

AT7-80, AT7-50, AT6/M

Side-by-side comparison

The AT7-80, AT7-50 and AT6/M cover a wide range of optical tracking applications, from compact installations and medium-sized tracking volumes to large-scale immersive and measurement environments.

This comparison provides an overview of their key technical specifications, typical applications and benefits.



Technical Specifications

Parameter	AT7-80	AT7-50	AT6/M
Sensor type	CMOS, global shutter		
Sensor resolution	2856 x 2848 pixels, 8.1 MP	2464 x 2064 pixels, 5 MP	1280 x 1024 pixels, 1.3 MP
Adjustable frame rate	up to 450 Hz	up to 500 Hz	up to 500 Hz
Minimum camera latency	2.7 ms	2.3 ms	2.2 ms
Image processing	integrated		
IR source	high-power LEDs, 850 nm, adjustable in intensity (exempt group according to IEC 62471-1)		
IR filter, standard version	long-pass filter		
IR filter, IF version	narrow band-pass filter ¹ ; reduced tracking range		
Adjustable camera parameters	exposure time and marker-detection threshold adjustable on all models; sensor gain additionally adjustable on AT7 cameras ²		
Typical passive-marker detection range	18 m ³	14 m ⁴	5 m ⁵
Status indicator	RGB LED ring; 3-digit alphanumeric display; 2 status LEDs	RGB LED ring; 3-digit alphanumeric display; 2 status LEDs	2 status LEDs
Indicator brightness	adjustable down to complete deactivation		
Data interface and cable length	Gigabit Ethernet; up to 100 m using CAT5 or higher		
Power supply	PoE+ (IEEE 802.3at-2009)	PoE+ (IEEE 802.3at-2009)	PoE (IEEE 802.3af-2003)
Mounting	ART D2 ceiling mount; 2 x 1/4"-20 UNC mounting threads	ART D2 ceiling mount; 2 x 1/4"-20 UNC mounting threads	ART D2 ceiling mount; 1 x 1/4"-20 UNC mounting thread via adapter
Cooling	passive, fanless		
Operating temperature	0 - 35°C		
Relative humidity	5 - 85% (non-condensing)		
Max. power consumption	25 W	16 W	6 W
Nominal dimensions, W x H x D	134 x 102 x 104 mm	83 x 84 x 78 mm	length 101 mm (over lens), diameter 30 mm
Weight ⁶	approx. 1.35 kg	approx. 0.65 kg	approx. 110 g



¹at least 10× higher out-of-band suppression than the standard version; improves robustness under daylight and challenging ambient-light conditions by suppressing unwanted wavelengths

²for optimization of detection range or robustness against ambient light and unwanted reflections.

³measured at 180 Hz with an AT7-80 equipped with an 8.0 mm lens, using a 12.7 mm passive marker centred in the field of view and default settings

⁴measured at 230 Hz with an AT7-50 equipped with a 6.0 mm lens, using a 12.7 mm passive marker centred in the field of view and default settings

⁵measured at 180 Hz with an AT6/M equipped with a 2.86 mm lens, using a 12.7 mm passive marker centred in the field of view and default settings

⁶including lens, excluding mounting hardware

Applications / Benefits

Feature	AT7-80	AT7-50	AT6/M
Typical tracking volume	large to very large	medium to large	small to medium
Ideal for...	Large-scale motion capture and HMD arenas, car clinics and high-precision measurement applications	Immersive environments, such as Powerwalls, CAVEs or HMD arenas, training and simulation setups;	Installations in confined spaces, such as vehicle interiors and aircraft or spacecraft cockpit simulators
Benefits	longest passive-marker detection range; large volume coverage	balanced range, performance and cost; complements AT7-80 installations	very compact design; wide-angle field of view

Certifications

- CE
- FCC Part 15 Subpart B, Class B
- TÜV SÜD NRTL