SYDOR

TECHNOLOGIES

MODULAR SKY SCREEN DETECTORS

COMPLEX MEASUREMENTS—CRITICAL RESULTS

FEATURES

- Rugged & waterproof design for indoor or outdoor use
- Non-invasive calibration procedures
- Long product lifetime
- Easy mounting

APPLICATIONS

- Determining projectile velocity and rate of fire
- Ammunition Testing
- Armor Testing

ABOUT MODULAR SKY SCREEN DETECTORS

The Sydor Modular Sky Screens are advanced optical detectors designed to measure projectile velocity of any caliber from 3mm upwards including mortars. They are suitable for base lengths from 1 m to 30 m.

The detector screens are housed in rugged weather proof castings and may be operated in any prevailing climatic condition. The units are delivered purged and pressurized with dry nitrogen. Sun shields are available to prevent extraneous light affecting the operation of the detector screen.

The type 408M Screen is supplied with a Milligan “H” Screen compatible mounting arrangement as shown in the photograph. This Stand allows the Screen to be tilted at right angles to the line of fire. It is normally set using a Clinometer. This stand also facilitates wall and angled (to the side of the line of fire) mounting.

In the top of the casting is a flat glass window, below which is a slit. Light entering the slit is focused by a lens on to a solid state sensor. A projectile passing above the screen interrupts some of the light falling upon the photo sensor and produces an electrical pulse which is amplified by electronic circuits in the detector screen.

Two such detectors, placed a known distance apart, are therefore able to generate pulses which delimit the transit time of a projectile over the given base length. These pulses are used by the Sydor Velocity and Firing Rate Analyzer type 400 or Integrated Range Instrumentation System (IRIS) to calculate projectile velocity to high precision. In addition, rate of fire information together with all the projectile velocities are automatically recorded for bursts of fire.

A facility to “back project” the sensing slit through the optics is also included for non- invasive calibration.

The DC LED Light Unit is a replacement for our DC Tungsten Light System. It provides a light source in tunnel ranges for optical velocity detectors or Sky Screens.

The use of Light Emitting Diode (LED) technology is both more efficient and also improves the working life of the lights.

The lights can be manufactured in various lengths, but the standard length is suitable for common indoor firing range requirements.

The system comprises light units in extruded aluminum enclosures for blast resistance together with a wall mounted controller. Four light units may be operated from each controller.

SKY SCREEN SPECIFICATIONS

- Mounting Options: Milligan type "H" compatible, precision 2m, and variable elevation stand with wall mounting option
- Optimum Projectile Height: 1 m or 2.5 m
- Velocity Range: 50 m/s to more than 2 km/s, faster for larger projectiles
- Repetition Rate: > 6,000 per minute
- Active Window: 35 degrees, 1.5 meters wide at 2.5 meters above detector screen
- Accuracy: Within 0.1%
- Output: BNC Skt: Pulse +5V, duration 100 microsec; 4 way skt pin A: Negative going pulse. 1.5V amplitude; BNC: Analogue O/P - projectile attitude investigation and DC light level measurement
- Base or Nose Operation: Selectable by switch, base trigger at 50% peak signal for consistent triggering on base of projectiles
- Height/Caliber Control: Graduated Control or via Remote Control
- Power Supply: 12 V DC, 80 mA
- Automatic Sky Brightness: Can accommodate 1000:1 change
- Detection Capability: Poor light: 1% obscuration of field of view; Good light: 0.1% obscuration approx.
- Dimensions: 117 mm (L) x 210 mm (W) x 300 mm (H)
- Appx. Weight: 7 kg

LED LIGHT SCREEN SPECIFICATIONS

- Controller Size: 220 x 120 x 80 mm
- Light Unit Size, Source, & Output: 995 x 50 x 50 mm, double and triple size available. DC powered LED lamps, warm white output
- Source Size (Appx.): 890 x 30 mm, double
- Maximum Height: Screen dependent, 2 meters for full width coverage on H-Type screens
- Power: Lights are 24V DC Operating, Controller is 240V AC or 110 VAC

ADD-ONS

- Accessories: Cables, cable drum, sun shields