

Biotactic

FISH MONITORING SYSTEMS



**SELF-CLEANING CAMERAS • PERMANENT & MOBILE SYSTEMS • AI DATA PROCESSING
DAY & NIGHT MONITORING • FISHWAYS • FISH FENCES • CULVERTS
OPEN WATER • FRESHWATER • MARINE**

BIOTACTIC.COM

BRAVO G3 Permanent Fish Monitoring System

Case dimensions (inches)	17 width x 21 length x 9 height
Power	12 VDC/110-120 VAC. 100W solar panel with two 12V deep-cycle batteries or AC/DC – see Figure 1 below for additional details
Camera cable	Standard 15m (50ft) waterproof conduit and connectors, extendable
Camera type	HD digital IP
Camera specifications	1080p digital, low lux with infrared LEDs for night monitoring. Camera system includes built-in low maintenance self-cleaning lens system
Data recording settings	Recording algorithmically filtered (motion detection), time and date stamped Adjustable recording noise and sensitivity, detection gain, field masking, motion trigger range, resolution, captured video length and recording mode settings
Data storage	120GB solid state hard drive on single board 1.8GHz SSD computer with quad core processor, no moving parts and 8GB of RAM
Installed software	Windows 11, open-source video data management, storage and broadcasting services
Additional information	<p>Onsite data storage expandable, data can be stored on the computer for later download and processing. Live underwater video can be continuously streamed to the internet through the BRAVO network (free, unlimited) and data can be transferred by ftp anywhere via internet link with bandwidth >5Mbps for processing</p> <p>System services can be upgraded to: Fish counting system- biological data analysed using BRAVO AI (BRAIN) to determine fish counts, relative abundance, direction of passage and net daily passage and peak passage rates. Species ID, estimates of fish length and condition also available. BRAIN can analyse data in near-real time if data is continuously transferred by ftp or can be used for post-project processing after data is collected and transferred via external hard drive</p>
Warranty	All systems are built using new parts and are fully assembled and tested prior to shipment by Biotactic expert technicians. Limited warranty coverage period extends for 90 days from date of shipment. Free technical support is available for one (1) year from the date of shipment



Figure 1. BRAVO G3 systems can be operated using solar panels and 12V deep-cycle batteries in remote locations. This requires an additional power unit case. The power unit case is shown above (right) - dimensions (inches) 32 length x 23 wide x 16 height. The left image shows only the G3 system plus camera and cable, and the middle image shows the G3 system inside the power case with batteries.

BRAVO M2 Mobile Fish Monitoring System

Case dimensions (inches)	12 width x 19 length x 18 height (see Figure 2 below)
Power	Minimum 50W solar panel with one 12V deep-cycle battery
Camera cable	Standard 15m (50ft) waterproof conduit and connectors, extendable
Camera type	1/3" CMOS high quality image sensor, 800+TVL, 2.8mm lens
Camera specifications	High-resolution analog video, low lux with infrared LEDs for night monitoring
Data recording settings	Recording algorithmically filtered (motion detection), time and date stamped Adjustable noise and sensitivity, field masking, resolution, recording mode settings
Data storage	SD card (max up to 32GB) – up to 7 days full time recording, significantly more with motion detection settings optimized
Installed software	Proprietary firmware
Additional information	System services can be upgraded to: Fish counting system- biological data analysed using BRAVO AI (BRAIN) to determine fish counts, relative abundance, direction of passage and net daily passage and peak passage rates. Species ID, estimates of fish length and condition also available. BRAIN is used for post-project processing after data is collected and transferred via external hard drive Camera can be equipped with low maintenance self-cleaning lens system
Warranty	All systems are built using new parts and are fully assembled and tested prior to shipment by Biotactic expert technicians. Limited warranty coverage period extends for 90 days from date of shipment. Free technical support is available for one (1) year from the date of shipment



Figure 2. BRAVO M2 fish monitoring system and camera