

SX 165/250 Multipoint Recorder

SPECIFICATIONS

PERFORMANCE

Meet or exceed ANSI C39.4 (15° to 40° C) (10% - 90% RH) for rated specifications. -9° C to +50° C extreme ambient conditions.

SAFETY

Meet or exceed ANSI C39.5, and OSHA.

WARNING: The common-mode voltage on the input shall not exceed 100 volts AC or DC.

MODELS

Speedomax 165 Series Multipoint Recorder available from 2 to 15 points.

Speedomax 250 Series Multipoint Recorder available from 2 to 30 points.

TYPE

Automatic null balancing recorder. Uses solid state electronics and dc servo motor system to effect balance.

MEASURING CIRCUIT

Dc potentiometer. Gain and damping is automatic for all spans and response time regardless of source resistance changes.

INPUT RANGES

Dc millivolts: 1 mV minimum, 1000 mV maximum.

Dc volts (by divider): 1 V minimum, 100 V maximum.

Thermocouple: Ranges available for standard ISA thermocouple types. Reference junction compensation is automatic.

Resistance thermometers: Spans from 2 to 500 ohms using a constant current measuring technique.

ACCURACY

$\pm 0.25\%$ of span $\pm 3.0 \mu\text{V}$ for total recorder (except those with the $\pm 1.0\%$ preamp circuit which have a $\pm 1.0\%$ overall accuracy) with a suppression ratio of 2 or less.

$\pm 0.25\% + 0.1(\text{SR}-2)\%$ of span for suppression ratio greater than 2.

Thermocouple Circuits: add additional $\pm 1/6^\circ\text{C}$ ($\pm 1/3^\circ\text{F}$).

Thermohm Circuits: add additional $\pm 0.1\%$.

DEAD BAND

0.1% of span.

SPAN STEP-RESPONSE TIME RATING

5 seconds nominal full scale is standard. 1 or 10 seconds available.

IMPEDANCE

Maximum Source: 1.0% preamp — 2,500 ohms; 0.25% preamp — 10,000 ohms.

With Voltage Divider, input impedance is fixed at nominal 1000 ohms/volt.

Minimum Input at Maximum Unbalance*

1.0% preamp input: 2700 ohms instantaneous;
25,000 ohms/100 msec;
250,000 ohms/200 msec.

0.25% preamp input: 2700 ohms instantaneous;
25,000 ohms/100 msec;
5 Megohms/200 msec.

*Except with voltage divider.

TIME-PER-POINT

5 seconds per point standard. Optional printing speeds are 1, 3, 10, 30 seconds or 1, 2, 3 minutes per point.

INDICATING SCALE

165 Series: 165 mm (6-1/2" nominal) calibrated length.

250 Series: 250 mm (9-7/8" nominal) calibrated length.

CHART

Thermal sensitive, available in Metric or English time lines, printed in red.

165 Series: 165 mm (6-1/2" nominal) calibrated width; 219.8 mm (8.7" nominal) overall. Length is 36.5 meters (40 yd).

250 Series: 250 mm (9-7/8" nominal) calibrated width; 305 mm (12" nominal) overall. Length is 36.5 meters (40 yd).

CHART SPEEDS

From 1/4" per hour to 480 inches per hour or 3 cm per hour to 1200 cm per hour.

CHART DRIVE

165 Series: 1, 2, 3 or 4 speeds.

250 Series: 1, 2, 3, 4 or 5 speeds.

MEASURING CIRCUIT CURRENT SOURCE

Supplied by ac line, rectified and regulated by Zener diode circuit.

AMBIENT TEMPERATURE LIMITS

Rated Operating: 15° C to 40° C (59° F to 104° F).

Extreme Operating: -9° C to 50° C (15.8° F to 122° F).

RELATIVE HUMIDITY

10 to 90%.

COMMON MODE REJECTION

At power line frequency, 80 dB or 100 volts, whichever is less.

NORMAL MODE REJECTION

Equal to or greater than 60 dB at power line frequency and above.

POWER REQUIREMENTS

120 volts, 50 or 60 Hz, and 220 or 240 volts, 50 Hz, 40 VA.

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SPECIFICATIONS (Continued)

CASE

165 Series: 13-1/2" W x 12-7/32" H x 14-3/4" D (343 x 310 x 375 mm).

250 Series: 16-27/32" W x 12-7/32" H x 14-3/4" D (428 x 310 x 375 mm).

MOUNTING & DIMENSION DRAWING

165 Series: MTG 732-1

250 Series: MTG 733-1

WEIGHT

165 Series, approximately 42 lb (19 kg).

250 Series, approximately 50 lb (22.6 kg).

CASE COLOR

Black.

OPERATOR'S MANUAL

177974 — supplied with each instrument shipped.

SERVICING AND TECHNICAL MANUAL

177976 — supplied when Option 056 is specified.