

drive.web smarty-XA

Universal Automation Controller
with XA Option

model

dw25x-xx-XAxx



Installation & Operation Manual

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Design Statements

EMC Standard, EN 61326-1: 2006, Electrical Equipment for Measurement, Control and Laboratory Use.

Emissions Class A, Commercial Equipment.

Immunity Table 2, Industrial Equipment.

LVD Standards, EN 61010-1: 2010, Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use.

smarty 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.

smarty and its packaging contain recyclable materials

This device is designed to comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class [A] digital apparatus is designed to comply with Canadian ICES-003. Cet appareil numérique de la classe [A] est conforme à la norme NMB-003 du Canada.

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 6 for **savvy** installation instructions. For more information and to download manuals and software, go to www.driveweb.com or contact us. See page 12.

Warning! Your use of **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 **smarty**. Special care must be taken after loading new firmware or installing new options.

Warning! Avoid permanent damage to your **smarty**, never exceed any **min** or **max** values.

SMARTY, SAVVY, SAVVYPANEL, SPEEDY, BARDAC, and DRIVE.WEB are trade marks of Bardac Corporation, registered in the U.S. and other countries.

Product Identification - *smarty*⁷-XA

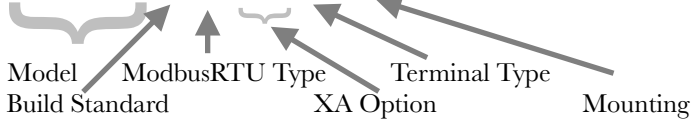
The **XA** option adds four independently-isolated, multipurpose, milliVolt-level inputs on **dw25x**-series universal automation controllers. For use with loadcell, milliVolt, potentiometer, RTD, tension transducer, and thermocouple signals.

This option manual must be used in conjunction with the **dw25x** product manual, part number HG504266

Product Identification - Part Numbers

Model number **dw25x** is appended with a five character extension.

Example; **dw250-DM-XAPD**



Terminal Type **P**

P - Plug-in screw terminals; Two blocks of 10 terminals; 20 total.

XA Terminal Name, Description, and Ratings

- Terminal names are consistent in the **drive.web savvy** software, on the terminal, and on the cover plate next to the terminal.

xX - Excitation. Automatically configured per assigned function block.

xP - Positive input terminal. 5.2V max.

xN - Negative input terminal. 5.2V max.

xR - Reference terminal is automatically configured per assigned function block.

xS - Shield can be used for cable shield except with **Potentiometer** and **Tension Transducer** function blocks where it is the 'low' connection.

XA Terminal Wiring

Use wire rated at 85°C or higher.

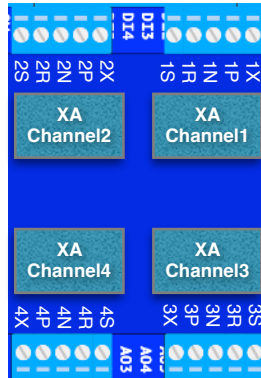
Strip 7mm(0.28"). 2.5mm² (AWG12) max, 28AWG min.

Tighten 0.5N•m (4.4in•lb)

Fast transient over-Voltage 1kV per EN 61000-4-4.

XA Dimensions and Terminal Map

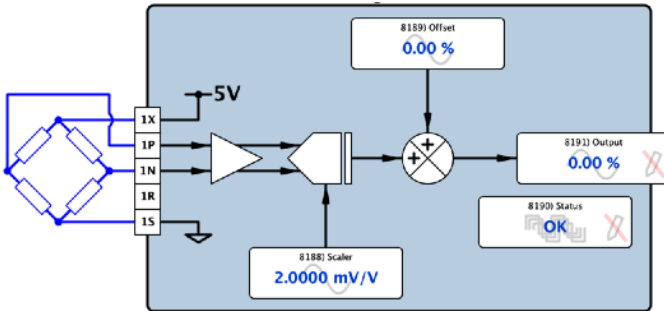
See dw25x product manual for other dimensions and terminals.



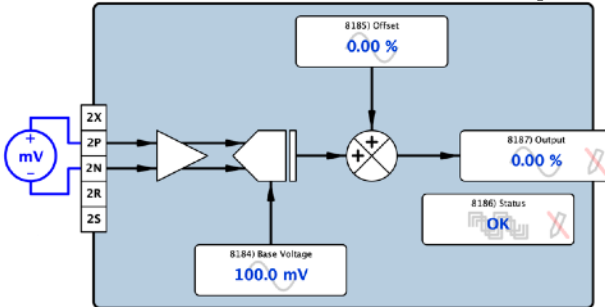
XA Function Blocks and Wiring Diagrams

- Using **drive.web savvy** software, instantiate function blocks. E.g. **I/O XAIO>XA1 Loadcell**.

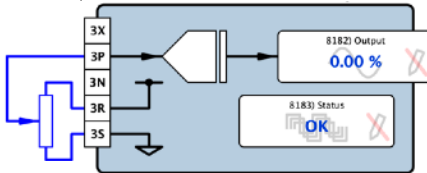
Loadcell - Use with traditional metal foil loadcells and similar sensors requiring a full Wheatstone bridge at 0.2mV/V to 6.0mV/V;



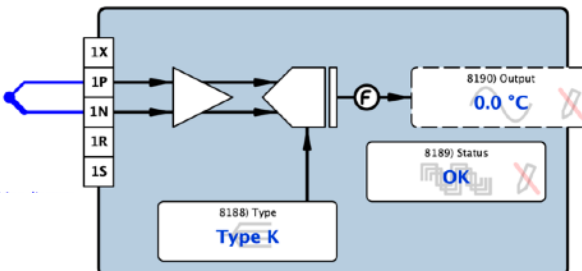
MilliVolt - Use with milliVolt sources. Choose Base Voltage from 10mV to 2048mV. Cable shield connection is optional;



Potentiometer - True ratiometric potentiometer input is inherently noise-resistant.



Thermocouple - Fully linearized output. Choose thermocouple type B, E, J, K, N, R, S, or T. Find °C to °F Converter function block in the **Utility** function block group.

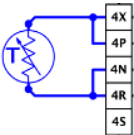
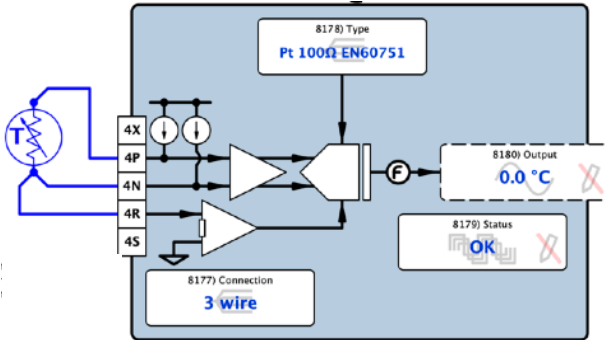


XA Function Blocks and Wiring Diagrams continued...

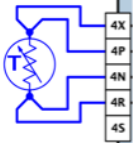
RTD - Use with Platinum-type resistance temperature detectors.

Choose 100 Ω or 1k Ω sensor. Choose 2, 3, or 4-wire connection.

Find °C to °F Converter in the *Utility* function block group.

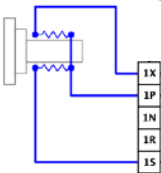
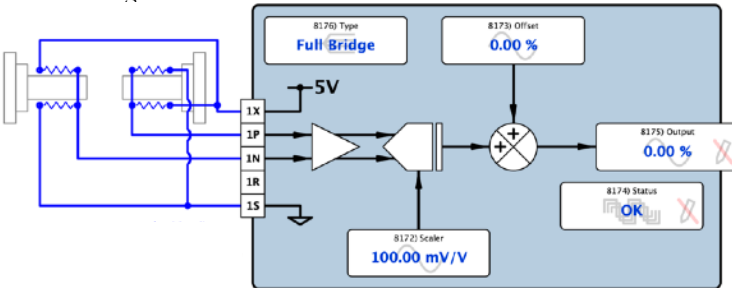


2-wire RTD connection



4-wire RTD connection

Tension Transducer - Use with piezoresistor-type strain gauges at 20mV/V to 500mV/V scaling. Choose full or half bridge wire connection



Half bridge connection

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.