**Delvo Brushless Type C Series (Current control type)**

**Model** DLV45C

**Thirty different torque settings can be set on a single screwdriver!**

- Current controlled torque system
- Low-voltage brushless motor
- ESD (Electrostatic Discharge) protection structure
- For both hand-held / automated machines (External startup)
- Nine speed settings available
- Automatic three step speed control function
- Two types of measuring methods (Time/Motor rotation signal)
- Seven color indication LED (At the tip of the screwdriver)
- Two external I/O signal connection ports (NPN ↔ PNP switchable, RS-232C)
- Various settings can be configured via a PC (Free setting software available on NITTO KOHKI website)
- Built-in screw counting function

Controller DCC0241X-AZ

**Controller**

- Thirty different torque settings can be set on a single screwdriver!
3. End of fastening

When the desired current value (adjusted by corresponding torque value) is reached, current flow is cut off and the screwdriver stops.

2. During fastening

As the load increases during fastening, so does the amount of current allowed.

1. Start of fastening

At start-up, a small amount of current is allowed.

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Bit Type</th>
<th>Mass (kg [lbs])</th>
<th>Standard Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLV45C12L-AY K</td>
<td>23 1/16</td>
<td>0.63 [1.39]</td>
<td>Bit NK35 (No.2x7x75): 1 pc. Connection Cord 2 m (DLW9078): 1 pc. Suspension Bail: 1 pc.</td>
</tr>
<tr>
<td>DLV45C12P-AY K</td>
<td>23 1/2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Model:** DLV45C12L-AY K
- **Bit:** Bit NK35 (No.2x7x75): 1 pc.
- **Connection Cord:** 2 m (DLW9078): 1 pc.
- **Suspension Bail:** 1 pc.

**Brushless Electric Screwdriver for Machine Screw (2.5 - 6.0 mm)**

- **Torque and fastening setting of**

<table>
<thead>
<tr>
<th>1st unit</th>
<th>2nd unit</th>
<th>3rd unit</th>
<th>4th unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 Nm</td>
<td>1.8 Nm</td>
<td>3.0 Nm</td>
<td>1.8 Nm</td>
</tr>
<tr>
<td>1000 min⁻¹</td>
<td>500 min⁻¹</td>
<td>800 min⁻¹</td>
<td>500 min⁻¹</td>
</tr>
</tbody>
</table>

**Mechanism of Current Controlled Torque System**

1. **Start of fastening**
   - At start-up, a small amount of current is allowed.

2. **During fastening**
   - As the load increases during fastening, so does the amount of current allowed.

3. **End of fastening**
   - When the desired current value (adjusted by corresponding torque value) is reached, current flow is cut off and the screwdriver stops.

**Torque and Speed Chart**

- **Model:** DLV45C12L-AY K
- **Input Voltage:** 100 - 240 V AC, 50/60 Hz
- **Output Voltage:** 40 V DC
- **Input Signal Method:** Photocoupler input (24 V DC drive (5 mA/1 input), NPN/PNP switchable)
- **Output Signal Method:** Photocoupler output (30 V DC or less, 80 mA/1 output or less, NPN/PNP switchable)
- **Service Power Source:** 24 V DC (Maximum capacity 200 mA)
- **Serial Signal Method:** RS-232C
- **ESD (Electrostatic Discharge) Protection:** Adopted (IEC61340-5-1 compliant)
- **Mass:** 1.8 [3.97] kg

**Electric Screwdriver**

- **Model:** DLV45C12P-AY K
- **Input Voltage:** 100 - 240 V AC, 50/60 Hz
- **Output Voltage:** 40 V DC
- **Input Signal Method:** Photocoupler input (24 V DC drive (5 mA/1 input), NPN/PNP switchable)
- **Output Signal Method:** Photocoupler output (30 V DC or less, 80 mA/1 output or less, NPN/PNP switchable)
- **Service Power Source:** 24 V DC (Maximum capacity 200 mA)
- **Serial Signal Method:** RS-232C
- **ESD (Electrostatic Discharge) Protection:** Adopted (IEC61340-5-1 compliant)
- **Mass:** 1.8 [3.97] kg

**Caution**

- *Speed and torque differs depending on the temperature. (Use within the range of +10 to +40°C)*
- *Do not retighten screws that are already tightened. The torque will become larger than the set torque.*
- *About optional accessories (See page 9 "Optional Accessories")*
- *The power cord for the controller (DCC0241X-AZ) is sold separately. Ask us for the required power cord when ordering.*
- *For torque measurements, please use Nitto Kohki’s Torque Checker and Soft Joint / Hard Joint (sold separately).*
**thirty screwdrivers can be consolidated into one.**

**Current Controlled Specifications**
- **Torque System**
- **Mechanism of Mass Torque**
- **Power Source**
- **Starting Method**
- **Model**
- **Power Consumption**

**Tapping Screw Setting**
- **Machine Screw Setting**
- **SOFT fastening**

All in one!

At start-up, a small amount of current is allowed. As the load increases during fastening, so does the amount of current allowed. Fastening setting of tapping screws or fastening soft objects such as rubber.

**Soft / Hard fastening Settings**

**Soft fastening setting**
- Suitable for workpieces with high fastening load such as tapping screws or fastening soft objects such as rubber.

**Timing chart**
- The image of the control action, seating the screw at the set rotation speed.

**Hard fastening setting**
- Suitable for workpieces with small fastening load such as threaded holes or rigid bodies such as metal.

**Timing chart**
- A control that seats the screw at the seating rotation speed according to the torque setting value, when the initial speed time / midterm speed time is elapsed.

**Torque range: Output Torque and Rotation Speed**

There are nine levels for rotation speed setting. (400 to 1200 min⁻¹)

Corresponds to high torque fastening, even at SOFT fastening setting or slow rotation speed. (Corresponds to a maximum of 3 Nm at 400 min⁻¹)

- **Torque Range of SOFT fastening setting**
  - Nine setting levels available
- **Torque Range of HARD fastening setting**

---

*When measuring the torque with Torque Checker, use Soft Joint (DLW4050) for SOFT fastening setting, use Hard Joint (DLW4040) for HARD fastening setting. (See page 9)*

*Instruction manual P68, P69  
Instruction manual P11, P12*
**Rotation speed: Built-in automatic speed control function**

Built-in automatic three step variable speed control function. Enables compatibility of "quality of slow speed" and "efficiency of high speed".

- **Low speed at start**
  - Low speed starting reduces the problems at start
  - If a bit is not well down in the cross-section of a screw, the cross-section may be damaged.
  - If a screw does not fit in a thread, the screw may be cross-threaded and seated partially.

- **High speed feeding at midterm**
  - High speed feeding at midterm improves efficiency and quality of fastening work
  - High speed feeding at midterm improves efficiency compared with conventional low speed models.
  - Low speed starting and low speed fastening at finish improve quality of screw fastening work compared with conventional high speed models.

- **Low speed fastening at finish**
  - Low speed fastening at finish reduces the problems at finish
  - If a bit is not well down in the cross-section of a screw, the cross-section may be damaged.
  - High speed fastening from start to finish generates overshoot torque (over-tightening by an inertial force) and may cause breakage of a screw neck part.

**Screw fastening time measuring (Upper / Lower limit)**

The upper / lower limit of screw fastening time (correct timer) can be set. It will be judged as "correct fastening" only when the measured time is between the upper limit and lower limit. Either limit can be switched off.

**Rotation direction setting**

Specify the rotation direction of forward rotation. "RIGHT" for clockwise, "LEFT" for counterclockwise.

**两点类型的测量方法**

There are two methods to measure the setting time of start and midterm.

- **TIME** Measure by time. You can decide the setting value intuitively.
- **MOTOR SIGNAL** Measure by the motor rotation signal. Even if you change the rotation speed, you do not need to set the measurement time or rotation time.

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*Instruction manual P30 to P32
Instruction manual P32
Instruction manual P41
Instruction manual P37*
Channel setting

The unit of fastening work performed continuously under the same conditions is called a "channel". Up to thirty channels can be registered in the memory.

Example of motion setting

<table>
<thead>
<tr>
<th>Channel</th>
<th>CH1</th>
<th>CH2</th>
<th>CH3</th>
<th>CH4</th>
<th>CH30</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Screw fastening mode</td>
<td>SOFT</td>
<td>SOFT</td>
<td>HARD</td>
<td>SOFT</td>
<td>HARD</td>
</tr>
<tr>
<td>2: Number of screw fastening</td>
<td>2 pcs.</td>
<td>13 pcs.</td>
<td>5 pcs.</td>
<td>3 pcs.</td>
<td>20 pcs.</td>
</tr>
<tr>
<td>3: Speed level at finish</td>
<td>Lv5</td>
<td>Lv9</td>
<td>AUTO</td>
<td>Lv1</td>
<td>AUTO</td>
</tr>
<tr>
<td>4: Torque</td>
<td>10%</td>
<td>80%</td>
<td>30%</td>
<td>45%</td>
<td>20%</td>
</tr>
<tr>
<td>5: Speed level at start</td>
<td>Lv1</td>
<td>OFF</td>
<td>Lv9</td>
<td>Lv3</td>
<td>Lv1</td>
</tr>
<tr>
<td>6: Rotation time at start</td>
<td>0.1 sec.</td>
<td>—</td>
<td>0.3 sec.</td>
<td>0.8 sec.</td>
<td>1.0 sec.</td>
</tr>
<tr>
<td>7: Speed level at midterm</td>
<td>Lv9</td>
<td>OFF</td>
<td>OFF</td>
<td>Lv8</td>
<td>Lv7</td>
</tr>
<tr>
<td>8: Rotation time at midterm</td>
<td>0.5 sec.</td>
<td>—</td>
<td>—</td>
<td>1.2 sec.</td>
<td>0.5 sec.</td>
</tr>
<tr>
<td>9: Speed level at reverse rotation</td>
<td>Lv9</td>
<td>Lv9</td>
<td>Lv7</td>
<td>Lv5</td>
<td>Lv5</td>
</tr>
<tr>
<td>26: Rotation direction</td>
<td>RIGHT</td>
<td>RIGHT</td>
<td>RIGHT</td>
<td>LEFT</td>
<td>RIGHT</td>
</tr>
</tbody>
</table>

Channel pattern setting

A series of operations combining each channel is called a “channel pattern". Up to eight channels can be registered per channel pattern. Up to thirty channel patterns can be set. When combining nine or more channels, use multiple channel patterns.

CHPAT 1 CH1 CH2 CH3 CH4 CH5 CH6 CH7 CH8

CHPAT 2 CH9 CH10 CH11 CH12 CH13 CH14 CH15 CH16

CHPAT 3 CH17 CH18 CH19 CH20 CH21 CH22 CH23 CH24

Example of channel pattern

CHPAT 1 Register four channels

CH11 → CH12 → CH13 → CH14 → End → Repeat

CHPAT 2 Register ten channels

(CHPAT 2)

CH11 → CH12 → CH13 → CH14 → CH15 → CH16 → CH17 → CH18 → Go to CHPAT 3

Go to CHPAT 2 End CH20 → CH19

Setting lock function

Entry of password to enter channel setting mode can be enabled/disabled. Prevents unintended setting change.

Auto reverse function

The screwdriver automatically reverses after torque-up or reaching the preset time. Auto reverse mode can be used for temporarily fastening screws or verifying tapped holes.
When connecting to an external device, it can be connected in two ways.

### Built-in LED function

The LED at the tip of the electric screwdriver is always lit in the specified color. Color coding for each channel is possible. Also, it lights in the specified color when OK(PASS) / NG(FAIL) / count up.

![Status in three colors](image)

#### Two safety functions

**1. Caution mode**

A torque value that alerts the operator can be set. After the channel is switched, if the torque exceeds the preset value, a warning is displayed on the counter and the electric screwdriver will not start.

**2. Refastening prohibited time setting**

To prevent additional fastening (second tightening, confirmation tightening, etc.), it can be set so that it does not restart after torque-up (for 0.0 to 9.9 seconds). Adjust the set value according to the skill level of the operator and the interval between screw fastening operations.

**External I/O signal**

When connecting to an external device, it can be connected in two ways.

<table>
<thead>
<tr>
<th>Terminal No.</th>
<th>Function</th>
<th>Details</th>
<th>I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+24 V DC</td>
<td>Built-in service power supply (Capacity: Maximum 200 mA)</td>
<td>I/O</td>
</tr>
<tr>
<td>2</td>
<td>0 V DC</td>
<td></td>
<td>I/O</td>
</tr>
<tr>
<td>3</td>
<td>Input signal common terminal</td>
<td>Input signal common terminal (See page 49 of instruction manual)</td>
<td>Input</td>
</tr>
<tr>
<td>4</td>
<td>Output signal common terminal</td>
<td>Output signal common terminal (See page 50 of instruction manual)</td>
<td>Output</td>
</tr>
<tr>
<td>5</td>
<td>Switching signal A</td>
<td>Specify channel or channel pattern using a 5-bit input signal.</td>
<td>Input</td>
</tr>
<tr>
<td>6</td>
<td>Switching signal B</td>
<td></td>
<td>Input</td>
</tr>
<tr>
<td>7</td>
<td>Switching signal C</td>
<td></td>
<td>Input</td>
</tr>
<tr>
<td>8</td>
<td>Switching signal D</td>
<td></td>
<td>Input</td>
</tr>
<tr>
<td>9</td>
<td>Switching signal E</td>
<td></td>
<td>Input</td>
</tr>
<tr>
<td>10</td>
<td>Forward rotation start</td>
<td>Startup with external input signal. The electric screwdriver operates while the input signal is ON.</td>
<td>Output</td>
</tr>
<tr>
<td>11</td>
<td>Reverse rotation start</td>
<td></td>
<td>Output</td>
</tr>
<tr>
<td>12</td>
<td>Workpiece</td>
<td>Input workpiece signal (workpiece detection signal output). Workpiece signal is ON while input signal is ON.</td>
<td>Output</td>
</tr>
<tr>
<td>13</td>
<td>External reset</td>
<td>Input external reset signal</td>
<td>—</td>
</tr>
<tr>
<td>14</td>
<td>N/A</td>
<td>No connection</td>
<td>—</td>
</tr>
<tr>
<td>15</td>
<td>Channel A</td>
<td>The channel being operated or being set is ON</td>
<td>—</td>
</tr>
<tr>
<td>16</td>
<td>Channel B</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>17</td>
<td>Channel C</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>18</td>
<td>Channel D</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>19</td>
<td>Channel E</td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>20</td>
<td>Forward rotation signal</td>
<td>Output signal is ON during forward rotation</td>
<td>Output</td>
</tr>
<tr>
<td>21</td>
<td>Reverse rotation signal</td>
<td>Output signal is ON during reverse rotation</td>
<td>Output</td>
</tr>
<tr>
<td>22</td>
<td>Operation OK</td>
<td>Output signal is ON when the screw fastening of the set count is complete and judged as operation OK (PASS).</td>
<td>—</td>
</tr>
<tr>
<td>23</td>
<td>Count up</td>
<td>Output signal ON for 0.3 seconds when screw fastening is normal (at torque-up).</td>
<td>—</td>
</tr>
<tr>
<td>24</td>
<td>Operation NG</td>
<td>Output signal ON when workpiece signal is OFF during operation and judged as operation NG (FAIL).</td>
<td>—</td>
</tr>
<tr>
<td>25</td>
<td>Screw fastening NG</td>
<td>Output signal ON for 0.3 seconds when screw fastening is NG (FAIL).</td>
<td>—</td>
</tr>
<tr>
<td>26</td>
<td>N/A</td>
<td>No connection</td>
<td>—</td>
</tr>
</tbody>
</table>

Use External I/O Cable DLW9091. Compatible with both NPN/PNP. It can be wired according to the externally connected equipment.

**Connector:** IEEE1284 half pitch connector (26-pin)

Instruction manual P19, P37

Instruction manual P43

Instruction manual P47 to P52

Instruction manual P47 to P52

Instruction manual P36

Instruction manual P47 to P52
2. RS-232C

Use Communication Cable (Straight-through) DLW9092 to connect with PCs or sequencers (PLC).

1. External I/O Cable
DLW9091

Insert the separately sold External I/O Cable DLW9091 to the external signal connector to connect between the terminal and wiring.

2. RS-232C
DLW9092

Insert the separately sold Communication Cable (Straight-through) DLW9092 to the RS-232C connector to connect to a PC or sequencer (PLC).

In addition to RS-232C signals, commands are sent from the controller to the PC or sequencer (PLC) when processing is performed manually or by contact signals.

**Specifications (RS-232C)**

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Signal name</th>
<th>I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>TxD</td>
<td>OUT (This tool⇒PC)</td>
</tr>
<tr>
<td>3</td>
<td>RxD</td>
<td>IN (PC⇒This tool)</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>GND</td>
</tr>
</tbody>
</table>

*Other pins are not used*

**Send / receive commands**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Send command</th>
<th>Response from controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward rotation drive</td>
<td>FWD¥r¥n</td>
<td>FWD¥r¥n</td>
</tr>
<tr>
<td>Reverse rotation drive</td>
<td>RVSY¥n</td>
<td>RVSY¥n</td>
</tr>
<tr>
<td>Drive stop</td>
<td>STP¥r¥n</td>
<td>STP¥r¥n</td>
</tr>
<tr>
<td>Switching channel / channel pattern *1</td>
<td>MOV;p¥r¥n (p=1 to 30)</td>
<td>At channel switching CH :p¥r¥n</td>
</tr>
<tr>
<td>Switching channel pattern switching</td>
<td>CHP:p¥r¥n</td>
<td></td>
</tr>
<tr>
<td>Screw count reset</td>
<td>CRT¥r¥n</td>
<td>CRT¥r¥n</td>
</tr>
<tr>
<td>Workpiece reset</td>
<td>WRT¥r¥n</td>
<td>WRT¥r¥n</td>
</tr>
<tr>
<td>Workpiece signal ON</td>
<td>WIN¥r¥n</td>
<td>WIN¥r¥n</td>
</tr>
<tr>
<td>Workpiece signal OFF</td>
<td>WOT¥r¥n</td>
<td>WOT¥r¥n</td>
</tr>
</tbody>
</table>

**Resend request \*2**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Send command</th>
<th>Response from controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resend request</td>
<td>RSD;p¥r¥n (p=1 to 10)</td>
<td>Command sent nth time before, specified by the parameter value</td>
</tr>
</tbody>
</table>

\*1 The switching target differs depending on the setting of the common setting “Channel change type” (CH CHANGE).

\*2 Up to the latest ten commands sent from the controller to the PC or sequencer are stored.

When signals could not be received correctly due to noise or some other reason, the command of nth time before, specified by the parameter will be sent from the PC or sequencer.

[Example] Send command “RSD;3¥r¥n” → Returns the command sent by the controller three times before.

Since control is performed even when communication between the controller and PC or sequencer fails, use this function when you wish to maintain the reliability of transmission and reception. This command transmission is not included in the ten commands that are stored.

**Notification command**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Notification from controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>At forward rotation drive start</td>
<td>FWD¥r¥n</td>
</tr>
<tr>
<td>At reverse rotation drive start</td>
<td>RVSY¥n</td>
</tr>
<tr>
<td>At drive stop completion</td>
<td>STP¥r¥n</td>
</tr>
<tr>
<td>Operation OK (PASS) notification</td>
<td>OK ¥r¥n</td>
</tr>
<tr>
<td>Workpiece signal ON</td>
<td>WIN¥r¥n</td>
</tr>
<tr>
<td>Workpiece signal OFF</td>
<td>WOT¥r¥n</td>
</tr>
<tr>
<td>Count up (screw fastening completes normally) notification</td>
<td>CUP;p¥r¥n (p=1 to 60000)</td>
</tr>
<tr>
<td>Screw fastening NG (FAIL) notification</td>
<td>FNG;p1;p2¥r¥n</td>
</tr>
<tr>
<td>Operation NG (workpiece out while fastening count remaining) notification</td>
<td>WNG¥r¥n</td>
</tr>
<tr>
<td>At channel switching</td>
<td>CH :p¥r¥n (p=1 to 30)</td>
</tr>
<tr>
<td>At channel pattern switching</td>
<td>CHP;p¥r¥n (p=1 to 30)</td>
</tr>
<tr>
<td>When a non-supported command or parameter is input</td>
<td>CER¥r¥n</td>
</tr>
</tbody>
</table>

Insert the separately sold External I/O Cable DLW9091 to the external signal connector to connect between the terminal and wiring.

Insert the separately sold Communication Cable (Straight-through) DLW9092 to the RS-232C connector to connect to a PC or sequencer (PLC).
Easy setting with dedicated software

Channels and Channel patterns can be easily set with dedicated software. Download free from our website.

[Website]
http://www.nitto-kohki.co.jp/prd/delvo/

Settings software top page

- CH SETTING
- CH PATTERN SETTING
- COMMON SETTING

Channel setting

Channel pattern setting

Common setting

Setting data transmission function between controllers

Instruction manual P45

The channel and channel pattern settings can be transmitted to another controller. This is very convenient when the same work is divided into multiple processes.

Vacuum Sleeves and applicable Bits

Vacuum Sleeve DLS4000 series

Unit: mm

Applicable Bit NK35

Model | Ød | ØD | L1 | L2 | Length | Applicable Bit | Part No.
-----|----|----|----|----|--------|-------------|--------
DLS420 | 9.1 | 11 | 5 | 6 | 45 | No.2x7x75 A | TD08001
DLS4201 | 10.6 | 12.5 | 5.5 | 7 | | No.2x7x75 | TD08002
DLS4222 | 8 | 11 | 5.3 | 22 | | A | TD07850
DLS4222 | 8.2 | 10 | 5 | 6 | | No.2x7x75 | TD07851
DLS4224 | 6.8 | 9 | 25 | — | | C | TD07852
DLS4225 | 4.6 | 7 | 25 | 20 | | No.1x4x75 B | TD09344
DLS4226 | 5.1 | 7 | 25 | 20 | | No.2x7x75 | TD09345
DLS4227 | 5.6 | 7 | 25 | 20 | | No.2x4x75 | TD09617
DLS4228 | 6.1 | 9 | 25 | — | | No.1x4x75 | TD09619
DLS4229 | 6.4 | 9 | 25 | — | | No.2x4x75 | TD09620
DLS4230 | 7.1 | 9 | 25 | — | 45 | No.2x4x75 C | TD09620

Part Nos.: TD08001 ~ TD09620

*1 Made-to-order product  *2 Select the correct size number that fits your screw head

* See delvo general catalog for other bit types.
### Optional Accessories

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Model Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grounded 3-Prong Power Cord 2 m</td>
<td>For screw vacuum pickup</td>
<td>DLW9220 (North America), DLW9240 (Europe), DLW9250 (UK)</td>
</tr>
<tr>
<td>Diamond Shape Flange Coupling</td>
<td>For mounting on automated screw fastening machines</td>
<td>DLW9017</td>
</tr>
<tr>
<td>Flange Coupling</td>
<td>For mounting on automated screw fastening machines</td>
<td>DLW9019</td>
</tr>
<tr>
<td>Screw Vacuum Pump DLP2540 (115 V AC), DLP2570 (230 V AC)</td>
<td>Connect the tube to the vacuum pickup port. The vacuum will pick up the screw.</td>
<td>DLP7401-K</td>
</tr>
<tr>
<td>Vacuum Pickup</td>
<td>For screw vacuum pickup</td>
<td>DLP7401-K</td>
</tr>
<tr>
<td>Vacuum Sleeve DLS4000 series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft Joint DLW4050</td>
<td>The bit for measuring is included. (NK35BN 13×19×19×75)</td>
<td>Bit is included</td>
</tr>
<tr>
<td>Hard Joint DLW4040</td>
<td>The bit for measuring is not included. (NK35BN 13×19×10×75)</td>
<td>Bit is optional</td>
</tr>
<tr>
<td>Torque Checker DLT1673A</td>
<td>For torque control of screwdrivers</td>
<td></td>
</tr>
<tr>
<td>Communication Cable 3 m (Straight-through) DLW9092</td>
<td>Connect to PCs and PLCs (sequencers) when using external signals</td>
<td></td>
</tr>
<tr>
<td>Communication Cable 3 m (Crossover) DLW9093</td>
<td>Connect controllers to transmit settings</td>
<td></td>
</tr>
<tr>
<td>External I/O Cable 3 m DLW9091</td>
<td>Connect when using external signals</td>
<td></td>
</tr>
<tr>
<td>Connection Cord 2 m DLW9078</td>
<td>Connects controller and screwdriver</td>
<td>Standard accessory of screwdrivers</td>
</tr>
<tr>
<td>Extension Cord 3 m DLW9310</td>
<td>Extends cord length between controller and screwdriver</td>
<td></td>
</tr>
<tr>
<td>Pistol Grip DLW2300ESD</td>
<td>For operator fatigue reduction, suitable for horizontal fastening</td>
<td>ESD Protection</td>
</tr>
</tbody>
</table>

*The bit for measuring is included.*

*For operator fatigue reduction, suitable for horizontal fastening.*
External Dimensions

**DLV45C12L-AY**

- 238 [9.37”]
- 34.3 [1.35’’]
- 38.5 [1.55’’]
- 7.7 [0.3’’]
- 7.7 [0.3’’]
- 4.5 [0.18’’]
- 4.5 [0.18’’]
- 240 [9.45”]
- 39.5 [1.56”]
dia.

**DLV45C12P-AY**

- 36.3 [1.43”]
- 38.5 [1.55”]
- 51 [2”]
- 51 [2”]
- 4.5 [0.18”]
- 4.5 [0.18”]
- 240 [9.45”]
- 39.5 [1.55”]
dia.

Unit: mm [inch]

Example of installation on automated machines

Can be mounted on desktop robots, Cartesian robots, 6-axis robots, etc.
**External Dimensions**

**When Flange Coupling DLW9019/DLW9017 is mounted**

- PCD 52 [2.05’’]
- 8×5.5 [0.22’’] dia.
- 2×5.5 [0.22’’] dia.
- DLW9019

- 45.5 [1.79’’]
- DLW9017

- 6 [0.24’’]
- 53.8 [2.12’’]

**When Flange Coupling and Vacuum Pickup DLP7401-K is mounted**

- Adjust with Bit
- 53.8 [2.12’’]
- 5.5 [0.22’’] dia.
- 2×5.5 [0.22’’] dia.

**When Vacuum Pickup DLP7401-K is mounted**

- Adjust with Bit
- 53.8 [2.12’’]

**Controller DCC0241X-AZ**

- 192 [7.56’’]
- 6 [0.24’’]
- (10) [0.39’’]
- 160 [6.3’’]
- (13) [0.51’’]

- Power Switch
- AC inlet
- RS-232C Connector
- External signal connector
- Receptacle

*unit: mm [inch]*