



JIP: AUV INTERFACE
STANDARDIZATION

Versatile, Multi-Purpose Pinless Subsea Connector

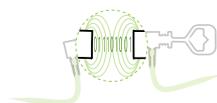
Fonn represents the convergence of patented high-speed microwave-based data transfer technology with innovative power transfer techniques. 250 W power transfer provides a solution for many tooling applications and mid-range power requirements, facilitating new possibilities for the subsea industry.

FONN

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Alignment freedom
Gap tolerance
360° continuous rotate
Infinite mating cycles



Data + Power
From 100 Mbps
Ethernet + serial
42kW under development



Standardized interface
No pin-count
Latching & packaging options
Fibre optic + copper

DATA TRANSFER (via microwave link)

Power requirement 1W minimum, 1,5W peak

Input Voltage 24 vdc

Data Rate 100 Mbps¹

Data Type Ethernet and Serial (RS232, RS422, RS485)¹

Seawater Gap 0 to 30 mm^f

POWER TRANSFER (via inductive link)

Power input 24 VDC, Reverse polarity protected

Power output^f 24 VDC \pm 10%, 250W

Distance 0 to 10 mm

MECHANICAL PROPERTIES

Fonn Transmitter (Tx)

Fonn Receiver (Rx)

Weight in air 6 kg

7 kg

Weight in seawater 3 kg

4 kg

Housing Aluminumⁿ

Aluminumⁿ

Encapsulation PBOF^k

PBOF^k

¹Options include video or customer-specified data format

¹Bandwith is shared between data types; maximum serial baudrate 230 kbps

^fGreater distance is possible with decreased data throughput, up to 60 mm at 1 Mbps

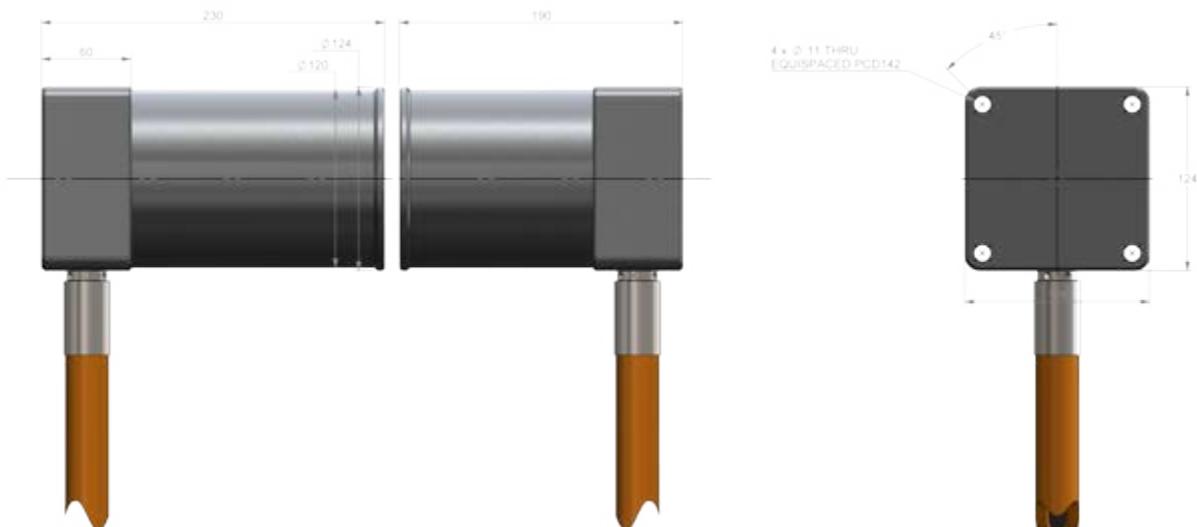
^fSome special customer-specified power requirements can be accommodated.

ⁿCustomer-specified materials for housing are possible including 316SS, beryllium copper and titanium

^kPressure-balanced, oil-filled with DC200 silicone oil or suitable customer specified oil
External compensation required

System may require heatsink if long operation required in air

Dimensions are in millimetres (mm)



Flexible Operational Tolerances

WiSub pinless connectors overcome sub-millimeter tolerances to offer centimeter tolerances on your subsea connection applications, enabling subsea solutions never before possible with pinned connectors.

ROTATIONAL



ANGULAR



CROSS-AXIAL



GAP



Comparative Advantages

WiSub pinless connectors transfer data through seawater at much higher data rates than many other existing non-contact subsea communications methods, being based on WiSub-patented high-speed, high-frequency microwave electronics vs. low-frequency RF, inductive or acoustic technologies. Advantages over legacy “plug-in” wet-mate connectors include galvanic separation, alignment freedom, immunity against seal contamination and unlimited mating cycles.

WiSub pinless connectors are unaffected by acoustic disturbance and turbidity, or by marine growth that might affect optical systems. Driving electronics and transducers are optimized for through-water transmissions. Low-frequency inductive power transfer and high-frequency data transfer solutions peacefully co-existing without interference.

Strength through Collaboration

WiSub has developed solutions in partnership with industry, academia and government. If our products do not match your current needs, please contact us with your requirements and perhaps learn what’s coming down the line. Development of next-generation product is ongoing.



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As the secret of the runes unlocked insight and ability in Norse mythology, WiSub is on the journey to unlock the secret of pinless underwater connection by delivering relevant product and co-developing innovative applications with our customers.

WiSub's pinless subsea connection systems are delivered through different products which have been named after powerful weather phenomenon mentioned in the old Norse sagas.

The female snow deity Fonn is often translated to "snowdrift" and is identified as one of the daughters of the personification of snow (Snær). She lends her name to a product delivering WiSub's signature high-speed data transfer combined with power and size that serves the widest market. Fonn shall enable a new generation of underwater connection.



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