

2: Underwater Mateable Electrical Connector (Rubber Keyed)



HRS (Hydrobond Rubber Sealing) Connector

FEATURES

- Underwater Mateable
- Proven Shock Tested design
- Depth rated to 2,440 MSW
- Fully open face pressure sealed
- Metal Shell Construction
- Available in 5 shell sizes
- Bulkhead Mount and Panel Mount Designs available as standard
- Mounting O Ring face seals and optional Barrel seals available as standard
- Pin Densities from 1 to 70 ways
- Voltage ratings up to 3,300 Volts RMS
- Current ratings up to 750 Amps
- Standard and Reverse gender configurations available
- Available in 316 Stainless Steel as standard or Titanium, Aluminium Silicon Bronze, Nickel Aluminium Bronze etc on request
- Non Magnetic versions available
- 0.75 metre conductor tails on all bulkhead connectors as standard with other lengths on request
- Optional Earth Bonding
- Optional Cathodic delamination versions available
- Termination options include fully water blocked, mechanical strain terminations and oil filled options
- Moulding options include Polyurethane and Polyethylene
- Acetal dust caps included on all connectors (additional lanyards on request)

BENEFITS

- Cost effective diver mateable solution
- Easy to use
- Fast Delivery lead times
- Wide variety of pin configurations allows cost effective system design
- Standard and reverse gender configurations allow for safe system design
- Wide variety of metal options allows for best corrosion resistant design
- Extensive track record

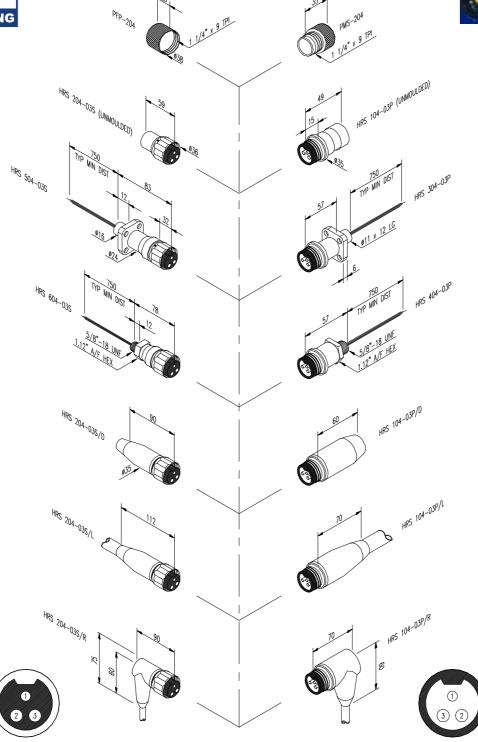
Contact: sales@hydrogroup.plc.uk **Phone:** +44 (0)1224 822996

Fax: +44 (0)1224 825142









Electrical and Environmental:

Pin Current Rating: 1 way 10 A, 2 way 25 A

Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW
Temperature Rating: -20 ° C to +60 ° C
Conductor Tail Size: 18 AWG / 14 AWG

Solder Bucket Size: 1 X 2.5 mm dia, 2 X 3.0 mm dia

Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene

Conductor Tails: Spec 44 X 0.75 m.

O – Rings: NI70

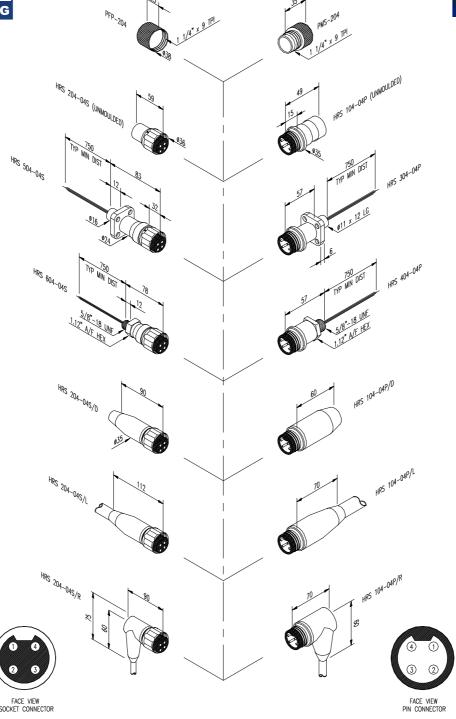
FACE VIEW PIN CONNECTOR

Data Sheet: Issue: 02 Approved by:

Mechanical:







Electrical and Environmental:

Pin Current Rating: 8 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW
Temperature Rating: -20 ° C to +60 ° C

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification:

Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene

Conductor Tails: Spec 44 X 0.75 m.

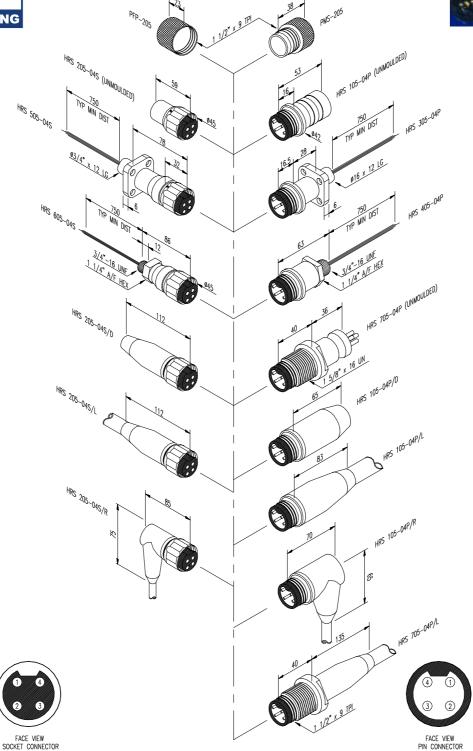
O – Rings: NI70

Data Sheet: Issue: 01 Approved by:

Mechanical:







Electrical and Environmental:

Pin Current Rating: 16 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW
Temperature Rating: -20 ° C to +60 ° C

Conductor Tail Size: 16 AWG Solder Bucket Size: 3.0 mm dia Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

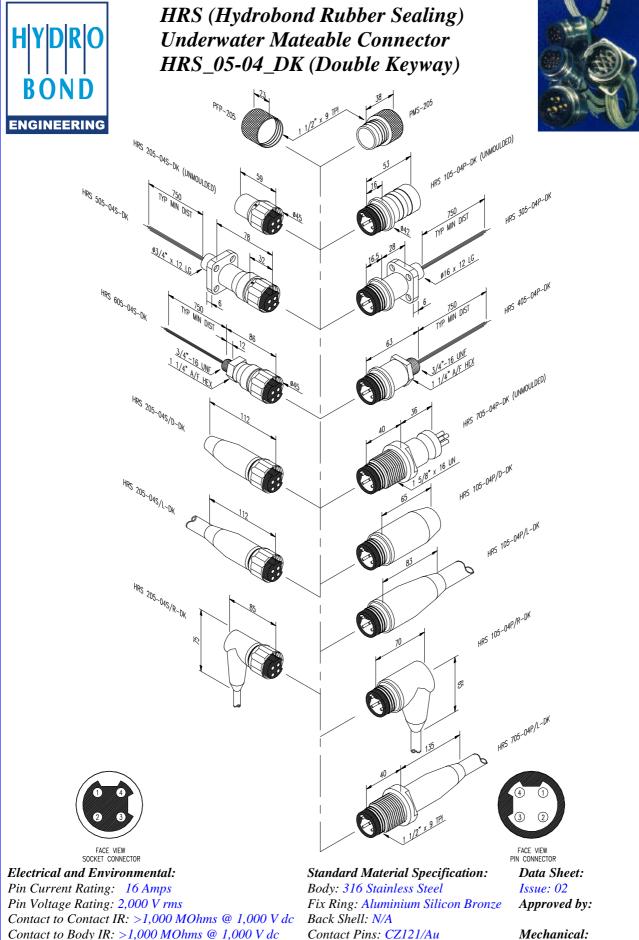
Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene

Conductor Tails: Spec 44 X 0.75 m.

O – Rings: NI70

Data Sheet: Issue: 02 Approved by:



Mated Depth Rating: 2,440 MSW *Temperature Rating: -20 ° C to +60 ° C*

Conductor Tail Size: 16 AWG Solder Bucket Size: 3.0 mm dia Contact Sockets: CZ121/Au Insert Material: Neoprene

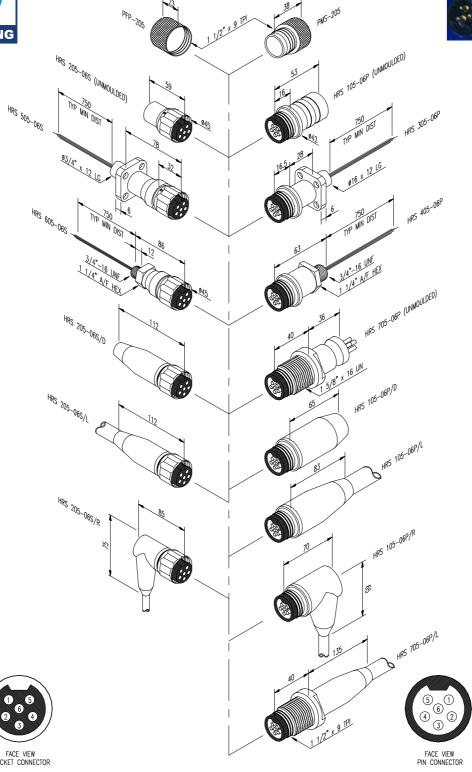
Conductor Tails: Spec 44 X 0.75 m.

O - Rings: NI70

Mechanical:

HRS (Hydrobond Rubber Sealing) **Underwater Mateable Connector** HRS_05-06





Electrical and Environmental:

Pin Current Rating: 8 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW *Temperature Rating: -20 ° C to +60 ° C*

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification:

Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

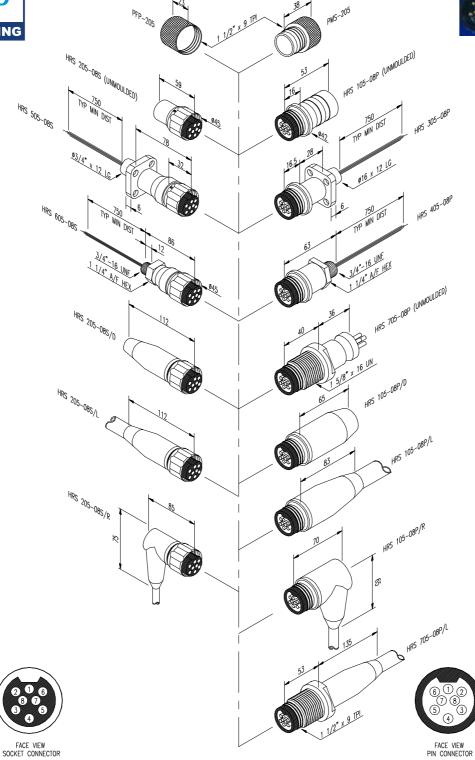
Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O – *Rings*: *NI70*

Data Sheet: Issue: 01 Approved by:

HRS (Hydrobond Rubber Sealing) **Underwater Mateable Connector** HRS_05-08





Electrical and Environmental:

Pin Current Rating: 6 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW Temperature Rating: $-20 \circ C$ to $+60 \circ C$

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O - Rings: NI70

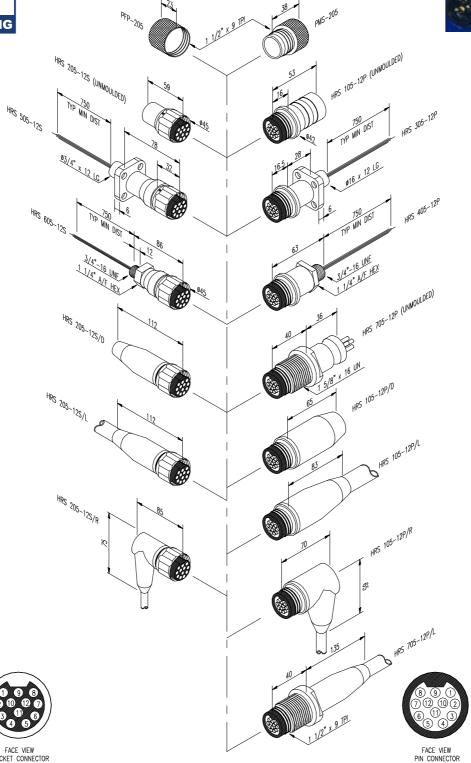
Data Sheet: Issue: 01

Approved by:

Mechanical:

HRS (Hydrobond Rubber Sealing) **Underwater Mateable Connector** HRS_05-12





Electrical and Environmental:

Pin Current Rating: 5 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW Temperature Rating: $-20 \, ^{\circ} \, C$ to $+60 \, ^{\circ} \, C$

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia Standard Material Specification:

Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene

Conductor Tails: Spec 44 X 0.75 m.

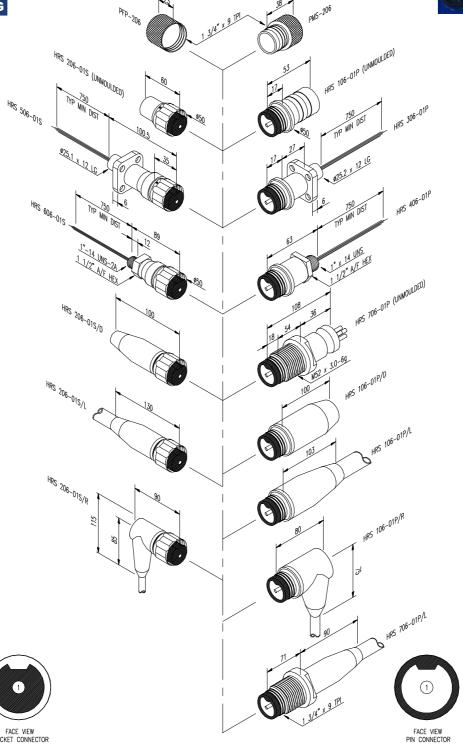
O - Rings: NI70

Data Sheet: Issue: 01 Approved by:

Mechanical:







Electrical and Environmental:

Pin Current Rating: 33 Amps (>33 Amps possible)

Pin Voltage Rating: 6,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW

Temperature Rating: -20 ° C to +60 ° C

Conductor Tail Size: 6.0 sa mm

Conductor Tail Size: 6.0 sq.mm Solder Bucket Size: 5.5 mm dia **Standard Material Specification:**

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Polyrad X 0.75 m.

O – Rings: NI70

Data Sheet:
Issue: 01
Approved by:

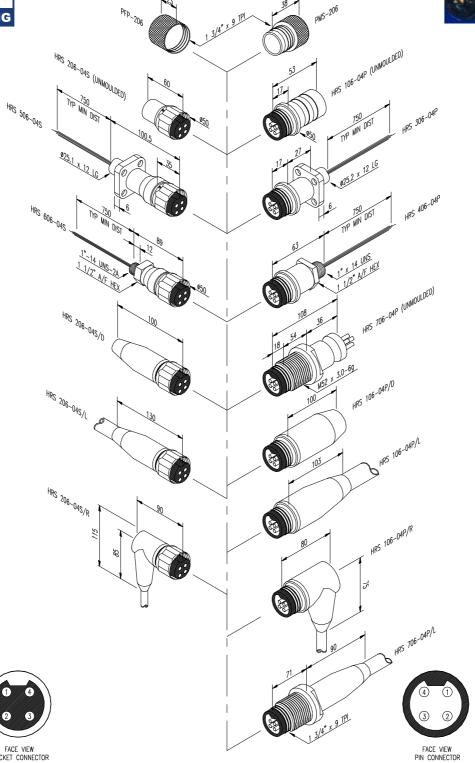
Mechanical: Lengths = mm Threads = Inches Mounting Detail:

See Mounting Detail
Section of Binder

HYDRO BOND

HRS (Hydrobond Rubber Sealing) Underwater Mateable Connector HRS_06-04





Electrical and Environmental:

Pin Current Rating: 16 Amps Pin Voltage Rating: 2,000 V rms

Solder Bucket Size: 3.0 mm dia

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms@ 1,000 V dc

Mated Depth Rating: 2,440 MSW
Temperature Rating: -20 ° C to +60 ° C
Conductor Tail Size: 2.5 sq.mm

O – Rings: NI70

Standard Material Specification:

Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze

D ... L. Cl. . H. N/A

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene

Conductor Tails: Radox 125, 0.75 m.

Data Sheet:

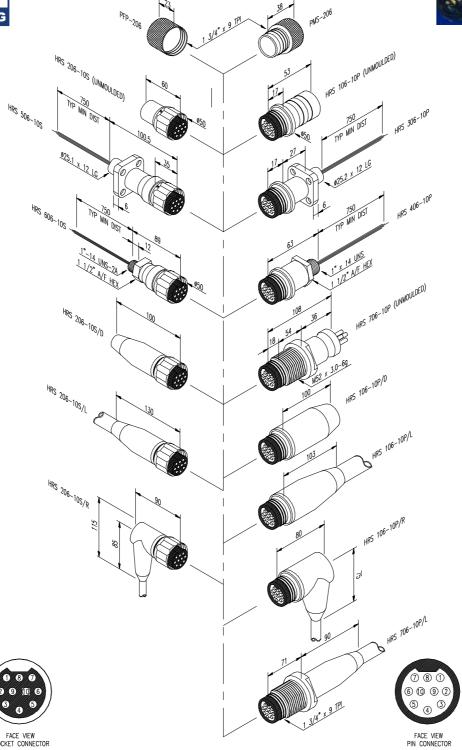
Issue: 01

Approved by:

Mechanical:







Electrical and Environmental:

Pin Current Rating: 5 Amps
Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW
Temperature Rating: -20 ° C to +60 ° C

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia Standard Material Specification:

Body: 316 Stainless Steel

Fix Ping: Aluminium Silicon Bronze

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

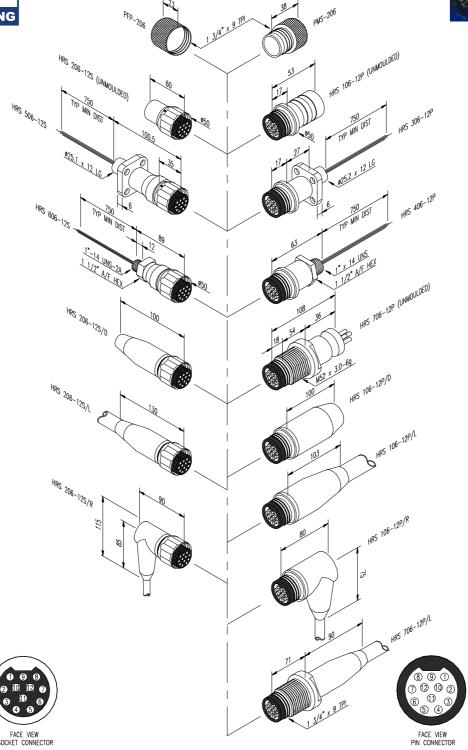
Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O - Rings: NI70

Data Sheet: Issue: 01 Approved by:







Electrical and Environmental:

Pin Current Rating: 5 Amps
Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW Temperature Rating: $-20 \,^{\circ}$ C to $+60 \,^{\circ}$ C

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bron

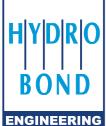
Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

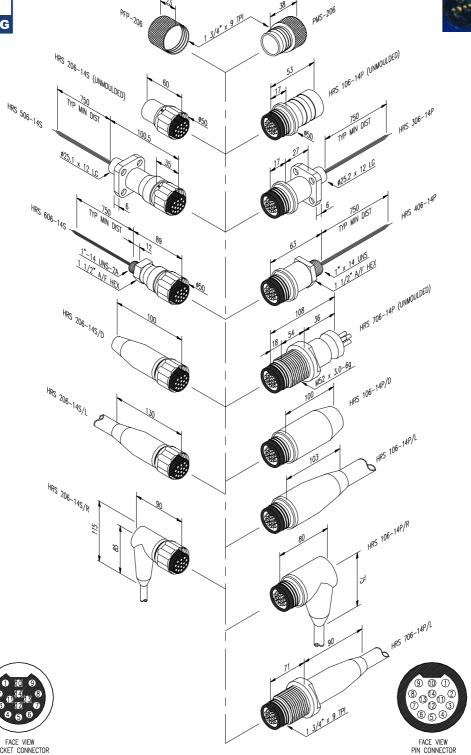
Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O – Rings: NI70

Data Sheet: Issue: 01 Approved by:







Electrical and Environmental:

Pin Current Rating: 5 Amps
Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW Temperature Rating: $-20 \, ^{\circ}$ C to $+60 \, ^{\circ}$ C

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification:

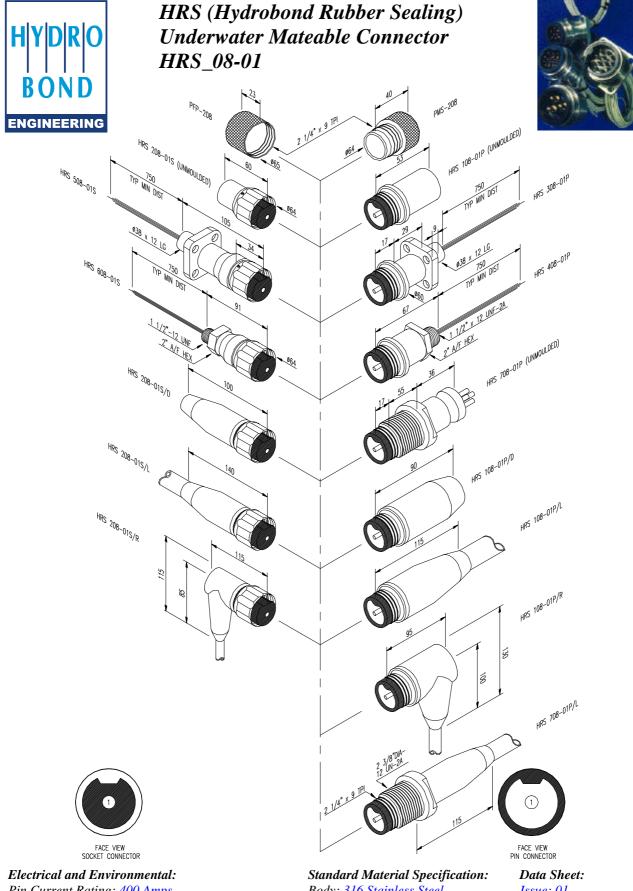
Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O - Rings: NI70

Data Sheet: Issue: 01 Approved by:



Pin Current Rating: 400 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW *Temperature Rating: -20 ° C to +60 ° C* Conductor Tail Size: High Voltage Cable Conductor Crimp Size: 185 sq.mm

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

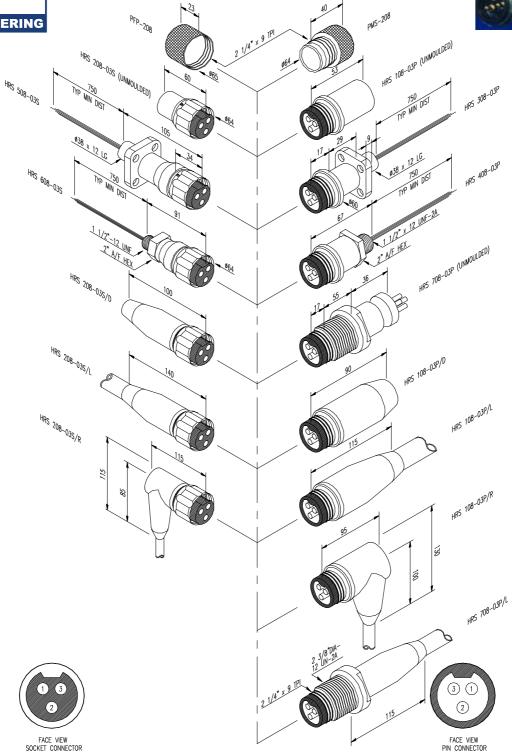
Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: N/A O - Rings: NI70

Issue: 01

Approved by:

HRS (Hydrobond Rubber Sealing) **Underwater Mateable Connector** HRS_08-03





Electrical and Environmental:

Pin Current Rating: 95 Amps Pin Voltage Rating: 3,300 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc

Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW Temperature Rating: -20 ° C to +60 ° C Conductor Tail Size: 25 sq.mm

Solder Bucket Size: 5.5 mm dia

Standard Material Specification:

Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Radox 125

O – Rings: NI70

Data Sheet: Issue: 01 Approved by:

HRS (Hydrobond Rubber Sealing) **Underwater Mateable Connector** HRS 08-04 **ENGINEERING** $_{ m HRS}$ $_{ m 108-04P}$ (UNMOULDED) HRS 208-045 (UNMOULDED) $^{\rm HRS}~_{508-04\rm S}$ HRS 408-04P $^{\rm HRS}~_{608-04S}$ $_{ m HRS}$ $_{ m 708-04P}$ (UNMOULDED) $^{\rm HRS}~_{\rm 208-045/0}$ $^{\rm HRS}~_{^{2}08-04S/L}$ HRS 108-04P/0 HRS 108-04P/L $^{\rm HRS}~_{\rm 208-04S/R}$ HRS 108-04P/R É HRS 708-04P/L

Electrical and Environmental:

Pin Current Rating: 80 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW
Temperature Rating: -20 ° C to +60 ° C

Conductor Tail Size: 25 sq.mm Solder Bucket Size: 8.0 mm dia

Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene

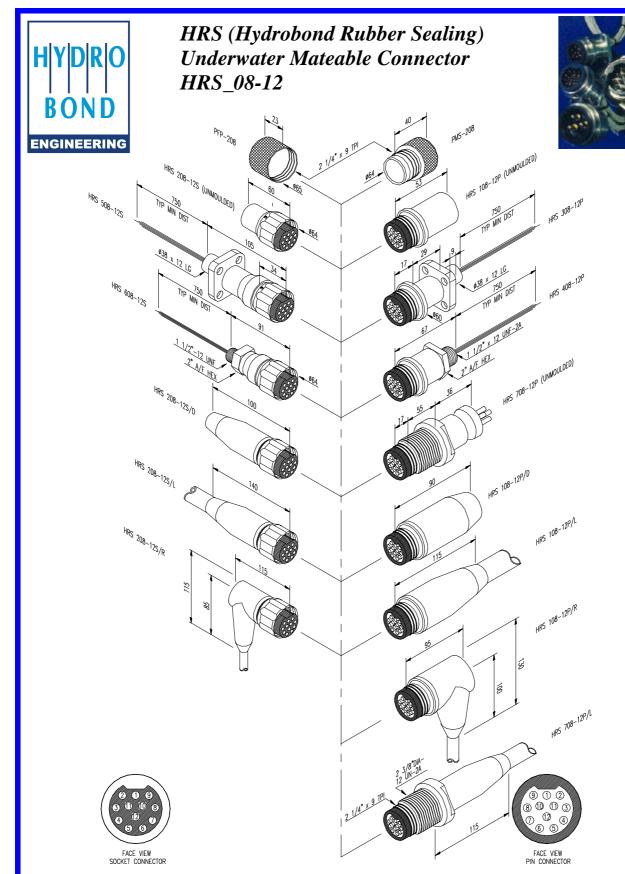
Conductor Tails: Polyrad X 0.75 m.

O – Rings: NI70

Data Sheet:
Issue: 01
Approved by:

FACE VIEW PIN CONNECTOR

Mechanical:



Electrical and Environmental:

Pin Current Rating: 12 Amps
Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW
Temperature Rating: -20 ° C to +60 ° C

Conductor Tail Size: 12 AWG Solder Bucket Size: 3.0 mm dia

Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene

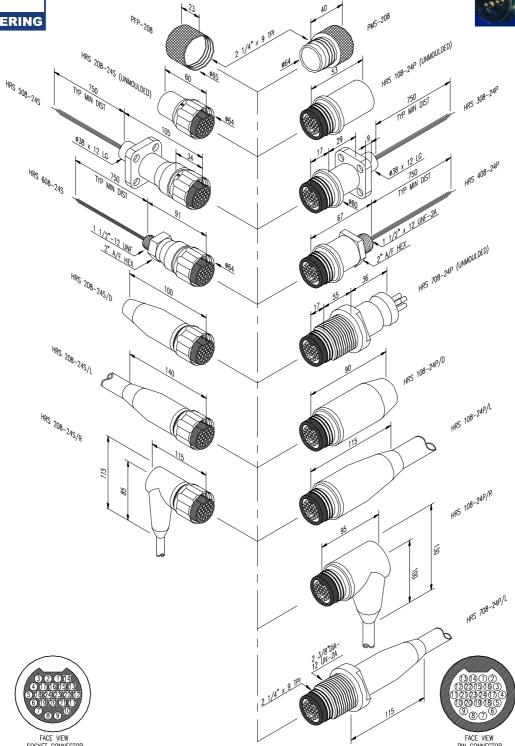
Conductor Tails: Spec 44 X 0.75 m.

O – Rings: NI70

Data Sheet: Issue: 01 Approved by:

Mechanical:

HRS (Hydrobond Rubber Sealing) **Underwater Mateable Connector** HRS 08-24



Electrical and Environmental:

Pin Current Rating: 5 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW Temperature Rating: $-20 \circ C$ to $+60 \circ C$

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silica Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O – *Rings*: *NI70*

Data Sheet: Issue: 01 Approved by:

Mechanical:

HRS (Hydrobond Rubber Sealing) **Underwater Mateable Connector** HRS_08-29 **ENGINEERING** HRS 108-29P (UNMOULDED) $^{\rm HRS}$ $_{208-29S}$ ($_{\rm UNMOULDED)}$ HRS 508-29S HRS 608-29S HRS 108-29P/L HRS 308-592/K HRS 108-29P/R HRS 708-29P/L

Electrical and Environmental:

Pin Current Rating: 4 Amps
Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW
Temperature Rating: -20 ° C to +60 ° C

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

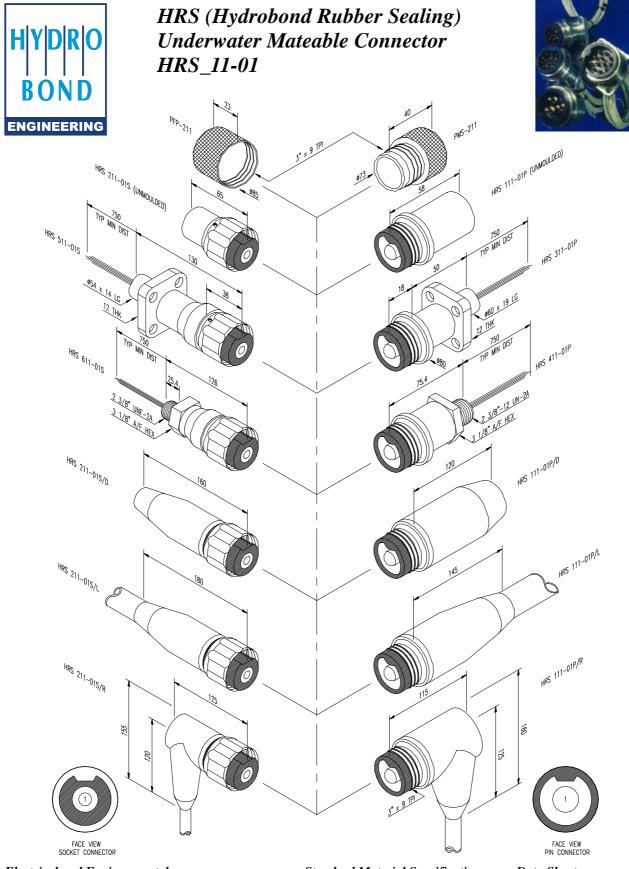
Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O – Rings: NI70

Data Sheet: Issue: 01 Approved by:

FACE VIEW PIN CONNECTOR

Mechanical:



Electrical and Environmental:

Pin Current Rating: 750 Amp Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW *Temperature Rating: -20 ° C to +60 ° C* Conductor Tail Size: Details on Application

Crimp Bucket Size: 27 mm dia.

Standard Material Specification:

Body: 316 Stainless Steel Fixed Ring: Aluminium Silica Bronze

Back Shell: N/A

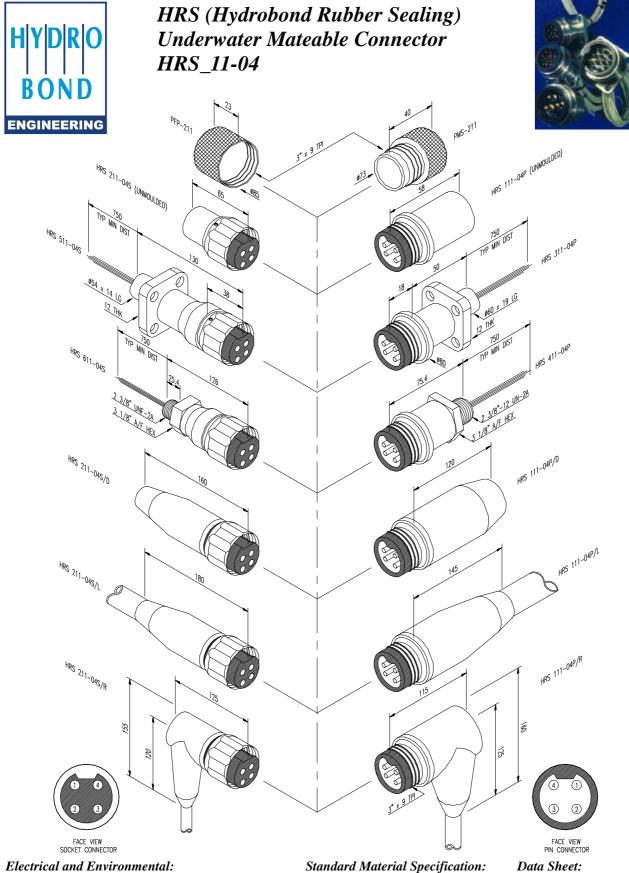
Contact Pins: CZ121/AU Contact Sockets: CZ121/AU Insert Material: Neoprene Conductor Tails: EPR, CSP, PU

BS6195. X 0.75 m. O - Rings: NI70

Data Sheet: Issue: 02

Approved by:

Mechanical:



Pin Current Rating: 150 Amp Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc

Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW *Temperature Rating: -20 ° C to +60 ° C* Conductor Tail Size: 35 sq.mm

Solder Bucket Size: 5.75 mm dia

Body: 316 Stainless Steel

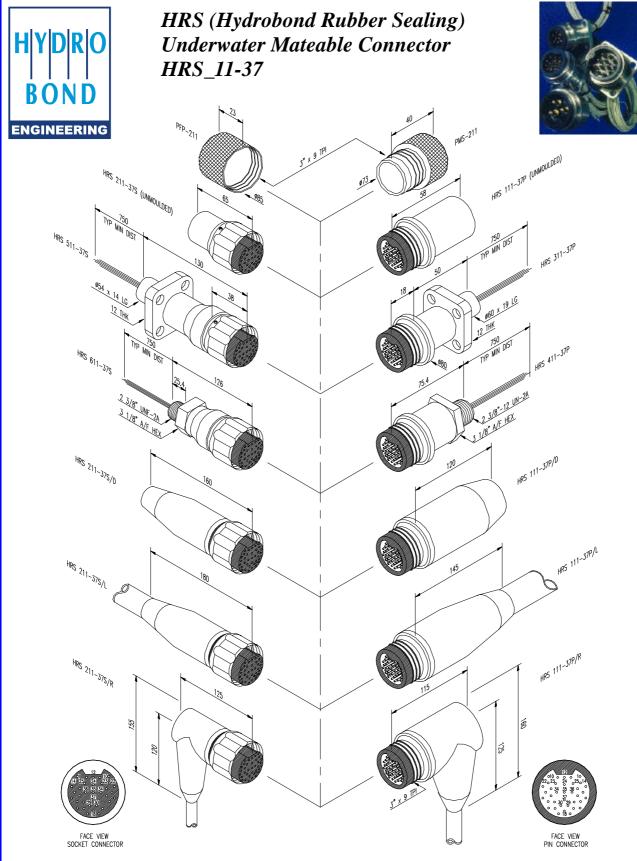
Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Radox 125, 0.75 m.

O - Rings: NI70

Issue: 01 Approved by:



Electrical and Environmental:

Pin Current Rating: 4 Amps
Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW Temperature Rating: -20 ° C to +60 ° C

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

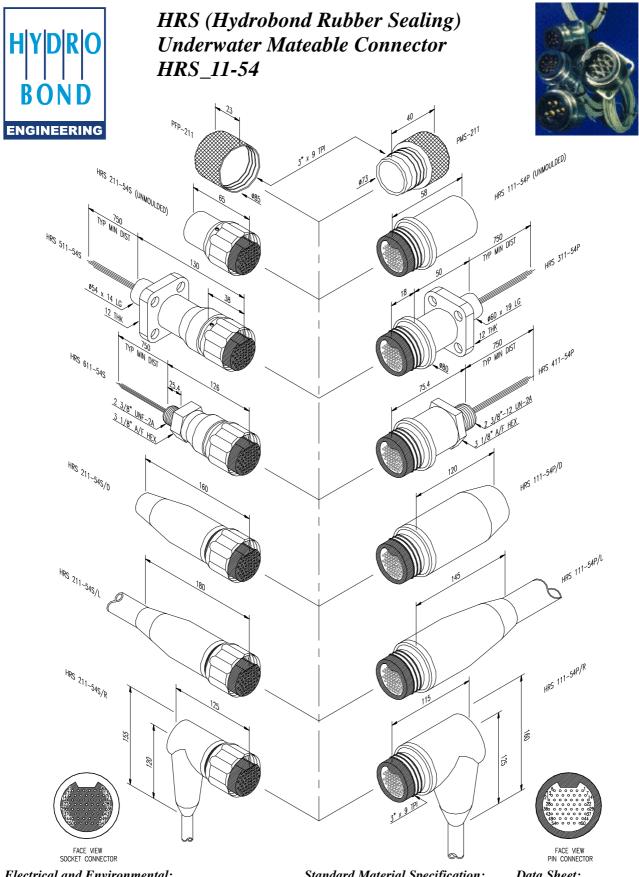
O – Rings: NI70

Data Sheet: Issue: 01

Approved by:

Mechanical: Lengths = mm Threads = Inches

Mounting Detail: See Mounting Detail Section of Binder



Electrical and Environmental:

Pin Current Rating: 2 Amp Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW *Temperature Rating: -20 ° C to +60 ° C*

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification:

Body: 316 Stainless Steel

Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O – Rings: NI70

Data Sheet: Issue: 02 Approved by:

Mechanical: Lengths = mm

HRS (Hydrobond Rubber Sealing) **Underwater Mateable Connector** HRS_11-70 **ENGINEERING** PNS-211 HRS 111-70P (UNNOULDED) HRS 211-705 (UNMOULDED) $^{\rm HRS}~_{51}{_{1-70}_{\rm S}}$ HRS 311-70P $^{\rm HRS}~_{61}{_{1-\gamma_{0S}}}$ 2 3/8"-12 UN-2A 3 1/8" A/F HEX HRS 111-70P/D HRS 211-705/0 HRS 111-70P/L HRS 211-705/L HRS 111-70P/R $^{\rm HRS}~^{\rm 211-70S/R}$ É

Electrical and Environmental:

Pin Current Rating: 2 Amps Pin Voltage Rating: 2,000 V rms

Contact to Contact IR: >1,000 MOhms @ 1,000 V dc Contact to Body IR: >1,000 MOhms @ 1,000 V dc

Mated Depth Rating: 2,440 MSW *Temperature Rating: -20 ° C to +60 ° C*

Conductor Tail Size: 18 AWG Solder Bucket Size: 2.5 mm dia

Standard Material Specification:

Body: 316 Stainless Steel Fix Ring: Aluminium Silicon Bronze

Back Shell: N/A

Contact Pins: CZ121/Au Contact Sockets: CZ121/Au Insert Material: Neoprene Conductor Tails: Spec 44 X 0.75 m.

O - Rings: NI70

Data Sheet: Issue: 01 Approved by:

FACE VIEW PIN CONNECTOR