

# FG series

Fixed Grip™ hand grip controllers •  
fully customizable & ambidextrous operation



## DISTINCTIVE FEATURES

Custom configured  
Analog or USB outputs  
Rugged hand operation  
Readily available with TS series thumbstick  
Operator presence paddle option



## ENVIRONMENTAL SPECIFICATIONS

- Operating Temperature: -40 °C to +85 °C (-40 °F to +185 °F)
- Storage Temperature: -40 °C to +85 °C (-40 °F to +185 °F)
- Above panel sealing: Up to IP65 (subject to final specifications)
- EMC Immunity Level (V/M): EN61000-4-8:2009
- EMC Emissions Level: EN61000-4-3: 2006
- ESD: EN61000-4-2:2008



## ELECTRICAL SPECIFICATIONS

- Electrical Resistive Load: 5 A (subject to selected switch)
- Electrical Inductive Load: 3 A (subject to selected switch)
- Low Level: 10 mA @ 30 mV (subject to selected switch)
- Electrical Life: 1 million cycles 5 A @ 28 VDC  
Resistive snap-action (depending on selected switch)



## MECHANICAL SPECIFICATIONS

- Operating Force: 7.5 N  $\pm$ 2.0 N (1.69 lbf  $\pm$ 0.11 lbf)
- Maximum Vertical Load: 1000 N (224.8lbf)
- Maximum Horizontal Load: 600 N (134.9 lbf)
- Mechanical Angle of Movement: 40°
- Expected Life: 1 million lifecycles
- Mass/weight: 317.5 g (11.2 oz)

The company reserves the right to change specifications without notice.



ERMEC, S.L.  
C/ Francesc Teixidó, 22  
P. E. Granland, Badalona Sur  
08918 Badalona  
Barcelona (SPAIN)

Tel. (+34) 902 450 160  
Fax (+34) 902 433 088  
ermec@ermec.com  
www.ermec.com

# FG series

Fixed Grip™ hand grip controllers •  
fully customizable & ambidextrous operation

## BUILD YOUR PART NUMBER

FG

SERIES

HANDLE

INDEX TRIGGER

INDEX TRIGGER GUARD

OPERATOR PRESENCE PADDLE

MOUNTING HARDWARE

1

Oval

N

None

M

Momentary

P

Proportional<sup>1</sup>

D

DP/DT<sup>2</sup>

1

None

2

Red

3

Black

1

None

3

Mechanical paddle

1

None

2

Plate & Screws

TERMINATION

ELECTRICAL OUTPUT OR INTERFACE

SEALING

A

22AWG 10in PTFE

B

28AWG 10in PTFE

X

Customer specified

1

Voltage output

2

USB, game controller

5

USB, cursor emulation

A

None

B

IP65 \*

Notes:  
<sup>1</sup> 0.5V to 4.5V output  
<sup>2</sup> Double pole / double throw  
\* Above panel (dependant on handle configuration)

## ABOUT THIS SERIES

Notes:  
1. Dimensions are in mm/(inch)  
2. Faceplate:  
The FG series Fixed Grip hand controller features a modular faceplate that can be customized for specific applications. Ambidextrous for most configurations, the faceplate may be populated with a variety of thumb actuated switches including momentary pushbuttons, latching pushbuttons, two or three way toggle switches, 4 or 5 way trims and miniature proportional joysticks. Every FG faceplate is custom configured to order. Please consult APEM for options.  
3. Index Trigger:  
The FG series Fixed Grip controllers may be equipped with or without an index trigger switch. Index trigger configuration options include a single pole normally open momentary switch, a double pole double throw tactile switch, or a proportional Hall effect device.  
Index Trigger Options: N: None M: Momentary, single pole normally open P: Hall effect, 0.5V to 4.5V proportional output D: Double pole, double throw

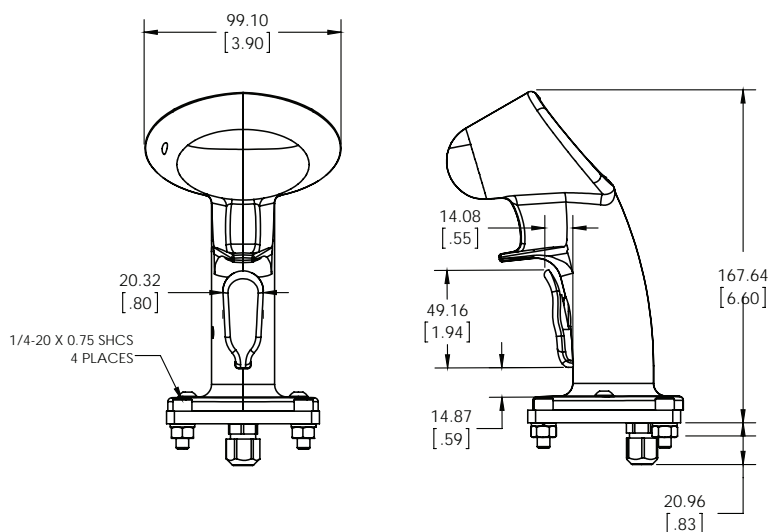


ERMEC, S.L.  
C/ Francesc Teixidó, 22  
P. E. Granland, Badalona Sur  
08918 Badalona  
Barcelona (SPAIN)  
Tel. (+34) 902 450 160  
Fax (+34) 902 433 088  
ermec@ermec.com  
www.ermec.com

# FG series

Fixed Grip™ hand grip controllers •  
fully customizable & ambidextrous operation

## DIMENSIONS



## HANDLE OPTIONS



Index trigger with  
trigger guard



Index trigger



No index trigger



ERMEC, S.L.  
C/ Francesc Teixidó, 22  
P. E. Granland, Badalona Sur  
08918 Badalona  
Barcelona (SPAIN)

Tel. (+34) 902 450 160  
Fax (+34) 902 433 088  
ermec@ermec.com  
www.ermec.com

# FG series

Fixed Grip™ hand grip controllers •  
fully customizable & ambidextrous operation



## USB OPTIONS

- Supply Voltage Range: 5.00 VDC
- Maximum current: 70 mA
- USB version: 2.0
- Connector style: USB-A

## USB GAME CONTROLLER

Featuring USB 2.0 HID compliant interface, APEM's USB joysticks are recognized as standard HID "game controller" devices. Adhering to the HID specification, APEM's USB joysticks are plug-and-play with most versions of Windows. Joystick button and axis assignments are dependent upon the controlled application.

### Features

- USB 2.0 HID compliant "game controller" device
- Easy to install and operate
- Functions determined by controlled application
- 12-bit (0 to 4095) axis resolution

### Termination (supplied cable)

- USB Male Type A Connector (198 cm)
  - (72" +/-1") - overmolded cabled - Mini B to Male Type A USB connector (option 0U)
  - (84" +/-1") - overmolded cable - Male Type A USB connector (option 2U)

## USB CURSOR EMULATION

The Cursor Emulation option converts multi-axis joystick output into a mouse or cursor control device. The Cursor Emulation option is ideal for vehicle applications subjected to dirt and high vibration which makes operating a traditional cursor control device difficult. Cursor simulation is only compatible with Window OS.

### Features

- HID compliant "mouse" device

### Button Function

- B1: Left Mouse Click
- B2: Right Mouse Click

### Termination (supplied cable)

- USB Male Type A Connector (185 cm):
  - (72" +/-1") - overmolded cabled - Mini B to Male Type A USB connector (option 0U)

## SUPPORTED OPERATING SYSTEMS: USB GAME CONTROLLER AND CURSOR EMULATION

### Windows Operating System

- Windows 7
- Windows 8.1
- Windows 10

### Linux Operating System

APEM's USB joysticks are compatible with Linux, although system compatibility is not guaranteed. The user is responsible for verifying specific Linux OS compatibility.

### Custom Firmware

Custom configurations and firmware is available upon request. Available options include:

- 8-bit axis resolution
- 10-bit axis resolution
- Signed bit axis resolution
- Custom USB product name



## VOLTAGE REGULATOR SPECIFICATIONS

The Voltage Regulator allows APEM's Hall effect joysticks to operate with a range of supply voltages..

### Voltage Regulator - Unipolar

- Supply Voltage Range: 8-35 VDC
- Output Voltage Range: see output options
- Maximum Current: 90 mA

### Voltage Regulator - Bipolar

- Supply Voltage Range: 11-35 VDC
- Output Voltage Range:  $\pm 10$  VDC
- Maximum Current: 90 mA

### Termination (flying leads)

- 28 AWG 20.32 cm (8.0")  $\pm 1.54$  cm (1") PTFE



ERMEC, S.L.  
C/ Francesc Teixidó, 22  
P. E. Granland, Badalona Sur  
08918 Badalona  
Barcelona (SPAIN)

Tel. (+34) 902 450 160  
Fax (+34) 902 433 088  
ermec@ermec.com  
www.ermec.com