

Modified Full-Spectrum Nikon D850 Camera

Technical Data Sheet

1. Product Overview

The Modified Full-Spectrum Nikon D850 is a professional digital SLR camera converted for ultraviolet (UV), visible (VIS), and infrared (IR) technical photography. The internal UV/IR cut filter is removed to allow full-spectrum sensitivity, enabling advanced imaging applications in cultural heritage diagnostics, conservation science, and scientific research.

2. Sensor and Optical Specifications

Base Camera	Nikon D850 (full-frame DSLR)
Sensor Type	FX-format BSI CMOS
Effective Resolution	45.7 megapixels
Spectral Sensitivity	(300-1100nm) UV – VIS – IR (full spectrum)
Filter Modification	Removal of UV/IR cut (hot mirror) filter
Lens Mount	Nikon F-mount

3. Imaging Capabilities

- Ultraviolet reflected photography (UVR)
- Ultraviolet fluorescence imaging (UVF)
- Standard visible-light photography (VIS)
- Infrared photography (IR)
- Infrared false-color imaging (IRFC)
- Multispectral imaging workflows

4. Core Camera Features

The Nikon D850 provides high dynamic range, low noise performance, and excellent image stability. Features include ISO sensitivity from 64 to 25,600 (expandable), a 153-point autofocus system, EXPEED 5 image processor, and 4K UHD video recording capability. Some standard features, such as sensor dust reduction, may be altered by the conversion process.

5. Typical Applications

- Cultural heritage and art conservation imaging
- Technical and multispectral photography
- Infrared reflectography and fluorescence studies
- Scientific and forensic documentation
- Research and educational applications



6. Notes on Use

External band-pass filters are required to isolate specific spectral regions during acquisition. The camera is intended for controlled technical photography workflows where calibration and consistent illumination are essential.