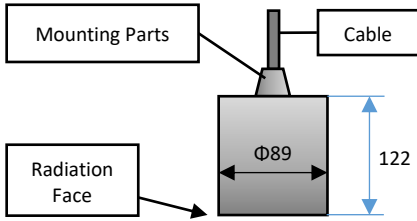


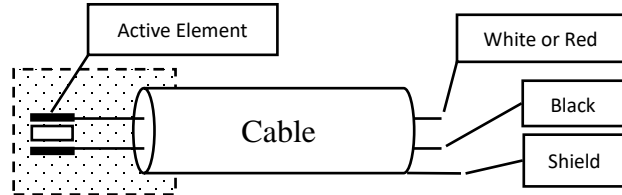
Transducer Specification

Part Number:	BII-7503/8			
Signal Type:	Pulsed SINE, Chirp, PSK, FSK, etc., Pulsed Square Waveform.			
Resonant Frequency fs:	8 kHz			
Quality Factor:	6			
TVR:	133.0 dB μ Pa/V@1m @ fs, Transmitting Voltage Response.			
FFVS:	-170.0 dB V/ μ Pa @ fs, Free-field Voltage Sensitivity.			
-3dB Beam Width:	140°			
Beam Pattern:	Conical			
Side Lobe Level:	No Side Lobe.			
Free Capacitance:	6.5 nF @ 1 kHz with 10 m cable.			
Dissipation:	0.005 @ 1 kHz			
Admittance or Impedance:	Refer to Admittance Graph			
Maximum Driving Voltage:	600 Vrms without built-in impedance matching unit.			
	Refer to the datasheet enclosed with shipment for the transducer with built-in impedance matching.			
	To achieve higher sound level, built-in impedance matching is recommended to step up driving voltage inside the transducer.			
MIPP:	220 Watts, Maximum Input Pulse Power.			
MPW @ MIPP:	200 Seconds, Maximum Pulse Width.			
MCIP:	5 Watts, Maximum Continuous Input Power.			
Maximum Operating Depth:	100 m and Limited by the cable length if the cable has wire leads or a non-waterproof connector.			
Mounting Options:	<ol style="list-style-type: none"> 1. Default: Free Hanging (FH) 2. Thru-hole Mounting with Single O-ring (THSO) 3. Thru-hole Mounting with Double O-ring (THDO) 4. Bolt Fastening Mounting (Stainless Steel): (BFMSS) 5. End-face Mounting: (EFM) 6. Flange Mounting: (FGM) 7. Flush Mounting: (FSM) Please refer to online document AcousticSystem.pdf for a complete list of Mounting Options and more details.			
Cable:	<ol style="list-style-type: none"> 1. Two Conductor Shielded Cable (SC) 2. 50 Ω RG58 Coax (RG58) 			
Cable Length:	<ol style="list-style-type: none"> 1. Default: 1m 2. Custom 			
Connector:	<ol style="list-style-type: none"> 1. Default: Wire Leads (WL) 2. 50 Ω BNC Male (BNC) 3. Underwater Mateable Connector (UMC) 4. MIL-5015 Style (5015) 5. Custom (custom) Note: Underwater Mateable Connector is for underwater uses. Other connectors and wire leads are for dry uses and are non-waterproof.			
Size:	Φ D xH = Φ 89 x 122 mm, actual length depends on Mounting Parts.			
Weight:	2.2 kg with 10 m cable. Actual weight depends on Mounting Parts, Cable Types and Length.			
Operation Temperature:	-10°C to +60°C or 14°F to 140°F.			
Storage Temperature:	-20°C to +60°C or -4°F to 140°F.			
Impedance Matching:	BII-6000 Bespoke Impedance Matching between transducers and power amplifiers. Order Separately. Append IM to the part number for integrating BII-6000 in the transducer, and specify impedance in Ω . For example, BII-xxxxIM50 Ω : BII-xxxx transducer with built-in Impedance Matching unit as a 50 Ω load.			
TR Switch:	BII-2100 Transmitting & Receiving Switch. Not Included. Order Separately, Append TR to part number (BII-xxxxTR).			
Temperature Sensor:	<ol style="list-style-type: none"> 1. Default: No built-in temperature sensor. 2. Built-in temperature sensor. Append TS to part number (BII-xxxxTS) for integrating a temperature sensor in the transducer. 			
Wiring:	Two Conductor Shielded Cable	Coax/BNC	Underwater Connector	MIL-5015 Connector
Signal	White or Red	Center Contact	Contact 2	Contact C
Signal Common	Black	Shield	Contact 1	Contact B
Shielding and Grounding	Shield	Shield	Contact 3	Contact A
How to determine pulse width, duty cycle and off-time with input pulse power (peak power):				
1. Determine the input pulse power (IPP, peak power) with sound intensity required by the project. IPP MUST be less than MIPP.				
2. Pulse Width \leq (MIPP * MPW*(120°C-T)/103°C)/IPP, T: Water Temperature in °C.				
3. Duty Cycle D \leq MCIP*(120°C-T)/103°C)/IPP.				
4. Off-time \geq PW*(1-D)/D.				
WARNING: DANGER — HIGH VOLTAGE on wires. Wires shall be insulated for safety. DO NOT TOUCH THE WIRES BEFORE THE DRIVING SIGNAL IS SHUT DOWN. Cable shield must be grounded firmly for safety.				
for 50Ω BNC Male connector, it is buyer's sole responsibility to make sure that the (female) BNC shield of the signal source is firmly grounded for operating safety before hooking up transducer/hydrophone to the signal source. Coax with BNC is not intended for hand-held use at voltages above 30Vac/60Vdc.				

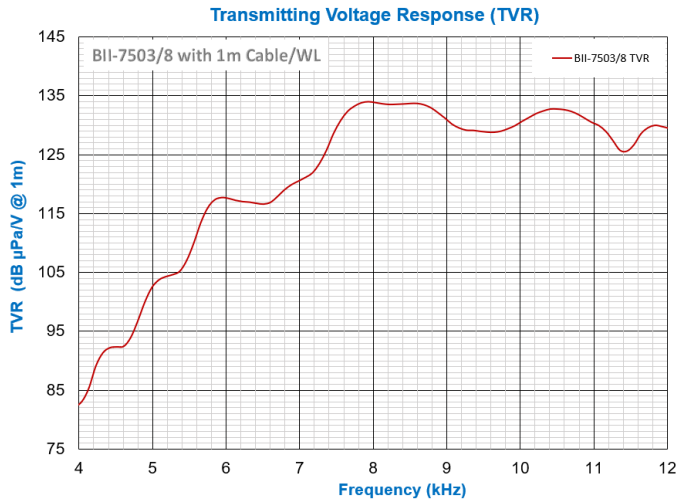
Physical Size (Dimensional Unit: mm)



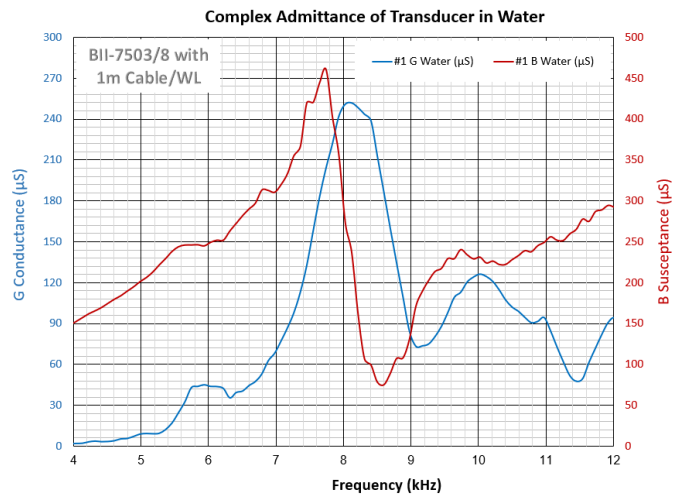
Electrical Wiring (Cable with Wire Leads)



Transmitting Voltage Response (TVR):



Admittance



Directional Response Pattern:

