

# U4710MV

## High-Precision Structured Light Projection

The **Wintech U4710MV Optical Engine** is a **high-resolution, industrial-grade structured light projector** designed for **3D machine vision, AOI (Automated Optical Inspection), SPI (Solder Paste Inspection), and precision 3D scanning**. Built around **Texas Instruments' DLP4710 DMD chip**, it delivers superior **1920×1080 resolution** with **5.4µm micromirrors**, ensuring exceptional detail and accuracy for demanding metrology applications.

### Key Features

#### 1. High-Resolution DLP® Technology

- **0.47" DLP4710 DMD** (1920×1080 native resolution).
- **5.4µm micromirror pitch** for fine-detail projection.
- Supports **high-speed structured light patterns** for 3D imaging.



#### 2. Industrial-Grade Durability & Thermal Management

- **Full-metal housing** for rugged reliability.
- **Passive cooling** (no fan required) for silent, maintenance-free operation.
- **Wide operating temperature range (0–60°C)**.

#### 3. High-Performance Optical System

- **Schmidt (telecentric) lens** ensures **uniform sharpness across the entire image**.
- **>80% light uniformity** with **≤0.1% distortion**.
- **High contrast ratio (>2000:1)** for crisp pattern projection.

## 4. Flexible Light Source Options

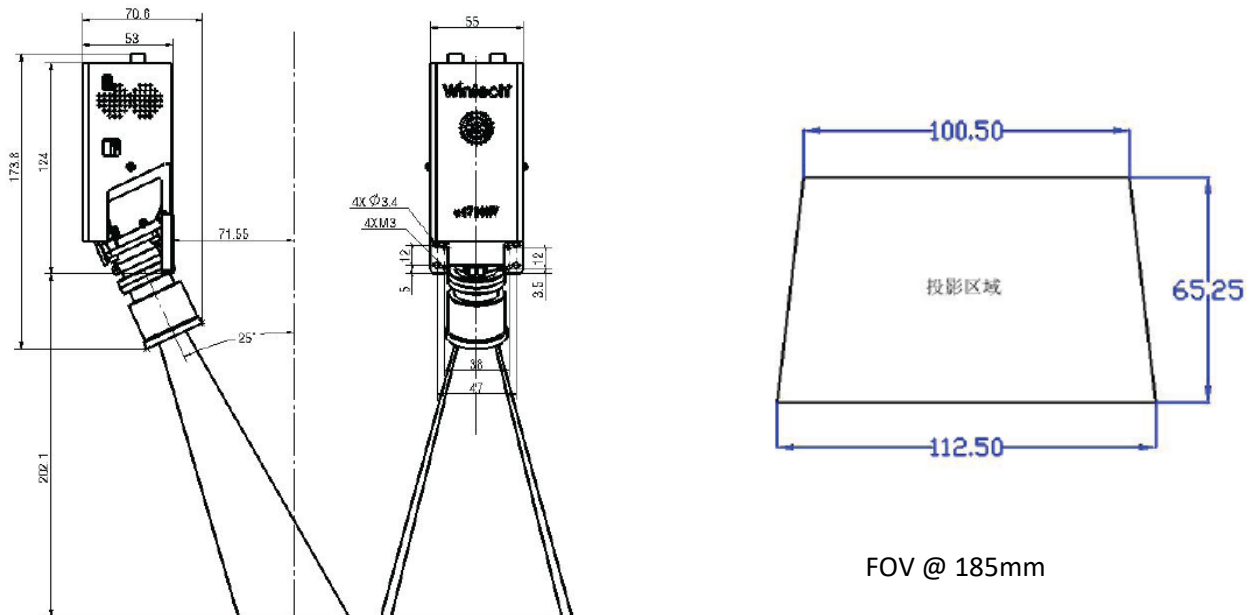
- **White LED (420–680nm) – 36,000 lux center brightness.**
- **Blue LED (460nm) – 1,600 lux center brightness.**
- Optimized for **structured light applications** (fringe projection, phase-shift scanning).

## 5. High-Speed Pattern Control & Triggering

- **Programmable exposure time** for adaptive imaging.
- **Multiple control interfaces: USB, RS485, Trigger In/Out** for seamless system integration.
- Supports **high-speed pattern sequencing** for real-time 3D capture.

## 6. Compact & Lightweight Design

- **Small footprint** (see 3D model for exact dimensions).
- **~460g weight** – ideal for embedded vision systems.
- **Working distance: 180–200mm** (projection size optimized at 185mm).



Wintech Digital Systems Technology Corporation is a Texas Instrument's DLP® Authorized Design House with locations in both China and the US. We are a full-service engineering company that can design and manufacture all aspects of DLP® systems including electronics, optics, thermal management, light sources, firmware, and software.