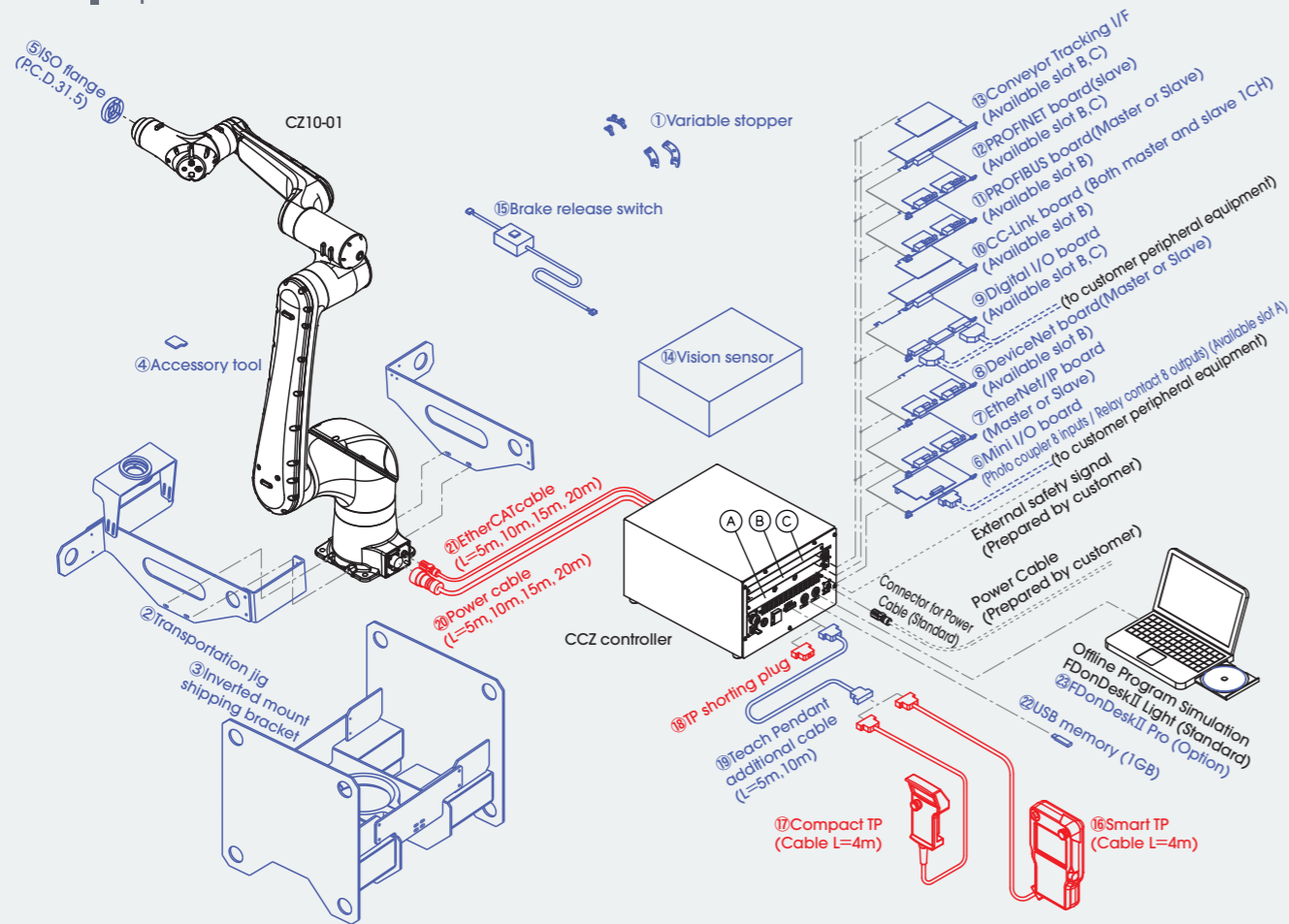


Option List



●Red Mark: Selectable Essential Option ●Blue Mark: Option
Please install options according to option installation instructions. TP=Teach Pendant

No.	Item	Specification	Parts NO.
①	Variable stopper	For axis 1	OP-S5-040
		For axis 2	OP-A5-038
		For axis 3	OP-A6-035
		For axis 3	OP-S2-053
②	Transportation jig	Crane transport jig	OP-S2-053
③	Inverted installation jig	Jig for inverted installation	OP-S7-013
④	Accessory tool	Zero point positioning block	OP-T2-104
⑤	ISO Flange	P.C.D.31.5	OP-W2-016
⑥	Small I / O board	I / O optocoupler input 8 / NPN transistor output 8	CFD-OP150-A
		I / O optocoupler input 8 / Relay output 8 points	CFD-OP150-B
⑦	Ethernet/IP board	Master 1 CH	CFD-OP130-A
		Slave 1 CH	CFD-OP130-B
		Master 1CH + Slave 1 CH	CFD-OP130-C
		Slave 2 CH	CFD-OP130-D
		Master 2 CH	CFD-OP130-E
⑧	Device net board	Master 1 CH	CFD-OP131-A
		Slave 1 CH	CFD-OP131-B
		Master 1CH + Slave 1 CH	CFD-OP131-C
		Slave 2 CH	CFD-OP131-D
		Master 2 CH	CFD-OP131-E
⑨	Digital I / O board	I/O optocoupler input 32/NPN transistor output 32	CFD-OP125-A
		I/O optocoupler input 64/NPN transistor output 64	CFD-OP125-B
		I/O optocoupler input 32/PNP transistor output 32	CFD-OP151-A
		I/O optocoupler input 64/PNP transistor output 64	CFD-OP151-B
⑩	CC-Link board	Both master and slave 1CH	CFD-OP98-B

No.	Item	Specification	Parts NO.
⑪	Profibus board	Master 1 CH	CFD-OP132-A
		Slave 1 CH	CFD-OP132-B
		Master 1CH + Slave 1 CH	CFD-OP132-C
		Slave 2 CH	CFD-OP132-D
		Master 2 CH	CFD-OP132-E
		Slave 2 CH	CFD-OP132-F
⑫	Profinet board	Master 1 CH	CFD-OP136-B
		Slave 2CH	CFD-OP136-D
⑬	Conveyor synchronous interface	RS 422 differential input encoder counter	CFD-OP47-A
		Visual Sensor Unit for Controller (Separate Type)	CFD-OP139-A
⑭	Visual device	Visual Sensor Unit for Controller (Separate Type)	CFD-OP139-A
⑮	Brake release switch	Manual brake release option(External unit)	CCZ-OP90-A-L
⑯	High performance Teach Pendant	Cable length 4m	CFDTP-10-04M
⑰	Mini Teach Pendant	Cable length 4m	MINITP-10-04M
⑱	Teach Pendant short circuit plug	Use when TP is not used	CFD-OP153-A
⑲	Teach Pendant extension cable	5m	CFDTP-RC05M
		10m	CFDTP-RC10M
		20m	CFDTP-RC20M
⑳	Power cable	5m	CZ101Z-J1P-05-A
		10m	CZ101Z-J1P-10-A
		15m	CZ101Z-J1P-15-A
		20m	CZ101Z-J1P-20-A
		20m	CZ101Z-J1P-20-A
㉑	EtherCAT Cable	5m	CZ101Z-J1C-05-A
		10m	CZ101Z-J1C-10-A
		15m	CZ101Z-J1C-15-A
		20m	CZ101Z-J1C-20-A
		20m	CZ101Z-J1C-20-A
㉒	USB memory(1GB)	1GByte	FD11-OP93-A
㉓	FD on DESK II Pro	Robot program simulator	FDONDESK2-Pro

DeviceNet and EtherNet/IP is a trademark of ODVA (Open DeviceNet Vendor Association, Inc.).
CC-Link is a trademark of CC-Link Partner Association : CLPA.
PROFIBUS and PROFINET is a trademark of PROFIBUS & PROFINET International.



Slim Collaborative-Robot

CZ10

Slim Collaborative Robot

NACHI

NACHI-FUJIKOSHI CORP.

www.nachi.com

Head Office Shiodome Sumitomo Bldg. 17F, 1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo 105-0021
Tel: +81-(0)3-5568-5247 Fax: +81-(0)3-5568-5237

Robot Division 1-1-1 Fujikoshi-Honmachi, Toyama 930-8511, JAPAN
Tel: +81-(0)76-456-2223 Fax: +81-(0)76-493-5251

●The specifications are subject to changes without notice.
●In case that an end user uses this product for military purpose or production of weapon, this product may be liable for the subject of export restriction stipulated in the Foreign Exchange and Foreign Trade Act. Please go through careful investigation and necessary formalities for export.

CATALOG NO. R7770E

2018.05.Y-ABE-ABE

Collaborative people-friendly design

Nachi's new robot, CZ10, has several people-friendly functions and structures
Makes it easier to install a robot with various applications.

**Stops safely
when contact is
made with person.**

Stops when collision is detected.



User-friendly Design

Pinch points and sharp
edges eliminated for safer
human interaction.

Easy Programming

Pinch Points Eliminated



Basic Specification of Robot

Item	Specification	
Robot type	CZ10	
Number of axis	6	
Drive system	AC servo motor	
Max. working envelope *1	Axis 1	$\pm 2.96\text{rad}(\pm 170^\circ)$
	Axis 2	$-1.30 \sim + 3.92\text{rad}(-75 \sim + 225^\circ)$
	Axis 3	$-1.34 \sim + 3.96\text{rad}(-77 \sim + 227^\circ)$
	Axis 4	$\pm 3.14\text{rad}(\pm 180^\circ)$
	Axis 5	$\pm 2.96\text{rad}(\pm 170^\circ)$
	Axis 6	$\pm 6.28\text{rad}(\pm 360^\circ)$
Max. speed *1	Axis 1	$2.09\text{rad/s}(120^\circ/\text{s})$
	Axis 2	$2.09\text{rad/s}(120^\circ/\text{s})$
	Axis 3	$3.14\text{rad/s}(180^\circ/\text{s})$
	Axis 4	$3.14\text{rad/s}(180^\circ/\text{s})$
	Axis 5	$3.14\text{rad/s}(180^\circ/\text{s})$
	Axis 6	$3.14\text{rad/s}(180^\circ/\text{s})$
Max. payload*1	Wrist	10kg
	Axis 4	25.9N·m
	Axis 5	25.9N·m
Allowable static load torque*1	Axis 4	25.9N·m
	Axis 5	25.9N·m
	Axis 6	5.9N·m
Allowable moment of inertia *2	Axis 4	$0.75\text{kg}\cdot\text{m}^2$
	Axis 5	$0.75\text{kg}\cdot\text{m}^2$
	Axis 6	$0.08\text{kg}\cdot\text{m}^2$
Position repeatability *3	$\pm 0.04\text{mm}$	
Max. reach	1300mm	
Air piping	$\phi 4 \times 1$	
Application signal line	DIx4, DOx3	
Installation *4	Floor/Inverted	
Ambient conditions	Temperature: $0 \sim 45^\circ\text{C}^{*5}$ Humidity: $20 \sim 85\% \text{RH}$ (No dew condensation) Vibration to the installation face: $0.5\text{G}(4.9\text{m/s}^2)$ or less	
Dust-proof Drip-proof performance *6	IP54 equivalent (dust and drain proof-type)	
Robot mass	61 kg	
Safety certification	ISO 10218-1(Equivalent) TS 15066(Equivalent)	

1(rad) = $180/\pi(^{\circ})$, 1(N·m) = 1/9.8(kgf·m)

*1: The "Max. speed" in this table is the available maximum value and will change depending on the work-program and the wrist load condition.

*2: The allowable moment of inertia of wrist changes with load conditions.

*3: Based on JIS B8432

*4: Range of motion limited when robot is invert mounted.

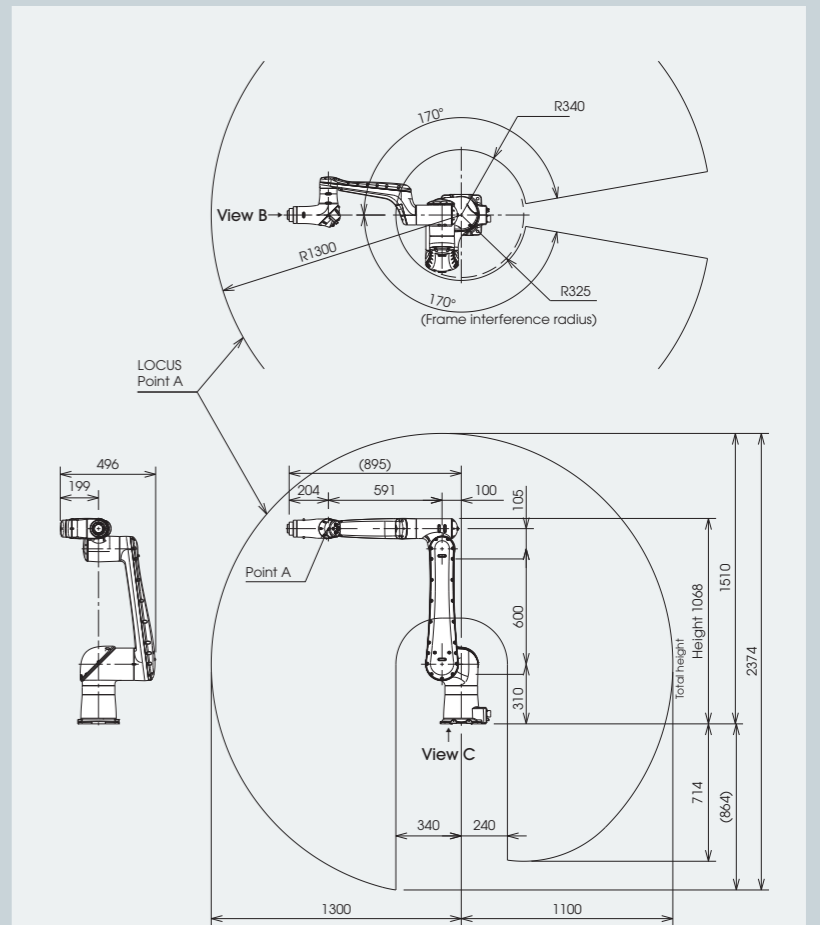
*5: Permitted installation is less than 1,000m above sea level.

Allowable operating temperature dependent on installation height.

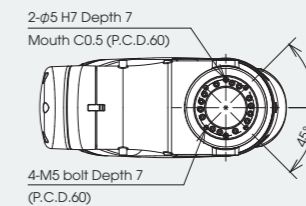
*6: Limit use in applications where liquids, such as, organic compound, acidity, alkalinity, chlorine, gasoline and/or cutting fluids. These could deteriorate seal material.

Wire harness is IP54 equivalent, controller is IP20 equivalent.

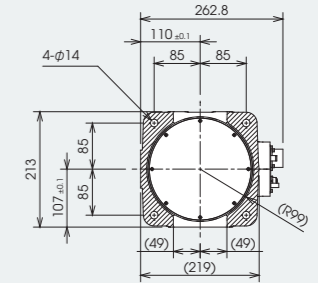
Robot Dimensions and Working Envelope



Wrist Dimensions (View B)



Installing Dimensions (View C)



Application examples

Mutual harmony with people

Assembly support



Sorting



Contents written in this document do not ensure safety of system. Risk analysis of entire system is required to reduce the associated risk of the system.