

CTA Telescope Specifications

	Large-Sized Telescope (LST)	Medium-Sized Telescope (MST)			Small-Sized Telescope (SST)		
		FlashCam	NectarCam	SCT	ASTRI	GCT	SST-1M
Required energy range	20 GeV – 3 TeV	80 GeV – 50 TeV			1 TeV – 300 TeV		
Energy range (in which subsystem provides full system sensitivity)	20 GeV – 150 GeV	150 GeV – 5 TeV			5 TeV – 300 TeV		
Number of telescopes	4 (South) 4 (North)	25 (South) 15 (North)			70 (South) 0 (North)		
Optical design	Parabolic	Modified Davies-Cotton		Schwarzschild-Couder	Schwarzschild-Couder		Davies-Cotton
Primary reflector diameter	23.0 m	11.5 m		9.7 m	4.3 m	4.0 m	4.0 m
Secondary reflector diameter	--	--		5.4 m	1.8 m	2.0 m	--
Effective mirror area (including shadowing)	370 m ²	88 m ²		41 m ²	8 m ²	8.9 m ²	7.5 m ²
Focal length	28 m	16 m		5.6 m	2.15 m	2.28 m	5.6 m
Total weight	103 t	82 t		80 t	19 t	11 t	8.6 t
Field of view	4.3 deg	7.5 deg	7.7 deg	7.6 deg	10.5 deg	8.3 deg	8.8 deg
Number of pixels in Cherenkov camera	1855	1764	1855	11328	2368	2048	1296
Pixel size (imaging)	0.1 deg	0.17 deg	0.17 deg	0.067 deg	0.19 deg	0.17 deg	0.24 deg
Photodetector type	PMT	PMT	PMT	SiPM	SiPM	SiPM	SiPM
Telescope readout event rate (before array trigger for MSTs and SSTs)	>7.0 kHz (after LST array trigger)	>6 kHz	>7.0 kHz	>3.5 kHz	>0.3 kHz	>0.4 kHz	0.6 kHz
Telescope data rates (readout of all pixels; before array trigger)	24 Gb/s	12 Gb/s			2 Gb/s		3.2 Gb/s
Positioning time to any point in the sky (>30° elevation)	30 s	90 s			60 s		
Pointing precision	<14 arcseconds	<7 arcseconds		<10 arcseconds	<7 arcseconds		
Observable sky	Any astrophysical object with elevation > 24 degrees						

(last updated: Dec 2017)