

## Kipp & Zonen Flatbed Recorders

- 15 DC Voltage Ranges (1 mV to 50V)
- 11 Chart Speeds (200 mm chart)
- One- or Two-Pen Versions
- High Recording Resolution
- Two-Year Warranty

These recorders are built for durability and dependability. Their DC servo drive is a sealed-potentiometric-feedback system, and is electronically protected against damage in overrange situations. The microprocessor-based chart drive utilizes a quartz clock that maintains accurate chart speeds, regardless of supply voltage or frequency fluctuations. And the pen system features a toothed-belt drive and lightweight carriage for reliable, quiet operation. The recorder can be used in its standard horizontal position or inclined up to 30°.

**Each Unit Includes:** One roll chart paper (230 mm wide x 25m long), one (GSE 102-1) or two (GSE 102-2) disposable felt pens, spare fuse, power adapter, and user's manual.



▲ GSE102-12

### Specifications

Input	
Ranges:	1, 2, 5, 10, 20, 50, 100, 200, 500 mV DC 1, 2, 5, 10, 20, 50 VDC
Accuracy:	0.5% of FS
Chart Speeds:	1, 2, 6, 12, 30 cm/hr; 1, 2, 6, 12, 30, 60 cm/min
Zero-Point Adjustment:	-5 to +105% of FS
Safety Compliance:	IEC, CE, UL
Power Supply:	10 to 28 VDC thru power adapter
Size (HWD):	5.4 x 12.6 x 12.7" (137 x 320 x 323 mm)

### Ordering Information

Order #	Mfg #	Description	Price
MPGSE102-1	GSE102-11	Single-Pen Flatbed Recorder	
MPGSE102-2	GSE102-12	Two-Pen Flatbed Recorder	
MPGA271-10	GA271-10	10 Rolls of Chart Paper	
MP6411E	GA536-74	Pack of 5 Red Disposable Pens, Channel 1	
MP6412E	GA536-75	Pack of 5 Blue Disposable Pens, Channel 2	

Transcat Accredited Calibration with Data	CALL
Transcat Accredited Calibration without Data	CALL

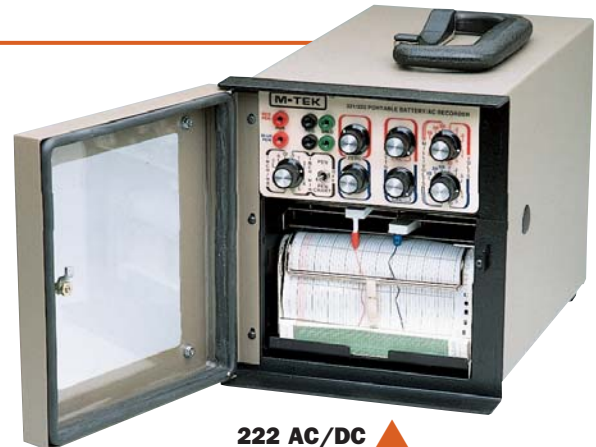
## M-Tek DC Recorder

- One- and Two-Pen Models
- Twelve Ranges, Twelve Chart Speeds
- Battery or AC Operation
- Front and Rear Panel Inputs

### Portable Recorders Offer A Wide Choice of Ranges, Speeds, and Features

These compact, 12½ - pound battery or AC-powered recorders feature twelve switch-selectable Full Scale ranges from 1 mV to 10V, with a variable 5x attenuator allowing inputs up to 50 VDC. A precision servo delivers better than 0.5% Full Scale accuracy. Twelve chart speeds are instantly available with a front-panel switch—½, 1, 2, 3, 6, 12, and 30 inches/hour and 1, 2, 4, 5, and 10 inches/minute. The internally stored 32-foot stack of fan-fold paper allows up to a month of recording at the slowest speed.

**Each Unit Includes:** Internal battery with built-in charger, line cord (128151), one pack chart paper (414057), disposable fiber tip pen(s) 7853E (1 blue) or 7854E (1 blue/1 red), and instruction manual.



222 AC/DC ▲

### Specifications

Chart Speeds:	0.5, 1, 2, 3, 6, 12, 30 in/hr; 1, 2, 4, 5, 10 in/min
Input Ranges:	1, 2, 5, 10, 20, 50, 100, 200, 500 mV; 1, 5, 10V FS
Attenuator:	Variable 5x provides max input of 50V
Accuracy:	Better than ±0.5% FS
Zero Adjust:	±100%, all ranges
Dead Band:	<0.15% FS
Paper Supply:	32 ft/9.6 meter fan-fold paper stored inside instrument
Power Supply:	12 VDC rechargeable battery and 110 VAC 60 Hz (220V optional)
Size/Weight:	7.9 x 7.0 x 12.5" HWD/12.5 lbs; 201 x 178 x 318 mm HWD/5.7 kg

### Ordering Information

Order #	Mfg #	Description	Price
MP7853E	221	DC Chart Recorder, 1 Pen	
MP7853E-220	221-220V	DC Chart Recorder, 1 Pen, 220V	
MP7854E	222 AC/DC	DC Chart Recorder, 2 Pen	
MP7854E-220	222-220V	DC Chart Recorder, 2 Pen, 220V	
MP4705E	412022	Replacement Pen, Blue (Pk/5)	
MP4706E	412023	Replacement Pen, Red (Pk/5)	

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Transcat Accredited Calibration without Data	CALL

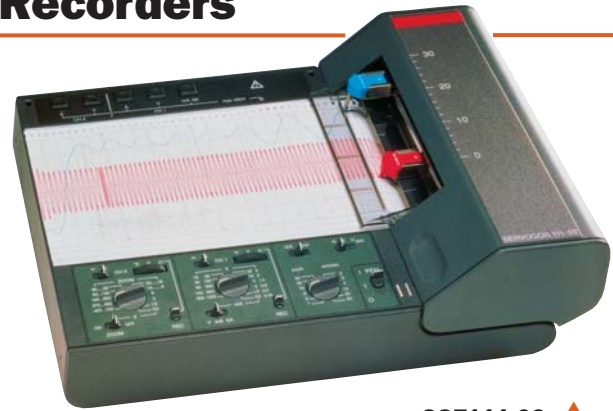
## Kipp & Zonen Portable Flatbed Recorders

- Battery or Line Operated

These compact, lightweight, portable strip chart recorders are available in VDC only, VAC/VDC/AC and DC current, and temperature input versions, and feature 18, 48, or 5 input ranges, depending on model. Line, 12 VDC, and internal rechargeable nickel cadmium battery power allow them to be used in a variety of bench and field applications.

Aside from input ranges and input types, all of these instruments are virtually identical. All feature 12 precision chart speeds from 1 cm/hr to 60 cm/min with fast forward and reverse, quartz clocked stepper motor drive with built-in overrange protection, superimposed event marking, and electric pen lift.

Full remote control of start/stop, forward/reverse, chart speed and pen lift is standard, using switch closures, CMOS or TTL-level signals. Input terminals accommodate both wire and banana plugs. An integral 3½-digit LCD display provides readout of measured value, polarity, and overrange status. The unit includes a hinged, detachable dust cover, uses convenient disposable felt-tip pens, and features easy paper loading. One-pen versions also document the recorder set-up right on the chart paper for a permanent record of settings.



**GSE111-02** ▲

**Each Unit Includes:** One roll chart paper: for model 110 and 112 (GA69700-10), model 111 (GA69775-10), one red pen (for channel 1 only) GA536-74, and one blue pen (for channel 2 only) GA536-75.

### Specifications and Ordering Information

Mfg#	GSE110	GSE-110-02	GSE-111-02	GSE112
No of Channels:	1	2	2	1
Input Ranges:	18: 1 mV to 500 VDC plus variable ranges		46: 150 mV to 750 VAC/VDC; 150 mA to 6 A AC/DC (Current inputs not available on channel 2)	5: 50 to 1000 °C, J, K, T,* and RTD
Accuracy:	0.5%		1%	T/Cs: 1.5%; RTD: 1%
Chart Speeds:	12: 1 cm/hr to 60 cm/min			
Fast Fwd & Rev:	Standard			
Chart Paper:	100 mm std. roll			
Full Scale Response:	<0.5 sec			
Remote Control:	Standard: controls chart, start/stop, forward/reverse, chart speed, and pen lift via switch closures, CMOS, or TTL-level signals			
Event Marker:	Superimposed Standard			
Electric Pen Lift:	Standard			
Zero Suppression:	To 200%		To 150% (ch 2)	-100 to 500 °C
Digital Readout:	3½-digit LCD,			
Power Supply:**	110/120/220/240 VAC, 50/60 Hz adapter (can also operate using 9 C Cells)			
Size/Weight:	GSE110-1: 12.1 x 9.1 x 3" HWD/4.9 lbs; 12.1 x 9.1 x 3.75" HWD/4.9 lbs GSE110-2 and GSE111-2: 13 x 9.1 x 3.75" HWD/6.6 lbs			
Order #	MPGSE110-1	MPGSE-110-2	MPGSE-111-2	MPGSE112
Price				

\* Type E T/C can replace type T by special request.

\*\* European and Asian plug adapters are also available.

### Accessories

Order #	Chart Paper For Recorder	Description	Price
MP4099E	GSE110, 112	10 Rolls Standard Paper, 100 mm x 16 m	
MP4101E	GSE111	10 Rolls Standard Paper, 100 mm x 16 m	
Order #	Pens For Recorder	Description	Price
MP6411E	GSE110, 111, 112	5 Disposable Fiber-Tip Pens, Red, Ch 1 Only	
MP6412E		5 Disposable Fiber-Tip Pens, Blue, Ch 2 Only	
Order #		Description	Price
MPGP901		Chart Take-Up	
MPGK750		Carrying Case	