

drive.web[®] savvyPanel[®] touch



High-Resolution Operator Touch Interface

5" model - **dw230-050**

7" model - **dw230-070**

10.1" model - **dw230-101**

Installation & Operation Manual

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CE Conformity Statements:

EMC Standard, EN 55022:2010, EN 55024:2010.

LVD Standards, EN 60950-1:2006+A11:2009+A1:2010+A12:2011

savvyPanel touch is an industrial controller designed for permanent installation by qualified professionals. If it is used in a manner not specified herein the protection provided may be impaired.

savvyPanel touch and its packaging contain recyclable materials.



Warning! This product is a touch sensitive screen that is activated by any object contacting the touch sensitive surface. It is essential that you prevent falling objects, splashing liquids, moisture or contaminants from touching the screen as they may activate the touch functions and cause unexpected, dangerous, conditions to occur.



Warning! It is essential that you read and understand this entire manual and the entire contents of the **savvy** software **Help** menu before proceeding with your installation and configuration. See page 4 for **savvy** installation instructions. For more information and to download manuals and software, go to www.driveweb.com or contact us. See page 8.



Warning! Your use of **savvyPanel**, **savvyPanel touch**, **savvy** software and **drive.web** devices may cause motors and machinery to power up with high Voltages or start or operate in an unexpected, dangerous or lethal way. It is essential that you are completely familiar with all of the equipment and the system design before attempting to program or edit a program or connect to any live device. It is also essential that a risk assessment is conducted to identify hazards. Risks must be reduced to tolerable levels.



Warning! You are entirely responsible for the configuration or use of any **drive.web** product. By configuring or using these products you agree to indemnify and hold harmless Bardac Corporation, its employees, directors, officers, distributors and resellers against the consequences of your configuration or use of the products.



Warning! Information in this manual is subject to change without notice. You are responsible for verifying the proper operation of your **savvyPanel touch** panel. Special care must be taken after loading new firmware.



Warning! Avoid permanent damage to your **savvyPanel touch**, never exceed any **min** or **max** values. Do not connect any **savvyPanel touch** terminal to mains circuits. **SAVVYPANEL**, **BARDAC**, and **DRIVE.WEB** are trade marks of Bardac Corporation, registered in the U.S. and other countries.

Product identity, **savvyPanel touch**, models **dw230-050, dw230-070, dw230-101**

savvyPanel touch is a high-resolution, industrial touch screen interface for use in **drive.web** distributed control systems. **savvyPanel** pages, layouts, and security features are configured in Ethernet-connected **drive.web speedy** or **smarty** devices. To configure a **savvyPanel touch**, **smarty** or **speedy**, you must get the **savvy** software tools from www.driveweb.com. Please see page 4.

To find the specific model and firmware version, launch **savvy** and choose **Get Detailed Info** from the **savvyPanel touch** contextual menu.

savvyPanel touch Specification

Model	Size	Resolution	Brightness	Touch
dw230-050	5"	800x480	400nit	Capacitive
dw230-070	7"	1024x600	250nit	Resistive
dw230-101	10.1"	1280x800	400cd/m ²	Capacitive

- **drive.web** distributed process control and **savvyPanel** display technology.
- 10/100Base-T(X) Ethernet, page 3.
- Update firmware with **savvy** software.
- Ingress protection IP65 in front of panel seal. IP20 behind. Details on next page.
- Configure basic security passwords, panel-specific home password, IP addresses, discovery filters, and more using free **drive.web savvy** software.

savvyPanel Technology Overview

- **dw230 savvyPanel touch** displays systems and pages that are configured in **drive.web smarty**® and **speedy**® controllers. Please see the product manual for that device for details. Product manuals may be found on the web at <http://driveweb.com/tech/update.php>
- **drive.web** devices must have **dwOPTION-26** installed to display the complete suite of tiles. A limited set of tiles is available without this software option. Software options may be added any time. See product manual for details.
- Discovery of **drive.web** devices is controlled by the network configuration, **dw230 savvyPanel touch** setup, and passwords.
- Control **dw230 savvyPanel touch** network setup, discovery and launch options, and passwords with **savvy** software. See the **savvyPanel touch User Guide** that is available in **Appendix B** of the **savvy User Manual**. Open the **savvy User Manual** from the **Help** menu or on the web at <http://driveweb.com/support/manuals/driveweb/en.html>.

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dw230 Installation

Sample Rear View -

(dw230-070 shown)

Power; **+**, **-**, **G**.

Do not connect to any other terminal block.



Panel-mounting clip

dw230 serial number label

USB jack

Ethernet jack

Power: Regulated 22VDC min., 32VDC max., 6W (9.6W for -101).

Do not connect to a distributed DC power network. External 1A fast-acting fuse or 1A current-limiting is required!

Connect to **+** and **-** on terminal block **P2**.

G may be used for earth or chassis ground connection.

Note that **G** and **-** are internally connected!

Terminal wiring: Strip 5mm(0.20") or use ferrules.

0.2mm² (AWG24) min, 1.5mm² (AWG14) bare wire max.

Terminal tightening torque: 0.25 Nm (2.2 in·lbs) max.

Environment: IP65 in front of supplied panel gasket.



Warning! This product is a touch sensitive screen that is activated by any object contacting the touch sensitive surface. It is essential that you prevent falling objects, splashing liquids, moisture or contaminants from touching the screen as they may activate the touch functions and cause unexpected, dangerous, conditions to occur.

IP20 inside panel environment, UL/IEC Pollution Degree 2, Humidity 95% max. non-condensing.

Temperature, Operating, 0°C to 50°C. Storage, -20°C to 60°C.

Altitude 3000m max.

Ethernet: MDI 8P8C, "RJ45" jack, 100baseTX, 10BaseT, Full Duplex, Auto-Negotiation, Auto-MDIX, IEEE 802.3ab.

100 Green LED indicates 100BaseTX Ethernet connection.

Link / Activity Yellow LED. On for Link, flash for activity

USB: Type A jack for USB pointer device, e.g. industrial mouse.

Plug device in prior to power-up.

dw230 Panel Mounting

Provide a cutout in a metal, industrial panel, 6mm (1/4") thick, max.

Ensure that the finished opening and surrounding area are flat, 1mm (0.04") maximum deviation.

Install four panel-mounting clips and tighten screws, 0.25 Nm (2.2 in·lbs).



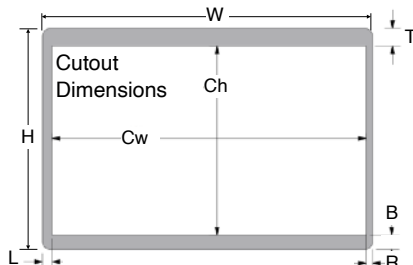
Do not over-tighten the clip screws! The screen may be permanently damaged!

Model	Width mm(inches)	Height	Cutout width	Cutout height	Left Bezel	Right Bezel	Top Bezel	Bottom Bezel
-50	150(5.9)	110(4.33)	140(5.51)	92(3.62)	5(0.2)	5(0.2)	10(0.39)	10(0.39)
-70	207(8.15)	139(5.47)	197(7.76)	118(4.65)	6(0.24)	5(0.2)	12(0.47)	9(0.35)
-101	275(10.8)	193(7.6)	257(10.12)	175(6.88)	9(0.35)	9(0.35)	9(0.35)	9(0.35)

Panel Drawing Note:

Front view.

Grey bezel area must be flat! See above.



drive.web Ethernet networking & programming



Before proceeding, it is important to have a basic understanding of Ethernet TCP/IP networks. Creating an invalid or duplicate IP address will cause serious network malfunctions!

- Find useful networking information. Under the **Help** menu click on **Getting Started with savvy**.
- **dw230** are shipped with an IP address, 10.189.x.x, derived from the serial number. The six-octet serial number always starts with 0-4-bb-x. The last two octets are used to assign the as-shipped IP address; Example, if the serial number is 0-4-bb-00-1a-2b, 1a is converted from hexadecimal to decimal, 26. 2b, similarly, is 43, decimal. The as-shipped address is 10.189.26.43.
- Typically, **savvyPanel touch** must be on the same subnetwork as the **drive.web** devices that it interfaces with. Contact us (page 8), or your company's IT department for assistance with more complex network routing requirements.



Ethernet Network Requirements

- A standard *Category 5e* cable with 8P8C/RJ-45 connectors on both ends for each **drive.web** device and the host computer.
- An Ethernet switch with ports for all **drive.web** devices and your computer.

New to **drive.web** ?

- We strongly recommend attending our free on-line training seminars. To register and get your invitation, call or e-mail training@driveweb.com.
- Before proceeding with your systems designs it is very important to familiarize yourself with **savvy**, the configuration software.
- We strongly recommend you read the **User Manual** and **Getting Started Guides** under the **Help** menu.
- Use **Create Phantom** in the **Directory** menu to practice, explore all **drive.web** products and options and design and configure off-line. Design systems in Phantom devices and **Export Data** under the **Directory** menu for later use in live devices. **Import Data** into phantoms to work off-line.

Set up **savvyPanel touch** with free **savvy** software

- To download the latest version of **savvy**, go to www.driveweb.com and click on **get savvy**.
- **Java Runtime Environment** must be installed to run **savvy**. There is a link on the **get savvy** page to download Java for free.
- If you do not have internet access, install **savvy** and Java from the **Bardac Infodisk**. Browse to the **savvy** link, off-line installation. Contact us for the files or **Infodisk**.



Set up **savvyPanel touch** with free **savvy** software continued...

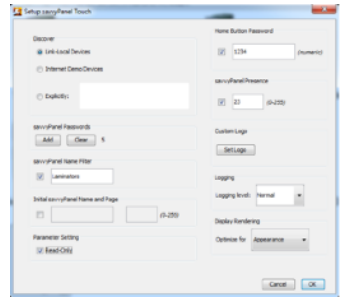
Choose **Open Device Directory** from the **File** menu.

See discovery settings under the **Directory** menu.
savvyPanel touch can be discovered when it has a valid IP address, in the same subnetwork as the computer.



dw230-070

Click on the discovered device to view the configuration screen;



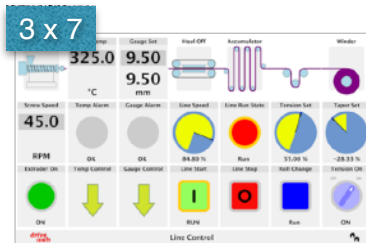
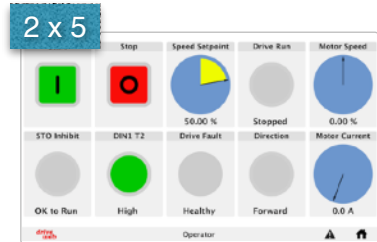
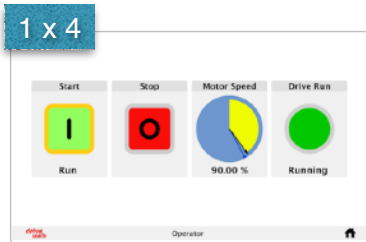
It is essential to refer to the **savvyPanel touch** User Guide in the **savvy** User Manual

- Choose **User Manual** under the **Help** menu and refer to **Appendix B, savvyPanel touch User Guide**.
- **savvyPanel touch** User Guide is also available on line at driveweb.com/support/manuals/driveweb/en_dw230.html
- Set IP addresses, passwords, discovery filters, logos, etc using the **savvy** software.

Design **savvyPanel** Pages for **dw230**

Note - **savvy-SFD** upgrade is required to make design changes in a **savvyPanel** system.

Optimal tile layouts to fill the screen are shown, rows x columns;

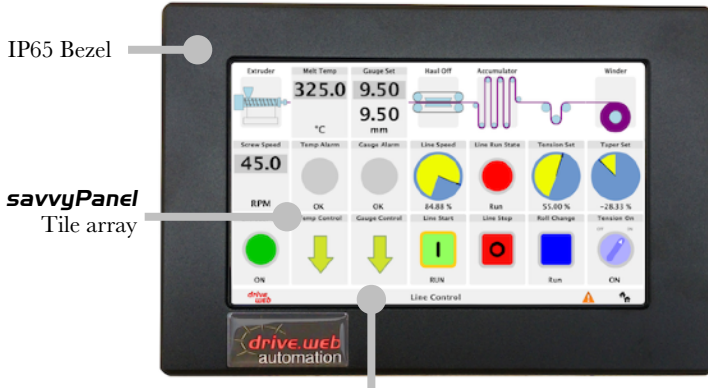


Optimal tile layouts for **dw230-101** may also be; **1x3**, **2x3**, **3x5**, **4x8**, and **5x9**.

savvyPanel touch Operations Guide

- Operator station configurations are stored in the **drive.web** devices and are available in **savvyPanel touch** when the network, discovery filters, and passwords cohere.

savvyPanel Display Overview



Status Bar with **drive.web** button, page name, Alarm indicator and button, and **Home** and / or **Systems** button.

savvyPanel Pages

Systems Page is available when multiple **savvyPanel** systems are discovered.

- Each **savvyPanel** system may contain tiles from **many drive.web devices**.
- Each **drive.web** device may contribute to **only one savvyPanel** system. Right-click on device icon in **savvy** for the contextual menu **> Set savvyPanel System...**
- Touch the systems button, , in the status bar to access the systems page from home page. Lock this button with home password. Click **savvyPanel touch** icon in **savvy** to set the home password. Choose **User Manual** under the **Help** menu and refer to **Appendix B, savvyPanel touch User Guide** for more details.

Home Page is the first operator page in a **savvyPanel** System.

- Access home page from any operator page with the home button, . Lock with the home password.

Operator Pages show graphic, page-link, and parameter tiles.

- Pages can be renamed. The name appears in the status bar.

Alarms Page operator page number 255 can be accessed from any operator page via the alarm indicator and button which appears in the status bar, next to the home button.

- Alarm indicator and button is only present when a **drive.web** device in the currently viewed **savvyPanel** system has a **savvyPanel Alarm Annunciator** function block with an active input.



savvyPanel Tiles

Parameter Tiles Touch a settable parameter to see its **savvyPanel Setter**. Select between two setter styles with the  button. Return to previous setting, . Return to default, . Hold down the increment or decrement buttons for faster changes.

- A parameter is settable if it is not read-only and has no incoming **drive.web** connection.

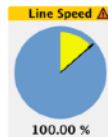
Meter Digital panel meter, dial, or bar meter. Unipolar, bipolar, full-scale, and percent choices.

Indicator Variety of colors. Shows on/off, true/false boolean state. All non-zero values are true.

Pushbutton Momentary actuators in a variety of colors, also lighted **Start/Stop**.

Multi-position Switch For enumerated parameters.

- Operator's note: If communication with a **drive.web** device is interrupted, affected tiles show a yellow bar at top with exclamation warning. The displayed value is not updated.



Graphic Tiles Create diagrams with various process elements.

Page-Link Tiles A graphic tile that is also a page-link. Touch to change the view to that page.

drive.web button is located at bottom-left.

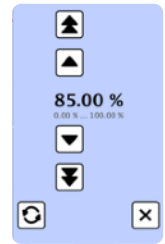
- Touch the drive.web button, , to view description, model number, firmware version, contact information.

With resistive touch screen model **dw230-070**, touch the target button, , to adjust the touch calibration.



Proceed with caution! If the touch calibration is badly adjusted, it may be necessary to plug in a USB pointing device. Please see the installation manual for details.

Carefully touch the crosshair cursor that appears. Hold the position for approximately one second. The best calibration may be achieved with an appropriate stylus. Another cursor will appear until this is repeated in four locations.



drive.web Product Line Highlights

Drive-dedicated *smarty* and *speedy* models:

Supported Drive	<i>smarty</i> Model	<i>speedy</i> Model
Generic	<i>dw250</i>	<i>dw270</i>
PL/X Digital DC Drive	NA	<i>dw221</i>
Optidrive P2	<i>dw254</i>	<i>dw274</i>
Optidrive HVAC	<i>dw250</i>	<i>dw270</i>
Optidrive E3	<i>dw258</i>	<i>dw278</i>

smarty DIN rail *drive.web* controller.

- Sixteen flexible, bipolar-analog / digital I/O
- Hardware options; dual serial-ports, add six digital inputs, frequency I/O, relay-rack, dual stepper control.
- External options; remote, dual encoder module with re-transmit, high-Voltage I/O.
- Encoder control; cyclic and linear positioning, electronic line shaft, registration, event counts



speedy ultra-miniature *drive.web* controller.

- Standard models with permanent-bond mounting.
- Drive-dedicated models with 7" lead and specified connector fitted.
- Generic ModbusRTU.
- *PL/X* digital DC drive versions install in expansion slot.
- DIN rail mount option, specify *dwOption-50*.



savvy-SFD Signal Flow Diagram upgrade. Required for building or editing *savvyPanel* tile layouts.

savvyPanel operator touch station app for for iOS, Apple mobile operating systems.

drive.web products are designed & assembled in the **U.S.A.**

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drive.web training courses

Free online interactive training seminars take about one hour.

Specialized online and factory training sessions are also available.

To register email training@driveweb.com or call.