Copyright © 2023 Optotune

VS-TCH6-65-CO-LQL1

Lens module specifications

Focus tunable lens (Optotune)	Model	EL-16-40-TC-VIS-5D		
	Focal power	-2	+3	dpt
Magnification		6.2	5.7	X
F/#		28.3	26.3	(Fixed)
Maximum sensor format		2/3		inch
Image circle (Φ)		11		mm
FoV (at max sensor format) H x V		1.1 x 1.4	1.2 x 1.5	mm (at 2/3")
Working distance		65.9	65.8	mm
Optical leverage		0.03		mm/dpt
Optical Distortion		0.05	0.02	%
Wavelength range		Visible		nm
Lifecycles (10-90% sinusoidal)		>1'000'000'000		cycles
Mount		C		
Dimension (Φ x L)		30.00 x 97.80		mm

Focus tunable lens specifications EL-16-40-TC-VIS-5D

Focal power range (@30°C)[3]	-2 to +3	dpt
Wavefront error (at 525 nm & 0 mA) Optical axis vertical / horizontal	<0.25/<0.5	λRMS
Operating temperature	-20 to +65	°C
Storage temperature	-40 to +85	°C
Temperature sensor & memory	STTS2004	(STMicroelectronics)

Electrical specifications

Control current (typical)	-250 to +250	mA
Absolute max. control current	-500 to 500	mA
Power consumption	0 to 0.7 (nominal) 0 to 2.8 (absolute max.)	W
Motor coil resistance @ 30°C	12	Ω
Absolute maximum voltage (coil)	10	V
Absolute maximum voltage (temp. sensor)	4.3	V

Hirose connector (HR10G-7R-6P)	Function	Sensor pins	
Pin 1	Control current +	-	
Pin 2	Control current -	-	
Pin 3	Ground	1-4	
Pin 4	Power (3.3V)	8	
Pin 5	I²C SCL	6	
Pin 6	I²C SDA	5	
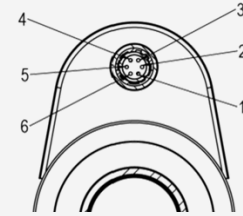
Controller

The liquid lens is controlled with electrical current and must be operated by a suitable lens controller. Hirose cables and liquid lens controllers are sold separately. The following controllers are considered fully compatible with VS-TCH6-65-CO-LQL1:

- Optotune embedded controller ECC-1C
- Optotune lens driver EL-E-4i
- Optotune industrial controller ICC-4C-500

Additional selection of controllers is available at https://www.optotune.com/controllers
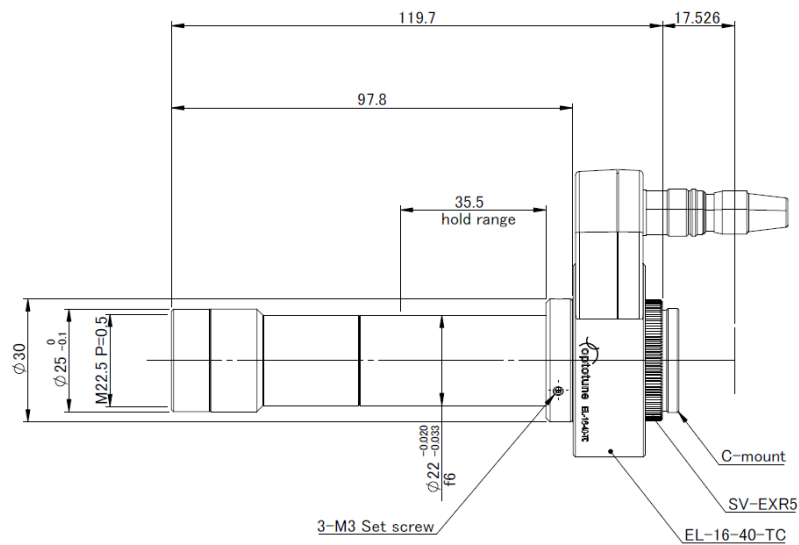
Mechanical drawings

Figure 1: Mechanical drawing of the VS-TCH6-65CO-LQL1

For more information on optical, mechanical and electrical parameters, please contact sales@optotune.com