

# High- Accuracy Translation Stage

ULTRA- COMPACT, WITH DIRECT POSITION MEASUREMENT



## M-605

- + Integrated linear encoder option for highest accuracy 0.1  $\mu\text{m}$
- + Travel ranges 25 mm (1") and 50 mm (2")
- + Max. velocity 50 mm/ s with ActiveDrive motor
- + High load capacity to 30 kg
- + Zero- backlash ball screws
- + Noncontact limit and reference point switches
- + Stress- relieved aluminum base for highest stability
- + Flexible Bellows Protects the Mechanics from Dust and Spray
- + XY and XYZ combinations possible
- + MTBF >20,000 h

## Specifications

	M-605.1DD	M-605.2DD	Unit	Tolerance
Active axes	X	X		
<b>Motion and positioning</b>				
Travel range	25	50	mm	
Integrated sensor	Linear encoder	Linear encoder		
Sensor resolution	0.1	0.1	$\mu\text{m}$	
Design resolution	0.1	0.1	$\mu\text{m}$	
Min. incremental motion	0.3	0.3	$\mu\text{m}$	
Unidirectional repeatability	0.1	0.1	$\mu\text{m}$	
Bidirectional repeatability	0.2	0.2	$\mu\text{m}$	
Accuracy	1	1	$\mu\text{m}$	
Pitch	$\pm 30$	$\pm 30$	$\mu\text{rad}$	
Yaw	$\pm 30$	$\pm 30$	$\mu\text{rad}$	
Velocity	50	50	mm/ s	max.
Reference point switch repeatability	1	1	$\mu\text{m}$	
<b>Mechanical properties</b>				
Drive screw	Recirculating ball screw	Recirculating ball screw		
Thread pitch	1	1	mm	
Load capacity	300	300	N	max.
Push / pull force	20 / 20	20 / 20	N	max.
Holding force			N	
Lateral force	100	100	N	max.
<b>Drive properties</b>				
Motor type	DC motor, ActiveDrive	DC motor, ActiveDrive		
Operating voltage	24 (PWM)	24 (PWM)	V	
Motor power	6	6	W	
Reference point and limit switches	Hall effect	Hall effect		
<b>Miscellaneous</b>				

Operating temperature range	-20 to 65	-20 to 65	°C
Material	Al (black anodized)	Al (black anodized)	
Mass	1.5	1.8	kg
Recommended controller / driver	C-863 (single- axis) C-843 PCI board, for up to 4 axes	C-863 (single- axis) C-843 PCI board, for up to 4 axes	

Ask about custom designs!

## Order Information

### **M-605.1DD**

Compact Precision Linear Stage, 25 mm, 0.1 µm Linear Encoder, ActiveDrive DC Motor

### **M-605.2DD**

Compact Precision Linear Stage, 50 mm, 0.1 µm Linear Encoder, ActiveDrive DC Motor

Ask about custom designs!

## Controllers / Drivers / Amplifiers

[C-863 Mercury Servo Controller](#)

[C-884 Four Axis Motion Controller](#)

[C-843 DC- Servo- Motor Controller](#)

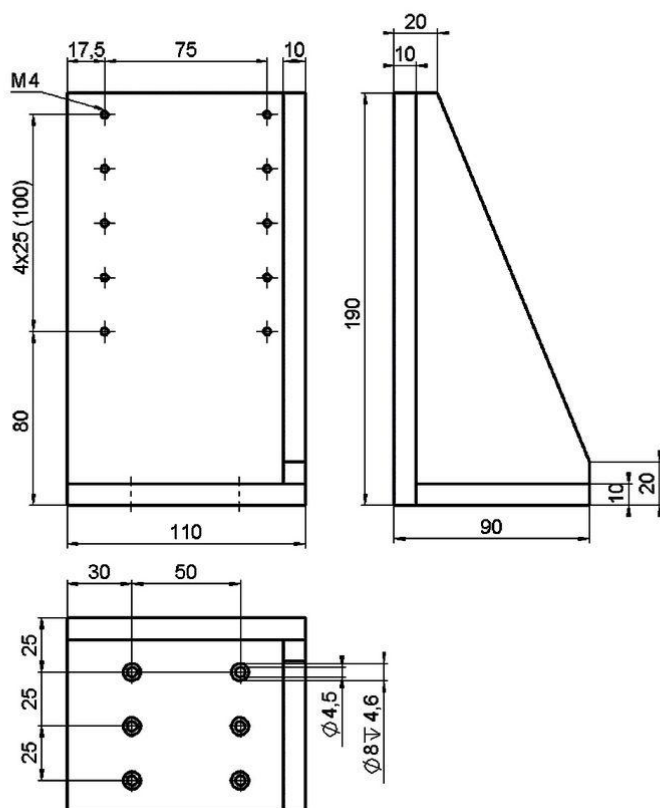
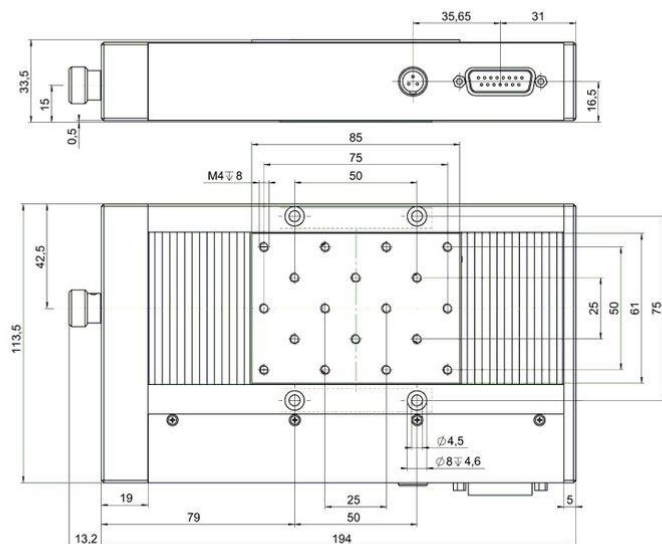
## Related Products

[M-683 Dynamic Micropositioning Stage](#)

[M-511 • M-521 • M-531 High- Precision Linear Translation Stage](#)

[M-511.HD Nano- Precision Heavy- Duty Stage](#)

## Drawings / Images



M-605.AV1 angle bracket for vertical mount of M-605 on M-605