

# LEICA TCA1800 • TCA2003 • TC2003

## Technical specifications

### Models and options

	TCA1800	TCA2003	TC2003
Angle measurement	●	●	●
Distance measurement (IR)	●	●	●
Motorized	●	●	●
Automatic target recognition (ATR)	●	●	●
Guide light (EGL)	○	○	○
Remote control RCS1100	○	○	○

● Standard ○ Optional



### Angle measurement

	TCA1800	TCA2003	TC2003
<b>Accuracy</b>			
(standard deviation, ISO 17123-3)	Hz, V	0.5" (0.15 mgon)	0.5" (0.15 mgon)
	Display resolution	1" (0.1 mgon)	0.1" (0.01 mgon)
	Method:	absolute, continuous, diametrical	
<b>Compensator</b>			
	Working range:	4' (0.07 gon)	4' (0.07 gon)
	Setting accuracy:	0.5" (0.2 mgon)	0.5" (0.2 mgon)
	Method:	electronic dual axis compensator	



### Distance measurement (IR)

<b>Range</b>	Round prism (GPR1):	2500 m	
(average atmospheric conditions)	360° reflector (GRZ4):	1300 m	
	Mini prism (GMP101):	900 m	
	Reflective tape (60 mm x 60 mm)	200 m	
<b>Accuracy / measurement time</b>	Standard mode:	1 mm + 2 ppm / 3.0 s	1 mm + 1 ppm / 3.0 s
(standard deviation, ISO 17123-4)	Fast mode:		1 mm + 1 ppm / 3.0s
	Tracking mode:	3 mm + 2 ppm / 1.5 s	
	Display resolution:	5 mm + 2 ppm / 0.3 s	
	Method:	0.1 mm	
		Phase measurement (coaxial, invisible infrared laser)	



### Guide light (EGL)

<b>Range</b>	Working range:	5 m - 150 m
(average atmospheric conditions)		
<b>Accuracy</b>	Positioning accuracy:	5 cm at 100 m



### Motorized

Maximum speed	Rotating speed:	45° / s
---------------	-----------------	---------



### Automatic target recognition (ATR)

<b>Range ATR mode / LOCK mode</b>	Round prism (GPR1):	1000 m / 500 m
(average atmospheric conditions)	360° reflector (GRZ4):	500 m / 350 m
	Shortest measurable distance:	5 m
<b>Accuracy / measurement time</b>	Up to 200 m: 1 mm, > 200 m: as per angle measuring accuracy +1 mm / 3-4 s	
<b>Max. speed (LOCK-Modus)</b>	Tangential (standard mode):	5 m / s at 100 m, 1 m / s at 20 m
	Tangential (with EDM tracking mode):	1 m / s at 100 m, 0.2 m / s at 20 m
	Method:	Digital image processing (laser beam)



### General data

<b>Telescope</b>		<b>Laser plummet</b>	
Magnification:	30x	Centring accuracy:	1.0 mm at 1.5 m
Free objective aperture:	42 mm	Laser dot diameter:	2.5 mm at 1.5 m
Field of view:	1°33' (1.72 gon) / 2.7 m at 100 m	<b>Endless drives</b>	
Focussing range:	1.7 m to infinity	Number of drives:	2 horiz. / 1 vert. (TCA), 1horiz / 1 vert. (TC)
<b>Keyboard and display</b>		<b>Battery (GEB187)</b>	
Display:	64*210 pixels, graphic LCD, with illumination	Type:	NiMH, rechargeable
Keyboard:	32 keys (6 function keys, 12 alphanumeric keys, 6 direct keys)	Voltage:	12 V
Angle display:	360° ", 360° decimal, 400 gon, 6400 mil	Capacity:	1.8 Ah
Distance display:	meter, int. ft, int. ft/inch, US ft	Operating time:	TCA 400, TC 600 distance measurements
Position:	keyboard in position I and II (standard)	<b>Weight</b>	
<b>Data storage</b>		Instrument:	7.5 kg
Internal memory:	S-RAM card (512 KB and 2 MB)	Battery:	0.3 kg
Number of data records:	~4000 per MB	Tribrach:	0.9 kg
Interface:	RS232	<b>Working environment</b>	
<b>Circular bubble</b>		Working temperature:	-20°C to +50°C
Sensitivity:	4' / 2 mm	Storage temperature:	-40°C to +70°C
		Dust / water (IEC 60529):	IP54
		Humidity:	95% non-condensing