Высокоскоростные контроллеры ZX09

Технические характеристики

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Quick Start Guide ZX-FPGA-PLC

Quick Start Guide

Variants, Technical Data

Variant	Supply voltage	Internal processing time	Logic capacity FPGA, logic cells / registers	Reaction time digital inputs to digital outputs	Processing time of analog inputs	Processing time of analog outputs	Maximum Input Frequency	Number of programmable Timers
ZX06AIO	DC 24 V +/- 15%	< 20 ns	6000 / 12000	-	< 10 µs	< 10 µs	-	50 - 200
ZX08DIO	DC 24 V +/- 15%	< 20 ns	6000 / 12000	< 3 µs	-	-	500 kHz	50 - 200
ZX09	DC 24 V +/- 15%	< 20 ns	9112 / 18224	< 3 µs	-	-	500 kHz	70 - 300
ZX09A	DC 24 V +/- 15%	< 20 ns	9112 / 18224	< 3 µs	< 70 µs	-	500 kHz	70 - 300
ZX09D	DC 24 V +/- 15%	< 20 ns	9112 / 18224	< 3 µs	< 10 µs	-	500 kHz	70 - 300
ZX09E	DC 24 V +/- 15%	< 20 ns	9112 / 18224	< 3 µs	< 10 µs	-	500 kHz	70 - 300

Connections

		ZX06AIO	ZX08DIO	ZX09	ZX09A	ZX09D	ZX09E
Digital inputs		-	8	10	10	2	2
Digital outputs		-	8	4	4	4	4
Analog inputs 0..10 V / 4..20 mA switchable		6	-	-	1	2	2
Analog inputs 0..10V		-	-	-	-	4	-
Analog inputs 4..20 mA		-	-	-	-	-	4
Analog outputs 0..10V		6	-	-	-	-	-
RS-485 ports: progammable alternatives	SSI	-	-	-	2	2	2
	Modbus RTU	-	-	-	2	2	2
	ZanderLink	1*	1*	-	2	2	2
	TTL differential I/O	-	-	-	4	4	4
Ethernet (Modbus/TCP, ZanderNet)		-	-	1	1	1	1
PROFINET		-	-	-	-	-	-
EtherCAT		-	-	-	-	-	-

**Networkable via ZanderLink with the ZX06AIO, ZX08DIO, ZX09A, ZX09D, ZX09E*

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Quick Start Guide

For your safety

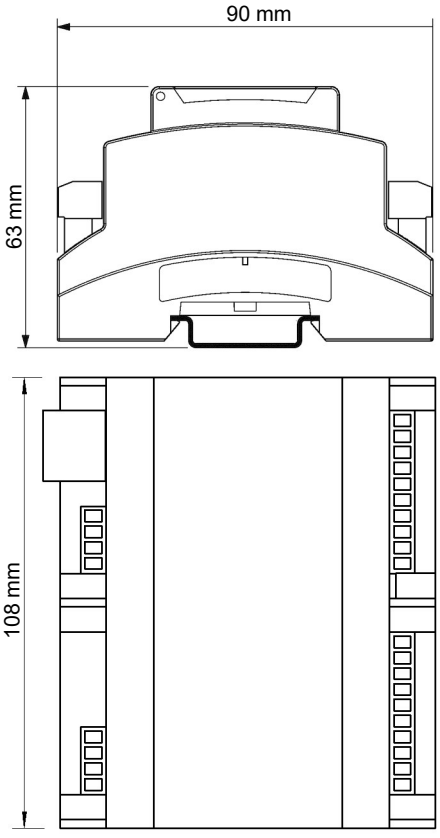
- The device may only be installed and put into operation by authorized qualified personnel,
  - who is familiar with the proper handling of electrical machine equipment
  - who is familiar with the applicable regulations for occupational safety and accident prevention
  - and who has read and understood the operating manual and, if applicable, the programming manual
- The safe functioning of the device during machine operation can no longer be guaranteed if it is connected incorrectly or used for purposes other than those for which it was intended. This can lead to fatal injuries or high material damage.
- When installing the device, the country-specific regulations must be observed.
- The electrical connection of the device may only be carried out when it is de-energized. This also applies to the connected sensors and actuators.
- The wiring of the device must comply with the instructions in this operating manual.
- Opening the device and any manipulation of the device is not permitted and will result in the loss of warranty or guarantee claims.
- All relevant safety regulations and standards must be observed.

Before use, read the detailed operating instructions, which you can download from our website, and keep them in a safe place. Make sure that the operating instructions are available at all times during assembly, commissioning and maintenance work.

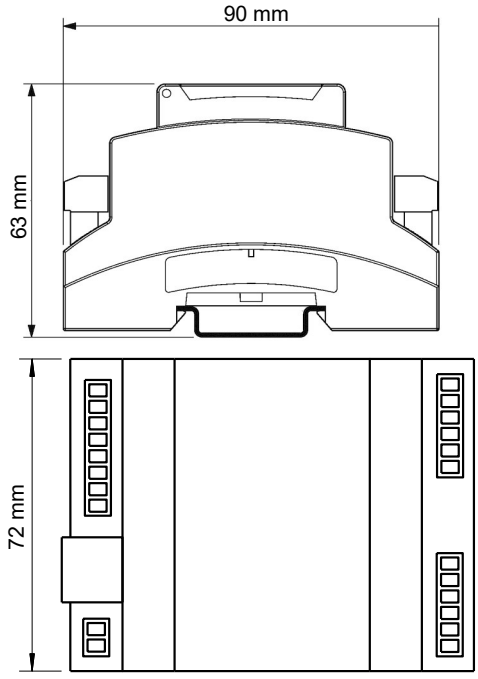
Product description

The ZX09 and ZX20/21 series controllers are high-speed industrial FPGA based programmable logic controllers (PLC). They can be used both as stand-alone PLCs and in a network as decentralized PLCs for parallel processing of signals in real time. This is made possible by the heart of every ZX controller: a Field Programmable Gate Array (FPGA). This enables the fastest possible and always consistently fast processes without cycle time in absolute parallelism.

Dimensions



Dimensions of ZX09/ZX20/ZX21-PLCs,
Connections exemplary for ZX09A



Dimensions of ZX06AIO and ZX08DIO PLCs,
Connections exemplary for ZX06AIO

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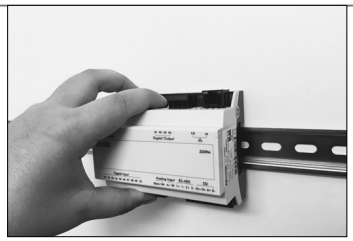
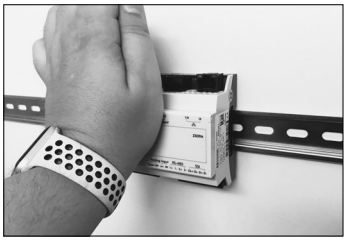
Quick Start Guide

Assembly



Place device on top hat rail



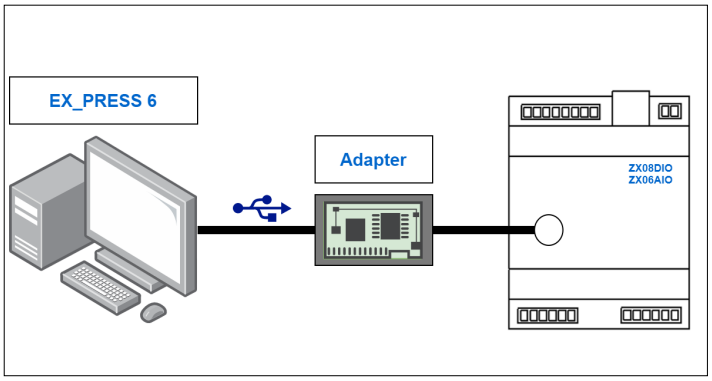
Press device onto top-hat rail

Disassembly

Press device onto top-hat rail

Programming of ZX06AIO and ZX08DIO

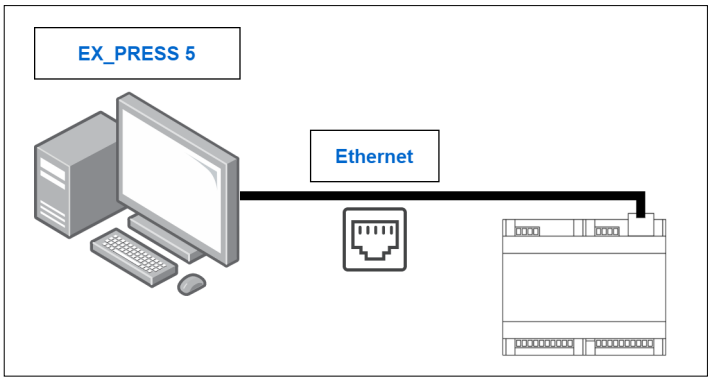
Connect the device according to the illustration.



The PLC has a programming interface on the front. This can be used to connect to a computer with the help of an adapter. The adapter is plugged into one of the USB sockets of the computer. Programming is done using the program-development-software EX_PRESS 6.

Programming of ZX09– and ZX20/21 family

Connect the device according to the illustration.



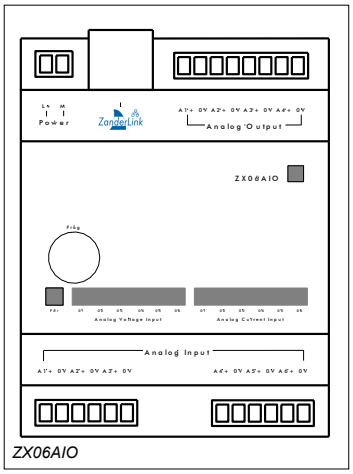
The PLS provides a network connection through an Ethernet-Port. With it, the PLC can be directly connection a computer. Programming is done using the program-development-software EX_PRESS 5.

Quick Start Guide ZX-FPGA-PLC

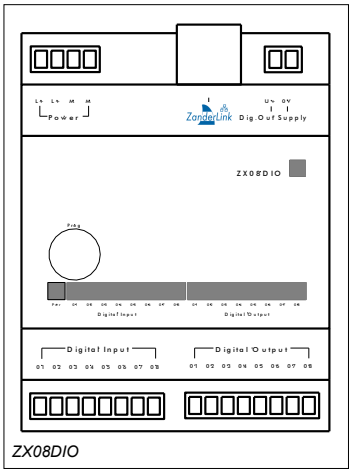
Quick Start Guide

Connection of ZX-Extention

Connect the device according to the illustration.



ZX06AIO

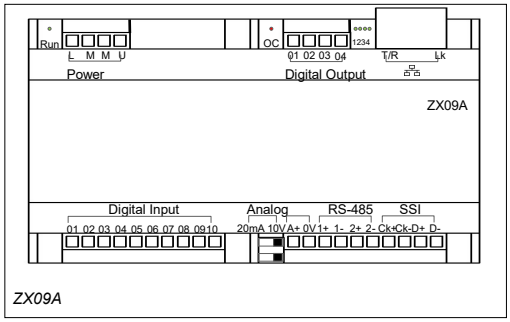


ZX08DIO

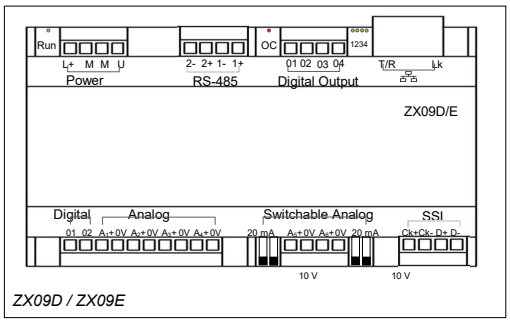
Terminal	Description
L+ (2 equivalent terminals)	Positive voltage supply U_B
M (2 equivalent terminals)	Connection 0 V of the supply voltage and the voltage for the digital outputs and 0 V potential for digital and analog inputs. M and 0 V are internally connected with each other.
U+	Connection for the positive voltage switched by the digital outputs (may be different from operating voltage L+, ZX08DIO only)
Digital Input 01, 02, ...	Digital inputs (ZX08DIO only)
Digital Output 01, 02, ...	Digital ouputs (ZX08DIO only)
Analog Input A1 + 0V, A2 + 0V, …	Analog inputs with 0 V potential (ZX06AIO only)
Analog Output A1 + 0V, A2 + 0V, ...	Analog outputs with 0 V potential (ZX06AIO only)
ZanderLink	ZanderLink interface

Connection of ZX09 family

Connect the device according to the illustration.



ZX09A



ZX09D / ZX09E

Terminal	Description
L+	Positive voltage supply U_B
M (2 equivalent terminals)	Connection 0 V of the supply voltage and the voltage for the digital outputs and 0 V potential for digital and analog inputs. M and 0 V are internally connected with each other.
U+	Connection for the positive voltage switched by the digital outputs (may be different from operating voltage L+)
Digital Input 01, 02, ...	Digital inputs
Digital Output 01, 02, ...	Digital outputs
Analog Input A1 + 0V, A2 + 0V, …	Analog current or voltage inputs
品	Ethernet interface
RS-485, SSI	Serial RS-485 or SSI interfaces or TTL differential inputs/outputs (ZX09A, ZX09D, ZX09E only). Both interfaces can be used in the user program for Modbus RTU, ZanderLink, SSI encoders or as inputs or outputs for (LV)TTL differential signals (e.g. for connecting a suitable incremental encoder).

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