SMARTTRACK3(-IF)

ART ▶
Advanced Realtime Tracking

SMARTTRACK3 is the latest version of the ART plug & play tracking solution for small volumes. Two tracking cameras and the controller are integrated in a compact housing. When delivered, SMARTTRACK3 is pre-calibrated and may be used immediately. The compact size and the integrated controller make SMARTTRACK3 the ideal mobile tracking system. The PoE power supply allows usage without separate power cable.

Optionally SMARTTRACK3-IF is available, with a narrow bandpass filter for tracking in daylight conditions making applications possible such as in-car tracking.

Technical Data

General Camera Data	SMARTTRACK3	SMARTTRACK3-IF
Image sensor	1280x1024 Pixel	
Frame rate (sensor)	150 Hz @ full frame, up to 240Hz with reduced tracking volume	
Image processing	integrated	
Status indicator	2 LEDs; dimmable	
IR source	high power LEDs, 850nm, adjustable in intensity (exempt group according to IEC62471-1)	
Filters	Longpass	Bandpass (IF)
Effective transmission	795 - 1100 nm	845 - 859 nm
Suppression in rejection regions:	avg. $> 10^4 - 10^5$	avg. $> 10^6$
SMARTTRACK3-IF: *Narrow bandpass filter for suppression of unwanted stray light / wavelengths (factor > 10 vs. standard SMARTTRACK3). Extended camera parameters to further improve daylight sensitivity in user-specific scenario available.*		
Connectors	**SMARTTRACK3**	**SMARTTRACK3-IF**
Data transfer & power supply	Single cable solution data: Gigabit Ethernet power: PoE (IEEE 802.3af-2003) via max. 100 m RJ45 cable (CAT5)	
Synchronization in / out	1x BNC: Video Signal (75 Ω), TTL, LVTTL (in / out not simultaneously)	
Peripherals	1 x USB 2.0 (e.g. Radio Transceiver2/3, service access)	
Operating conditions	**SMARTTRACK3/M**	**SMARTTRACK3/M-IF**
Cooling	passive, noiseless	
Temperature	0 … 35° C	
Relative humidity	5 … 85% (non-condensing)	
Power consumption	12 W	
Dimensions	**SMARTTRACK3**	**SMARTTRACK3/MF**
Size (W x H x D)	approx. 381 x 54 x 93 mm	
Weight	approx. 1.5 kg	

Available lenses and operation modes						
Compatible lenses	Item number			**Operation mode**		
	SMARTTRACK3	SMARTTRACK3-IF		**@ 150Hz**	**@ 180Hz**	**@ 240Hz**
			Sensor resolution (pixels)	1280 x 1024	1280 x 880	1280 x 660
2.86 mm	V132011	V133011	FoV (horiz. x vert.) [deg]	135° x 102°	135° x 86°	135° x 62°
			Tracking range*	0.3m – 3.5 m (0.3m – 2.5 m) **		

* based on 12 mm spherical passive markers: Higher ranges possible with larger or active markers
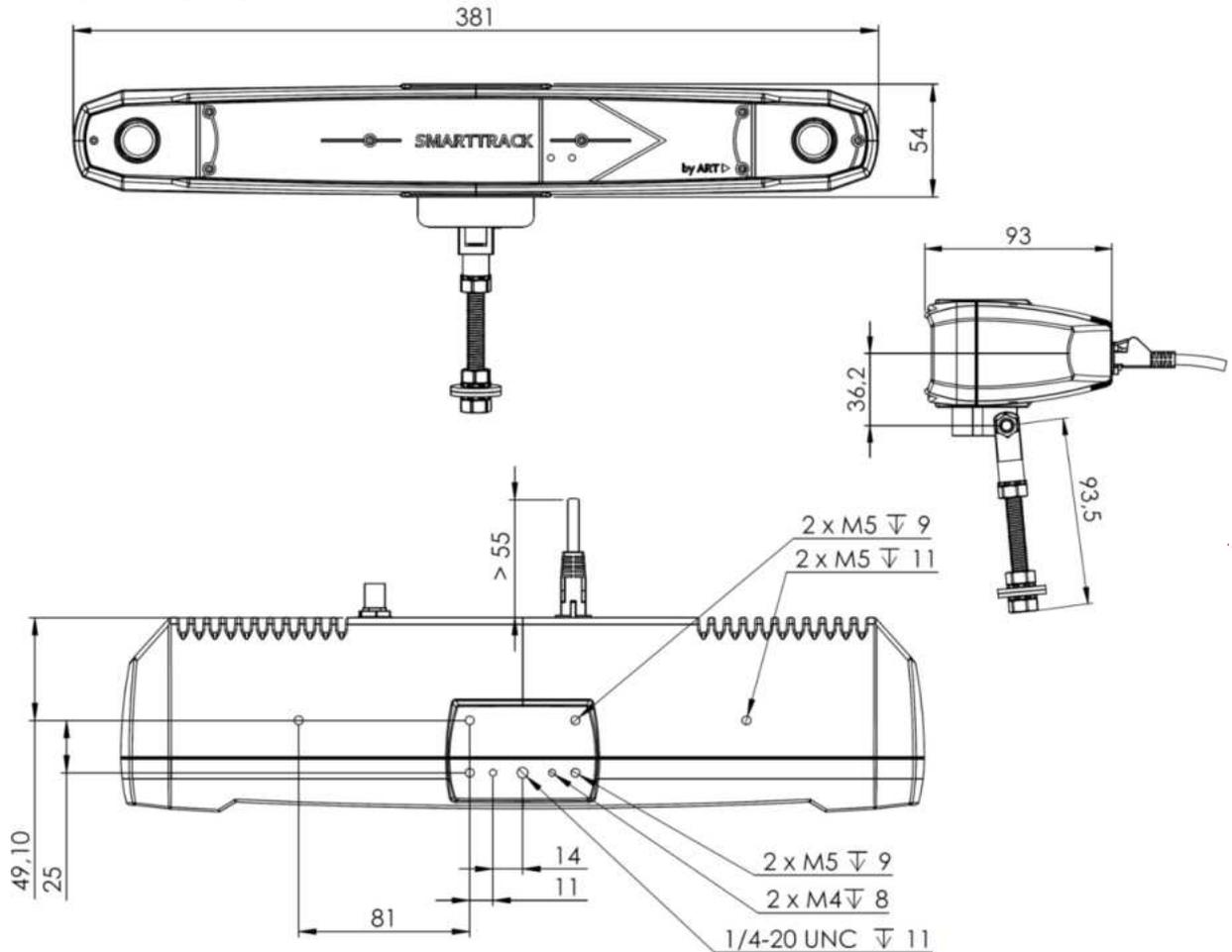** in brackets: Tracking range for SMARTTRACK3-IF with bandpass filter with default sensitivity parameters

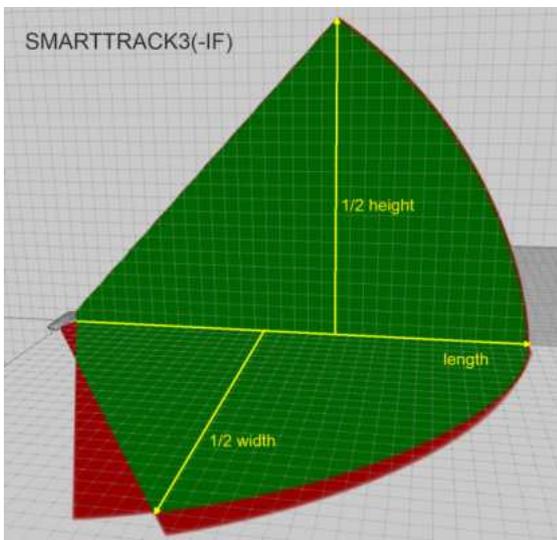| System latency	@ 150Hz	@ 180Hz	@ 240Hz
4 targets	9ms	8ms	6ms

SMARTTRACK3(-IF)

ART ▶
Advanced Realtime Tracking

Certifications

- CE
- FCC Part 15 B, Class B
- TUEV SUED NRTL

Technical Drawing (units: [mm])

Tracking Area

Tracking Area	length	½ width	½ height
SMARTTRACK3	**0.3 - 3.5m**	**3.0m**	**1.8m**
SMARTTRACK3-IF	**0.3 - 2.5m**	**1.9m**	**1.0m**

SMARTTRACK3/M (-IF)

SMARTTRACK3/M is the latest version of the ART plug & play tracking solution for small volumes. Two tracking cameras and the controller are integrated in a compact housing. When delivered, SMARTTRACK3/M is pre-calibrated and may be used immediately. The compact size and the integrated controller make SMART-TRACK3/M the ideal mobile tracking system. The PoE power supply allows usage without separate power cable. Optionally SMARTTRACK3/M-IF is available, with a narrow bandpass filter for tracking in daylight conditions making applications possible such as in-car tracking.

Technical Data

General Camera Data	SMARTTRACK3/M	SMARTTRACK3/M-IF
Image sensor	1280x1024 Pixel	
Frame rate (sensor)	150 Hz @ full frame, up to 240Hz with reduced tracking volume	
Image processing	integrated	
Status indicator	2 LEDs; dimmable	
IR source	high power LEDs, 850nm, adjustable in intensity (exempt group according to IEC62471-1)	
Filters	Longpass	Bandpass (IF)
Effective transmission	795 - 1100 nm	845 - 859 nm
Suppression in rejection regions:	avg. $> 10^4$ - 10^5	avg. $> 10^6$

SMARTTRACK3/M-IF: *Narrow bandpass filter for suppression of unwanted stray light / wavelengths (factor > 10 vs. standard SMARTTRACK3/M). Extended camera parameters to further improve daylight sensitivity in user-specific scenario available.*

Connectors	SMARTTRACK3/M	SMARTTRACK3/M-IF
Data transfer & power supply	Single cable solution data: Gigabit Ethernet power: PoE (IEEE 802.3af-2003) via max. 100 m RJ45 cable (CAT5)	
Synchronization in / out	1x BNC: Video Signal (75 Ω), TTL, LVTTL (in / out not simultaneously)	
Peripherals	1 x USB 2.0 (e.g. Radio Transceiver2/3, service access)	

Operating conditions	SMARTTRACK3/M	SMARTTRACK3/M-IF
Cooling	passive, noiseless	
Temperature	0 … 35° C	
Relative humidity	5 … 85% (non-condensing)	
Power consumption	12 W	

Dimensions	SMARTTRACK3/M	SMARTTRACK3/M-IF
Size (W x H x D)	approx. 280 x 40 x 90 mm	
Weight	approx. 1.0 kg	

Available lenses and operation modes

Compatible lenses	Item number			Operation mode		
	SMARTTRACK3/M	SMARTTRACK3/M-IF		@ 150Hz	@ 180Hz	@ 240Hz
			Sensor resolution (pixels)	1280 x 1024	1280 x 880	1280 x 660
2.86 mm	V135121	V135131	FoV (horiz. x vert.) [deg]	135° x 102°	135° x 86°	135° x 62°
			Tracking range*	0.12m – 1.7 m (0.12m – 1.7 m) **		
3.5 mm	V135122	V135132	FoV (horiz. x vert.) [deg]	83° x 70°	83° x 62°	83° x 49°
			Tracking range*	0.3m – 2.3m (0.3m – 2.0m) **		

*   based on 12 mm spherical passive markers: Higher ranges possible with larger or active markers
** in brackets: Tracking range for SMARTTRACK3/M-IF with bandpass filter with default sensitivity parameters
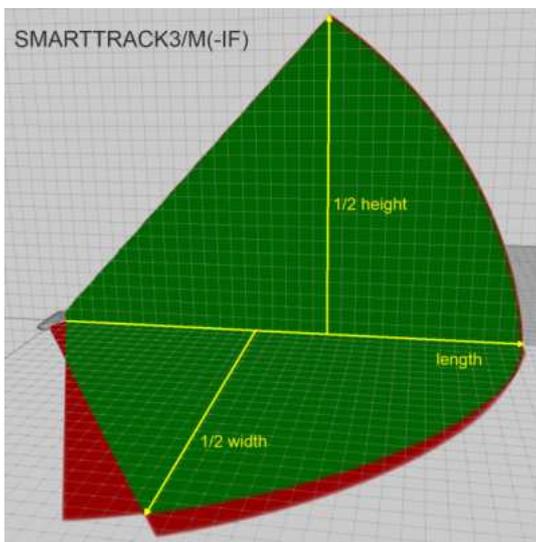
System latency	@ 150Hz	@ 180Hz	@ 240Hz
4 targets	9ms	8ms	6ms

SMARTTRACK3/M (-IF)

ART Advanced Realtime Tracking

Certifications
• CE
• FCC Part 15 B, Class B
• TUEV SUED NRTL

Technical Drawing (units: [mm])

277
39
104
89

Tracking Area

SMARTTRACK3/M(-IF)
1/2 height
length
1/2 width

Tracking Area	lens	length	½ width	½ height
SMARTTRACK3/M	**2.86mm**	**0.12 - 1.7m**	**1.4m**	**1.0m**
SMARTTRACK3/M	**3.5mm**	**0.3 - 2.3m**	**0.9m**	**0.8m**
SMARTTRACK3/M-IF	**2.86mm**	**0.12 - 1.7m**	**1.2m**	**0.7m**
SMARTTRACK3/M-IF	**3.5mm**	**0.3 - 2.0m**	**0.7m**	**0.6m**