

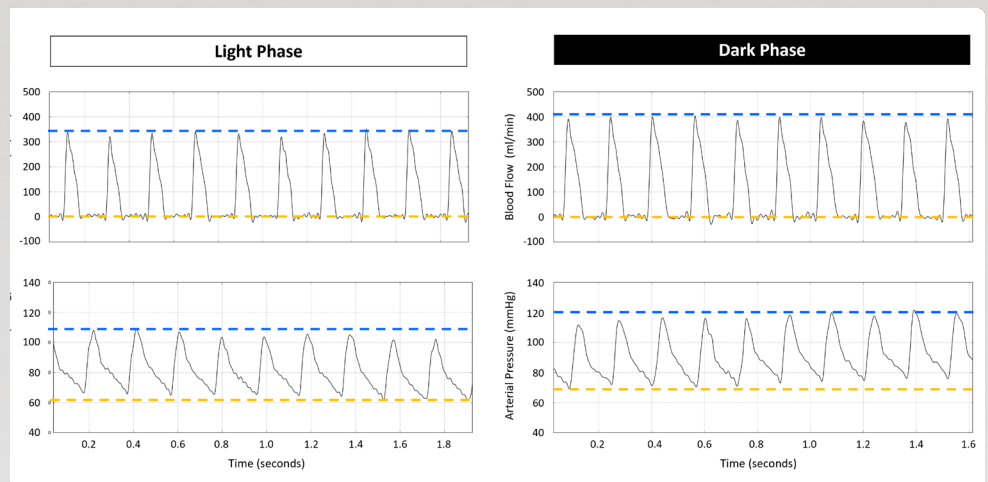


Your Trusted Partner in Research

Implants

Integrating the two most fundamental hemodynamic variables – volumetric blood flow and blood pressure – EndoGear® Implants allow, for the first time ever, a comprehensive assessment of cardiovascular performance in conscious rodents via telemetry. Measurements of cardiac output, stroke volume, heart rate, vascular resistance and more, are derived from direct flow and pressure measurement in animals that can be monitored 24/7 without interference or interruption.

EndoGear® is suitable to detect discreet physiological oscillations such as the ones present over the circadian cycle. EndoGear® Implants are configurable with 1 flowprobe (sized by target vessel) and up to 2 solid-state pressure sensors. EndoGear® Implants are also equipped to record temperature and activity. All implant variants are powered by either inductive power for continuous measurements or by battery for limited term protocols. Implants are typically placed in the abdomen of rodent models (>250g), and similar sized life science research species. Data collection is communicated telemetrically through a remote Transceiver.



Circadian data examples from one animal showing cardiac output and mean arterial pressure observed during the light and dark phases.

EndoGear

EndoGear[®]

Implant Specifications				
Family Model Number	EGISH			
Measurement Capability	Channels			
Flow Channels	0-1			
Pressure Channels	0-2			
Measurement Capability	Channels	Range	Accuracy	Resolution
Temperature (at implant)	1	15 - 50°C	±1.5°C max	±0.0625°C* per count
Activity	1	Combination of XYZ direction relative to implant in counts		
Sampling Rate	200 Hz each channel			
Calibration	Calibration set-up file is provided for each telemeter			
Telemetry & Data Transmission				
Transmission Type	Direct RF Link – Communicates with EG Transceiver directly; 45 channels available			
Transmission Frequency	ISM 915MHz			
Transmission Range	5 m -10 m *Dependent on environmental RF conditions			
Recording Schedule	Continuous or timed via EGUI custom scheduler			
Implant Control	Remote through EGUI Control Hub			
Physical Specs				
External Material	Biocompatible silicone encapsulating biocompatible composite enclosure			
Weight (Implant body only)	9 g			
Dimensions	30 mm x 30 mm x 9 mm (LWH)			
Sensors	Integrated in Implant; Pressure & Flow have variable cable length (see sensor specs)			
Power	Inductive wireless power (with WPR) or Battery options			
Sterilization Method	Ethylene Oxide Compatible; Cold cycle with 37°C exposure			



USA HEADQUARTERS
Transonic Systems Inc.
Ithaca, NY, U.S.A
Tel: +1 607-257-5300
support@transonic.com

EUROPE
Transonic Europe B.V.
Elsloo, The Netherlands
Tel: +31 43-407-7200
europe@transonic.com

ASIA/PACIFIC
Transonic Asia Inc.
Dayuan, Taiwan
Tel: +866 3399 5806
support@transonicasia.com

JAPAN
Transonic Japan Inc.
Tokorozawa, Japan
Tel: +81 04-2946-8541
japan@transonic.com

CANADA
Transonic Scisense Inc.
London, ON, Canada
Tel: (519) 680-7677
Scisense@transonic.com