



TEL301
Telescope

TEL301 Telescope



The TEL301 is used for making radiance and radiant intensity (or luminance and luminous intensity) measurements from displays and reflecting surfaces.

For this type of measurement it is important that the emitting area is correctly identified and that the light is collected correctly.

The optics in the TEL301 telescope produce an image of the source at a mirrored surface. The user, looking into the eyepiece, sees the image with a black spot corresponding to a hole in the mirrored surface.

The light which passes through the hole is transmitted either directly to the monochromator, in the case of the direct coupled device, or into a flexible light guide.

The fact that the source is imaged at the hole ensures that only light from the area covered by the spot seen by the viewer is measured.

The use of the fibre bundle allows the telescope to be mounted on a camera tripod or measuring device.

The TEL301 comes with four interchangeable mirrors and a choice of lenses ranging from general purpose, capable of focusing infinity, to microscope which can collect light from a 30m diameter area. Addition of a DH400-VL photometrically corrected photodiode and an ORM400 optometer turns the TEL301 into a versatile luminance measuring spot meter.

Four interchangeable apertures are supplied giving angular fields of view (fov) at 6', 20', 1° and 2°.

Linear coverage at a distance D is : $2d \tan(\text{fov}/2)$
 Eyepiece magnification = x10

Spectroradiometric polarisation error is less than 1% when used with Bentham monochromators.

Specification

TEL301	Fibre-coupled telescope supplied with 4 apertures and 1m length fibre (FOP 350-1700nm, alternative UV and extended IR fibres also available)
TEL301D	Direct-coupled telescope supplied with 4 apertures
STA	Allows fibre-coupled telescope to be direct-coupled to monochromator
TLx	Interchangeable lenses as per designation given in table overleaf

Lenses



Lens Designation	Wavelength Response	Focusing Range Working Distance
TL1	300nm - 3mm	1m - infinity
TL1(ACH)	350nm - 1200nm	1m - infinity
TL1 (Q)	200nm - 3mm	1m - infinity
TLCaF2	200nm - 10mm	1m - infinity
TL2	300nm - 3mm	150mm
TL2 (ACH)	350nm - 1200nm	150mm
TL2 (Q)	200nm - 3mm	150mm
TL3	Visible	15mm
TL-MACRO	300-3mm	25mm