

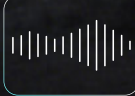
GPM585M^{NEW}

Deep-Sky Guiding · Infrared Imaging

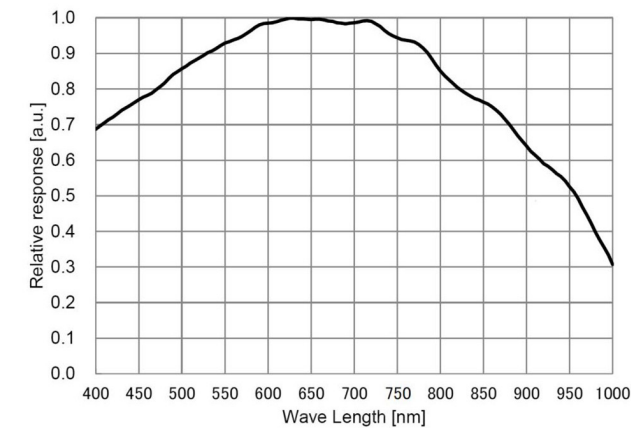
Large Sensor High-Sensitivity Guide Camera

Designed for deep-sky autoguiding and infrared imaging, the GPM585M features Sony IMX585 monochrome back-illuminated CMOS sensor (1/1.2-inch, 2.9 μm square pixels, 3840×2160 resolution). It excels in sensitivity, dynamic range, full-well capacity and read noise, with great infrared-band response ideal for infrared Milky-way capture in heavily light-polluted cities.



					
Sensor IMX585Mono	Image Area 11.2x6.3	Resolution 3840 x 2160	ADC 12bit (16bit@HDR)	QE >91%	Full Well 39.75ke-
					
Pixel Size 2.9μm	USB USB2.0 Type C	Dynamic Range 88.09 dB (HDR Mode)	FPS 18.2 fps (@1920*1080 8bit)	MAX SNR 44dB	Read Noise 4.29-0.52e-

Large Sensor Area with IMX585M
High Infrared Sensitivity



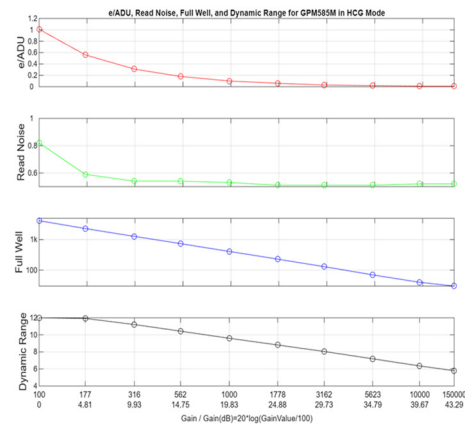
IMX585M Spectral Sensitivity Curve

High-Performance Readout

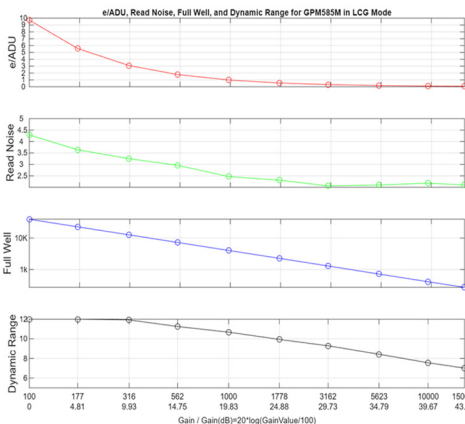
Resolution \ Frame rate	Bit	
	12bit ADC	8bit ADC
	USB2.0	USB2.0
3840* 2160	1.5	4.5
1920 *1080	9.6	18.2

The GPM585M incorporates a native 12-bit ADC delivering 4,096 grayscale levels for richer tonal detail compared to conventional 8-bit output. Supported by hardware ROI, it achieves higher frame rates when capturing smaller regions, perfectly suited for high-speed autoguiding targeting guide stars. Additionally, software-based digital binning ranging from 1×1 to 8×8 stacks or averages adjacent pixels to boost signal-to-noise ratio. This function proves particularly useful for faint-star guiding, enhancing guide-star signal strength and supporting stable guiding lock.

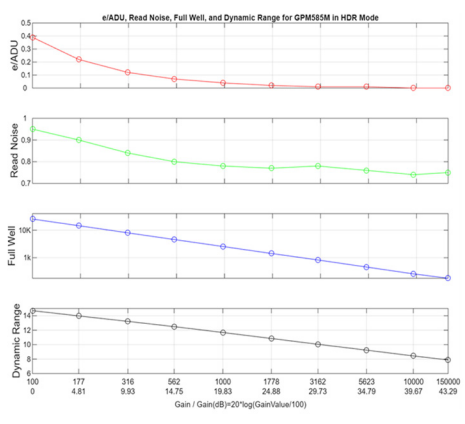
Multiple gain modes



High Conversion Gain mode



Low Conversion Gain mode

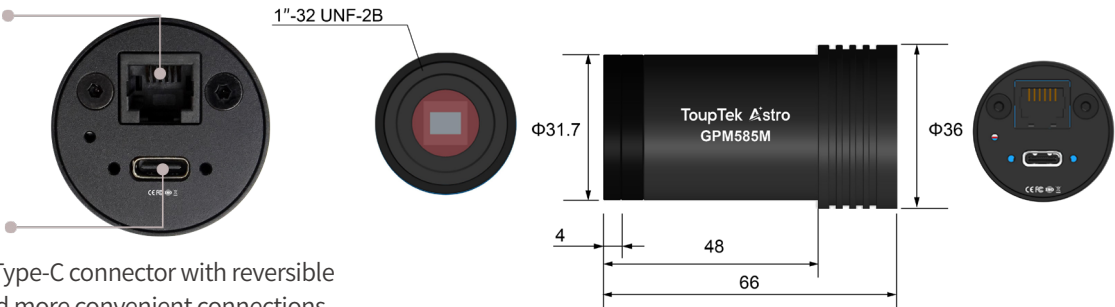


High Dynamic Range mode

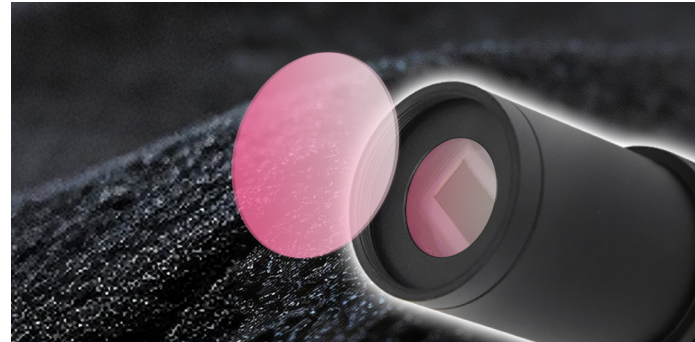
Interface and size

ST4 Autoguiding Port:
Connects to the mount's Auto Guide port for autoguiding control.

USB 2.0 Type-C Port:
Features a standard USB 2.0 Type-C connector with reversible plug orientation for easier and more convenient connections.



Unlock Infrared Possibilities



The GPM585M is fitted with an AR-coated protective window. The original window measures 19 mm in diameter and 0.55 mm in thickness, and is secured within the adapter by a retaining ring. For expanded infrared imaging, the camera’s front window can be easily removed and replaced with a user-selected filter. Compatible third-party filters may be 19–22 mm in diameter and approximately 1 mm thick, making it easy to adapt the camera for infrared imaging applications.

Built-in Frame Buffer

Ensures stable data transmission and effectively reduces amp-glow, maintaining maximum frame rates even with multiple cameras operating simultaneously.

Software Applications



The GPM585M supports control via the StellaVita app and can be connected using the native ToupSky software. It is also compatible with ASCOM, INDI, and DirectShow SDKs. If third-party software is compatible with these SDKs, you can download the corresponding drivers from the ToupSky Astronomy official website and install them into your third-party software.