

# FMCU™

## Ruggedized Control Unit

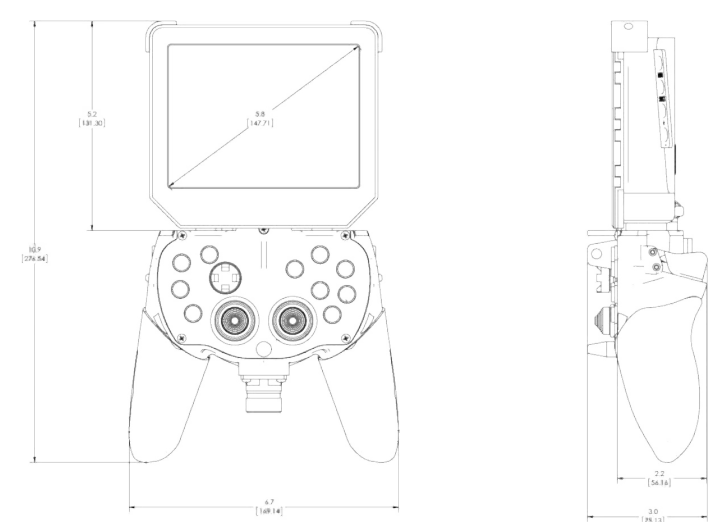
Applications:

- UAV, UGV, UUV & USV guidance & payload control
- Weapons control
- Turret control
- Remote Weapons Station (RWS) control
- Guided munitions
- Mission controls
- Hand-held C4I inputs
- Robotic control
- Camera control

General Specifications:

Enclosure Material	Aluminum alloy
Weight	1.5 ± 0.3 lbs without LCD 3.0 lbs max with LCD
Power Supply	+5 VDC ±5% 100 mA max from USB Port
Operating System	USB 2.0 for Windows XP Linux available
Insulation Resistance	10 meg Ω @ 50 volts DC per Mil-STD-202
LCD Resolution	VGA 640 x 480 Max XGA 1024 x 768
LCD Brightness	800 NITS, adjustable

Standard Dimensions



US PATENT NUMBERS. 7,471,216 / D533,142

Fully Qualified Environmental Specifications:

Sealing	IP67, submersible to 3 ft
Altitude	15,000 ft, operational 40,000 ft, non-operational
Temperature	-32°C to 61°C, operational -40°C to 71°C, non-operational
Humidity	10 - 100% RH @ 17°C to 27°C
Vibration	20 - 2000 Hz overall 7.7 grms, 3 mutually perpendicular axes
Shock	40 g max (3 half sine, 6 axes)
Sand/Dust	Resistant to ambient sand/dust per Method 510.4
Salt Fog	Resistant to ambient Salt Fog per Method 509.4



Ultra Electronics  
Measurement Systems Inc.  
50 Barnes Park Road North, Suite 102  
Wallingford, CT 06492  
Tel: 203.949.3500  
www.ultra-msi.com  
www.ultra-electronics.com

Ultra Electronics  
Ultra Electronics reserves the  
right to vary these specifications  
without notice.  
© Ultra Electronics Limited 2013  
Printed in USA  
MSI 10/2013

# The FMCU™

## Freedom of Movement Control Unit

Rugged.  
Versatile.  
Fully Configurable.  
Proven.





# Every mission is different.

Shouldn't your controller be as versatile as you are?

When demands on operators are high and responsiveness can be the difference between success and failure, choosing the right controller that puts the right controls at the operator's fingertips just as he or she wants them can make all the difference. Now fit those controls in the palms of the operator's hands and you have the versatility and mobility that today's conflicts demand.



## The FMCU

from Ultra Electronics Measurement Systems Inc. (MSI), was the first fully ruggedized game-style controller offered to the military market. With the foresight to recognize the form factor that would be most accessible to today's warfighters, MSI has continued to make the FMCU one of the most highly configurable and powerful controllers available today. No other form factor can pack as much functionality and control into a single, lightweight, hand-held OCU. As a result, since 2008, MSI has designed and manufactured over 25 different FMCU configurations - each carefully designed to specifically meet the needs of each program, mission variant and operator requirements.

The ability to customize the FMCU through both hardware and software configurability makes the FMCU one of the most powerful control solutions available. The warfighter has to do more with less and now his controller can do the same.

## An FMCU for every PLATFORM, every MISSION, every CONOPS.

### The Power of full control in the palm of the operator's hand.

Whether controlling a mast mounted sensor, an unmanned system, a remote weapon station or a vehicle/platform system; the FMCU has been and can be designed to meet virtually all control requirements. With MSI's focus on operator effectiveness, system consolidation and CONOPs driven requirements; your FMCU solution will be customized just for you.

#### FMCU Features

- System configurable for RS-232, RS 422, Ethernet, CanBUS or USB output
- Available modular 5" sunlight readable LCD for non-line of sight operation or portable display
- Mounted or dismounted applications
- Custom Engraving and front panel markings, including overlay
- Desert Tan color, standard; Black, White and other custom colors available



## FULLY CUSTOMIZABLE CONFIGURATION OPTIONS

### Switches:

- All our standard switches are rated at IP67 or higher
- MILITARY Push Buttons (illuminated and redundancy)
- MILITARY Toggle Switches (protective boots and redundancy)
- MILITARY 3-Way Switches, Toggle with push
- MILITARY 4-Way Switches
- MILITARY 5-Way Switches, 4-Way with push
- Single and dual detent trigger switch solutions
- Thumb operated friction lever (non contacting technology)
- Custom rubber switch pads available (color, illuminated, activation force)

### Joysticks:

- Non Contacting Technology
- Single or dual axis joysticks
- 12 Bit resolution
- 25° of deflection
- Center push select switch
- Dual axis Joysticks
  - Round Output
  - Square Output
  - Knob options available
  - Cross/Gated option available



### Lighting Options:

- Illuminated Push Buttons with intensity control
- Standard Panel Lights with intensity control
- Back Light Panel Options



### Optional Safety Features:

- Lanyard attachments
- Trigger guards
- Switch guards
- Ergonomic Dead Man switches
- Redundantly wired trigger options
- Emergency Shutoff Switch



### Software:

- Programmable switch mapping and dependency
- Custom joystick output curves available
- Downloadable software upgrades
- Complete USB, CANbus and Ethernet stacks
- Custom state machine control software available

### Electrical Power/Interface Options:

- Power 1W - 4W depending options, typical <2W
- Options from 5VDC to 40VDC; 12 VDC required when using LCD
- 1275B Compliant
- Standard 38999 connector
- Custom Over molded cables available
- Connector mounting location (FWD or AFT of grip)