



Corning® Varioptic® C-u-25H0-075 Microscope Auto Focus Module

Overview

The Corning® Varioptic® C-u-25H0-075 microscope auto focus module is based on an inverted and modified Corning® Varioptic® C-S-25H0-075 auto focus lens module. Combined with the use of specific extension rings, either for C-Mount or M12, an inexpensive auto focus microscope can be built. The C-u-module has an FPC cable and can be connected to a standard 1 mm pitch FPC connector. The C-u-module can be controlled by the same driver as the Corning® Varioptic® A-25H0 variable focus lens. For more information on this module, please refer to the C-u-25H0-075 Technical Datasheets (TEDS).

Ordering Information

- **Corning® Varioptic® C-u-25H0-075-03 microscope auto focus module:** Modified C-S-A25H0-075 for microscopy with FPC-A-3 bent cable.

Performance Summary

- | | |
|--------------------|--------------------------------|
| • Magnification | x2 to x5
Custom |
| • Working distance | 5.4 mm to 7.8 mm |
| • Focusing range | ± 0.65 mm to ± 0.85 mm |
| • Back focus range | 15 mm to 37 mm |



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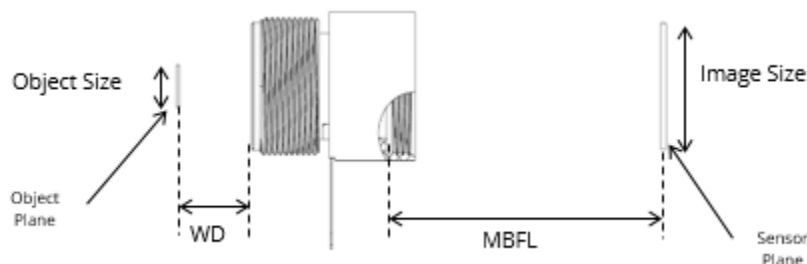
Opto-Electrical Performance

Performances described below are for 25°C.

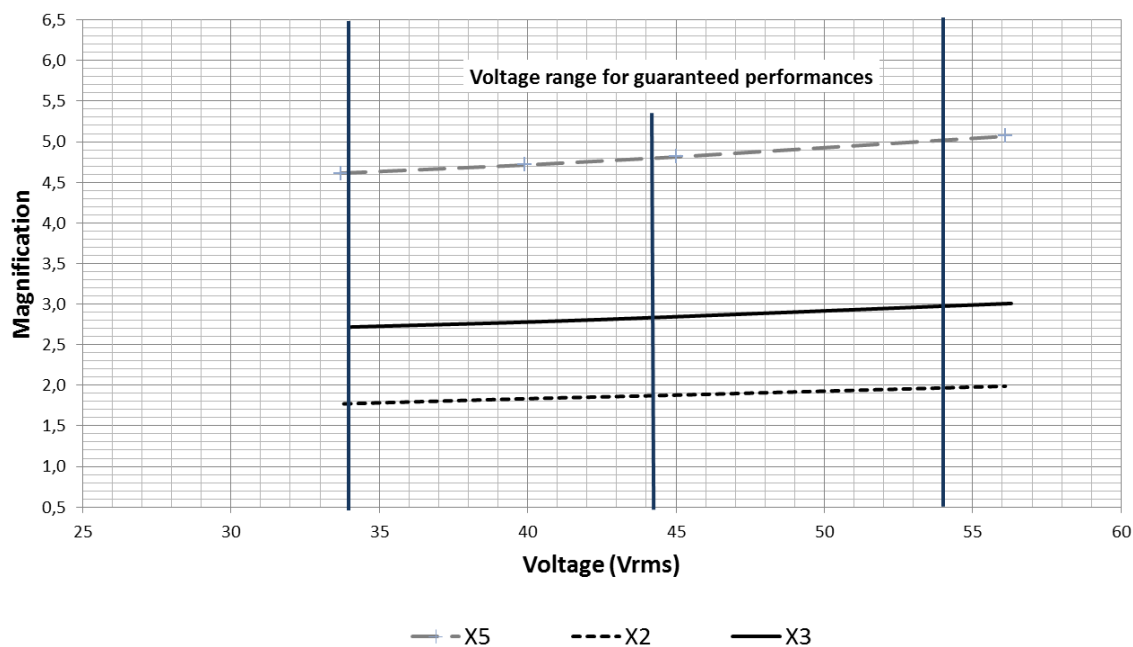
<i>Optical Performances</i>	<i>Symbol</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Unit</i>	<i>Notes</i>
Voltage for nominal magnification	V_N	42.2	44.2	47.7	V	(1)
Nominal recommended magnification	α_N	X2		X5	-	(2)
Mechanical Back Focal Length						
X2	$MBFL_2$		15		mm	(3)
X3	$MBFL_3$		22		mm	
X5	$MBFL_5$		37		mm	
Working Distance						
X2	WD_2		7.8		mm	(3)
X3	WD_3		6.4		mm	
X5	WD_5		5.4		mm	
F- number	F#		2.9		-	
Maximum object diagonal in the field			7.2		mm	
Object resolution for pixel resolution			1.2		μm	
<i>Focus control performances</i>						
Minimum voltage	V_L		34		V	
Maximum voltage	V_H		54		V	
Working distance range						
X2	ΔWD_2		1.85		mm	(3)
X3	ΔWD_3		1.58		mm	
X5	ΔWD_5		1.41		mm	

Notes:

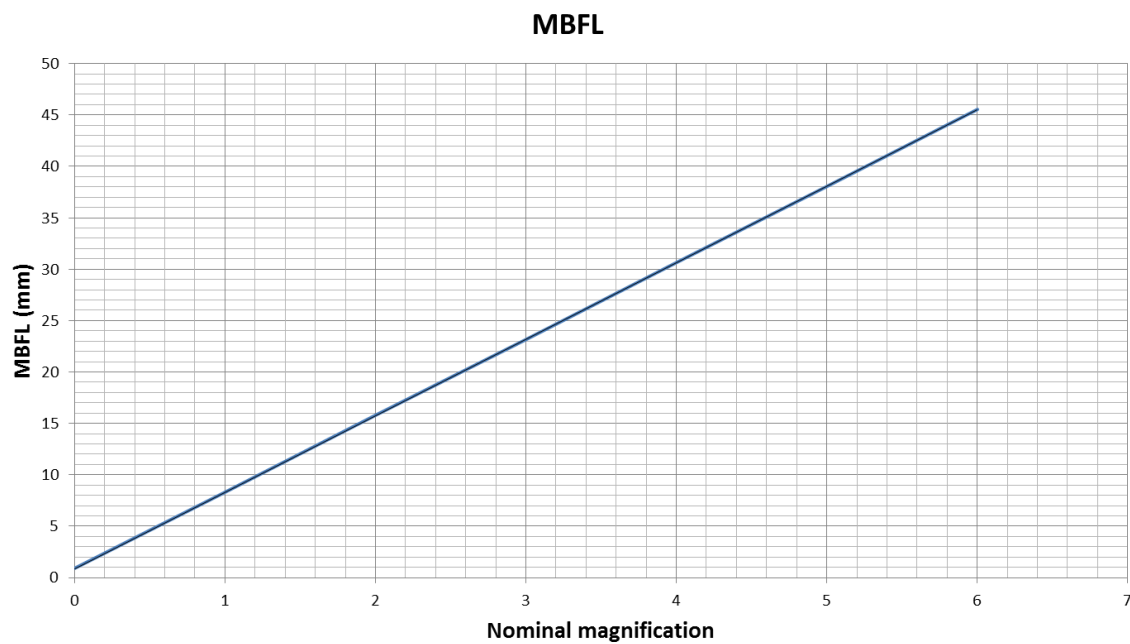
- (1) Voltage for nominal magnification is for an optical power on the adjustable lens of 4 diopters, which is in the middle of the optical range [-5D..+13D], however a +/-5% tolerance on the magnification can be observed.
- (2) Magnification is the ratio between the image size and the object size. Magnification changes with focus.
- (3) Definitions of WD, MBFL, magnification:



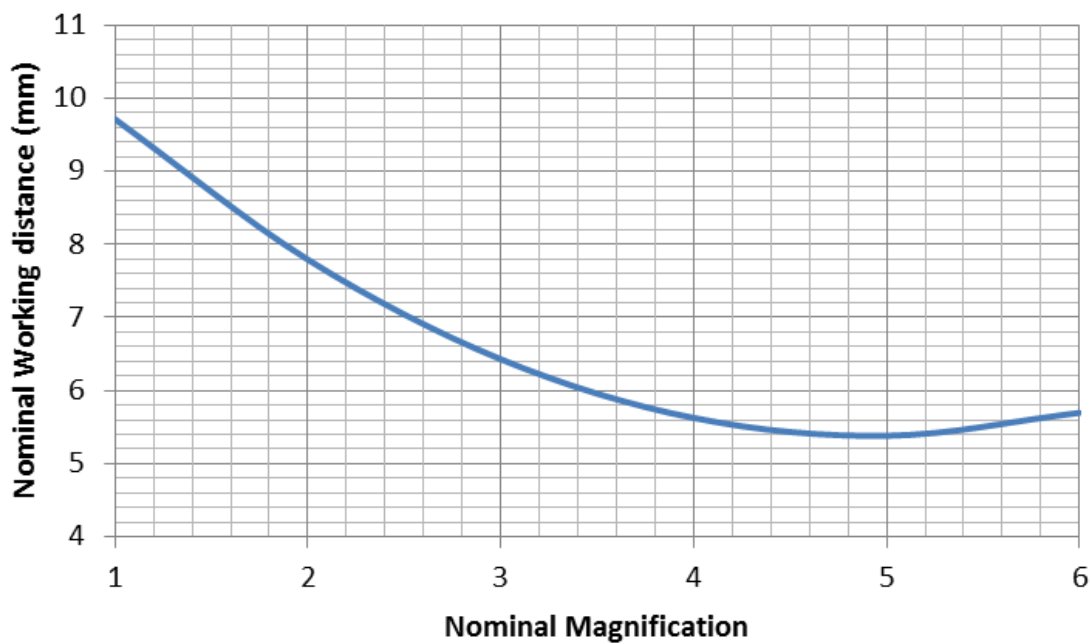
Magnification versus Voltage



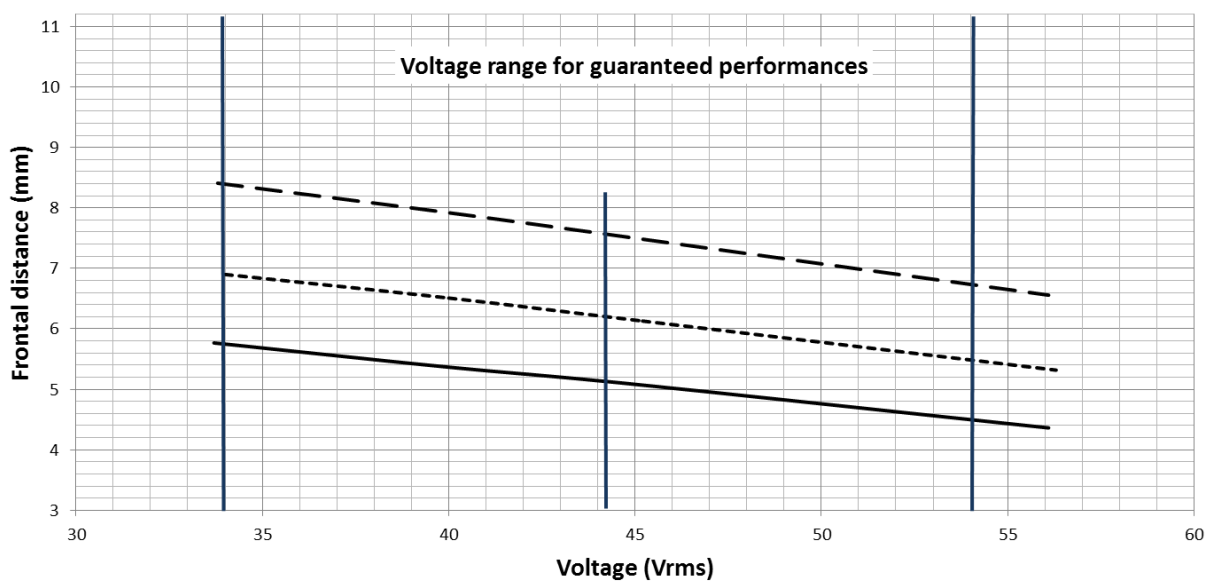
Mechanical Back Focal Length (MBFL) versus Nominal Magnification



Working Distance (WD) versus Nominal Magnification

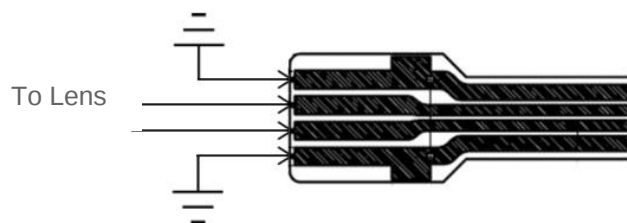


Working Distance (WD) versus Voltage



Electrical Specifications

Electrical Connection



The following FPC connectors are compatible with the FPC tip:

- SFW4S-2STE9LF from Amphenol FCI
- 04FMN-BTK-A (LF)(SN) from JST

Driver

A dedicated compact IC has been designed to drive Corning Varioptic Lenses, namely the Maxim MAX14574. For details, please contact your local sales channel.

Important note:

Corning Varioptic Lenses are sensitive to electrostatic discharge (ESD). Use caution when handling.

Absolute Maximum Ratings

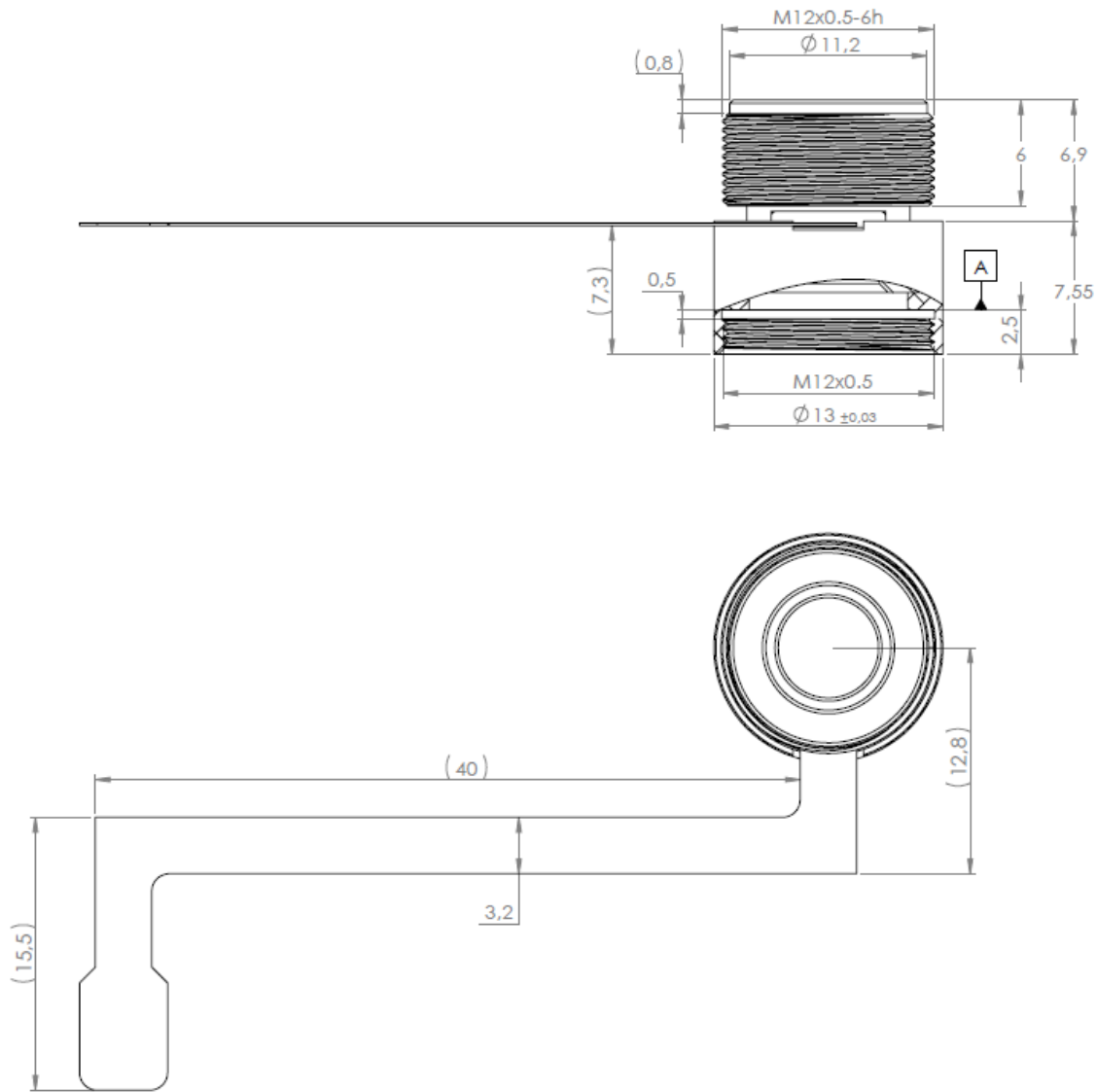
<i>Parameter</i>	<i>Symbol</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Unit</i>	<i>Notes</i>
Operating Temperature	T	-30	..	85	°C	
Storage Temperature	T _{stg}	-40	..	85	°C	
AC Input RMS Voltage	V _{max}			60	V	(1)
Input Voltage Frequency	f		1		kHz	(1)

Notes:

- (1) For more information on C-u-25H0-075 electrical driving, please refer to the A-25H Technical Data Sheet.

Mechanical Dimensions

Datum A is the mechanical reference.



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