ISB-MXL-400

±10μm Standard | Battery-less Absolute | Medium X-axis Type | Long slider | Body Width 120 mm | 400 W

■ Model Specification Items

ISB	—	MXL	—	WA	—	400	—	48	—	□	—	T2	—	□	—	□
Series	—	Type	—	Encoder Type	—	Motor Type	—	Lead	—	Stroke	—	Applicable Controllers	—	Cable Length	—	Options
				WA: Battery-less absolute		400 : 400W		48 : 48mm		120 : 120mm ~ 1270 : 1270mm (50mm increments)		T2 : SCON SSEL XSEL-P/Q		N : None S : 3m M : 5m X□□ : Specified Length		Please refer to the option table below

* Does not include a controller.
* Please contact IAI for more information about the model specification items.

* Be sure to specify the AQ seal (AQ) option. Be sure to select a symbol for the cable outlet direction.

CE RoHS

Horizontal | Vertical | Side | Ceiling

* Depending on the model, there may be some limitations to using the vertical, side, and ceiling mount positions. Please contact IAI for more information regarding mounting positions. Please contact IAI for more details.

POINT Selection Notes

(Note 1) The value of payload is when operating at an acceleration of 0.4G. When the acceleration is increased, the payload will be reduced. Please refer to P.21 for more information.

(Note 2) The straightness of straight line motion is the value when the straightness high precision specifications (optional) are specified.

Model/Specifications

■ Lead and Payload

Model	Motor wattage (W)	Lead (mm)	Max. payload (*1)		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISB-MXL-WA-400-48-①-T2-②-③	400	48	20	6	141.3	120~1270 (Every 50mm)

Legend: ① Stroke ② Cable length ③ Option

(*1) Refer to P. 21 for the relationship of acceleration and payload.

■ Stroke and Max. Speed

Stroke	120	170	220	270	320	370	420
Max. Speed	1325	1575	1825	2025	2200	2350	2400

Stroke	470	520	570	620	670	720	770
Max. Speed	2500					2270	2030

Stroke	820	870	920	970	1020	1070	1120
Max. Speed	1825	1645	1495	1365	1250	1150	1060

Stroke	1170	1220	1270
Max. Speed	980	910	845

(Unit: mm/s)

Cable Length

Type	Cable code	Standard	With LS
Standard type	**S** (3m)	○	
	M (5m)	○	
Specified length	**X06** (6m) ~**X10** (10m)	○	○
	X11 (11m) ~**X20** (20m)	○	○

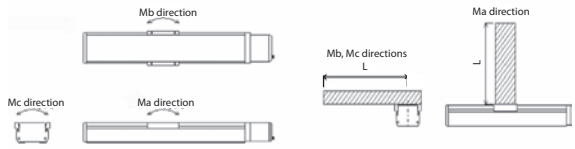
* Only the robot cable is available for this model.
* Please contact IAI for more information regarding the maintenance cables.
* When using a cable of 21 to 30m, specify "N" for the cable length of the actuator model, and separately purchase the motor cable [CB-X(EU)-MA□□□], encoder cable [CB-X(EU)1-PA□□□-AWG24] or encoder cable with LS [CB-X(EU)1-PLA□□□-AWG24]. (Please contact IAI for more details on the cable.)

Actuator Specifications

Item	Description
Positioning repeatability	±0.01mm
Drive system	Ball screw ϕ16mm, rolled C10
Lost motion	0.05mm or less
Static allowable moment	Ma: 560.3N·m Mb: 800.2N·m Mc: 1030.8N·m
Dynamic allowable moment (*1) (*2)	Ma: 123.0N·m Mb: 176.0N·m Mc: 227.0N·m
Dyn. straightness of straight line motion (*3)	0.02mm/m or less
Base	Material: Aluminum with white alumite treatment
Ambient operating temp. & humidity	0~40°C, 85% RH or less (Non-condensing)

(*1) Assumes a standard rated life of 10000km. The service life will vary depending on operation and installation conditions. Please contact IAI for the running life.
(*2) Please refer to P.22 for more information regarding the directions of the allowable moment and overhang load length when using the double slider (option).
(*3) The value is when the straightness high precision specification (option) is specified.

· Reference for overhang load length: Ma: 750mm or less, Mb, Mc: 750mm or less



Direction of the dynamic allowable moment | Direction of the allowable overhang load length

Please refer to the ISB/ISDB basic catalogue for more information regarding the directions of the allowable moment and overhang load length.

Options

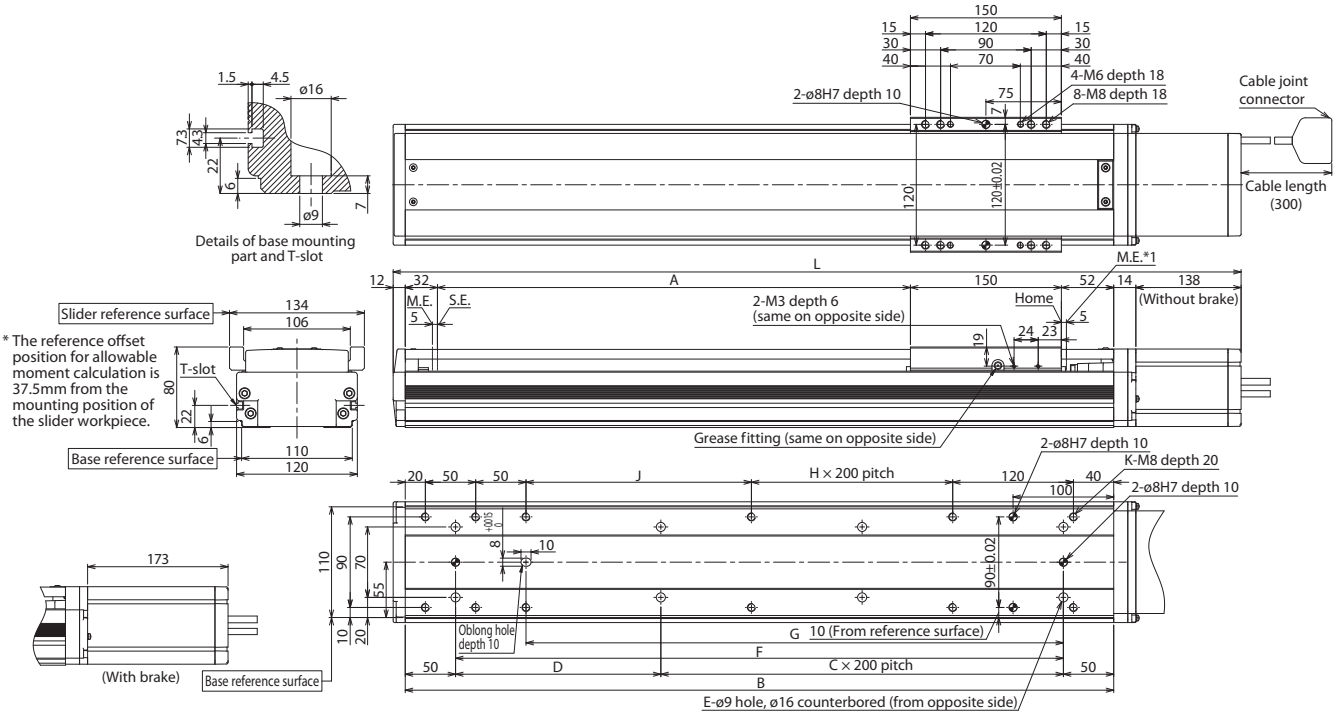
Type	Model	Ref. Page	Type	Model	Ref. Page
Cable exits from the left side	**A1S**	See P.19	Home limit switch symmetrically opposite	**LL**	See P.19
Cable exits from the back left side	**A1E**	See P.19	Master axis specified	**LM**	See P.19
Cable exits from the right side	**A3S**	See P.19	Master axis spec. (sensor symmetrically opposite)	**LLM**	See P.19
Cable exits from the back right side	**A3E**	See P.19	Non-motor end spec.	**NM**	See P.19
AQ seal (standard feature)	**AQ**	See P.19	-	**-**	-
Brake	**B**	See P.19	Slave axis specified	**S**	See P.19
Creep sensor	**C**	See P.19	Straightness high precision specification	**ST**	See P.20
Creep sensor symmetrically opposite	**CL**	See P.19	Double slider specification	**W**	See P.20
Home limit switch	**L**	See P.19	Round cable joint connector with screw locking	**EU**	See P.19

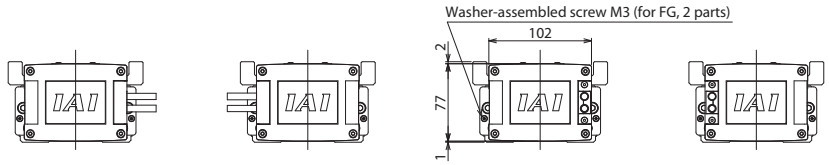
Dimensions

CAD drawings can be downloaded from our website.
www.intelligentactuator.de

*1 When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
M.E: Mechanical end
S.E: Stroke end

*2 If the home direction needs to be changed after purchase, the actuator must be returned to IAI for adjustment.





Cable exits from the right side (Option code: A3S)
Cable exits from the left side (Option code: A1S)
Cable exits from the back right side (Option code: A3E)
Cable exits from the back left side (Option code: A1E)

Dimensions and Mass by Stroke

Stroke		120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
L	w/o brake	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468	1518	1568	1618	1668
	w/brake	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153	1203	1253	1303	1353	1403	1453	1503	1553	1603	1653	1703
A		120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
B		354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	1454	1504
C		0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6
D		254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
E		4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16
F		254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404
G		184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184	1234	1284	1334
H		0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
J		74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
K		10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20
Mass (kg)	w/o brake	7.9	8.6	9.2	9.8	10.5	11.1	11.7	12.4	13.0	13.6	14.3	14.9	15.5	16.2	16.8	17.5	18.1	18.7	19.4	20.0	20.6	21.3	21.9	22.5
	w/brake	8.5	9.2	9.8	10.4	11.1	11.7	12.3	13.0	13.6	14.2	14.9	15.5	16.1	16.8	17.4	18.0	18.7	19.3	19.9	20.6	21.2	21.9	22.5	23.1

Applicable Controllers

The ISB series actuators can be operated by the controllers indicated below. Please select the type depending on your intended use.

Type	External view	Max. number of controlled axes	Power supply voltage	Control method: Positioner	Pulse-train	Program	Network *Option	Maximum number of positioning points	Ref. page
SCON-CB/CGB		1	Single-phase 230VAC	●	●	–	DeviceNet, CC-Link, PROFIBUS, CompoNet, EtherCAT, EtherNet/IP, PROFINET	512 points (768 for network spec.)	Please contact IAI for more details
SCON-LC/LCG		1		–	–	●		512 points (768 for network spec.)	
SSEL-CS		2	Single-phase 115/230VAC	●	–	●		20000	
XSEL-P/Q		6	Single-phase 230VAC Three-phase 230VAC	–	–	●		20000	

Note:
The type of compatible networks will vary depending on the controller.
Please contact IAI for more details.