

# ECSx5050

## Technical Specifications

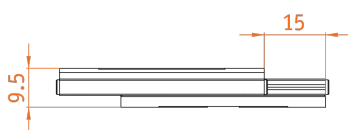
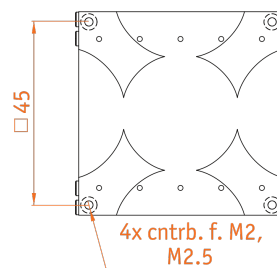
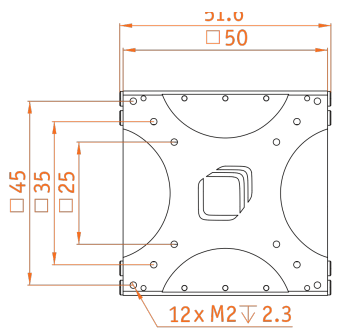
Technology	
travel mechanism	inertial piezo drive
positioner type	linear
Size and Dimensions	
footprint; height	50 x 50 ; 9.5 mm
max installation space	71.6 x 50 ; 9.5 mm
weight (aluminium version)	70 g
weight (stainless steel version)	149 g
Materials	
positioner body	Aluminum
actuator	PZT ceramics
connecting wires	copper, jacket: RT: silicon, HV/UHV: fiberglass
bearings	stainless steel
Load (@ ambient conditions)	
maximum load	150 N
maximum dynamic force along the axis	5 N
Coarse Positioning Mode	
travel range (step mode)	30 mm
maximum drive velocity @ 300 K	4.5 mm/s
typical minimum step size @ 300 K	50 nm

Fine Positioning Mode	
fine positioning resolution	sub-nm
fine linear positioning range @ 300 K	1.6 $\mu$ m
input DC voltage range @ 300 K	0 - 60 V
Accuracy of Movement	
repeatability of step sizes	typically 5 % over full range
typ. forward / backward step asymmetry	0.1
Working Conditions	
mounting orientation	arbitrary
Connectors and Feedthroughs	
cable	50 cm cable with connector
connector type	14-pole connector
High Load Option (/HL)	
/HL/RT - maximum dynamic force	5 N
Options	
material options	/StSt, /Al
high load option	/HL
environmental options	/RT, /HV, /UHV
Versions	
/StSt/UHV Version	1006130
/StSt/HV Version	1006128
/StSt/HL/UHV Version	1013899
/StSt/HL/HV Version	1013896
/Al/RT Version	1006124
/Al/HL/RT Version	1008840

AMC100  
Piezo Positioning  
Controller



## Technical Drawings



# ECSx5050/NUM(+)

## Technical Specifications

Technology	
travel mechanism	inertial piezo drive
positioner type	linear
Size and Dimensions	
footprint; height	50 x 50 ; 9.5 mm
max installation space	71.6 x 50 ; 9.5 mm
weight (aluminium version)	70 g
weight (stainless steel version)	149 g
Materials	
positioner body	Aluminum
actuator	PZT ceramics
connecting wires	copper, jacket: RT: silicon, HV/UHV: fiberglass
bearings	stainless steel
Load (@ ambient conditions)	
maximum load	150 N
maximum dynamic force along the axis	5 N
Coarse Positioning Mode	
travel range (step mode)	30 mm
maximum drive velocity @ 300 K	4.5 mm/s
typical minimum step size @ 300 K	50 nm

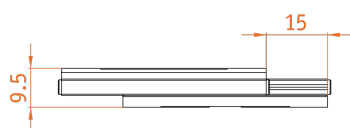
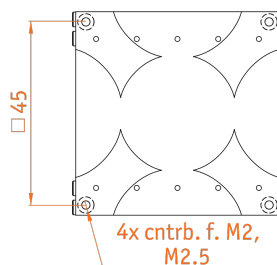
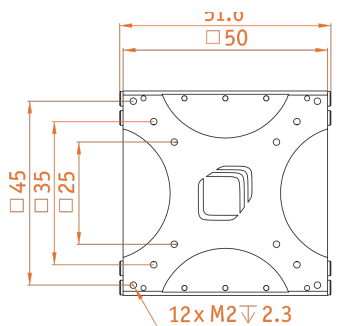
Fine Positioning Mode	
fine positioning resolution	sub-nm
fine linear positioning range @ 300 K	1.6 $\mu$ m
input DC voltage range @ 300 K	0 - 60 V
Accuracy of Movement	
repeatability of step sizes	typically 5 % over full range
typ. forward / backward step asymmetry	0.1
Position Encoder	
readout mechanism	optoelectronic sensor
encoded travel range	entire travel
sensor power (when measuring)	300 mW
wavelength of illumination	870 nm
sensor resolution	1 nm
repeatability	50 nm (bidirectional)
absolute accuracy	< 0.01% of travel range
Working Conditions	
mounting orientation	arbitrary
Connectors and Feedthroughs	
cable	50 cm cable with connector
connector type	14-pole connector
High Load Option (/HL)	
/HL/RT - maximum dynamic force	5 N
Options	
material options	/StSt, /Al
encoder options	/NUM, /NUM+
high load option	/HL
environmental options	/RT, /HV, /UHV
Versions	
/StSt+/UHV Version	1011447
/StSt+/HV Version	1011446
/StSt+/HL/UHV Version	1013901
/StSt+/HL/HV Version	1013898
/StSt/UHV Version	1006131
/StSt/HV Version	1006129
/StSt/HL/UHV Version	1010495
/StSt/HL/HV Version	1013897
/Al/RT Version	1006125
/Al/HL/RT Version	1008849

### AMC100

Piezo Positioning  
Controller



## Technical Drawings



# AMC100

Art.Nr.: 1013507

## Technical Specifications

**Application System**

**Machine Vision**

**Manual Positions**

**Motion Control Products**

**Optical & Mirror Holder**

**Optomechanics**

**Holders**

**Factory Automation Parts**

**Measurement & Control**

**FA Electrical Parts**

**Laser**

**Tools & Clean Parts**

**Nanometer Stages**

**Precision Linear Motorized Stages**

**High Speed Motorized Stages**

**Motorized Goniometer**

**Multiaxis Motorized Stages**

**Motorized Rotation Stages**

**Industrial Robot**

**Controller & Driver & Cable**

**Custom-Built Motorized Stages**

General Specifications	
type of instrument	3 axes motion controller
number of slots	3
connector to product(pos/mic)	3 x D-Sub H/D 26pin
temperature range	0 - 40°C, non condensing
Modes of Operation	
open loop positioning	stepping signals for slip-stick positioners
closed loop positioning	closed loop control for ECS/NUM positioners
remote operation	Ethernet, WLAN (optional, planned), USB for hand-held controller (optional, planned)
positioning mode	stepping, fine positioning, closed loop positioning
no. device per operation	control of multiple device via one PC
Size and Dimensions	
chassis	22 x 22 x 4.5 cm <sup>3</sup>
weight	2 kg
Controller Hardware	
power supply	12 VDC
power consumption	max. 30 W
connector	DC
connection cable (ELE - POS)	1 per axis, length: 2m
Software Drivers	
Windows, Linux	Stand-alone application for Windows XP™, 7™, 8™, 10™, DLL,
communication speed	AquadB : up to 25 MHz, LabVIEW™ : up to 300 Hz

Output Signals	
output connectors	26-Pin SubD connector
output voltage range	stepping : 0 .. 45 V
frequency range	stepping : 0 .. 5 kHz (1 axis), stepping : 0 .. 2 kHz (3 axes simultaneously)
output current	stepping : max > 16 A peak
maximum capacitance load	2 µF
setpoint bandwidth	fine positioning : 1 kHz
output noise	stepping : < 5 mVpp (500 kHz bandwidth)
Trigger Signals	
trigger level definition	LVDS, LVTTL
input trigger	1 per axis
trigger interface	GPIO - port
Options and Upgrades	
optional upgrades	PRO : activation code (art. no. 1013511), SYNC : activation code (art. no. 1013511)
Options	
software upgrades	I/O, PRO
Versions	
PRO Upgrade	1013511
I/O Upgrade	1013885

