



# Z+F T-Cam

The thermal camera (Z+F T-Cam) is an external solution for the Z+F IMAGER® 5010C \*, which enables you to apply infrared information to your scans. The camera generates 360° thermal panorama scans in a fully automatic process. The camera is of special importance in the fields of insurance, architecture, facility management, cultural heritage, industry and forensics.

\* Minimum requirement: firmware version 8.7 and Z+F LaserControl® 8.6

Type	
Model	T-Cam Rev 1.0

Camera	
Resolution	382 x 288 pixel
Infrared spectrum	7.5 - 13 µm
Working temperature	0°C - 50°C (32°F - 122°F)
Storage temperature	- 20°C - 60°C (-4°F - 140°F)
Relative humidity	20% - 80%, noncondensing

Lens	
Field of View	62° x 49°

Temperature ranges (selectable by user)	
Default setting	-20°C to 100°C (-4°F to 212°F)
	0°C to 250°C (32°F to 482°F)
	150°C to 900°C (302°F to 1652°F)

Temperature accuracies	
Temperature resolution	4096 increments (12 Bit)
Noise Equivalent Temperature Difference (NETD)	0.08 K
System accuracy / absolute temperature accuracy <sup>1</sup>	+/- 2°C (35.6°F)

Miscellaneous	
Number of images for full panorama	32 (4 rows)
Recording time for full panorama	1:45 min.
Pixel thermo-panorama (is scaled to scan resolution)	2500 pixel / 360°
Working range <sup>2</sup>	> 1.6 m (4.8 ft)
Vertical field of view <sup>3</sup>	284°
Horizontal field of view	360°

Dimensions and Weight	
T-Cam (WxDxH)	76 mm x 197 mm x 170 mm (3" x 7.75" x 6.7")
Weight	0.85 kg (1.87 lbs)

1. The temperature accuracy depends on the emissivity of the material. With the above information, it is assumed that the emissivity of the material to be measured is known.
2. The temperature accuracy depends on the humidity and temperature of the atmosphere. With the above information, it is assumed that the humidity and the temperature of the atmosphere have no effect on the measurement.
3. The vertical field of view depends on the height of the tripod, in this case 1.80 m (5.9 ft).



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**Note:** Because the emissivity of a given material will vary with temperature and surface finish, the values in this table should be used only as a guide for relative or differential temperature measurements.

Material	e-Emissivity	Temperature	
		°F	°C
Asphalt	0,93	100	38
Concrete	0,94	32-2000	0-1093
Brick (red rough)	0,93	70	21
Wood (oak)	0,91	100	38
Steel (oxidized)	0,80	77	25
Steel (polished)	0,07	100	38
Aluminum (oxidized)	0,09	75	24

