Transducer Specification

Part Number:	BII-7522	BII-7522IM
Signal Type:	Pulsed SINE, Chirp, PSK, FSK, etc.; Pulsed Square Waveform	
Resonant Frequency fs:	28 kHz ± 5%	
Quality Factor:	4	2.5
TVR:	Refer to TVR Graph, Transmitting Voltage Response.	
FFVS:	-185.0 dB V/µPa @ fs.	-190.0 dB V/µPa @ fs, Free-field Voltage Sensitivity.
-3dB Beam Width:	Omnidirectional	
Beam Pattern:	Refer to Beam Pattern Graph	
Side Lobe Level:	No side lobes	
Free Capacitance:	49.3nF ± 10% @ 1kHz, 1m cable.	N/A
Dissipation:	0.004 @ 1kHz, 1m cable.	N/A
Admittance or Impedance:	Refer to **Admittance Graph**.	1. Default: 5 Ω @ fs. Compatible to BII-5060 series Power Amplifier. 2. Customized: 2 Ω to 100 Ω. Specify when ordering.
MIPP:	1000 Watts, Maximum Input Pulse Power.	
MPW @ MIPP:	50 Seconds, Maximum Pulse Width.	
MCIP:	360 Watts, Maximum Continuous Input Power.	
Operating Depth:	Maximum, 500 m.	Maximum, 300 m.
	Limited by the cable length if the cable has wire leads or a non-waterproof connector.	
Cable:	1. Two Conductor Shielded Cable (SC), 2. 50 Ω RG58 Coax (RG58).	
Cable Length:	1. Default: 1m, 2. Custom.	
Connector:	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.	
Mounting Options:	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) Please refer to online document **AcousticSystem.pdf** for a complete list of Mounting Options and more details.	
Physical Size:	Refer to Mechanical Drawing.	
Weight in Air:	0.44 kg, 1m cable.	1 to 2 kg, 1m cable.
Operation Temperature:	1. Default: -10°C to +60°C or 14°F to 140°F. 2. Bespoke High Temperature Transducer: -10°C to 120°C, or 14°F to 248°F. Append HT to part number.	
Storage Temperature:	-20°C to +60°C or -4°F to 140°F.	

How to determine pulse width, duty cycle and off-time with input pulse power (peak power):

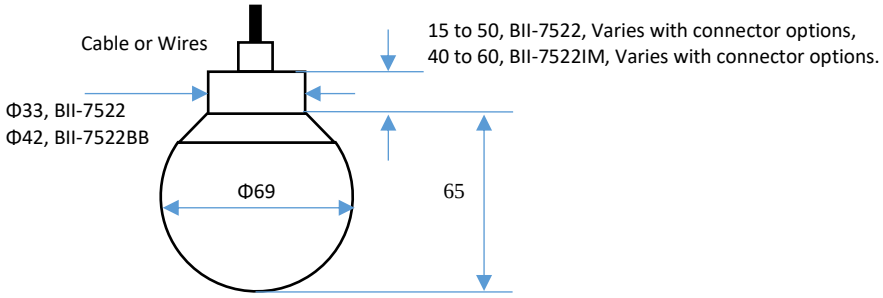
1. Determine the input pulse power (IPP, peak power) with sound intensity required by the project. IPP MUST be less than MIPP;
2. Pulse Width ≤ (MIPP * MPW*(120°c-T)/103°c)/IPP; T: Water Temperature in °c.
3. Duty Cycle D ≤ MCIP*(120°c-T)/103°c)/IPP;
4. Off-time ≥ PW*(1-D)/D.

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.

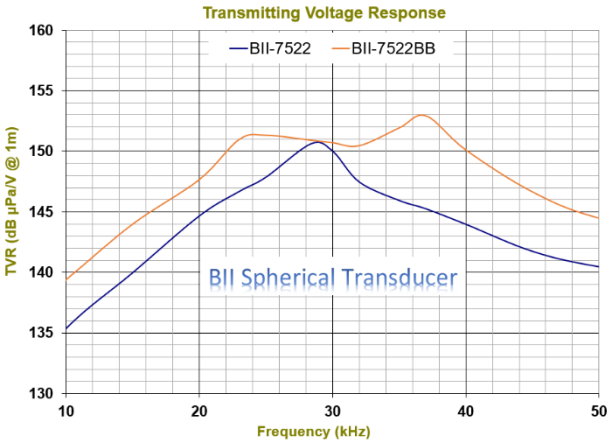
Transducer Wiring:	**Two Conductor Shielded Cable**	**Coax/BNC**	**Underwater Connector**	**MIL-5015 Connector**
Transmitting Signal	White or Red	Center Contact	Contact 2	Contact C
Transmitting Signal Common	Black	Shield	Contact 1	Contact B
Shielding and System Grounding	Shield	Shield	Contact 3	Contact A

Physical Size (unit: mm):

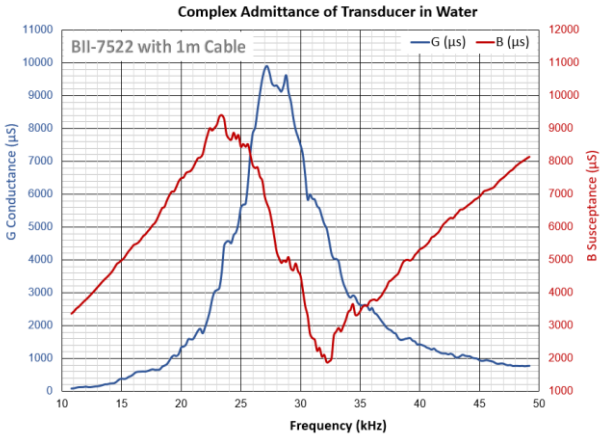


(New part number BII-7522IM replaces BII-7522BB)

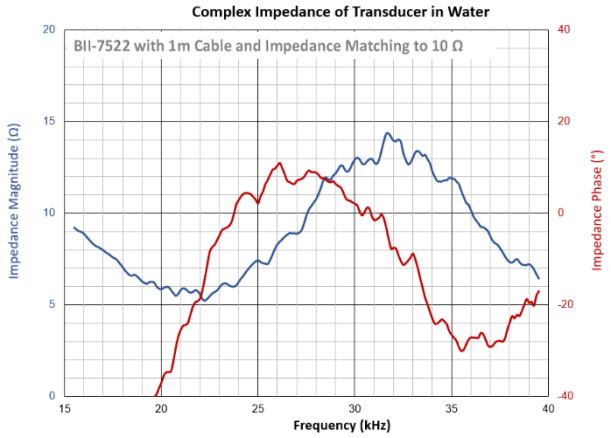
TVR (Transmitting Voltage Response):



Admittance G-B:



Transducer Impedance with Impedance Matching Network:



Directivity Response: new part number BII-7522IM replaces BII-7522BB