

User's Manual

Professional tool



delvo Model: DLV45C Series / DCC0241X-AZ



- Please read the manual carefully before you attempt to use your tool so that you may use it
 properly and safely.
- Keep the manual handy so you can use it whenever necessary.
- Due to continuous product development/improvement, the specifications and configurations in this document are subject to change without prior notice.

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Instructions

Thank you very much for your purchase of this NITTO KOHKI product.

Before using your tool, please read this manual carefully so that you may use it properly to get the most out of it. Please keep this manual handy - so you can use it whenever necessary.

The following safety notations are used throughout the manual to highlight safety precautions for the user and for the tool.



* Please note, however, that failure to observe safety precautions under the "**CAUTION**" category could result in a serious occurrence depending on the situation.

Please observe all safety precautions in the manual.

CAUTION: Important precautions for tool setup, operation and maintenance.

About pictograms

▲ WARNING:

Failure to follow the instructions for handling could cause danger when using the tool.



Using this tool improperly could result in serious injury. Read this instruction manual before using the tool.

Precautions

- Please be noted that NITTO KOHKI shall not be responsible for any damages or loss of profit to the customer, or claims received from a third party as a result of download or use of this application.
- The company names and product names used in this manual are trademarks or registered trademarks of the respective company.
- NITTO KOHKI CO., LTD. owns all rights concerning this application.
- Due to continuous product development/improvement, the specifications of this application and the contents of this
 manual are subject to change without prior notice.

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1. Product Overview

Application

This is a screw fastening automation system using a current control type electric screwdriver.

Target models

Electric screwdriver	DLV45C12P-A□/DLV45C12L-A□ ● One uppercase letter (A to Z) fits in the □.
Controller	DCC0241X-AZ (Ver. 1.20 or later)

- Make sure the controller version is 1.20 or later. This system does not operate with an earlier version of the controller. To use a version earlier than 1.20, please contact NITTO KOHKI.
- For details on other usage conditions and product specifications, refer to the instruction manual for the electric screwdriver.

Version checking method

- 1 Connect the electric screwdriver to the controller
- 2 Turn ON (I) the power switch of the controller A buzzer sounds and the LED lights up.



The electric screwdriver and controller model and the program version are displayed on the LCD screen. The version of the electric screwdriver is not specified.



Accessories

The following accessories can be used.

• Use either DLW9017 or DLW9019 as the coupling.



Product name (model)	Appearance	Specifications, etc.
Vacuum pickup DLP7401-K		 An attachment used to vacuum screws Attached vacuum sleeve: DLS4220/ DLS4221 Use DLP7401-J for the J-bit type electric screwdriver. For details on the installation method, refer to the instruction manual for the electric screwdriver. For details on other separately sold sleeves, refer to p. 4.
2-m power cord DLW9210		<ps>E standard product for domestic use 2 m long, 3-pin plug (with ground)</ps>
Extension cable DLW9310		Extends the length between controller and electric screwdriver 3 m long

Separately sold fusion sleeves for DLP7401-K



Model	φd	φD	ł (mm)	L (mm)	Length	Suitable bit *2 (No. x d x L)	Appearance type
DLS4220	9.1	11	5	6		No. 0 x 7 x 75	A
DLS4221	10.6	12.5	5.5	7		NO. 2 X / X / 5	A
DLS4222 *1	8	11	5.3	22		-	A
DLS4223 *1	8.2	10	5	6		No. 2 x 7 x 75	A
DLS4224 *1	6.8	9	25	-		-	С
DLS4225	4.6	7	25	20	45		В
DLS4226	5.1	7	25	20		NO. 1 X 4 X 7 5	В
DLS4227	5.6	7	25	20			В
DLS4228	6.1	9	25	-		No. 2 x 4 x 75	С
DLS4229	6.4	9	25	-		NO. 2 X 4 X 75	С
DLS4230	7.1	9	25	-			С

*1 Made-to-order product

*2 Select the front nominal number that matches the screw.

2. Preparation

Installing on the robot

• For safety reasons, install the electric screwdriver on the robot after the bit has been removed.

1 Attach the pin of 6 DIA provided with the flange attachment (DLW9520) to the flange part of the robot

2 Mount the flange attachment (DLW9520) on the flange part of the robot

Use four M6 screws of strength class 8.8 (recommended length: 15 mm, recommended torque: 8 Nm, sold separately).



0

3 Remove the pin of 6 DIA from the flange and mount the electric screwdriver on the flange attachment Use four M5 screws of strength class 8.8 (recommended length: 15 mm, recommended torque: 4.6 Nm, sold separately).

For details on how to mount the diamond shape flange coupling or the flange coupling, refer to the instruction manual for the electric screwdriver.

The flange attachment mounting holes are different on the DLV45C and DLV04C/10C.



AAD





EN

Connect the cables

For details on how to connect the screwdriver cable and power cable, refer to the instruction manual for the electric screwdriver.



① Controller (DCC0241X)

2 Communication cable (straight) DLW9092 (sold separately)

- ③ Cable for converting from RS-232C to USB (commercial item)
- ④ Control box

Emergency stop

Wire so that force stop function of the controller stops the electric screwdriver in the event of an emergency stop of the universal robot.

For details on the wiring method, refer to the user's manual for the universal robot and the instruction manual for the electric screwdriver.

• Make sure the controller version is 1.20 or later. There is no force stop function in versions earlier than 1.20. To use a version earlier than 1.20, please contact NITTO KOHKI.

Changeover switch

To operate this system, set the changeover switch of the electric screwdriver to neutral.

 If the changeover switch is in the forward or reverse mode, the electric screwdriver can suddenly start, possibly causing an accident or injury.



Align the changeover switch to "o"

3. Using the Software

URCaps

URCaps NittokohkiScrewdriver (hereinafter, "NittokohkiScrewdriver") provides a program for linking the universal robot and the DCC0241X-AZ controller (hereinafter, "the controller") to operate the electric screwdriver, and a function for changing the settings of the controller from a teaching pendant.

Installing the software

- 1 Download the software from the following URL on your PC, and save it in the USB memory https://www.nitto-kohki.co.jp/e/prd/delvo/
- 2 Connect the USB memory to the teaching pendant
- **3** Click the menu icon (1) and then select [Settings] (2)

 Universal Robots Graphical Programming Envi E E E E E 	nament NSTRUATION defaut:
Program Installation Move 1/0 Log Program	Variables
<unnamed></unnamed>	
Load Program	
Status Stopped	No Variables
Robot Age	
Days Haurs Minutes Seconds 7 16 28 48	
	Show Waypoints



The [Settings] screen is displayed.

4 Click [System] (3)

		Settings	
✓ Preferences	System	Keyboard	
Language	Int'l English	Int'l English	•
Run Screen	English programming		
Time			
> Password	Units		
🗲 System	Metric		
	OImperial		
3			

5 Select [URCaps] (④) and then click + (⑤)

		<u>ଚ୍ଚ</u> ଲି	PROGRAM «unnamed» INSTALLATION default	New Open Save	
			Settings		
- [> Preferences	Active URCaps		Inactive URCaps	
	Password			Remote TCP & Toolpath	
	✔ System				
	System				
	URCaps	4			
	Robot Registration				
	Remote Control	URCap Information			
	Network				
	Update				
		5			
	Exit	+ -			Restart



Figure Localization Nove US Log	INSTALLATION default New Open Save	
	Select URCap to Install	
New Cat Copy Path Delete Peterse		Backa
A		
nittokohkiscrewdriver-1,1,7,urcap		
Filename-	Biter:	
nittokohkiscrewdriver-1.1.7.urcap	URCap Files	•

7 Click [Restart] (8)

	Settings								
> Preferences	Active URCaps	Inactive URCaps							
> Password	O NittokohkiScrewDriver	Remote TCP & Toolpath							
✔ System									
System Backup									
URCaps									
Robot Registration									
Remote	URCap Information	URCap Information							
Control	URCap name: NtrokohAscewDriver Verion: 11.7 Developer: NTITO KOHKI CO.J.TD. Goyrights C Compright NTTO KOHKI CO.J.TD.All rights reserved.								
Network									
Update	License.								

The robot restarts and the software installation is complete.

Channel setting

Set screw fastening conditions of each channel.

l			ROC	SRAM <unnamed></unnamed> TTON default	Ren	0pen. 54	1		
	General	NITTOKOHKI_SCREWDRIVER CH_SETTING							
>	Safety	NITTO KOHKI SCREWDRIVER CH S	FT	TING			6		a
\geq	Features		_						
>	Fieldbus	MEASUREMENT METHOD TIME OROTATIC	N S	signa (1)				TECANCEL	(5)
\geq	URCaps	ICH SETTING LIST		CH SETTING					
	NITTOKOH CH_SETTING	CH1:	^	CH NAME					1
	NITTOKOH COMMON	CH2:		SCREW FASTENIN	G TYPE	O SOF	T O HARD		-
		СНЗ:		COUNT		4			
		СН4:		SCREW FASTENIN	G SPEED	Lv5	•		
		сн5: (2)		TORQUE		30	3	%	
		СН6:		INITIAL SPEED		OFF	•		
		СН7:		INITIAL SPEED TIM	E	0.0		sec	
		СН8:		MIDTERM SPEED		OFF	•		
		CH9:	Y	MIDTERM SPEED T	IME	0.0		sec	`

1	Select the measurement method of the setting times such as initial speed, midterm speed, etc.
2	Select the channel to set from the list of channels. When you select a channel, a message saying [RECEIVING CH SETTING] is displayed, and the channel settings are acquired.
3	Set the name of the selected channel and the screw fastening conditions.
4	Updates the channel settings with the edited content. During update, a message saying [UPDATING CH SETTING] is displayed.
5	Cancels the edited content and returns the settings to the state prior to editing.

The following settings are available.

	Details	Setting value	Default
-	CH NAME	Up to 50 double-byte characters (100 single-byte characters) ● If the CH name is changed, the [Installation] settings must be updated. The CH name is saved in the robot, and is not reflected in the controller.	-
1	SCREW FASTENING TYPE	SOFT / HARD	SOFT
2	COUNT	0 to 99	4
3	SCREW FASTENING SPEED	Lv1 to Lv9 • Cannot be input if [SCREW FASTENING TYPE] is [HARD].	Lv5
4	TORQUE	1% to 100%	30%
5	INITIAL SPEED	OFF / Lv1 to Lv9	OFF
6	INITIAL SPEED TIME	0 / 0.01 sec to 9.99 sec*1 0 / 1 to 60000*2 • Cannot be input if [INITIAL SPEED] is [OFF].	0
7	MIDTERM SPEED	OFF / Lv1 to Lv9	OFF
8	MIDTERM SPEED TIME	0 / 0.01 sec to 9.99 sec*1 0 / 1 to 60000*2 • Cannot be input if [MIDTERM SPEED] is [OFF].	0
9	REVERSE SPEED	Lv1 to Lv9	Lv9
10	SCREW FASTENING MEASUREMENT LOWER LIMIT	0 / 0.01 sec to 9.99 sec*1 0 / 1 to 60000*2	0
11	SCREW FASTENING MEASUREMENT UPPER LIMIT	0 / 0.01 sec to 9.99 sec*1 0 / 1 to 60000*2	0
12	WORKPIECE SIGNAL	OFF / ON	OFF
13	WORKPIECE SETUP TIME	0 / 0.1 sec to 9.9 sec	0
14	SCREW FASTENING OK(PASS) SIGNAL	OFF / ON	ON
15	OK(PASS) OUTPUT TIMING	COUNT FINISHED / AT WORKPIECE REMOVAL • Cannot be input if [WORKPIECE SIGNAL] is [OFF].	COUNT FINISHED
16	SCREW FASTENING CONFIRMATION TIME	0 / 0.1 sec to 9.9 sec • Cannot be input if [COUNT RETURN] is [OFF].	0
17	OPERATION OK(PASS) SOUND	OFF / TYPE1 to TYPE9	TYPE1
18	OPERATION NG (FAIL) SOUND	OFF / TYPE1 to TYPE9	TYPE1
19	COUNT UP SOUND	OFF / TYPE1 to TYPE9	TYPE1
20	AUTO REVERSE	OFF / ON AFTER TORQUE UP / ON AFTER SCREW FASTENING MEASUREMENT LOWER LIMIT	OFF
21	REVERSE TIME	0 / 0.01 sec to 9.99 sec*1 0 / 1 to 60000*2 • Cannot be input if [AUTO REVERSE] is [OFF].	0
22	COUNT RETURN	OFF / ONE COUNT ONLY / MULTIPLE COUNTS	ONE COUNT ONLY
23	BIT BRAKE	OFF / ON	ON
24	REFASTENING PROHIBITED TIME	0 / 0.1 sec to 9.9 sec	1.0 s
25	SCREWDRIVER LED	OFF / RED / GREEN / BLUE / YELLOW / CYAN / MAGENTA / WHITE	OFF
26	SCREW FASTENING DIRECTION	RIGHT / LEFT	RIGHT

*1 When the [MEASUREMENT METHOD] of the common settings is [TIME] *2 When the [MEASUREMENT METHOD] of the common settings is [ROTATION SIGNAL]

1 Click [Installation] (1)

1			
	PROGRAM <unnamed> INSTALLATION default</unnamed>	New Open Save	
Program	Variables		
<unnamed></unnamed>			
Load Program			
Status Stopped		No Variables	
Robot Age			
Days Hours Minutes Seconds 7 16 28 48			
	Show Waypoints		

2 Click [URCaps] (2), and then select [NITTOKOHKI_SCREWDRIVER CH_SETTING] (3)

			PRO0 TALLA	SRAM <unnamed> 📑 I NTION default New., o</unnamed>	Spen Save		≡
	> General	NITTOKOHKI_SCREWDRIVER CH_SETTING					
	> Safety	NITTO KOHKI SCREWDRIVER CH SE	тти	NG			
	> Features						
	> Fieldbus	MEASUREMENT METHOD TIME ROTATI	ON S	IGNAL	UPDA	TE CANCEL	
$\underline{\mathbb{Z}}$	V URCaps	CH SETTING LIST		CH SETTING			
(3)	CH_SETTING	CH1:	^	CH NAME			^
	NITTOKOHK COMMON_S	CH2:		SCREW FASTENING TYPE	SOFT O HARD		
		СН3:		COUNT	4		
		CH4:		SCREW FASTENING SPEED	Lv5 🔻		
		CH5:		TORQUE	30	%	
		CH6:		INITIAL SPEED	OFF 🗸 🗸		
		CH7:		INITIAL SPEED TIME	0.0	sec	
		CH8:		MIDTERM SPEED	OFF 🔻	1	
		СН9:	~	MIDTERM SPEED TIME	0.0	sec	~

If the following message is displayed when [NITTOKOHKI_SCREWDRIVER CH_SETTING] is selected, the controller version does not support URCaps. Please contact NITTO KOHKI.



Select [NITTOKOHKI_SCREWDRIVER CH_SETTING] to display [RECEIVING VERSION INFORMATION...]. Wait for the message to disappear.

	🕂 🖗 🕀		P INST.	ROGRAM <unnamed></unnamed> ALLATION default*	[]	0pen	5		с с с с	≡
> General	NITTOKOHKI_SCREWDR	IVER CH_SETTING								
> Safety		WDRIVER CH SET		IG				6		
> Features		In Draven on Der								()
> Fieldbus	MEASUREMENT METHOD	TIME O ROTATIO	N SI	GNAL				UPDATE	CANCEL	
VURCaps	CH SETTING LIST			CH SETTING						
CH_SETTING	CH1:		^	CH NAME						^
NITTOKOHKI COMMON_S	CH2:									
	СНЗ:									
	CH4:	OBTAININ	IG TI	PROGRAM V	VEI	RSIO	N	▼		
	CH5:	SCREWDF	RIV	ER CONTRO	DLL	.ER		%		
	CH6:							▼		
	CH7:							sec		
	CH8:			MIDTERM SPEED		OFF		▼		
	СН9:		~	MIDTERM SPEED TIME		0.0		sec		~

3

Select the channel to edit (3) [RECEIVING CH SETTING...] is displayed. Wait for the message to disappear.

		PRO INSTALU	GRAM <unnamed></unnamed> ATTON default	1 🛅 🔒		:: ≡
> General	NITTOKOHKI_SCREWDF	RIVER CH_SETTING				
> Safety			нкі			
> Features	MILLIO KOIIKI SCK	LWDRIVER CH SEI	TING			
> Fieldbus	MEASUREMENT METHOD		SIGNAL		UPDATE CANCE	EL
V URCaps	CH SETTING LIST	(4)	CH SETTING			
CH_SETTING	CH1:	^	CH NAME			^
NITTOKOH COMMON	CH2:					
	СНЗ:					
	CH4:	RECEIV	ING CH SE	TTING	•	
	CH5:				%	
	СН6:				•	
	СН7:		_	_	sec	
	СНВ:		MIDTERM SPEED	OFF	•	
	СН9:	~	MIDTERM SPEED TIM	E 0.0	sec	~

4 Edit the setting items (5), and click [UPDATE] (6)

Select the measurement method of the setting times in \bigcirc .

l	R 🔚 🚬		PROC	SRAM <unnamed></unnamed>	Open.	Sm.			
>	General	NITTOKOHKI_SCREWDRIVER CH_SETTING							
>	Safety		SET	TING					
>	Features	ATTO KOTKI SCREWBRIVER CIT				_	~		
>	Fieldbus	MEASUREMENT METHOD 🔘 TIME 🔘 ROTATIO	SUREMENT METHOD ITIME OROTATION SIGNAL 7						
\geq	URCaps	CH SETTING LIST		CH SETTING					
	CH_SETTING	CH1:	^	CH NAME				^	
	OMMON	CH2:	1	SCREW FASTENING TYPE	O s	OFT O HARD			
		СНЗ:]	COUNT	4				
		СН4:		SCREW FASTENING SPEED	Lv5		•		
		CH5:		TORQUE 5	30		%		
		СН6:		INITIAL SPEED	OFF	•	·		
		СН7:		INITIAL SPEED TIME	0.0		sec		
		СН8:		MIDTERM SPEED	OFF	•	-		
		CH9:	~	MIDTERM SPEED TIME	0.0		sec	~	

Click [CANCEL] to return to the settings before editing. A confirmation message is displayed.

5 Click [Yes]



A message saying [UPDATING CH SETTING...] is displayed.

L	R 🔚 之	⊕ № ⊡	PROG INSTALLA	RAM <unnamed></unnamed> TION default	1944. Open.	5 ave		C Local C	c. <u> </u>
>	General	NITTOKOHKI_SCREWDI	RIVER CH_SETTING						
>	Safety			TING			6	NITTO KOH	IKI
×		MITTO KONKI SCA	E WDRIVER CH SET	IIIIG					
> Fieldbus		MEASUREMENT METHOD	TIME O ROTATION S	IGNAL			UPDATE	CANCEL	Ξ.
\geq	URCaps	CH SETTING LIST		CH SETTING					
	NITTOKOH CH_SETTING	CH1:	^	CH NAME					^
	NITTOKOH COMMON	CH2:							
		СНЗ:							
		CH4:	UPDAT	UPDATING CH SETTING					
		CH5:					%		
		CH6:					-		
		СН7:					se	с	
		CH8:		MIDTERM SPEED	OFF		-		
		СН9:	~	MIDTERM SPEED TI	ME 0.0		se	с	~

The update is complete when the display is cleared.

 $\textbf{6} \quad \text{Click [Save...] (®), and then click [Save All] (®) or [Save Installation As...] (@)}$

Run Program Installatio	Mawa UO Log		9 Save All	Open Save	Local	
Safety	NITTO KOHKI SCREWDRIVER CH	SET		ogram As		a
Fieldbus		ON S	IGNAL	stallation As	PDATE CANCEL]
VICaps	CH SETTING LIST		CH SETTING			
CH_SETTING	CH1:	^	CH NAME			16
NITTOKOH COMMON	CH2:		SCREW FASTENING TYPE	SOFT O HARD		
	СНЗ:	1_	COUNT	4		
	CH4:	1	SCREW FASTENING SPEED	Lv3	•	
	CH5:	1	TORQUE	40	%	
	CH6:	1	INITIAL SPEED	OFF	•	
	CH7:	1	INITIAL SPEED TIME	100		
	CH8:	1	MIDTERM SPEED	OFF	•	
	CH9:	~	MIDTERM SPEED TIME	200		- 1

The installation settings are saved.

Common settings

The common settings can be made from the teaching pendant.

l			PROGRAM <u Installation def</u 	nnamed> [ault* Ne	n Open	Save		≡
>	General	NITTOKOHKI_SCREWDRIVE	R COMMON_SETTING					
>	Safety		DRIVER COMMON SETTI	NG				
>	Features	NITTO KONKI SCREW	DRIVER COMMON SETT	NO		-	N	
>	Fieldbus				_	(2)	UPDATE CANCEL	3)
\sim	URCaps	MEASUREMENT METHOD				\sim		
	NITTOKOH CH_SETTING	CHECK BUZZER SOUND	OFF OON			-		
	NITTOKOH COMMON	BUZZER VOLUME	100%	•				
		SOREW FASTENING NG(FAIL) CHECK						
		LCD BACKLIGHT						
		IDLING NG(FAIL) TIME	0.0	sec				
		FORCE STOP METHOD	O OFF O A 🔘 B					

1	Make the common settings for the controller
2	Updates the common settings with the edited content. During update, a message saying [UPDATING COMMON SETTING] is displayed.
3	Cancels the edited content and returns the settings to the state prior to editing.

The following settings are available.

	Details	Setting value	Default
-	MEASUREMENT METHOD	TIME / ROTATION SIGNAL • The setting is made from the Channel Setting screen.	-
1	CHECK BUZZER SOUND	OFF / ON	ON
2	BUZZER VOLUME	OFF / 10% / 30% / 50% / 80% / 100%	100%
3	SCREW FASTENING NG (FAIL) CHECK	OFF / ON	ON
4	LCD BACKLIGHT	OFF / ON	OFF
5	IDLING NG (FAIL) TIME	0 / 0.1 sec to 9.9 sec	0
6	Forced stop	OFF / A / B	-
		 Changes cannot be made. 	

1 Click [Installation] (1)

(1)

		♣ 応 感	PROGRAM <unname< b=""> INSTALLATION default*</unname<>	d>	Open	Save	≡ ²²²²
> Ge	neral	NITTOKOHKI_SCREWDRIVE	R COMMON_SETTING				
> Sa	fety						
> Fe	atures	NITTO KORKI SCREW					
> Fie	ldbus						UPDATE CANCEL
V UR	Caps	MEASUREMENT METHOD					
	NITTOKOH CH_SETTING	CHECK BUZZER SOUND	OFF OON			-	
	NITTOKOH COMMON	BUZZER VOLUME	100%				
		SOREW FASTENING NG(FAIL) CHECK	OFF OON				
		LCD BACKLIGHT	O OFF O ON				
		IDLING NG(FAIL) TIME	0.0	sec			
		FORCE STOP METHOD	O OFF O A OB				

2 Click [URCaps] (2), and then select [NITTOKOHKI_SCREWDRIVER COMMON_SETTING] (3)

		∰ <u>©</u> ∰		PROGRAM <unnamed< b="">s INSTALLATION default*</unnamed<>	New	Open	Save	сссс сссс	≡
	> General	NITTOKOHKI_SCREWDR	IVER COMMON_S	ETTING					
	> Safety			MMON SETTING					
	> Features	MITTO KOTIKI SCK	LWDRIVER CO	MINON SETTING					
	> Fieldbus							UPDATE CANCEL	
(2)	V URCaps	MEASUREMENT METHOD							
	NITTOKOH CH_SETTING	CHECK BUZZER SOUND		N					
3	NITTOKOH COMMON	BUZZER VOLUME	· · · · · · · · · · · · · · · · · · ·						
		SCREW FASTENING NG(FA CHECK							
		LCD BACKLIGHT					_		
		IDLING NG(FAIL) TIME	RECEIV		NSE	IIIN	G		
		FORCE STOP METHOD							
		'							
	Power off			Speed 100%	-		0	D O Simulation	

[UPDATING COMMON SETTING...] is displayed. Wait for the message to disappear. If the following message is displayed when [NITTOKOHKI_SCREWDRIVER COMMON_SETTING] is selected, the controller version does not support URCaps. Please contact NITTO KOHKI.

8 El	RROR
0	THE PROGRAM VERSION OF SCREWDRIVER CONTROLLER IS NOT URCAP COMPLIANT. SEE INSTRUCTION MANUAL FOR DETAILS
	OK

3 Edit the setting items (4), and click [UPDATE] (5)

	∰ Q ∰	PROGRAM <unnamed></unnamed> INSTALLATION default*	New Open.	Save.	<u>دددد</u> =
> General	NITTOKOHKI_SCREWDRIVE	R COMMON_SETTING			
> Safety		IDDIVED COMMON CETTING			
> Features	NITTO KORKI SCREW	DRIVER COMMON SETTING			
> Fieldbus			_	(5)	UPDATE CANCEL
V URCaps	MEASUREMENT METHOD			0	
NITTOKOH CH_SETTING	CHECK BUZZER SOUND	OFF OON		_	
NITTOKOH COMMON	BUZZER VOLUME	100% 🗸	4		
	SCREW FASTENING NG(FAIL) CHECK	OFF OON			
	LCD BACKLIGHT	O OFF ON			
	IDLING NG(FAIL) TIME	0.0 se	20		
	FORCE STOP METHOD	O OFF O A OB			

Click [CANCEL] to return to the settings before editing. A confirmation message is displayed.

4 Click [Yes]



A message saying [UPDATING COMMON SETTING...] is displayed.

		PROGRAM <unnamed> INSTALLATION default*</unnamed>	Ren	Open. Save		
> General	NITTOKOHKI_SCREWDRI	VER COMMON_SETTING				
> Safety		WORKER COMMON SETTING				
> Features	NITTO KORKI SCRE	WDRIVER COMMON SETTING				
> Fieldbus					UPDATE CANCEL	
V URCaps	MEASUREMENT METHOD	ROTATION SIGNAL				
NITTOKOH CH_SETTING	CHECK BUZZER SOUND	OFF OON				
NITTOKOH COMMON	BUZZER VOLUME					
	SOREW FASTENING NG(FA CHECK					
	LCD BACKLIGHT		SET	TING		
	IDLING NG(FAIL) TIME	of Darme connon	521			
	FORCE STOP METHOD					
					_	
Power off		Speed 100%	•	C	D Simulation	

The update is complete when the display is cleared.

Creating the operation program

Create the program for operating the electric screwdriver.

(1)

For details on the operation program, refer to the user's manual for the universal robot.

1 Click [Installation] (1)

Program	Variables				
<unnamed></unnamed>					
Load Program					
Status Stopped		No	Variabl	les	
Robot Age					
Days Hours Minutes Seconds 7 16 28 48					

2 Click [General] (2) and then [Screwdriving] (3), and then select [NITTO KOHKI SCREWDRIVER] (4)

ļ	R 🔚 之	∲ & 函	PROGRAM <un< b=""> INSTALLATION defa</un<>	named> 😭 🛅 🔚 .lt: Nex Open Save	C C Local C C C
2)	' General	Screwdriving			
	TCP Mounting I/O Setup Variables Startup Smooth Transition	Select your screwdriver: Use Screwdriving Set Use the TCP page to c screw and the desired afree understand and set up the (Select	r-DefinedDefinedDefinedDefinedDefinedDefinedDefinedDefined	river/head of the	
9	Tracking Screwdriving Home	I/O Signals Interface	Input OK Select 💌	Output Program Selection 1 Select	Start Select 🗸
>	Safety		Not OK	Program Selection 2	Program Selection Delay
5	Features		Select 💌	Select 🗸	• 1.0 s
>	Fieldbus		Ready	Program Selection 3	
>	URCaps		Select 💌	Select 🗸	
				Program Selection 4	7
				Select	

3 Select [TCP] (5)

To link with the workpiece signal, select the input signal to be linked (6)



4 Select the forced stop output signal from [Forced stop signal] (⑦)

	gam Lustalation		M	PROGF INSTALLAT	RAM <unnamed< b="">a TON default*</unnamed<>	> 🔓	Open	5.8VA		° ° ⊟
🗸 Gener	al	Screwdriving								
TCF	, ,	Select your scr	ewdriver: NITTO KOHKI S	CREWDRIVER	▼					
Pay	rload									
Мо	unting	NITTO	KOHKI SCREV	NDRIVE	R SETU	Р				
I/O	Setup									
Тос	ol I/O	SET THE DIRI	ECTION OF THE SCREWDF	IVER	х					
Var	iables	TCP		•	0.	.00 mm				
Sta	rtup				Y:					
Sm	ooth				0.	.00 mm				
Ho	nsicion				Z					
Cor	vevor	WORKDIEGE	CICALA		0.	.00 mm	D. CLCNIAL			
Tra	cking	SELECT	SIGNAL	-	3	FLECT	IP SIGNAL	-	•	$\overline{7}$
Scr	ewdriving	DELEGT		-	S	ET THE FO	RCE STO	P METHO	0	\sim
> Safety	/				II		N SETTING	GS.		
> Featu	res									
> Fieldb	us									
> URCap	s									

5 Click [Program] ([®])

8		
	PROGRAM «unnamed» 🔐 💼 📊 INSTRALLATION default* New. Oran. Saw.	د د د د
✓ General	Screwdriving	
TCP		
Payload		
Mounting	NITTO KOHKI SCREWDRIVER SETUP	
I/O Setup		NITTO KOHKI
Tool I/O	SET THE DIRECTION OF THE SCREWDRIVER X:	
Variables	TCP • 0.00 mm	
Startup	Y:	
Smooth	0.00 mm	
Home	Z:	
Conveyor	0.00 mm	
Tracking	WORKPIECE SIGNAL FORCE STOP SIGNAL	_
Screwdriving		•
> Safety	IN COMMON SETTINGS	
> Features		
> Fieldbus		
> URCaps		
 Features Fieldbus URCaps 	IN COMMON SETTINGS.	

6 Click [Advanced] (9) and select [Screwdriving] (10)

			ROGRAM <unname< b=""> ALLATION default*</unname<>	d>*	Seri. Save.	Ľ,]::≡
~	> Basic	م	Command	Graphics	Variables		
(9)	V Advanced	1 V Robot Program	Screwdriv	ving			
	SubProg	3 9 Duti 4 Jack Jack Jack Jack Jack Jack Jack Jack	Screwdriver: I	чітто конкі s	CREWDRIVER		
	If		Tighten				NITTO KOHKI
	Script		O Loosen				
	Event						
	Thread						
	Switch) (Enable Sta	arting Point			
\sim	Timer						
(10)	Screwdriving		-				
	Home		Process				
	> Templates		Follow the	screw using		rce 🔻	
	> URCaps		Force			N	
			Speed Im	t		mm/s	
		< ▲ ♣ ๖ < ₭ ▣ ඕ ඕ ⊒	+ Add L	Intil			

7 Make the following settings

R I			ROGRAM <unname< b="">d ALLATION default*</unname<>	i>* 🔓 🛛	en Save		° ° ⊟
> Basic		Q	Command	Graphics	Variables		
V Advan	P 2 P Screwddidog		Screwdriv	ing			
Sut	Prog 3 - Until	for this boundary by	Screwdriver: N	ITTO KOHKI SO	CREWDRIVER		
Ass	ignment 4 Add actions	for this handler be	Direction	(1)			
If	(13)		🔘 Tighten	\mathbb{U}			
Scr	pt		O Loosen				
Eve	nt						
Thr	ead						
Swi	tch	Ĩ	Enable Sta	rting Point			
Tim	er det in e						
Scr	ewanving		Process		(12)		
> Tempi	ates		Follow the	screw using	Force	~	
> URCar	s		Force			N	
			Sneed limit				
	<	>	opecaning				
			+ Add U	ntil (13)			
	<u></u>						
(14)	Select the advancing	direction (ro	otation dire	ection) of t	the screwdri	ver.	
U	Looson: Powara rota	tion					
	Luusen. Keverse Iula						
(12)	Set the processing me	ethod when	the screw	driver is a	advancing.		
(13)	Select the condition for	or stopping	the screwo	driver. You	u can also ad	dd conditio	ins.

When only channel switching is performed

1 Click [URCaps] (1), and then select [CH_SWITCHING_OF NITTOKOHKI_SCREWDRIVER] (2)

> Basic	۹	Command	Graphics	Variables		
Advanced Templates URCaps CH SWITC	1 ▼ Robot Program 2 ▼ Screwdriving 3 ♥ ● Unpl 4 ● Wind	CH_SWIT	CHING_OF	ΝΙΤΤΟΚΟΗΚΙ_S	SCREWDRIVER	го кон
NITTOKOH	5 OH SWITCHING OF NITTO KOHKI SC		CH1	HING CH]	
		Ð				

Select the channel to switch (3)



List of error messages



Product information

Please refer to the following website for information on NITTO KOHKI products, accessories, dimensional outline drawings, and other public announcements.

Japanese: https://www.nitto-kohki.co.jp/

English: https://www.nitto-kohki.co.jp/e/



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