

IXA-3NSN60

IXA-4NSN60

Speed Туре







■ Model Specification Items

IXA
Series

			NSN		60			
Number of axes			Туре	A	rm length	Vertical stroke		
3	3 axes	NSN	High-speed type	60	600mm	18	180mm	
4	4 axes					33	330mm	

Cable length Nil 51 5m 10L Specified length (1m increments)

	Applicable controller
T2	XSEL-RAX/SAX
12	AJEL-IIAA/JAA

T2













(1) Please refer to P51 for Notes 1 - 9.



- (2) The maximum set value for acceleration/deceleration varies depending on the weight of the object being transported, the travel distance, and the location. For continuous operation, either lower the acceleration/deceleration values or refer to the duty (guideline) and set a stop time after acceleration/deceleration.
- (3) If the motor is replaced, absolute reset must be performed. An adjustment jig will be required to perform an absolute reset on the rotational axis (4th axis). Please refer to P53
- (4) A continuous operation cannot be performed for SCARA robots at 100% of speed and acceleration. Refer to the "Acceleration/Deceleration Setting Guidelines" for executable operating conditions

Option

Name	Model number	Reference page
Flange	IX-FL-1	53

(Note) Please purchase separately

Cable length

Type	Cable code	3-axis specification	4-axis specification
Standard type	5L (5m)	0	0
Standard type	10L (10m)	0	0
	1L (1m) ~ 4L (4m)	0	0
Specified length	6L (6m) ~ 9L (9m)	0	0
	11L (11m)	0	0
	12L (12m)	0	0
	13L (13m)	0	0
	14L (14m)	Ō	Ō
	15L (15m)	0	0

(Note) Total amount of the following cables:

[3-axis spec.] Motor cables:3, Encoder cables: 3, Brake cable: 1 [4-axis spec.] Motor cables:4, Encoder cables: 4, Brake cable: 1

Cycle time

Item	Time
Standard cycle time	0.26 seconds
Continuous cycle time	0.45 seconds

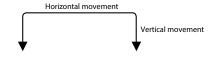
The standard/continuous cycle time represents the time required when an operation is performed with a cycle operation setting at maximum speed, under the following conditions.

2kg transport, vertical movement 25mm, horizontal movement 300mm (rough positioning arch motion)

[Standard cycle time]

The time required for maximum speed. This is a general guideline for high speed performance. Note that continuous operation is not possible under maximum speed operation. [Continuous cycle time]

The cycle time for continuous operation.



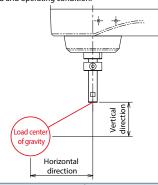
Main specifications									
	lk		Descr	iption					
	Item		3-axis specification	4-axis specification					
Max. payload	d (kg) (Note 1)		12						
	Combined max. spe	eed (mm/s)	64	14					
Speed		1st arm (deg/s)	30	00					
(Note 2)	Max. speed of	2nd arm (deg/s)	7:	50					
(Note 2)	individual axes	Vertical axis (mm/s)	16	00					
		Rotational axis (deg/s)	_	2000					
Push force (N	J) (Noto 2)	Upper limit	1	10					
Push force (i	N) (NOte 3)	Lower limit	2	5					
Arm length (mm)		6	00					
Individual as	m length (mm)	1st arm	3.	50					
individual al	m length (mm)	2nd arm	2:	50					
		1st arm (deg)	±137						
Operation range of individual		2nd arm (deg)	±1	40					
axes		Vertical axis (mm)	180	/330					
		Rotational axis (deg)	_	+360					

	Ri	otational axis (deg)			±360						
			Descr	iption							
	Item	3-axis specifi	3-axis specification 4-ax								
Positioning	Within horizontal surface	ce ±0.01mm	±0.01mm								
repeatability	Vertical axis	±0.01mm	±0.01mm								
(Note 4)	Rotational axis	_		±0.005 de	egrees						
User wiring		10-core (9-core + s	hield) AWG	24 (rated 3	0V/Max. 1A)						
User piping		Outer diameter Φ6	inner diam	neter Φ4, a	ir tube 3 pcs.						
oser piping		(max. usable press	ure 0.6MPa)								
Alarm lamp (Note 5)	Amber color LED, s		mp 1 pc.							
·		(DC24V supply req									
Brake release	switch (Note 6)		h for preven		al axis from dropping.						
Tip axis	Allowable torque		3.2 N·m 3.2 N·m								
	Allowable load moment		8.3 N·m								
Ambient ope humidity	rational temperature and	0-40°C , 20-85% RF	0-40°C , 20-85% RH or lower (non-condensing)								
Degree of pro	otection	IP20									
Vibration- an	d impact-resistance	No impact or vibra	tion should	be applied	d.						
Noise (Note 7	7)	80 dB or lower									
International	standard	CE marking, RoHS									
Motor type		AC servo motor	AC servo motor								
	1st arm	750W	750W								
Motor 2nd arm		400W	400W								
wattage Vertical axis Rotational axis		200W	200W								
		_									
Encoder type		Battery-less absolu	Battery-less absolute								
Encoder puls	e	131072 pulse/rev	131072 pulse/rev								

Tip shaft allowable load inertia moment

Number of axes	Tip shaft allowable load inertia moment
3-axis specification	0.12 kg ⋅ m²
4-axis specification	0.12 kg • III

The 4th axis allowable inertia moment is the allowable inertial moment value for the center of rotation conversion of the 4th axis (rotational axis) of the SACRA robot. Make sure that the offset value from center of the rotation of the 4th axis to the tool center of gravity is within the guideline values listed below. If the tool center of gravity is far from the 4th axis center, it is necessary to reduced speed and acceleration/deceleration appropriately. The overhang distance is limited depending on the payload and operating condition.



Horizontal direction	Vertical direction
180mm or less	100mm or less



Acceleration/Deceleration Setting Guidelines

The SCARA Robot IXA cannot operate continuously at the maximum acceleration/deceleration or maximum speed specified in the catalog. To operate at the maximum acceleration/deceleration, set a stop time referring to the continuous operation duty guideline graph. If a continuous operation is required, do so within the continuous operation guideline range shown in the acceleration/deceleration setting guideline graph.

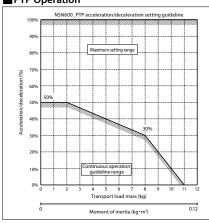
- 1) For a PTP operation, always use the WGHT command in the program to set the weight and moment of inertia. For the SCARA robot, the maximum acceleration/deceleration for each payload is set at 100%. When the payload differs,
- the operation time will also vary even at the same acceleration/deceleration or speed setting.

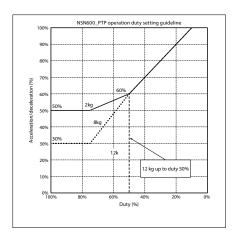
 2) Adjust the acceleration/deceleration setting value by gradually increasing it from the continuous operation reference value.

 3) If an overload error occurs, lower the acceleration/deceleration as required, or set a stop time by referring to the continuous operation duty guideline.
- 4) Duty (%) = (Operation time / (Operation time + Stop time)) x 100 5) When moving the robot horizontally at high speed, operate the vertical axis as close to the upward end as possible
- 6) Set the moment of inertia and payload to the allowable value or lower.
- 7) The load mass represents the moment of inertia and weight at the center of rotation of the 4th axis.

 8) Operate the robot at an appropriate acceleration/deceleration according to the weight and moment of inertia for the 4-axis specification. Otherwise, the drive section may become prematurely unusable or damaged, or vibration
- 9) If the load moment of inertia is high, vibration may occur in the vertical axis, depending on the position of the vertical axis. In such a case, decrease the acceleration/deceleration for operation as required.

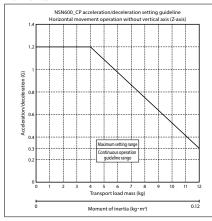
■ PTP Operation



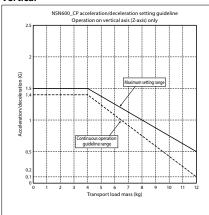


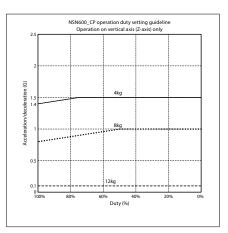
■CP Operation

Horizontal

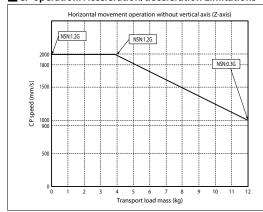


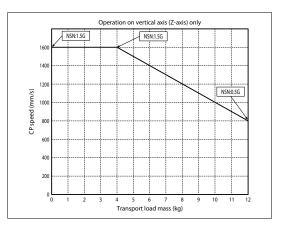
Vertical





■ CP operation: Acceleration/deceleration Limitations







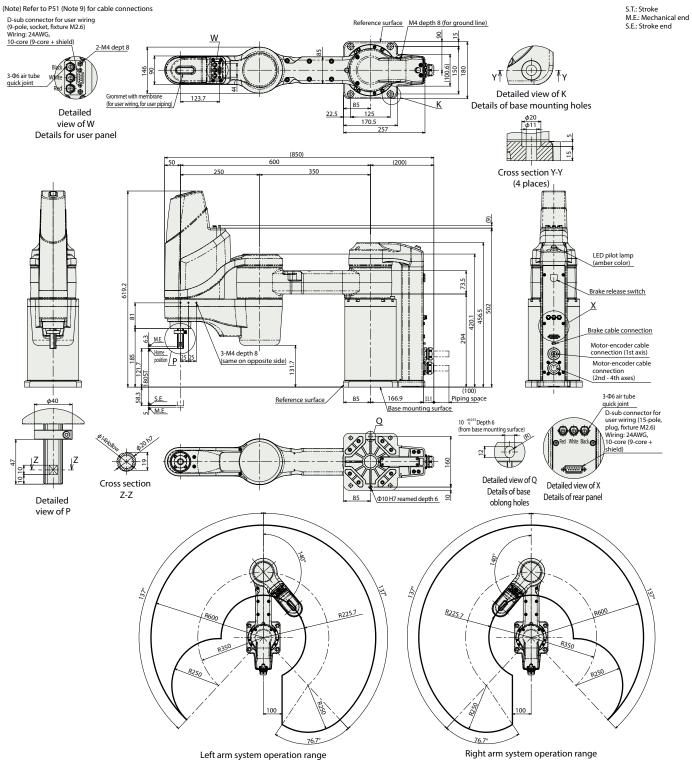
Dimensions

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





■IXA-3NSN6018_4NSN6018



Mass

Ite	Description	
Mass	3-axis specification	31.5kg
ividos	4-axis specification	33.0kg

■IXA-3NSN6033_4NSN6033 S.T.: Stroke M.E.: Mechanical end S.E.: Stroke end (Note) Refer to P51 (Note 9) for cable connections D-sub connector for user wiring (9-pole, socket, fixture M2.6) Wiring: 24AWG, Reference surface M4 depth 8 (for ground line) 10-core (9-core + shield) 2-M4 dept 8 3-06 air tube Detailed view of K Details of base Grommet with membrane (for user wiring, for user piping) mounting holes Detailed view of W Details for user panel 600 Cross section Y-Y (4 places) LED pilot lamp (amber color) Brake release switch Brake cable connection Motor-encoder cable connection (1st axis) 3-M4 depth 8 same on opposite side) Motor-encoder cable connection (2nd - 4th axes) Reference surface 3-Φ6 air tube Base mounting surface quick joint 10 +0.015 Depth 6 (from base mounting surface) D-sub connector for user wiring (15-pole, plug, fixture M2.6) Wiring: 24AWG, 10-core (9-core + shield) **666** $Detailed\ view\ of\ Q$ Details of base Detailed view of X Cross section Details of rear panel oblong holes Detailed Z-Z Φ10 H7 reamed depth 6 🔎 view of P R225.7 Mass Description 3-axis specification 32.0kg Mass 4-axis specification 33.5kg

Applicable controller

The actuator on this page can be operated by the controllers indicated below.

External Max.number of Power supply Control method												Max. number of positioning								
Name		connectable axes		Positioner	Pulse train	D	Network* option											points	Reference page	
	VIEW	Connectable axes	voltage	Positioner	Puise train	Program	DV	CC	CIE	PR	CN	ML	ML3	EC	EP	PRT	SSN	ECM	points	
XSEL-RAX3/SAX3 (for IXA)	i in	3	3-phase AC200V	_	_	•	•	•	_	•	_	_	_	•	•	_	_	_	41250 (Depending on the type)	54
XSEL-RAX4/SAX4 (for IX and IXA)	lien.	4	5-phase AC200V	_	_	•	•	•	_	•	-	-	-	•	•	_	-	_	36666 (Depending on the type)	54

Left arm system operation range

Right arm system operation range