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VS-THV2-110/S-LQL1

Lens module specifications

Focus tunable lens (Optotune)	Model	EL-16-40-TC-VIS-5D		
	Focal power	-2	+3	dpt
Magnification		2.0	1.79	X
F/#		10.2	9.1	(Fixed)
Maximum sensor format		1		inch
Image circle (Φ)		16		mm
FoV (at max sensor format) H x V		5.6 x 5.6 6.3 x 6.3		mm (at 1")
Working distance		115.6 105.4		mm
Optical leverage		2.04		mm/dpt
Optical Distortion		0.04	0.01	%
Wavelength range		Visible		nm
Lifecycles (10-90% sinusoidal)		>1'000'000'000		cycles
Mount		C		
Dimension (Φ x L)		38.0 x 162.75		mm
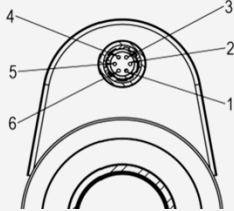
Focus tunable lens specifications   EL-16-40-TC-VIS-5D

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-THV2-110/S-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.opto-tune.com/controllers
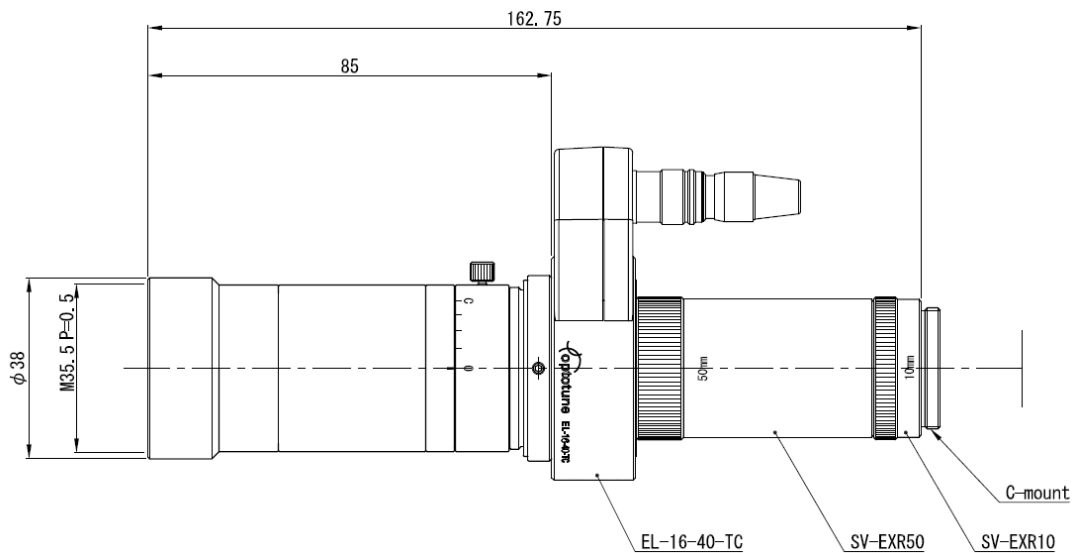
Mechanical drawings

Figure 1: Mechanical drawing of the VS-THV2-110/S-LQL1

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