:

India

Japan

Türkiye

Italy

France

South Korea

Switzerland

USA & Canada

Germany

Some famous customers



TOSHIBA



THALES

Panasonic

HITACHI
Inspire the Next



MEGGITT

Honeywell

ACUTRONIC

aselsan



VARIETY OF MILITARY DESIGNS



- The units which we supply are designed to a customer's specification, ranging from prototypes to relatively high volume batches of several thousands supplied into programmes over a number of years.
- Our slip ring sizes span from miniature components, small enough to fit into man-portable missiles, to large units for naval winch applications and concentric designs for radars weighing more than 100kg.

RANGES OF TECHNOLOGY

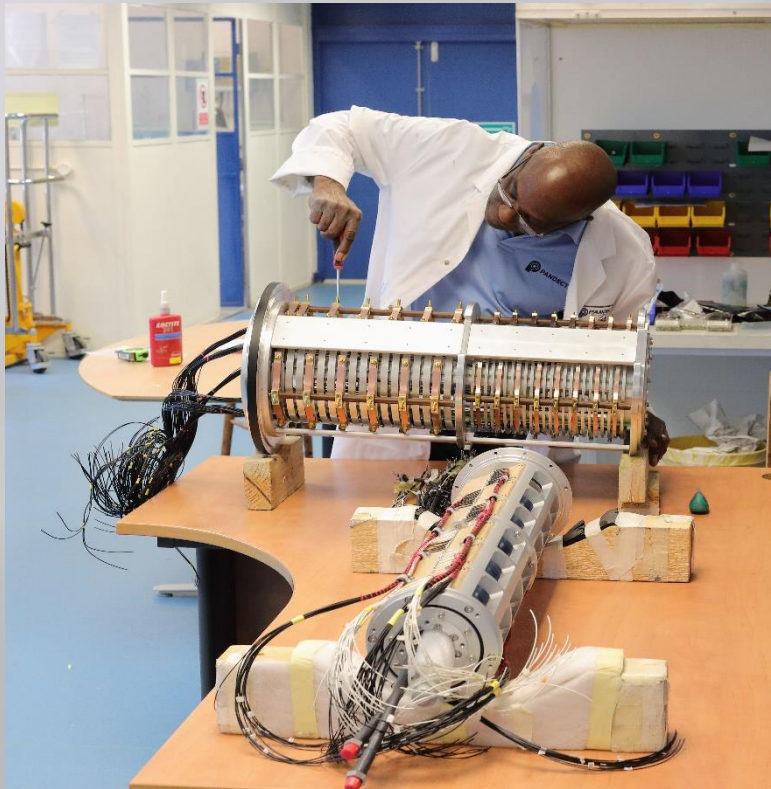


- We can also integrate into our SRA designs:
 - Fibre optic rotary joints (FORJ)
 - RF rotary joints (RoJo)- wave guide and coaxial
 - Hydraulic and pneumatic rotary joints
 - Encoders
 - Potentiometers

Very large designs:

- Radar

Hundreds of amps in power rings at high voltage,
Hundreds of signal rings without interference, Fibre
optics and hydraulic cooling,
Very long operating life-time.

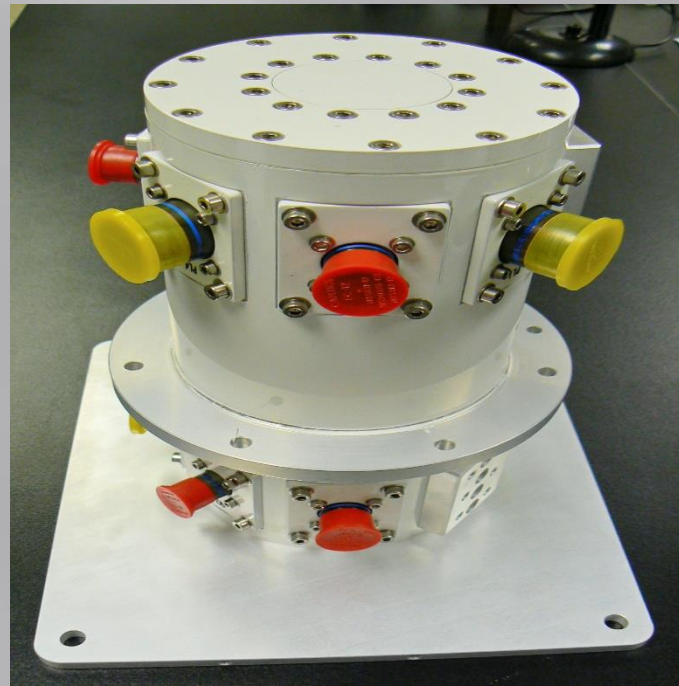
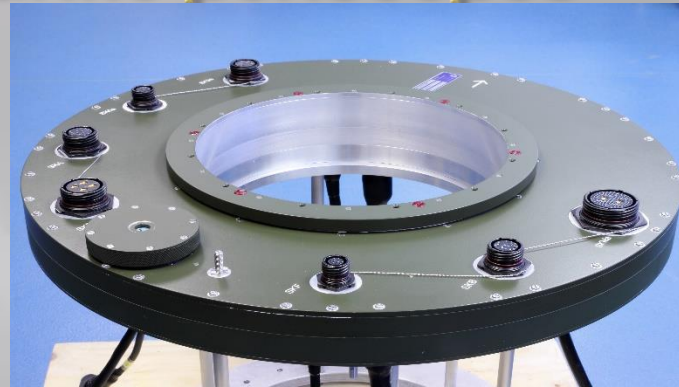


Large designs naval sonar winches

(The source of the photo below is JMSDF website)



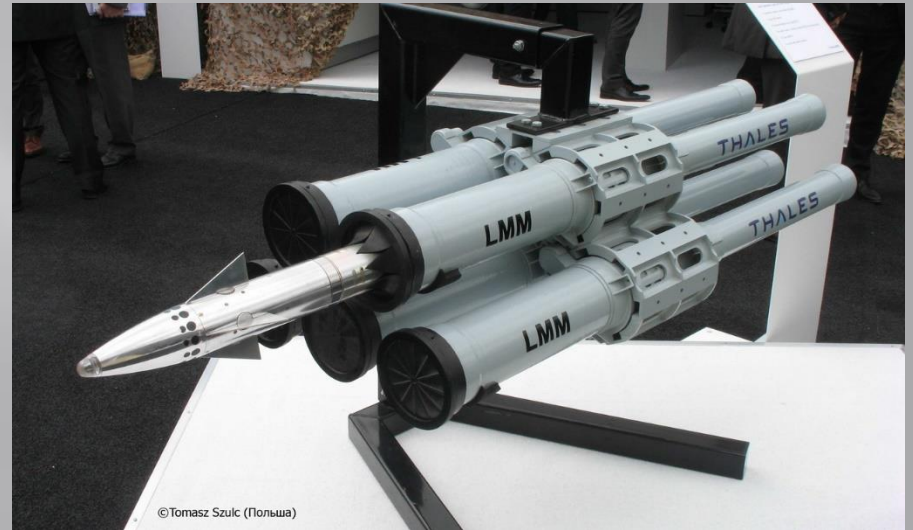
Medium - sized armoured vehicle turrets and submarine periscopes



Satellite-on-the-move slip ring assy with integrated uwave RoJo



Very small designs.
SAM's- ultra high acceleration, high
vibration, likely no lubrication.



Launchers for longer range missiles



Current technology drivers:
higher data rates and minimal
latency, for optical applications like
these, using FORJ's or RF.



Technology Road Map:

PPC1984 “platform SRA product”.

A design that offers 12G-SDI and CoaXPress 12.5 transmission rates with no latency and minimal size/mass.

Suitable for the next generation of targeting systems and missiles with optical terminal guidance

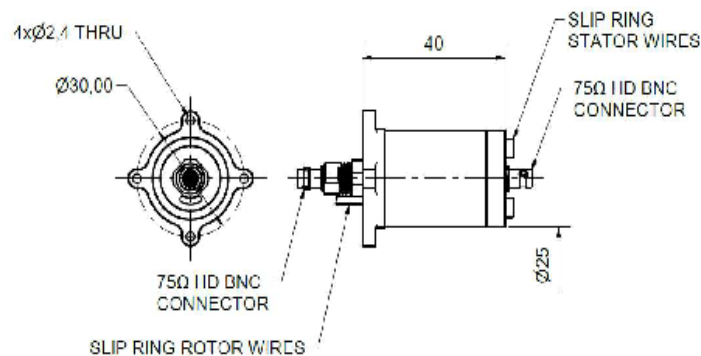


PPC1984 - Fully integrated RF ROJO and Slip Ring Assembly for High-Definition Video with minimal latency.

Pandect and Link Microtek have collaborated to develop a single assembly that combines both slip ring and RF rotary joint technology. The solution offers great improvements in both size and mass when compared to alternative solutions by utilizing a single set of bearings and dual function machined components.

The prototype has been designed to transmit signals or power via the 14 way slip ring and high-definition video (tested to CoaXPress 12.5 and 12G SDI) via the low loss 75Ω coaxial joint. Our testing has included the introduction of a further 11dB of loss into the system before the stability of the video was impaired. Sheet 2 of this datasheet shows the typical RF characteristics of the design.

The coaxial design avoids the media converters needed by conventional fibre optic systems, improving latency whilst reducing complexity, BOM count and cost. The unit remains fully-customizable, however, and can be re-designed to suit specific requirements. Amongst others, Pandect foresee the development of 50Ω, DC-40GHz versions with K-type connectors and Gb Ethernet capability.



- Sheet 1 -

- Confidential and subject to NDA -

Property of Pandect Precision Components Ltd, High Wycombe



Major Projects 1

Starstreak SAM

LMM SAM/ASM

Sungur SAM

Rapid Ranger targeting

Storm Shadow cruise missile



AKASH SAM





Major Projects -2

Ajax Armoured Fighting Vehicle

Challenger 3 Main Battle Tank

RAK 120mm Mortar System

Multiple radar and optical targeting projects in Japan

On-deck and helicopter sonar winches

Submarine masts



Pandect in summary



- 60 years experience in the design and manufacture of custom slip rings to meet specific military, aerospace and civil nuclear customer programme requirements
- Agile and flexible approach to customers.
- In-house British production facility where we monitor manufacture and assembly closely at every build stage
- ISO 9001: 2015
- ISO 14001:2015
- ISO 45001: 2018
- Cyber Essentials Plus
- Design department constantly seeking ways to extend performance and reliability
- Technology Road Map to widen your possibilities
- 90% of turnover repeat business from satisfied customers