

Series 1999SEMC Semelex[®] Safetimeter

■ The GEMCO 1999 Semelex II is a System Analysis Monitor for those serious about total process control, operational safety, and efficiency.

OSHA Uses Our Safetimeter... Shouldn't You?

THE SEMELEX is a self-contained, portable, multi-purpose diagnostic system for press room automation and operator safety device analysis. Quickly calculate, with absolute accuracy, machinery stopping time and determine the minimum safe distance for safety devices including light curtains, palm buttons, E-Stop and safety mats.

OSHA Uses the Semelex Unit Exclusively for Verification of Safety Device Locations

The 1999SEMC Semelex II Safetimeter Test Set is field proven to accurately measure press stop time and safety distance to verify compliance with federal and state requirements. Designed for harsh industrial environments, the unit is portable, light weight, battery operated, easy to use and incorporates new and improved features.

The Semelex Safetimeter is capable of measuring elapsed time, stop time (Ts) from 1-9999 milliseconds. It also calculates the minimum safety distance (Ds) based on the OSHA formula, as understood by the factory, and will display up to 999.9 inches to the nearest 0.1 inches.



See how the 1999 Semelex II helps to create a safe working environment.

1999 Semelex II with included Auto-Hand and Position Velocity Transducer





Ruggedized Case

The 1999SEMC part number denotes our newly designed case. The case is made from a highly visible yellow plastic resin. The case is lightweight, waterproof, crushproof, dustproof and has die cut foam inserts for the Auto-Hand and Position/ Velocity Transducer. These tough cases are designed with an automatic purge valve, that equalizes air pressure, a watertight silicone O-ring lid, over-molded rubber handles and stainless-steel hardware.



Ruggedized Auto-Hand

Built for pressrooms. The Auto-Hand is designed to release or push press controls. The Auto-Hand can release a two-hand control or inch button or push an E-Stop button to initiate a press stop when signaled by the Position/Velocity transducer.



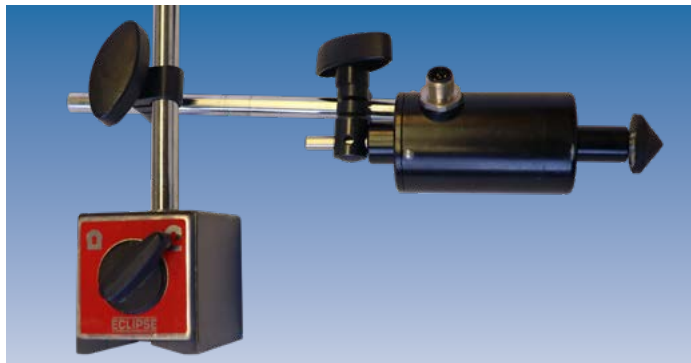
Auto-Flag

The Auto-Flag connects to the Auto-Hand and is designed to be used to break one or more beams in a light-curtain. When the Auto-Flag is connected to the Auto-Hand it can be positioned outside the light-curtains sensing field. When the desired test point is reached, the Position/Velocity Transducer will send a command to the Semelex electronics to throw the Auto-Flag through the light-curtain. This initiates a press stop by interrupting the sensing zone at a preset point in the stroke to check stopping time.



Position Velocity Transducer

The Heavy-Duty Position/Velocity Transducer is designed to measure the speed and position of the machine in question. When the desired test position is reached the Position/Velocity Transducer will send a signal to the controller to start a measurement.



Optional Remote Tachometer

The Remote Tachometer Set consists of a tachometer on a magnetic base. This sensor assembly is used in conjunction of our Remote Start Switch and used to monitor the stopping time of conveyors or robots that cannot be monitored by the standard Position/Velocity Transducer.

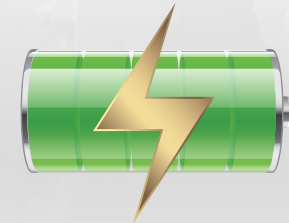


Optional Manual Start Switch

The Manual Start Switch can be used to manually start a measurement. The switch is often used with safety mats to measure stopping time. The switch can be placed upon the safety mat used for machine guarding. Stepping on the switch synchronizes the stop calculation with the safety mats E-Stop output signal. The manual Start Switch can also be used to manually throw the Auto-Flag through a light curtain when the Remote Tachometer feature is used.

Quick Charge Battery

The Semelex is portable device that is designed to be run off of battery power. The unit's built in battery can be fully recharged in eight hours, the battery cannot be over-charged. A charge indicator light signals when the battery is low. The unit is designed to run for 10 continuous hours off a single charge.



Semelex II Safetimeter

Checks Stopping Time, Safety Distances, and More.



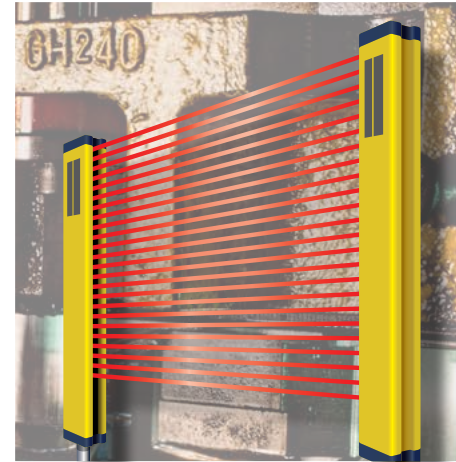
Stop Time (Ts)

Stop Time is the time interval from the initiation of the stop signal to the complete stop of the press. Stop time can change as a result of wear, speed, machine use, solenoid valve response, die weight and other factors. State and Federal guidelines require periodic checking of stop time.



Safety Distance (Ds)

Safety Distance is the distance between the location of two-hand controls or other personal safety devices and the pinch point closest to the operator. OSHA regulation 1910.217(c)(3)(iii)(e) expresses Safety Distance using the following formula: $Ds = Ts \times 63$ inches/sec. When selected, the Semelex will display the minimum safety distance per the OSHA formula.



Personnel Safety Devices (Light Curtains)

Personal Safety Devices like light curtains can be tested using the Auto-Hand and Auto-Flag to verify reaction time per the OSHA formula. The overall response time of the safety device, press control E-Stop circuit, and the clutch/brake mechanism are checked when the Auto-Hand or Auto-Flag accessories are used.



Counterbalance

Counterbalance can easily be checked by measuring the downstroke and upstroke stop times. When these two times are the same the counterbalance pressure is properly set.

■ Specifications

Electronics

Display	7-Segment Red LED
Stopping Time (Ts)	9.999 Seconds – Maximum
Safety Distance (Ds)	999.9 Inches – Maximum
Accuracy	± 1% of Reading
Press Stroke	.49 Inches – Maximum
Power Supply	115 Vac – 50/60 Hz Supply/Charger, 6 VDC Rechargeable Battery
Battery Type	6 Volt, sealed lead acid
Operating Time	(Full Charge) 10 hours (continuous) Between Charges – 3-5 Days Typical On/Off
Recharge Time	.8 Hours

Mechanical

Safetimeter Case

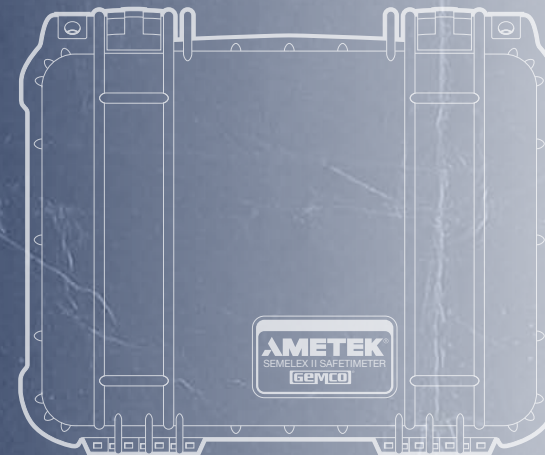
Material	Highly Visible Yellow Plastic Case
Dimensions (L x W x H)	14.92" x 13.00" x 6.82"
Weight	17.9 lbs

Auto-Hand

Material	Aluminum with Anodized Finish
Dimensions (Ø x H)	4.5" x 2.00"
Weight	3.2 lbs

P/V Transducer

Material	Aluminum with Anodized Finish
Dimensions with Cable Magnet Extended (L x W x H)	5.25" x 2.75" x 4.75"
Cable Stroke	.49 Inches – Maximum
Weight	1.6 lbs



Ordering Information

Part Numbering

Safetimeter

Part Number	Description
1999SEMC (Replaces 1999SEM)	Standard Semelex Safetimeter Test Set for Full and Part Revolution Clutches. Includes Meter, Position/Velocity Transducer, Autohand and Accessories.



Optional Equipment

Part Number	Description
1999OPT5YRWRNTY	Optional – Five Year Limited Warranty. Includes 4 free calibrations (1 per year) within the 5-year period.
SD0505000	Optional – Remote Tachometer Set. Consists of: Tachometer Assembly, Magnet Base, 2" and 1" Drive Wheel Assembly, and Tachometer Drive Cone with Coupling.
PSD0110400	Optional – Normally Open (NO) Manual Start Switch.



Remote Tachometer

Manual Start Switch



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