Note 1: RG58 Coax with BNC connector. Available lengths: 1m, 2m, 3m, 5m, 10m, 15m, 20m, 30m. Please choose cable length which is much less than the Electromagnetic wavelength λ≈c/f. c: speed of light in Vacuum. **Warning**: It is buyer's sole responsibility to make sure that BNC/SMA/SMC shield of the signal source is firmly grounded for operating safety before hooking up the transducer (projector) to the signal source. **Coax with BNC/SMA/SMC is not intended for hand-held use at voltages above 30Vac/60Vdc.**
Note 2: Underwater Mateable Connectors (UMC). BII stocks wet-mateable connectors from global underwater connector manufacturers whose connectors and accessories are available worldwide. Buyers may purchase mating connectors and accessories from local suppliers or representatives of these global companies in buyers' countries or purchase these mating connectors from BII as integral parts of BII products. Please contact BII for details.

Underwater Mateable Connector: Handling Instructions	
BII stocks underwater mateable connectors of Standard Circular and Micro Series for signal transmission and power supply underwater.	
Always apply grease before mating.	Disconnect by pulling straight, not at an angle.
Do not pull on the cable and avoid sharp bends at cable entry.	Do not over-tighten the nuts.
Not be exposed to heat or direct sunlight.	Wet in fresh water before use.

Service Temperature Range:

1. Default Operating Temperature: -10°C to +60°C (14°F to 140°F); Storage Temperature: -20°C to +60°C (-4°F to 140°F);
2. Bespoke high temperature transducers and hydrophones are available, please refer to respective datasheet for their service and storage temperatures.
   a. Service Temperature: -10°C to 120°C (14°F to 248°F). b. Service Temperature: -10°C to 198°C (14°F to 390°F).

Characteristics of Temperature Sensor Built inside Transducers (Hydrophones and Projectors):

-40 °C to 125 °C NTC Temperature Sensor: Resistance Vs. Temperature							
Temp. (°C)	**Resistance (kΩ)**	**Temp. (°C)**	**Resistance (kΩ)**	**Temp. (°C)**	**Resistance (kΩ)**	**Temp. (°C)**	**Resistance (kΩ)**
-40	197.388	5	22.165	50	4.160	95	1.112
-35	149.395	10	18.010	55	3.539	100	0.976
-30	114.345	15	14.720	60	3.024	105	0.860
-25	88.381	20	12.099	65	2.593	110	0.759
-20	68.915	25	10.000	70	2.233	115	0.673
-15	54.166	30	8.309	75	1.929	120	0.598
-10	42.889	35	6.939	80	1.673	125	0.532
-5	34.196	40	5.824	85	1.455		
0	27.445	45	4.911	90	1.270		

-40 °C to 250 °C NTC Temperature Sensor: Resistance Vs. Temperature							
Temp. (°C)	**Resistance (kΩ)**	**Temp. (°C)**	**Resistance (kΩ)**	**Temp. (°C)**	**Resistance (kΩ)**	**Temp. (°C)**	**Resistance (kΩ)**
-40	204.7	35	6.944	110	0.7483	185	0.1439
-35	154.4	40	5.830	115	0.6603	190	0.1313
-30	117.6	45	4.918	120	0.5840	195	0.1202
-25	90.44	50	4.166	125	0.5176	200	0.1103
-20	70.15	55	3.545	130	0.4598	205	0.1015
-15	54.87	60	3.028	135	0.4093	210	0.0937
-10	43.27	65	2.596	140	0.3651	215	0.0868
-5	34.39	70	2.234	145	0.3263	220	0.0807
0	27.53	75	1.929	150	0.2923	225	0.0754
5	22.2	80	1.671	155	0.2624	230	0.0706
10	18.02	85	1.451	160	0.2361	235	0.0665
15	14.72	90	1.265	165	0.2128	240	0.0628
20	12.10	95	1.105	170	0.1923	245	0.0597
25	10.00	100	0.9679	175	0.1742	250	0.0570
30	8.311	105	0.8500	180	0.1581		

1. By default, the temperature sensor measures the inner temperature of a transducer (sound projectors).
When a transducer (or a projector) transmits sound into water or load medium, fractional electrical energy is being converted to heat by piezoelectric materials. If a transducer (projector) transmits sound continuously underwater for a long time and the transducer can not cool down by ambient water or medium, the materials of the transducer might be overheated and damaged. The maximum inner temperature of BII transducers (projectors) varies from 120 to 198 °C, or 248 to 390 °F.
There is a formula on **How to determine pulse width, duty cycle and off-time with input pulse power (peak power)** in the data sheet of each BII transducer (projector).
The temperature inside the transducer (projector) is less than 120 °C or 248 °F during operation by following the formula.
If the transducer (projector) must operate continuously with high power in your application, please contact BII for custom-fit high temperature transducer.
2. The temperature sensor can also be built into a hydrophone to measure the ambient temperature.

Operating Static Pressure Range:

The maximum Operating Static Pressure varies with transducer types: ≤ 9.8 MPa, or 1000 m Ocean Depth. 1 m Water Depth = 9.8 kPa.

Underwater Transducer (Projector and Hydrophone) Handling

Warning: Wrongful handling may damage the transducer and hydrophone beyond repair.

1. Do not drive the transducers and hydrophones when they are in air.
   Do not drive projector (transducer) with high power in non-resonance frequency range.
2. Do not drive the hydrophones with built-in preamplifiers and/or signal conditioning amplifiers.
3. Keep transducers, hydrophones, and the cable away from any sharp item.
4. Remove saltwater spray and moisture with cloth.
5. Do not move or lift the transducers and hydrophones by the cable in air.
6. Do not squeeze or step on the transducers, hydrophones, and the cable.
7. Handle the transducers and hydrophones gently, avoid impacts and collision.

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