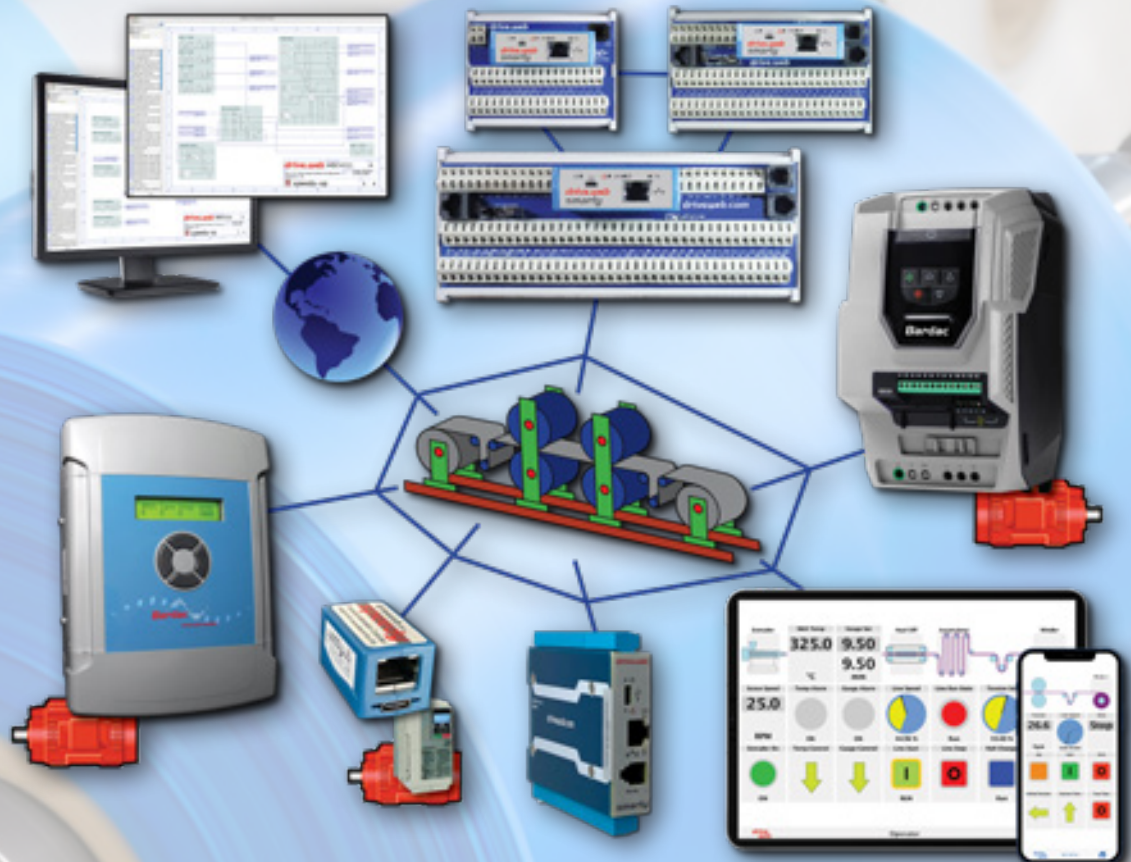
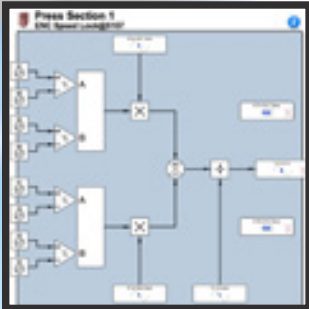


drive.web *automation Catalog 2022*

issue 1



Automation Things for the IIoT

Smart devices

Internet accessible

Ethernet, peer-to-peer

Configurable from anywhere

Everything normally in stock!

Since our founding in 1992 we have worked hard to build our reputation around key goals:

- Innovative technologies.
- Reliable products.
- Unrelenting customer support.
- All catalog items normally in stock.
- Competitive pricing.



Our Company President: Paul Crowhurst

Bardac ...the safe bet!

Seamlessly Integrated Automation

AC DRIVES



drive.web



DC DRIVES



smart devices for the IIoT

POWER QUALITY ~ MOTORS ~ ENGINEERING ~ SERVICE ~ SUPPORT ~ TRAINING

pages 58 - 59

Specifications ... At the time of going to press we believe the information in this catalog to be accurate. However, the specifications of products may be amended at any time, so please check with us when ordering to ensure that such changes will not affect your requirements.

Configure, connect & control everything ... in one environment
Internet accessible, peer-to-peer Ethernet with savvy tools
Cost effective for systems of any size or complexity



Automation Things ... smart ... connected ... IIoT ready

drive.web automation

total connectivity

enterprise management - machine operators - system engineering

drive.web

A Unique Architecture

1 *drive.web* devices connect peer-to-peer over ethernet to form a completely homogenous control environment.

2 *drive.web* devices provide a full featured programmable control environment. Each device processor contributes to the total system processing capacity so that as the system gets bigger it's capacity increases.

3 An unlimited number of *drive.web* devices can be incorporated into a system to provide an unlimited amount of processing capacity and I/O with undiminished performance.

4 The *drive.web* devices store all the device and complete system configuration data including touch screen PC, iOS & Android display data - everything!

5 A *speedy* embedded in a drive takes over the entire drive; its setup, control, & memory management. It becomes an integral part of the drive and now looks just like the drive. Any actions from the drive keypad or terminals or serial ports are instantly synchronized.

6 *savvyPanel* touch screen PC, iOS & Android display graphics and configuration data all resides in the *drive.web* devices so that you can roam to any WiFi location with your iPad and view a system (subject to access permission).

7 Easily create a graphical interface to almost any control device to bring it into your unique, homogenous, *drive.web* environment.

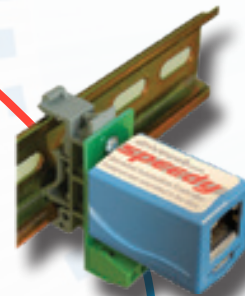
Vector Drives

Easy setup & full featured, programmable control onboard drives



USB Port

- Easy drive configuration
- Plug & play drive interface
- System wide programming access



savvy

Graphical, function black tools

1. Easy drive configuration
2. Powerful systems design & integration
3. Trend charts
4. Signal flow diagrams
5. Internet access
6. Intuitive system navigation tools

Internet
Remote system access

smart automation

production control - maintenance - tech support

speedy

Universal Automation Controllers

- Embedded available
- Easy gateway to instrumentation
- Fast data collection
- Mount anywhere DIN option



DC Regen Drives

save time



High efficiency
ECO
drives

save energy

speedy

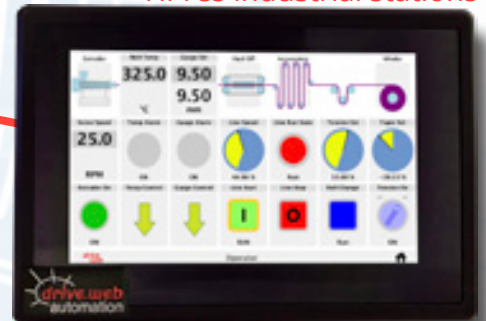
Integrated Universal Automation Controller

- provides easy coordination of ECO drives in building energy systems
- easily interfaces to existing third party drives & controls
- add ethernet and USB device access
- boost network performance
- add full featured programmable control



savvyPanel touch

Hi-res industrial stations



NEW! smarty⁷



smarty

Universal Automation Controllers

- Easy sensor interface
- Precision analog I/O
- Fast logic I/O with powerful state machine programming
- 16 precision analog & logic I/O
- Encoder I/O for indexing, registration, and shaft lock
- Multiple communications options
- Unlimited expansion with no loss of system bandwidth



savvyPanel

Integrated touch screen HMI technology

For touch screen PC, Android or iOS devices



drive.web

drive.web uses distributed control over Ethernet to provide cost effective, high performance integration of drives & controls in systems of any size or complexity.



1 Concept & Planning

From your initial sketches and notes create **drive.web savvy** "Phantoms" offline to identify all your drives, remote I/O, MMI interfaces, gateways, etc.

2 Design & Configuration

Place any control function blocks you need then drag & drop between parameters in your "Phantoms" to make all your device interconnections. The **savvy** Signal Flow Diagrams and powerful navigation aids give you a clear intuitive view of your work. Information and help is always on the spot with hover text, links to the manual, and contextual menus.

3 Construction & Testing

Simply connect all your drives and devices together over Ethernet and load your complete design into the devices from just one location. The System immediately comes alive for testing and monitoring.

4 Installation & Operation

Use **drive.web savvy** to provide real time monitoring and control of your entire system from any location. No running from drive to drive to check the setup or operational state! Use **savvyPanel** operator station technology to provide smart touch and roaming control from anywhere.

5 Management & Maintenance

Use **savvy** utilities to setup system performance criteria and monitor your productivity, machine state, and process trends locally or remotely over the internet.

FROM THE INITIAL CONCEPT,
THROUGH PLANNING,
DESIGN, CONSTRUCTION,
TESTING, INSTALLATION, AND
OPERATION, THE
DRIVE.WEB SAVVY TOOLS
PROVIDE ALL THE VISION,
INSIGHT, AND HELP YOU
NEED FOR A SUCCESSFUL
PROJECT!



smart automation

The innovative **drive.web** technology provides total control in one homogeneous environment with the entire system database resident in the **drive.web** devices.

- Configure & control individual drives & devices
- Design and operate complete drive systems
- Provide fast, peer-to-peer networking over ethernet
- Create clear, graphical signal flow system documentation
- Easily interface to most other drives, MMIs, PLCs, etc.
- Build cost effective systems of any size or complexity
- Add internet accessibility to your system
- Support worldwide enterprise integration

products

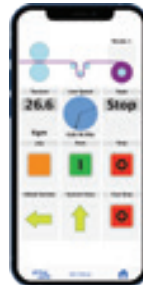
savvy Tools

Intuitive, graphical system design and device configuration tools with powerful navigation features, drag & drop connections, trend charting, online help.



savvyPanel Touch Screens

Innovative, touch screen operator station technology that runs on PC or iOS (iPad, iPhone, etc.) & Android. Build clear machine graphics, buttons, switches, meters, and instrumentation and link to your control scheme. Provides multi-user, multi-level, password protected access via WiFi from anywhere to any system.



smarty Universal Controller

A range of DIN mount **drive.web** programmable controllers with peer-to-peer networking over ethernet or stand alone capability and a wide range of I/O and communications options. Intuitive, easy function block configurations are stored on board for instant field access.



speedy Embedded Controller

Miniature, low cost, **drive.web**, programmable controllers for easy embedding in drives & devices. Includes peer-to-peer networking over Ethernet & USB port.



Only 0.91"W x 0.83"H x 1.42"D!



drive.web automation

dw250 smarty⁷

Our most advanced Universal Automation Controller yet



Standard DIN Mounting



Alternate Panel Mounting



Outperforms any PLC! No Limits!

Features		
USB	USB-C	savvy
Ethernet	8P8C	100baseTX Ethernet drive.web & savvy ModbusTCP Client & Server EIP/PCCC Server
Communications	6P6C	CANbus: Bardac P2 & E3, CANopen Client EIA-485: ModbusRTU Client or Server Both CANbus & EIA-485 may be active simultaneously
0V	Ground Reference	All 0V terminals connected together
24V	Power In	+24V±5%, consumes ≈ 100mA plus loads Supply from a SELV Class 2 LPS (Limited power source) only All 24V terminals connected together
5V	Power Out	+5V±5%, up to 250mA Do not apply external power to 5V
LED Indicators	blue	Power & heartbeat
	red	Fault
	yellow	Ethernet link + activity
	green	Ethernet 100 full duplex
Clock Battery		CR2032 coin cell
		Used only for real-time clock backup Typically only one required per system, if NTP is not available

Inputs and Outputs	
Analog Input	[8] Analog (±10V) inputs 16-bit resolution, ≈100kΩ impedance Also configurable as Digital Input (5V or 24V logic)
Analog Output	[8] Analog (±10V) outputs 16-bit resolution Each AO can source or sink up to 10mA
AB (Encoder Inputs)	[2] Encoder inputs RS-422, RS-485, 5V, 12V, and 24V encoders supported Differential or single-ended 2A & 2B also configurable as marker/event inputs
Digital Inputs	[8] Digital (24V logic) inputs Also configurable as event inputs
Digital Outputs	[8] Digital (24V sourcing) outputs Up to 300mA (shared by all DOs); with overcurrent fault detection Also configurable as Digital Inputs (24V logic)
Frequency Inputs	[6] Frequency Inputs Configurable for 5V logic or 24V logic Configurable for pull-down or pull-up (5V logic only) Configurable as Frequency input, Counter Input, Digital Input, Event Input
Timing Outputs	[7] Timing (sinking) outputs Up to 24V Each TO can sink up to 20mA Configurable as Frequency Output, Stepper Output, or Digital Output TO7 also configurable as a Digital Input, Analog Input (unipolar)
Frequency & Timing Output	FI 1-6 & TO 1-6 share a wiring terminal, labeled FT 1-6

XIO Option Cards	
One or zero option cards are supported	
See separate sketch for dimensions and pinout	
Typically factory installed	
Field installation of CLIO & XDIO may be feasible with appropriate precautions	
High Voltage Digital I/O (HVIO)	[10] 120/240 VAC Digital Inputs [6] 120/240 VAC Digital Outputs
Current Loop I/O (CLIO)	[16] 4-20mA Analog Inputs
	[8] 4-20mA Analog Outputs
Extended Digital I/O (XDIO)	[8] 24VDC Digital Outputs, also configurable as Digital Inputs
	[16] 24VDC Digital Inputs [16] 24VDC Digital Outputs, also configurable as Digital Inputs

smarty dw240

smarty¹

smarty²

smarty³

smarty⁴

smarty⁶



100% compatible with all existing **speedys**, **smartys**, and **savvyPanels**!

- | | | | |
|---------------------------|--|------------------------------------|---|
| ✓ Advanced Motion Control | ✓ Distributed, deterministic processing over Ethernet | ✓ savvy system design tools | ✓ Easy, intuitive, affordable, expandable |
| ✓ Smart Process Control | ✓ Homogeneous integration for drives, HMIs, remote I/O | ✓ Right for the IIoT future | ✓ For systems of any size or complexity |

\$\$ BIG cost savings with the **smarty dw240** \$\$

Example savings, using a **smarty¹** or **smarty²**

smarty eliminates all the wiring, terminals, and hardware normally required to connect your control devices (such as drives, PLCs, etc.) to your enclosure terminals!



The installation cost for either of these **smartys** can be as low as \$20, and the possible savings are huge!

Assuming an average 6ft wire runs from your devices to your terminals, you save:

- Wire, lugs, wire numbers, DIN terminals, terminal numbers, duct, hardware **\$83 savings**
- Assembly time (4.5 minutes per wire @ \$85/hour) **\$235 savings**
- Wiring continuity testing (45 seconds per wire @ \$85/hour) **\$39 savings**

Possible net savings of over \$300!

drive.web smarty is powerful!

The **smarty dw240 series** comes fully loaded:

Install a dw240 on the customer interface terminal rail to save on wiring and installation costs!

- Floating point math for accurate and complex calculations.
- Count and Frequency with 64-bit count for precision positioning; to 1MHz input, 500kHz output.
- High speed event inputs for position markers and registration.
- Processing and networking speeds that are up to 10 times faster than the dw210, especially with larger configurations.
- Increased storage; four times more capacity.
- Up to six frequency inputs with multiple modes.
- Up to two current inputs; 0 to 20mA, 4-20mA.
- Up to two encoder inputs.
- Up to seven timing outputs with multiple modes to 500kHz; frequency, stepper, and digital.
- Real-time clock with optional battery back up. Low-power mode allows real time clock to run without power from coin cell battery, USB power, or 24-hour internal storage.
- Sensor bus for large, smarty-dedicated networks to be announced.
- XIO, Extended I/O port for up to 10 fast-updating modules with up to 16 I/O on each. Modules for high current, high voltage, precision analog, load cells and more are planned.

Every **dw240** comes fully equipped with dw build options
-04 -05 -06 -10 -25 -26 -29 -39
as standard! (**smarty²** and above)

Call for customized OEM builds!

Bardac.com

phone +410-604-3400

The **smarty dw240 series** controller consists of a "cassette" that connects directly to system field wiring via four alternative, passive "terminal carriers". This means big installation savings! The **smarty dw240** is available in four models...

smarty¹

basic UAC - 37 terminals - Analog & Digital I/O

Core Stock Build Includes:

100baseTX Ethernet, auto-negotiating, USB microB

Power: 24VDC

dw build options -04 -05 -25 -26, Clamp Terminals, DIN Rail Mounting

- 8 AI analog in, -11V to +11VDC, 100K Ω , up to 1KHz
(can be used as digital inputs)
- 8 AO analog out, \sim 0.2 to +10.5VDC, 10mA, up to 1KHz
(can be used as DO or reference voltages)
- 8 DI digital in, 100K Ω , 8V threshold, \pm 3V hysteresis,
50V max, up to 1KHz (can also be used as event inputs)
- 8 DO digital out, 24V source, up to 350mA (shared), over current protected



dw241-BX-C1CD
only 4.11" wide x 3.5" high x 3.0" deep
(105mm x 89mm x 76mm)

smarty²

advanced UAC - 37 terminals - Analog & Digital I/O

Core Stock Build Includes:

100baseTX Ethernet, auto-negotiating, USB microB

XIO Port for extended I/O options

Battery back up for realtime clock

Port options for CAN & ModbusRTU

Power: 24VDC

dw build options -04 -05 -06 -10 -25 -26 -29 -39,

Master Modbus RTU (unisolated), Clamp Terminals, DIN Rail Mounting

- 8 AI analog in, -11V to +11VDC, 100K Ω , up to 1KHz
(can be used as digital inputs)
- 8 AO analog out, \pm 10.5VDC, 10mA, up to 1KHz
(can be used as DO or reference voltages)
- 8 DI digital in, 100K Ω , 8V threshold, \pm 3V hysteresis, 50V max,
up to 1KHz (can also be used as event inputs)
- 8 DO, digital out, 24V source, up to 350mA (shared),
internally current limited



dw240-DM-C2CD
only 4.11" wide x 3.5" high x 3.0" deep
(105mm x 89mm x 76mm)

smarty³ advanced UAC - 61 terminals - with encoder and steppers

Core Stock Build Includes: 100baseTX, auto-negotiating, USB microB | XIO Port for extended I/O options | Battery back up for realtime clock
Port options for CAN & ModbusRTU | Power: 24VDC | dw build options -04 -05 -06 -10 -25 -26 -29 -39 | Master Modbus RTU (unisolated)
Clamp Terminals | DIN Rail Mounting



dw240-DM-C3CD
only 5.51" wide x 3.43" high x 3.0" deep
(140mm x 87mm x 76mm)

- 8 AI analog in, -11V to +11VDC, 100K Ω , up to 1KHz
(can be used as digital inputs)
- 8 AO analog out, \pm 10.5VDC, 10mA, up to 1KHz
(can be used as DO or reference voltages)
- 8 DI digital in, 100K Ω , 8V threshold, \pm 3V hysteresis,
50V max, up to 1KHz (can be used as event inputs)
- 8 DO digital out, 24V source, up to 350mA (shared)
internally current limited
- 4 FT Frequency/Timing
Frequency/event input: 5V max, up to 100KHz
Frequency/Stepper output: 5V sinking, up to 350mA (shared)
F inputs can be used as event inputs or digital inputs
F outputs can be used to generate frequency to 500kHz,
control stepper amplifiers or as digital outputs
- 1 AB Encoder, differential inputs (5.5V max), up to 1MHz

smarty⁴ advanced UAC - 103 terminals - with encoders, steppers, and more!

Core Stock Build Includes: 100baseTX Ethernet, auto-negotiating, USB microB | XIO Port for extended I/O options

Battery back up for realtime clock | Port options for CAN & ModbusRTU | Power: 24VDC | dw build options -04 -05 -06 -10 -25 -26 -29 -39

Master Modbus RTU (unisolated) | Clamp Terminals | DIN Rail Mounting



dw240-DM-C4CD
only 8.27" wide x 3.5" high x 3.0" deep
(210mm x 89mm x 76mm)

- 8 AI analog in, -11V to +11VDC, 100K Ω , up to 1KHz
(can be used as digital inputs)
- 8 AO analog out, ± 10.5 VDC, 10mA, up to 1KHz
(can be used as DO or reference voltages)
- 8 DI digital in, 100K Ω , 8V threshold, ± 3 V hysteresis,
50V max, up to 1 KHz (can also be used as event inputs)
- 8 DO digital out, 24V source, up to 350mA (shared),
internally current limited
- 2 CI Current Input, 4-20mA, 0-20mA, 20-4mA, 20-0mA, 100 Ω
- 6 FI Frequency in: up to 100KHz, 30V max, 100K Ω
with pull-up or pull-down. Can be event or digital inputs.
- 7 TO Timing Output, up to 500KHz, 30V max, sinking, pull-up,
up to 350mA (shared). For frequencies, steppers or DO
- 2 ABZ Encoders, EIA-422/485 differential (5V max), up to 1MHz
- 2 AB Reconnect terminals for encoders

smarty⁶ advanced UAC - 103 terminals - with encoders, steppers, and more!

Core Stock Build Includes: 100baseTX Ethernet, auto-negotiating, USB microB | XIO Port for extended I/O options

Battery back up for realtime clock | Port options for CAN & ModbusRTU | Power: 24VDC | dw build options -04 -05 -06 -10 -25 -26 -29 -39

Master Modbus RTU (unisolated) | Clamp Terminals | DIN Rail Mounting



- 8 AI analog in, -11V to +11VDC, 100K Ω , up to 1KHz
(can be used as digital inputs)
- 8 AO analog out, ± 10.5 VDC, 10mA, up to 1KHz
(can be used as DO or reference voltages)
- 8 DI digital in, 100K Ω , 8V threshold, ± 3 V hysteresis,
50V max, up to 1 KHz (can also be used as event inputs)
- 8 DO digital out, 24V source, up to 350mA (shared),
internally current limited
- 2 CI Current Input, 4-20mA, 0-20mA, 20-4mA, 20-0mA, 100 Ω
- 6 FI Frequency in: up to 100KHz, 30V max, 100K Ω
with pull-up or pull-down. Can be event or digital inputs.
- 7 TO Timing Output, up to 500KHz, 30V max, sinking, pull-up,
up to 350mA (shared). For frequencies, steppers or DO
- 2 ABZ Encoders, EIA-422/485 differential (5V max), up to 1MHz

only 1.06" wide x 4.09" high x 4.96" deep
(27mm x 104mm x 126mm)

Universal Automation Controllers - smarty dw210

Standard Features:

- USB port for easy system wide programming and control
- Easy interface to most drives
- Use networked or stand alone
- Internet accessible
- Peer to peer deterministic Ethernet networking:
 - * 100baseTX or 10baseT Ethernet with auto-negotiation
 - * Full duplex supported
 - * Auto-MDIX per IEEE802.3ab (auto-crossover resolution)
 - * Optional Power over Ethernet (PoE, IEEE 802.3af)
- **drive.web** distributed control
- Intuitive, graphical function block programming tools
- Complete graphical configuration & documentation data stored in devices
- 16 basic I/O terminals each configurable includes:
 - * 8: $\pm 10V$, 16 bit analog in or out or 24V digital in
 - * 8: 0-10V 16 bit analog in or 24/12/5V dig in or 24V dig out, source or sink
- Firmware field upgradable
- All circuit boards conformal coated for very high reliability
- SNTP server time/date synchronization support
- 100% backward compatible with all existing **drive.web** installations

Smart distributed control concept:

- No system bandwidth degradation with systems of any size
- One completely homogeneous environment for drives, controls, operator stations, I/O - everything!
- Complete data consistency throughout a system
- The ability to store the entire system configuration in the controllers for easy field total access
- The ability to manage total system program thread and hierarchy
- Consistent multi-level password protection

Key Features:

- Ethernet peer-to-peer networking
- Gateway options for ModbusTCP/IP, EIP CANopen, and others
- Internet access
- Graphical Signal Flow Diagram system documentation
- Additional I/O
- Easy interface to most operator stations, PLCs, SCADA, etc.
- Event driven emails from devices

Optional Features:

- Full **savvyPanel** touch screen PC and iOS device capability
- Encoder input without marker
- 1 or 2 encoder inputs with marker and retransmit via external module
- 1 or 2 isolated or unisolated RS485 ports
- High voltage digital I/O isolator
- 6 additional digital inputs
- 4 channel 20KHz frequency I/O
- 24 channel extended digital I/O
- 2 channel stepper drive controller - pulse, direction & fast event inputs
- External thermocouple and RTD inputs
- ModbusTCP/IP, ModbusRTU, EIP/PPCC
- USB port for system wide programming



Key Features:

- Ethernet peer-to-peer networking
- Gateway options for ModbusTCP/IP, EIP CANopen and others
- Internet access
- Graphical Signal Flow Diagram system documentation
- Additional I/O
- Easy interface to most operator stations, PLCs, SCADA, etc.
- Event driven emails from devices

Precision

- 16 bit integer basic arithmetic
- 32 bit floating point calculator functions
- 64 bit encoder pulse counting



Standard **savvyPanel** library

For iPad, iPhone, Android and touch screen PC operator stations with arrows, meters, start and stop pushbuttons.

Standard function block library

- Adders, Subtractors, Multipliers, Dividers, Clamps, Switches, Logic
- Event driven email messages
- Full featured PI controllers



Optional function block libraries

- Advanced Process Control & PLC
- Winder Control
- Advanced Math
- Encoder Position & Indexing

automation without limits

Smart, compact packaging
0.91" wide x 4.09" high x 4.72" deep
(23 x 104 x 120 mm)

smarty¹ smarty² smarty³ smarty⁴ smarty⁶ smarty⁷



Universal Automation Controllers

Full Featured PLC Functions	✓	✓	✓	✓	✓	✓
Advanced Process Control	✓	+ Winders	+ Winders	+ Winders	+ Winders	+ Winders
Basic Motion Control	—	✓	—	—	—	—
Advanced Motion Control	—	—	✓	✓	✓	✓
drive.web distributed control	✓	✓	✓	✓	✓	✓
100baseTX Ethernet	✓	✓	✓	✓	✓	✓
Modbus TCP/IP & EIP/PCCC	✓	✓	✓	✓	✓	✓
USB microB port	✓	✓	✓	✓	✓	USB-C
8 analog inputs	✓	✓	✓	✓	✓	✓
8 analog outputs	(unipolar outputs)	(bipolar outputs)	(bipolar outputs)	(bipolar outputs)	(bipolar outputs)	(bipolar outputs)
8 digital inputs	✓	✓	✓	✓	✓	✓
8 digital outputs	✓	✓	✓	✓	✓	✓
4 status LEDs	✓	✓	✓	✓	✓	✓
Floating-point numbers and math	✓	✓	✓	✓	✓	✓
Battery backup for clock (battery not included)	—	✓	✓	✓	✓	✓
ModbusRTU master (slave optional)	—	✓	✓	✓	✓	✓
Optional drive interface	—	✓	✓	✓	✓	✓
Frequency/events inputs, timing/stepper outputs	—	—	4 selectable inputs or outputs	6 inputs, 7 outputs	6 inputs, 7 outputs	6 inputs, 7 outputs
Encoder	—	—	1 encoder, diff. AB	2 encoders, diff. ABZ + reconnect terminals	2 encoders, diff. ABZ	2 encoders, diff. ABZ
drive.web options included	-04, -05, -25, -26	-04, -05, -06, -10, -25, -26, -29, -39	-04, -05, -06, -10, -25, -26, -29, -39	-04, -05, -06, -10, -25, -26, -29, -39	-04, -05, -06, -10, -25, -26, -29, -39	-04, -05, -06, -10, -25, -26, -29, -39
Core UAC	dw241-BX-C1CD	dw240-DM-C2CD	dw240-DM-C3CD	dw240-DM-C4CD	dw240-DM-C6PD	dw250-DM-S7PD
P2 Vector Drive UAC	—	dw244-DM-C2CD	dw244-DM-C3CD	dw244-DM-C4CD	dw244-DM-C6PD	dw254-DM-S7PD
E3 Industrial Drive UAC	—	dw248-DM-C2CD	dw248-DM-C3CD	dw248-DM-C4CD	dw248-DM-C6PD	dw258-DM-S7PD
CANopen UAC	—	dw249-DM-C2CD	dw249-DM-C3CD	dw249-DM-C4CD	dw249-DM-C6PD	dw259-DM-S7PD
Dimensions (WxHxD)	4.11" x 3.50" x 3.00" (105 x 89 x 76mm)	4.11" x 3.50" x 3.00" (105 x 89 x 76mm)	5.51" x 3.43" x 3.00" (140 x 87 x 76mm)	8.27" x 3.50" x 3.00" (210 x 89 x 76mm)	1.06" x 4.09" x 4.96" (27 x 104 x 126mm)	0.70" x 3.50" x 4.70" (17.2 x 90 x 119mm)

smarty7 certification is still in process, please contact the factory to check status.

faster » compact » versatile » expansive » intelligent » easily wirable » ... Available!

Model Numbers



smarty

speedy

smarty & speedy Product build options

Function Block Libraries

		dw210	dw220	dw221	dw222	dw223	dw224	dw225	dw228	dw229
-05	Advanced Process Control Function Block Library (FBL) (comparators, profilers, presets, latches, filters, counters, timers, PIDs)	X	X	X	X	X	X	X	X	X
-06	Winder Control FBL (dia. calc., taper tension, torque comp.)	X	X	X	X	X	X	X	X	X
-10	Advanced Math FBL (trigonometric, log, exponential)	X	X	X	X	X	X	X	X	X
-11	Encoder Control FBL (shaft lock, indexing, registration for Options 40-44)	X								
-29	Solar FBL with sun position calculator	X	X	X	X	X	X	X	X	X
-36	Motion Control FBL with Trapezoidal Motion & Cam Profile	X	X	X	X	X	X	X	X	X

Communications Options

-04	Ethernet Modbus TCP/IP slave	X	S	S	S	S	S	S	S	S
-25	Ethernet EIP/PCCC interface for AB PLCs	X	X	X	X	X	X	X	X	X
-17*	ModbusRTU slave (RS485) isolated port	X								
-18*	ModbusRTU slave (RS485) isolated port + external encoder module port	X								
-19*	ModbusRTU slave (RS485) isolated port + ModbusRTU master non-iso	X								
-23*	ModbusRTU master (RS485) isolated port + external encoder module port	X								

I/O Options

-24*	6 extra digital inputs, 24V	X								
-26	savvyPanel iPad/iPhone/Android & touch screen PC operator station interface	X	S	S	S	S	S	S	S	S
-27*	Frequency I/O, up to 100KHz. 2 ~in, 2 ~I/O, with 12V, 400mA pwr supply	X								
-30	115VAC digital I/O voltage isolator, up to 2/smart (not CE or UL Listed) (each with 2, NO contacts + common and 4, 115VAC inputs +common)	X								
-31	230VAC digital I/O voltage isolator, up to 2/smart (not CE or UL Listed) (each with 2, NO contacts + common and 4, 230VAC inputs +common)	X								
-37*	2-Channel, Open Loop Stepper Drive Controller with 2 fast event inputs	X								
-38*	2-Channel, Closed Loop Stepper Drive Controller, i2i port for OPT-42-45	X								

Encoder I/O Option

-15*	Internal encoder input 2-24V, differential A & B (no marker) w/5VDC	X								
-16*	External encoder module interface port	X								
	smarty external encoder module (needs a smarty dw210 option -16, -18, -23)									
-42-45	2 ext encoder, 2-24V, marker, 5VDC o/p, 2x 24V event in, RS422 RTX	X								
-42-46	2 ext encoder, 24V retransmit outputs ($\pm 1A$, $\pm 1B$, $\pm 2A$, $\pm 2B$)	X								

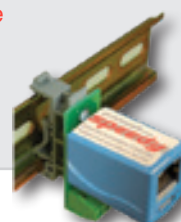


dwOPTION -42-46
Encoder module

Mounting Options

-50	DIN rail mount with screw terminal connections		X					X		X
-----	--	--	---	--	--	--	--	---	--	---

* Options are mutually exclusive X = Available if not excluded S = Standard feature



drive.web automation

smarty & speedy - stock controller options (un-configured)

speedy & smarty standard programmable controller dwOPTION -00

- Basic drive coordination and peer to peer networking over Ethernet
- Basic machine control

Includes 100baseTX Ethernet and USB port with system wide access together with:

basic arithmetic, logic, PI control, clamp, switches, basic *savvyPanel* touch screen PC, iOS & Android control, systems utilities, event email

smart systems controller - pack 1

speedy & smarty dwOPTION -1121 for

- Process line drive coordination
- General purpose machine control

Includes all standard controller features together with:

advanced arithmetic, logic, process control, counters, timers, touch screen PC, iOS & Android control, systems utilities

Incorporates standard *drive.web* options

- 04, ModbusTCP/IP slave Ethernet
- 05, Advanced Process control Function Block Library
- 25, EIP/PCCC Ethernet slave for Allen Bradley interface
- 26, *savvyPanel* full featured, touch screen PC, iOS & Android operator station controller



smart systems, winders & motion - pack 2

speedy & smarty dwOPTION -1122 for

- Full featured winder control with single or multi cores, turret indexing, auto splicing, open and closed loop, edging
- Web handling, tension control, accumulators, infeeds, center winding, slip core, surface winding

Includes all **pack 1**, dwOPTION -1121 features together with:

diameter calculation, linear and hyperbolic taper control, static/dynamic friction compensation, inertia compensation

Incorporates standard *drive.web* options

- 04, ModbusTCP/IP slave Ethernet
- 05, Advanced Process control Function Block Library
- 06, Winder Control Function Block Library
- 25, EIP/PCCC Ethernet slave for Allen Bradley interface
- 26, *savvyPanel* full featured, touch screen PC, iOS & Android operator station controller
- 36, Motion Control Function Block Library with trapezoidal & cam motion



precision smart control with 1 encoder - pack 3

smarty dwOPTION -1123 for

- Basic precision speed, position or winder control
- Basic encoder count control

Includes all **pack 2**, dwOPTION -1122 features together with:

cyclic position, linear position, indexing

Incorporates standard *drive.web* options

- 04, ModbusTCP/IP slave Ethernet
- 05, Advanced Process control Function Block Library
- 06, Winder Control Function Block Library
- 11, Encoder Control Function Block Library
- 15, Single bidirectional encoder input
- 25, EIP/PCCC Ethernet slave for Allen Bradley interface
- 26, *savvyPanel* full featured, touch screen PC, iOS & Android operator station controller
- 36, Motion Control Function Block Library with trapezoidal & cam motion



precision smart control with 2 encoders - pack 4

smarty dwOPTION -1124 for

- Precision speed, position or winder control, registration, phase lock, fast event counting
- Encoder count control with home auto calibration
- Dual axis pick & place with trapezoidal motion
- Cut to length with cam motion control

Includes all **pack 3**, dwOPTION -1123 features together with:

registration, fast event counting, speed lock, phase lock, precision ratio

Incorporates standard **drive.web** options

- 04, ModbusTCP/IP slave Ethernet
- 05, Advanced Process control Function Block Library
- 06, Winder Control Function Block Library
- 11, Encoder Control Function Block Library
- 16, External encoder module interface port
- 25, EIP/PCCC Ethernet slave for Allen Bradley interface
- 26, **savvyPanel** full featured, touch screen PC, iOS & Android operator station controller
- 36, Motion Control Function Block Library with trapezoidal & cam motion
- 42-45, External dual, bidirectional encoder module with marker, fast event inputs, buffered encoder retransmit, 5VDC encoder supply



precision stepper control with 2 encoders - pack 5

smarty dwOPTION -1125 for stepper drive control

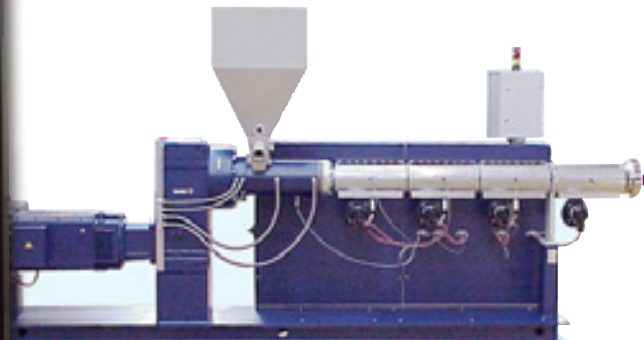
- Precision speed, position or winder control, registration, phase lock, fast event counting
- Encoder count control with home auto calibration
- Dual axis pick & place with trapezoidal motion
- Cut to length with cam motion control

Includes all **pack 3**, dwOPTION -1123 features together with:

registration, fast event counting, speed lock, phase lock, precision ratio

Incorporates standard **drive.web** options

- 04, ModbusTCP/IP slave Ethernet
- 05, Advanced Process control Function Block Library
- 06, Winder Control Function Block Library
- 11, Encoder Control Function Block Library
- 25, EIP/PCCC Ethernet slave for Allen Bradley interface
- 26, **savvyPanel** full featured, touch screen PC, iOS & Android operator station controller
- 36, Motion Control Function Block Library with trapezoidal & cam motion
- 38, Dual stepper drive controller with external encoder module interface port
- 42-45, External dual, bidirectional encoder module with marker, fast event inputs, buffered encoder retransmit, 5VDC encoder supply



dw230 ... **savvyPanel touch**



drive.web automation

- ~ distributed control over Ethernet
- ~ full featured programmable control
- ~ intuitive graphical programming tools
- ~ Internet accessible
- ~ cost effective systems any size or complexity
- ~ configure, connect & control
- ... everthing from anywhere

Everything normally in stock!

drive.web automation

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