

Zlinx 485

Industrial I/O

PRODUCT INFORMATION

- ✓ **Modbus RTU & Peer-to-Peer**
- ✓ **Wide Operating Temperature**
- ✓ **Expansion modules for scalability**
- ✓ **Choice of Digital and Analog I/O**
- ✓ **Configurable Sinking and Sourcing DI**
- ✓ **RS-232/422/485 Data Lines**
- ✓ **Removable Terminal Blocks**
- ✓ **Easy to use Management Software**



Zlinx 485 encompasses a growing family of products including Modbus, Peer-to-Peer, base modules, expansion modules, configuration software and accessories. All modules are built into similar enclosures featuring male local bus plugs and female local bus receptacles on the sides, which allow modules to connect together. Modules are DIN rail mountable and feature removable terminal blocks.

Each Zlinx 485 system is built around a **base module**. Base modules provide Modbus, digital and/or analog I/O and communicate with other Zlinx nodes. Several different combinations of digital inputs (DI), digital outputs (DO), analog inputs (AI) and analog outputs (AO) are available. For example, the ZZ-NA-485 Base module features a combination of two AI's, two AO's, two DI's and two DO's in a package.

Expansion modules are configured using a base module, which also has programming capabilities. The base module is connected to a PC that is running the Zlinx 485 Manager software. Systems can operate in Modbus or Peer-to-Peer modes. In Modbus mode a the system exchanges Modbus messages with a Modbus capable base module. In Peer-to-peer mode two systems are linked in a slave-master connection to provide dependable, direct serial communications. Up to six expansion modules can be plugged into the base module to add more I/O capabilities in any combination needed. For example, the ZZ-8DO-T Expansion module provides eight additional digital outputs; the ZZ-2AI2AO provides two analog inputs and two analog outputs.

Specifications

Serial Technology

RS-232	TD, RD, GND
RS-232 Connector	RJ45 Female
RS-422/485	TDA(-), TDB(+), RDA(-), RDB(+), GND
RS-422/485 Conn.	Removable Terminal Block (12 to 28 AWG)
Data Rate	1.2 to 230.4 kbps
Industrial Bus	MODBUS RTU

Power

Source	External
Input Voltage	10 to 30 VDC
Connector	Removable Terminal Block (12 to 28 AWG)

Power Consumption

ZZ-Nx-485	1 Watt Maximum
ZZ-4AI	1 Watt Maximum
ZZ-4AO	1.1 Watt Maximum
ZZ-2AI2AO	1.2 Watt Maximum
ZZ-8DI-DC	0.4 Watt Maximum
ZZ-8DO-T	15.8 Watt Maximum
ZZ-8DO-T1	1.1 Watt Maximum
ZZ-8DO-R	3.2 Watt Maximum
ZZ-4DI4DO-DCT	8.1 Watt Maximum
ZZ-4DI4DO-DCT1	1.0 Watt Maximum
ZZ-4RTD1	0.4 Watt Maximum

Mechanical

LED Indicators	Power, Data, and Bus
Dimensions	5.0 x 3.8 x 1.1 in (12.8 x 9.7 x 2.8 cm)
Enclosure	35mm DIN Mount, Plastic, IP 30
Weight	Varies ~ (About 0.3 lbs (149.7 g))

Environmental

Op Temperature	- 40 to 176°F (- 40 to 80°C) ZZ-8DO-R -40 to 149 °F (-40 to 65 °C)
Storage Temp	- 40 to 176°F (- 40 to 80°C)
Op Humidity	0 to 95% Non-condensing

Regulatory

Approvals	FCC, CE
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B&B ELECTRONICS

Specifications

MTBF

ZZ-NA-485	104273 hours
ZZ-NB-485	86301 hours
ZZ-NC-485	125774 hours
ZZ-4AI	136050 hours
ZZ-4AO	114057 hours
ZZ-2AI2AO	119183 hours
ZZ-8DI-DC	146567 hours
ZZ-8DO-T	313100 hours
ZZ-8DO-T1	317530 hours
ZZ-8DO-R	40670 hours
ZZ-4DI4DO-DCT	197045 hours
ZZ-4DI4DO-DCT1	200795 hours
ZZ-4RTD1	243007 hours

Method Parts Count Reliability Prediction

Digital Inputs

Voltage Range	0 to 48 VDC
Low Voltage (0)	0.8 VDC Maximum
High Voltage (1)	4.0 VDC Minimum
Pull Up Res. NPN	130 K Ω
Pull Down Res. PNP	10 K Ω
Frequency Input	Two DI per module software selectable as frequency counters, 0 to 5 KHz range (do NOT exceed 5 KHz)

Digital Outputs

Voltage Range	10 to 48 VDC (sourcing) 0 to 48 VDC (sinking)
Open Source	40 mA per Output

Analog Inputs / Outputs

Range	0 to 10 VDC or 0 to 20 mA
Resolution	12 bit
Input Accuracy	0.15% full scale reading typical, 0.2% max
Output Accuracy	0.15% full scale reading typical, 0.2% max
AI Load Resistance	100 M Ω (Voltage Input) 250 M Ω (Current Input)
AO Max Current	1 mA (voltage output)
AO Max Source Load	375 Ω @ 20 mA, and 10 V input voltage when configured for current output
Input Protection	Over-voltage up to 2X max input voltage

Relay Outputs

Number of Relays	8
Type	C (Normally open and Normally Closed)
Output Connection	3.5 mm removable TB (12 to 28 AWG) 2 per output
Common Connection	3.5 mm removable TB (12 to 28 AWG) 1 per bank of 4
Ratings	250 VAC @ 8A, 30 VDC @ 5A,

RTD Inputs

Number of RTD	4
Wire Configuration	2, 3, and 4 wire
Type	PT100*, PT1000*, Cu10** * Optimized for coefficient of 385 ** Optimized for coefficient of 427
Input Connection	3.5 mm removable TB (4 per output)
Temperature Range	PT100 = - 200 to 650 $^{\circ}$ C PT1000 = - 200 to 100 $^{\circ}$ C Cu10 = - 100 to 260 $^{\circ}$ C
Resolution	0 to 1 $^{\circ}$ C across - 40 to 85 $^{\circ}$ C
Accuracy @ 25 $^{\circ}$ C	+/- 0.5 $^{\circ}$ C typical
Accuracy -40 to 85 $^{\circ}$ C	+/- 2.0 $^{\circ}$ C maximum

Configuration Software

Media	CD ROM
OS Supported	Windows ME/2000/XP

Ordering Information

Base Modules

Model No.	I/O
ZZNA-485	RS-232/422/485, 2DI, 2DO, 2AI, 2AO Sourcing DO's
ZZ-NB-485	RS-232/422/485, 4DO, 4DI Sourcing DO's
ZZ-NC-485	RS-232/422/485, 2DI, 2DO, 2AI, 2AO Sinking DO's
ZZ-ND-485	RS-232/422/485, 4DI, 4DO Sinking DO's

Expansion Modules

Model No.	Type	I/O	I/O Type
ZZ-4AI	AI	4AI	mA, V
ZZ-4AO	AO	4AO	mA, V
ZZ-2AI2AO	A I/O	2AI, 2AO	mA, V
ZZ-8DI-DC	DI	8DI	Pull-up, R
ZZ-8DO-T	DO	8DO	Sourcing
ZZ-8DO-T1	DO	8DO	Sinking
ZZ-4DI4DO-DCT	D I/O	4DI, 4DO	Sourcing
ZZ-4DI4DO-DCT1	D I/O	4DI, 4DO	Sinking
ZZ-8DO-R	DO	8DO	Relay
ZZ-4RTD1	AI	4AI	RTD

Accessories / Replacements

Model No.	Description
ZZ-TB1	Removable TB Replacement Kit
ZZ-DIN1	DIN Rail Mounting Kit