

**TEST MEASUREMENT
DIAGNOSTIC
EQUIPMENT (TMDE)
SET, DENTAL**

**Support and Consumables
Handbook**

**6545-01-532-1901
UA T502**

Semper Responsus

REVISED

February 2013

U.S. Army Medical Materiel Agency

The information contained in this manual was prepared by the

U.S. Army Medical Materiel Agency
Office of PM, Medical Devices
Acquisition Information Division
693 Neiman Street
Fort Detrick, MD 21702-5001

This manual is a living document and may contain inaccuracies due to changes in mission requirements or equipment updates. To report corrections or additions please contact:

Customer Relationship Management
301-619-1288/4301, DSN 343-1288/4301, or at:

USAMMACRM@amedd.army.mil

**For additional equipment item information, visit the
USAMMA Medical Equipment Literature section on the web at
<<http://www.usamma.amedd.army.mil/med equip lit cdroms.cfm>>**

**Review the Master Table of Contents for all of the
published USAMMA Medical Equipment CDs at
<<http://www.usamma.amedd.army.mil/assets/docs/Master%20Table%20of%20Contents.pdf>>**

**You can also order a copy of each published CD by completing and submitting the form at
<<http://www.usamma.amedd.army.mil/CDROM Requests form.cfm>>**

**NOTE: CLICK ON TITLE
FOR DIRECT LINK**

TABLE OF CONTENTS

SECTION	DEVICE	NSN	PAGE
1	<u>OSCILLOSCOPE MEDICAL SCOPEMETER DEVICE</u>	<u>(L) 6625-01-615-2679</u>	<u>1</u>
2	<u>OSCILLOSCOPE X-RAY SCOPEMETER</u>	<u>(L) 6625-01-598-3565</u>	<u>7</u>
3	<u>TESTER SAFETY ELECTRICAL MED DEVICES</u>	<u>(L) 6625-01-577-6744</u>	<u>17</u>

Please provide all comments at the website link listed below.

https://ice.disa.mil/index.cfm?fa=card&site_id=750&service_provider_id=102377

Select: EQUIPMENT PUBLICATIONS BUTTON AT TOP OF FORM

OSCILLOSCOPE MEDICAL SCOPEMETER DEVICE

[TOC](#)

MANUFACTURER: FLUKE BIOMEDICAL

Manufacturer Model# 190M

Manufacturer's PHONE: (440) 498-2565 FAX: (440) 498-0000

Manufacturer's Website: <http://www.flukebiomedical.com/biomedical/usen/home>
<>

Item Web Link:

<http://www.flukebiomedical.com/biomedical/usen/Portable-Oscilloscopes/190M-Medical-ScopeMeter.htm?PID=74319>>

AAC 'L' ITEM NSN 6625-01-615-2679

UAs: T500, T501, T502, T503, T505

USAMMA POC: Customer Relations Management 301-619-1288/4301 - DSN 343-1288/4301

UNIT PRICE: \$4,895.00

System Description: The 190M Medical ScopeMeter® Portable Oscilloscope is a high-performance, portable oscilloscope that combines the power of a high performance oscilloscope, multimeter and paperless recorder in one test tool. It is used to calibrate, repair, and/or assess functioning of medical devices and other equipment used in healthcare. The 190M has a CAT III 1000 V/CAT IV 600 V rating. It has increased deep memory: 10,000 point per trace waveform capture, so you can examine very small parts of the waveform in detail. Has new battery door accessibility for battery swap out, and optional charger to have the ability to charge another battery. It is environmentally tested to meet IP-51 dust-proof and drip-proof rating and withstand 3 g vibration or 30 g shock. Has two isolated USB host port for direct data storage to a USB memory device. It also has a security slot: lock down oscilloscope with Kensington R lock while unattended. The 190M has four electrically isolated inputs; 6 in full color lcd w/ LED backlight; resolution: 320 x 240 pixels; rugged, shock-proof w/ integrated protective holster; weight: 4.8 lb.

Features:

- The first oscilloscope on the market with CAT III 1000 V/CAT IV 600 V rating
- Increased deep memory: 10,000 point per trace waveform capture, so you can examine very small parts of the waveform in detail
- New battery door accessibility for battery swap out, and optional charger to have the ability to charge another battery
- Environmentally tested to meet IP-51 dust-proof and drip-proof rating and withstand 3 g vibration or 30 g shock
- Isolated USB host port for direct data storage to a USB memory device

Security slot: lock down oscilloscope with Kensington R lock while unattended



**OSCILLOSCOPE MEDICAL SCOPEMETER DEVICE
PART # FBC4115804EA
NSN 6625016152679**

**OSCILLOSCOPE MEDICAL SCOPEMETER DEVICE
PHYSICAL & ENVIRONMENTAL SPECIFICATIONS**

Item Dimensions	Height (Inches)	10.4
	Width (Inches)	2.8
	Length (Inches)	7.5
	Cube (Cubic Feet)	0.1264
	Weight	4.8
Ship Dimensions	Height (Inches)	0
	Width (Inches)	0
	Length (Inches)	0
	Cube (Cubic Feet)	0
	Weight	
Storage Temp		-4 to 140 °F (-20 to 60 °C)
Operating Temp		32 to 104 °F (0 to 40 °C)
Storage Humidity		
Operating Humidity		95 % Non-condensing (See note below for more information)
Amps		
Watts		
Power Requirements	120 VAC ± 10%, 50/60 Hz (for Power Adapter BC190)	
Notes	Humidity: 50 to 86 °F (10 to 30 °C): 95 % RH Non-condensing 86 to 104 °F (30 to 40 °C): 75 % RH Non-condensing 104 to 122 °F (40 to 50 °C): 45 % RH Non-condensing	

**OSCILLOSCOPE MEDICAL SCOPEMETER DEVICE
ACCESSORIES & CONSUMABLES - STARTUP**

NSN	Notes	Nomenclature	MFR PN Fluke BioMedica 1	DIST PN	QTY	UI	Unit Price	Total Price	Shelf Life Mon.
6625016152679		Oscilloscope Medical Scopemeter Device	FBC41158 04EA		1	EA	\$4,895.00	\$4,895.00	N/A
NSN Not Required		External Battery Charger For BP290 and BP291	EBC290		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required		FlukeView Software Activation Key (Card)	N/A		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required		FlukeView Software for Windows	SW90W		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required		Hanging Strap	946769		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required		Hard Shell Protective Carrying Case	C290		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required		Li-Ion Battery Pack, 4800 mAh	BP291		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required		Literature, Operator's Manual	N/A		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required	See Table Below for Kit Contents	Medical Accessory Kit	MA190		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required		TwistGuard™ Safety-Designed Test Leads Set (1 Red, 1 Black)	TL175		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required		USB Interface Cable for PC Connection (USB-A to Mini-USB-B)	N/A		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required	See Table Below for Set Contents	Voltage Probe Set, 10:1, 300 MHz, One Set Blue	VPS410-B		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required	See Table Below for Set Contents	Voltage Probe Set, 10:1, 300 MHz, One Set Gray	VPS410-G		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required	See Table Below for Set Contents	Voltage Probe Set, 10:1, 300 MHz, One Set Green	VPS410-V		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A
NSN Not Required	See Table Below for Set Contents	Voltage Probe Set, 10:1, 300 MHz, One Set Red	VPS410-R		1	EA	Incl w/NSN 2679	Incl w/NSN 2679	N/A

**OSCILLOSCOPE MEDICAL SCOPEMETER DEVICE
ACCESSORIES & CONSUMABLES**

NO RESUPPLY ITEMS

OSCILLOSCOPE MEDICAL SCOPEMETER DEVICE

ITEM TABLES

Medical Accessory Kit Contents (P/N MA190)

Nomenclature	QTY	UI
50 Ohm BNC Feed-Through	1	EA
50 Ohm 10:1 Attenuator Feed Through	1	EA
1 Ohm Current Shunt	1	EA
50 Ohm Current Shunt	1	EA
50 Ohm Coax Cable	1	EA
Female BNC to 4 mm Banana Adapter	1	EA
Two Female to Female 4 mm Banana Plug Adapters	2	EA

Voltage Probe Set Components

Nomenclature	U/I	QTY
10:1 Voltage Probe, 300 MHz (Color-coded)	1	EA
NOTE: Each Set contains a Red, Blue, Gray, or Green Voltage Probe (above) PLUS:		
Hook Clip for Probe Tip (Black)	1	EA
Ground Lead with Mini Alligator Clip (Black)	1	EA
Ground Spring for Probe Tip (Black)	1	EA
Insulation Sleeve (Black)	1	EA

OSCILLOSCOPE X-RAY SCOPEMETER

[TOC](#)

MANUFACTURER: FLUKE ELECTRONICS

Manufacturer Model# 199XRAY

Manufacturer's PHONE: (800) 443-5853 FAX: (425) 446-5116

Manufacturer's Website: <http://us.fluke.com/usen/home/default.htm>

Item Web Link:

<http://www.flukebiomedical.com/biomedical/usen/Biomedical-Test/Performance-Analyzers/199XRay.htm?PID=54537>

AAC 'L' ITEM NSN 6625-01-598-3565

UAs: T500, T501, T502, T503, T505

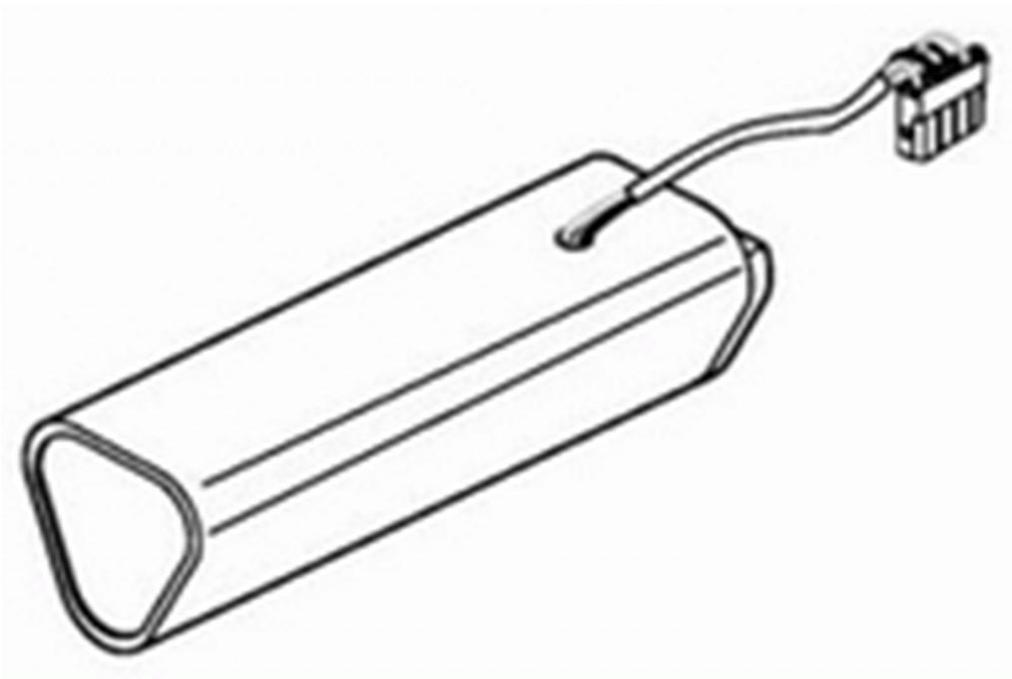
USAMMA POC: Customer Relations Management 301-619-1288/4301 - DSN 343-1288/4301

UNIT PRICE: \$4,765.60

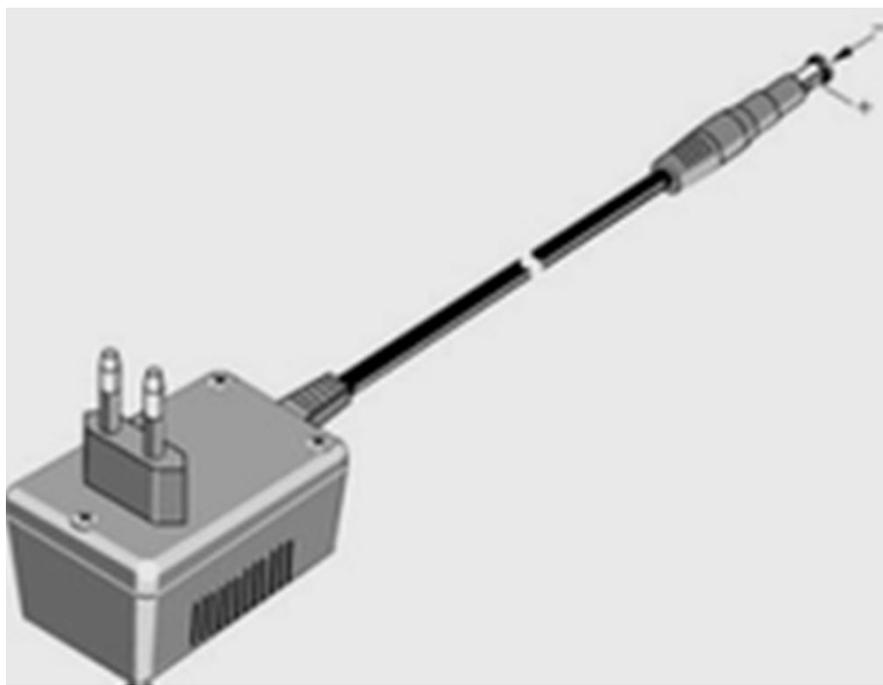
System Description: The 199XRAY Medical ScopeMeter has all of the normal oscilloscope functions, as well as the speed, performance, and analysis power for the more demanding applications. This high-performance oscilloscope offers specifications found on top-end bench instruments. With up to 200 MHz bandwidth, 2.5 GS/s real-time sampling, and a deep memory of 27,500 points per input, the 199XRAY is ideal for engineers who need the full capabilities of a high-performance oscilloscope in a handheld, battery-powered instrument.

- Features:**
- Up to 200 MHz bandwidth
 - Up to 2.5 GS/s real-time sampling
 - Connect-and-View™ automatic triggering for an instant stable waveform
 - Digital Persistence for analyzing complex dynamic waveforms similar to analog scopes
 - Fast display update rate for seeing dynamic behavior instantaneously
 - Automatic capture and replay of 100 screens
 - 27,500 points per input record length using ScopeRecord™ mode
 - TrendPlot™ paperless chart recorder for trend analysis up to 22 days
 - Up to 1000 V independently floating isolated inputs
 - Waveform reference for visual comparisons and automatic pass/fail testing of waveforms
 - Vpwm function for motor drive and frequency inverter applications
 - 1000 V CAT II and 600 V CAT III safety certified

NOTE: LIN P43667



**BATTERY PACK NIMH
PART # BP190**



**CHARGER, LINE VOLTAGE
PART # BC190**



**TEST LEAD SET, HARD POINT
PART # TL75**



**VOLTAGE PROBE, GREY
PART # VPS210-G**



**VOLTAGE PROBE, RED
PART # VPS210-R**



**CABLE, INTERFACE
PART # OC4USB**



SCOPEMETER SHOWN WITH BUILT IN TILT STAND



**ACCESSORY KIT MEDICAL VIDEO
PART # MA190**

**OSCILLOSCOPE X-RAY SCOPEMETER
PHYSICAL & ENVIRONMENTAL SPECIFICATIONS**

Item Dimensions	Height (Inches)	2.5
	Width (Inches)	6.7
	Length (Inches)	10.1
	Cube (Cubic Feet)	0.0979
	Weight	4.4 lbs
Ship Dimensions	Height (Inches)	
	Width (Inches)	
	Length (Inches)	
	Cube (Cubic Feet)	
	Weight	
Storage Temp		-4 to 140 °F
Operating Temp		32 to 122 °F
Storage Humidity		104 to 122 °F at 45%
Operating Humidity		50 to 88 °F at 95%
Amps		
Watts		26.25
Power Requirements	Battery voltage rating 7.2 VDC	
Notes		

**OSCILLOSCOPE X-RAY SCOPEMETER
ACCESSORIES & CONSUMABLES - STARTUP**

NSN	Notes	Nomenclature	MFR PN Fluke Electronics	DIST PN	QTY	UI	Unit Price	Total Price	Shelf Life Mon.
6625015983565		Oscilloscope X-Ray Scopemeter	199XRAY		1	EA	\$4,765.60	\$4,765.60	
	Awaiting NSN	Battery Pack, NiMH	BP190		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
	Awaiting NSN	Cable, Interface	OC4USB		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
	Awaiting NSN	Charger Line Voltage	BC190		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
	Awaiting NSN	FlukeView ScopeMeter Software	SW90W		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
	Awaiting NSN	Hard Case	C190		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
	Awaiting NSN	Test Lead Set, Hard Point	TL75		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
	Awaiting NSN	Voltage Probe (200 MHz, 10:1), Grey	VPS210-G		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
	Awaiting NSN	Voltage Probe (200 MHz, 10:1), Red	VPS210-R		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
	Awaiting NSN	Accessory Kit Medical Video	MA190		1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A
NSN Not Required		Literature, Operator			1	EA	Incl w/NSN 3565	Incl w/NSN 3565	N/A

**OSCILLOSCOPE X-RAY SCOPEMETER
ACCESSORIES & CONSUMABLES - RESUPPLY**

NSN	Notes	Nomenclature	MFR PN Fluke Electronics	DIST PN	QTY	UI	Unit Price	Total Price	Shelf Life Mon.
	Awaiting NSN	Battery Pack, NiMH	BP190		1	EA	\$80.00	\$80.00	N/A
	Awaiting NSN	Cable, Interface	OC4USB		1	EA	\$150.00	\$150.00	N/A
	Awaiting NSN	Charger Line Voltage	BC190		1	EA	\$115.85	\$115.85	N/A
	Awaiting NSN	FlukeView ScopeMeter Software	SW90W		1	EA	\$225.00	\$225.00	N/A
	Awaiting NSN	Hard Case	C190		1	EA	\$145.00	\$145.00	N/A
	Awaiting NSN	Test Lead Set, Hard Point	TL75		1	EA	\$17.33	\$17.33	N/A
	Awaiting NSN	Voltage Probe (200 MHz, 10:1), Grey	VPS210-G		1	EA	\$165.00	\$165.00	N/A
	Awaiting NSN	Voltage Probe (200 MHz, 10:1), Red	VPS210-R		1	EA	\$165.00	\$165.00	N/A
	Awaiting NSN	Accessory Kit Medical Video	MA190		1	EA	\$350.00	\$350.00	N/A
NSN Not Required		Literature, Operator			1	EA	\$0.00	\$0.00	N/A

**OSCILLOSCOPE X-RAY SCOPEMETER
WEB LINKS**

[Click Below for Literature, Operator Manual](http://assets.fluke.com/manuals/199XRAY_umeng0000.pdf)
<http://assets.fluke.com/manuals/199XRAY_umeng0000.pdf>

TESTER SAFETY ELECTRICAL MED DEVICES

[TOC](#)

MANUFACTURER: FLUKE BIOMEDICAL

Manufacturer Model# 3367232

Manufacturer's PHONE: (440) 498-2565 FAX: (440) 498-0000

Manufacturer's Website: <http://www.flukebiomedical.com/biomedical/usen/home>
<>

Item Web Link:

<http://www.flukebiomedical.com/biomedical/usen/Biomedical-Test/Electrical-Safety-Analyzers/ESA612.htm?PID=55975>>

AAC 'L' ITEM NSN 6625-01-577-6744

UAs: T500, T501, T502, T503, T505

USAMMA POC: Customer Relations Management 301-619-1288/4301 - DSN 343-1288/4301

UNIT PRICE: \$2,300.00

System Description: The Electrical Safety Analyzer is test equipment for biomedical and clinical engineering professionals that perform field service on medical equipment throughout their facilities, in clinics, and anywhere onsite service is required. Portable, lightweight, and designed for operation in tight spaces, the analyzer offers the functionality of a simulator, multimeter, and electrical-safety analyzer in a single test tool.

With selection of two test loads, this versatile product can be used worldwide for compliance testing to preventative maintenance electrical safety standards of choice: ANSI/AAMI ES1:1993 (NFPA-99), IEC62353 (VDE 751), and AN/NZS 3551

The versatility of the multifaceted tester is further expanded with optional automation software, which speeds and simplifies testing and provides high-end analyzer productivity.

- Features:**
- Portable, ergonomic, lightweight, and easy to use
 - Large, easy-to-read display with adjustable contrast
 - Human-factors designed user interface
 - Bale design for stand-up testing in field environments
 - Five applied parts jacks and easy ECG snap connection with optional expander box
 - ECG waveform tests and dual-lead measurements combine the functionality of a simulator, multimeter, and electrical-safety analyzer in a single test tool
 - Replaceable main fuses keep the device in the field and out of the repair shop
 - Internal memory for 100 test records
 - USB connection for use with optional Ansur automation and Data Viewer software (for memory download to PC)
 - Optional Ansur automation software standardizes test procedures, compares results to standard limits, generates/stores reports and provides total digital data management
 - Rigorously tested for rugged field applications, with CE and CS

NOTE: LIN T61791



**TESTER SAFETY ELECTRICAL MED DEVICES
PART # 3367232
NSN 6625015776744**



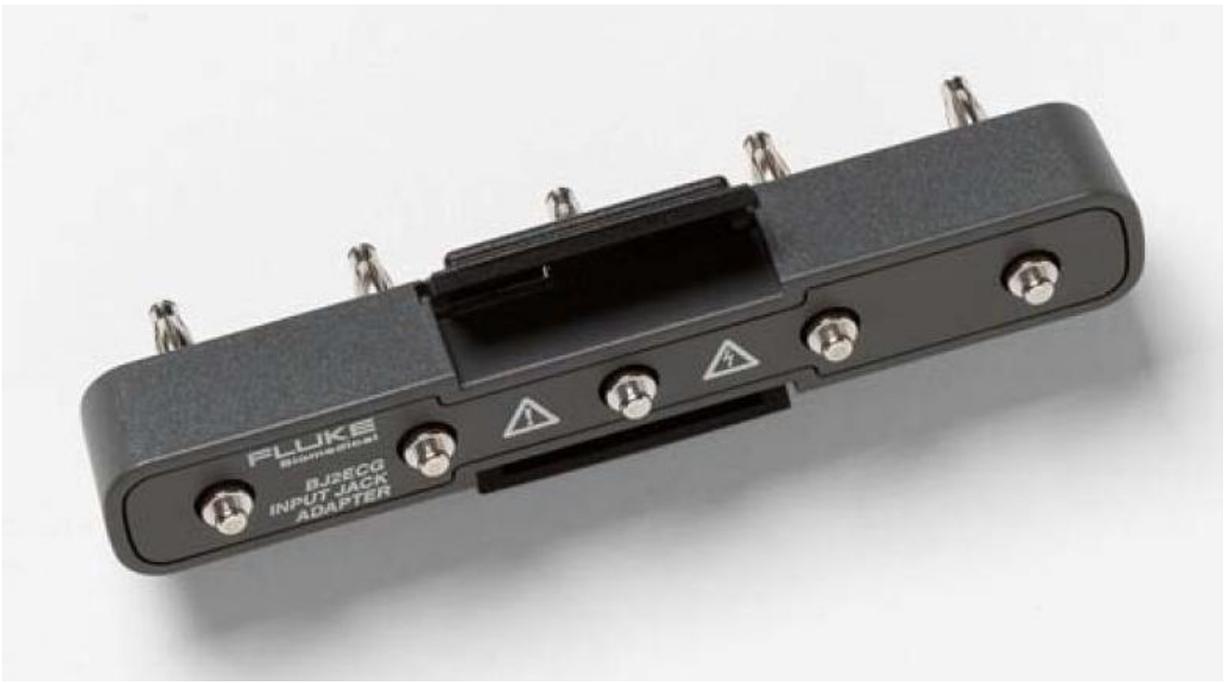
**TESTER SAFETY ELECTRICAL MED DEVICES
PART # 3367232
NSN 6625015776744
Side View**



**CABLE, DATA TRANSFER
PART # 1626219**



**CLIP, ALLIGATOR SET
PART # 3111008**



**JACK, BANANA 5 TO 5 TOECG (BJ2ECG)
PART # 3359538**



**ADAPTER, NULL POST
PART # 3326842**

**TESTER SAFETY ELECTRICAL MED DEVICES
PHYSICAL & ENVIRONMENTAL SPECIFICATIONS**

Item Dimensions	Height (Inches)	11.2
	Width (Inches)	6.94
	Length (Inches)	3.3
	Cube (Cubic Feet)	0.1484
	Weight	3.5 lbs
Ship Dimensions	Height (Inches)	0
	Width (Inches)	0
	Length (Inches)	0
	Cube (Cubic Feet)	0
	Weight	
Storage Temp		-4 to 140 °F
Operating Temp		50 to 104 °F
Storage Humidity		
Operating Humidity		10 to 90 % Non-condensing
Amps		20
Watts		2400
Power Requirements	120 VAC, 50/60 Hz	
Notes		

**TESTER SAFETY ELECTRICAL MED DEVICES
ACCESSORIES & CONSUMABLES - STARTUP**

NSN	Notes	Nomenclature	MFR PN Fluke BioMedica 1	DIST PN	QTY	UI	Unit Price	Total Price	Shelf Life Mon.
6625015776744		Tester Safety Electrical Med Devices	3367232		1	EA	\$2,300.00	\$2,300.00	N/A
	Awaiting NSN	Adapter, 15 – 20 A	2195732		1	EA	Incl w/NSN 6744	Incl w/NSN 6744	N/A
	Awaiting NSN	Adapter, 5-to-5 Banana Jack to ECG (BJ2ECG)	3359538		1	EA	Incl w/NSN 6744	Incl w/NSN 6744	N/A
	Awaiting NSN	Adapter, Null Post	3326842		1	EA	Incl w/NSN 6744	Incl w/NSN 6744	N/A
	Awaiting NSN	Cable Data Transfer 4 Cond,USB-A(M),USB- B(M),Shielded,2M,Bulk	1626219		1	EA	Incl w/NSN 6744	Incl w/NSN 6744	N/A
	Awaiting NSN	Case Carrying	2248650		1	EA	Incl w/NSN 6744	Incl w/NSN 6744	N/A
	Awaiting NSN	Cord, Power US	2238680		1	EA	Incl w/NSN 6744	Incl w/NSN 6744	N/A
	Awaiting NSN	Kit, USA Accessory; Test Lead Set, TP1 Test Probe Set, AC285	3111008		1	KT	Incl w/NSN 6744	Incl w/NSN 6744	N/A
NSN Not Required		Literature, Operator	3334511		1	EA	Incl w/NSN 6744	Incl w/NSN 6744	N/A
NSN Not Required		Literature, Operator CD	3334509		1	EA	Incl w/NSN 6744	Incl w/NSN 6744	N/A

**TESTER SAFETY ELECTRICAL MED DEVICES
ACCESSORIES & CONSUMABLES - RESUPPLY**

NSN	Notes	Nomenclature	MFR PN Fluke BioMedica 1	DIST PN	QTY	UI	Unit Price	Total Price	Shelf Life Mon.
	Awaiting NSN	Adapter, 15 – 20 A	2195732		1	EA	\$108.20	\$108.20	N/A
	Awaiting NSN	Adapter, 5-to-5 Banana Jack to ECG (BJ2ECG)	3359538		1	EA	\$40.00	\$40.00	N/A
	Awaiting NSN	Adapter, Null Post	3326842		1	EA	\$6.00	\$6.00	N/A
	Awaiting NSN	Cable Data Transfer 4 Cond,USB-A(M),USB- B(M),Shielded,2M,Bulk	1626219		1	EA	\$17.40	\$17.40	N/A
	Awaiting NSN	Case Carrying	2248650		1	EA	\$146.00	\$146.00	N/A
	Awaiting NSN	Cord, Power US	2238680		1	EA	\$57.00	\$57.00	N/A
	Awaiting NSN	Kit, USA Accessory; Test Lead Set, TP1 Test Probe Set, AC285	3111008		1	KT	\$50.00	\$50.00	N/A
NSN Not Required		Literature, Operator	3334511		1	EA	\$57.60	\$57.60	N/A
NSN Not Required		Literature, Operator CD	3334509		1	EA	\$10.50	\$10.50	N/A

**TESTER SAFETY ELECTRICAL MED DEVICES
WEB LINKS**

[Click Below for Literature, Operator Manual](#)

http://assets.fluke.com/manuals/ESA612__gseng0100.pdf

