

ZX20T HIGH SPEED CONTROLLER

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AUTOMATION

When it has to be fast!

Production processes are getting faster and faster. There are many examples: Injection moulding machines, automatic packaging and cutting machines, labelling machines or filling devices in the food industry.

As a result, high demands are put on the controller system. Here, the challenge is not the absolute response time, but rather ensuring exactly reproducible switching points at different machine speeds. Because of varying cycle times, it is often very difficult for conventional PLC controllers to meet these demands.

The state-of-the-art FPGA technology implemented in the **ZX20** series enables absolute parallel processing without cycle times and thus, ensures processes at maximum possible speeds and constant pace at all times.

In **EX_PRESS 5**, you can create and manage your projects with Structured Text as defined in EN 61131-3 and program your controllers via the built-in Ethernet interface directly in the network. **ZX20T** enables high-speed processing of 20 digital inputs and 16 digital outputs.

- Fast and without cycle time
- Absolute constant response times; no jitter
- Easy PC programming with **EX_PRESS 5**
- Can be connected via Ethernet (10/100 Base-T)
- Analog and digital inputs / outputs
- Compact dimensions
(W x H x D: 108 x 90 x 63 mm)
- Filtering of interference signals with freely configurable debouncing of the inputs via software
- Optionally with integrated PROFINET or EtherCAT connector



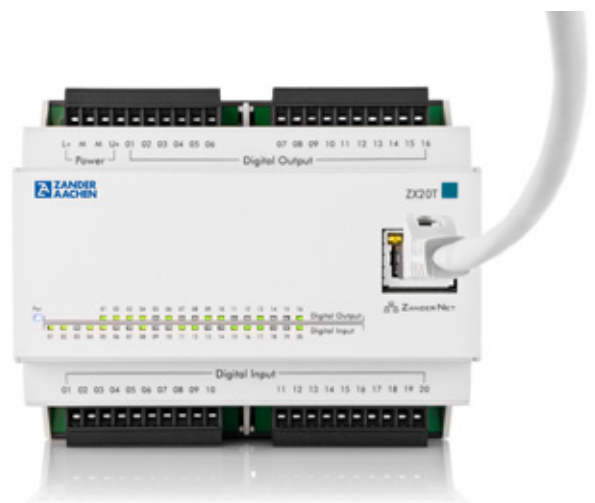
ZX20T

The **ZX20T** has 20 digital inputs and 16 digital outputs with a constant response time of up to $8 \mu\text{s}$. This, for example, enables extremely high processing speeds when controlling labelling machines and extremely precise positioning of the labels.



High-speed for 20 years:

The stage was set in 1993 by the first controller system of the ZANDER make without cycle time. **ZX20T** is now the 4th generation. The predecessors EX8, EX16, ZX4/ZX8 have proved themselves in various industrial applications, e.g. in fast packaging machines, filling systems, fusing stations, labelling machines, cutting devices or conveyor systems. Customer requests and several years of experience have been taken into consideration while developing the new controllers. This also applies to the completely revised programming software **EX_PRESS 5**.



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Economical, thanks to ...

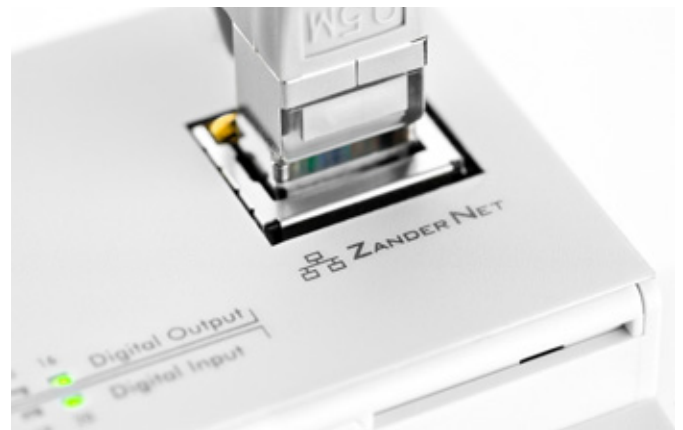
... **intelligently networked system solution.**

ZX20T can be networked. Also in open Ethernet systems and with mixed hardware. Thus, **ZX20T** is also an ideal high-speed local sub-system in combination with higher level controllers.

This means:

- Integration in existing networks
- Program modifications in the network without dismantling
- **ZX20T** as a cost-effective high-speed sub-system

...high-speed controlling has never been so easy!



... **extensive and organized diagnosis**

ZX20T has comprehensive diagnosis capabilities. The switching status of all inputs and outputs is displayed by LEDs in the front. Via the Ethernet interface, operating parameters and error messages can be transmitted to other controllers.

This means:

- No time-consuming troubleshooting procedures and thereby no long standstill times
- Fast commissioning
- Optionally with integrated PROFINET or EtherCAT connector

... the complete overview in every operating status!



ZX20 as High-Speed Subsystem / Networked PLC

Frequently, there are single High-Speed requirements in complex automation systems, e.g. the recording of measurement data or activities like counting, sorting or marking of products. The **ZX20** Bus-Versions are the right choice for these applications. With the integrated PROFINET IO-Device (**ZX20TP**) or the EtherCAT Slave Card (**ZX20TC**) an easy connection to a higher level controller is possible.

This means:

- Direct, easy integration to the higher level controller
- No additional hardware is required
- High-Speed data transfer



Programming with EX_PRESS 5

The controllers can be easily programmed using the **EX_PRESS 5** software for Windows. Although the internal operation of **ZX20T** is based on the FPGA technology instead of micro controllers, you need not learn any new programming language.

It works the same way as a conventional PLC Program and can be deleted and overwritten any number of times. Thus, **EX_PRESS 5** gives a quick tailor-made solution for your controller task. **EX_PRESS 5** offers a comfortable Windows interface with project management and network support.

This makes it easy to manage complex networked systems. Programming takes place under the Structured Text (ST) according to EN 61131-3.

The Ethernet connection is the programming interface. **EX_PRESS 5** also makes it possible to program the controllers in the network!



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Order Number	Article
589000	ZX20T
589002	ZX20TP with PROFINET
589003	ZX20TC with EtherCAT
589092	EX_PRESS 5 - Programm system for Windows

General technical data	
Order Number	589000, 589002, 589003
Electrical data	
Operating voltage U_b	DC 24 V (+/- 15 %)
Power consumption	1.5 W (all inputs activated / no load operation)
Connections	
	Ethernet 10 / 100 Base-T
	PROFINET (Order No. 589002)
	EtherCAT (Order No. 589003)
Digital inputs	
Number	20
Input voltage	DC 18..30 V
Switching thresholds	log. „0“: 0 V to 5 V; log. „1“: 18 V to 30 V
Input resistance	Approx. 3.3 k Ω
Digital outputs	
Number	16 x transistor
Input voltage / current	DC 10-30 V; 500 mA, PNP permanent short circuit proof
Timing of the digital in-/outputs	
Reponse time / max. input clock frequency	1 μ s / 500 kHz
Response time of the outputs	7 μ s at 250 mA load current
Internal Processing	
Response time	< 20 ns
Number of programmable timers	2000
Environmental data	
Ambient temperature / storage temperature	0 °C to 50 °C / -20 °C to 80 °C
EMC	Meets the requirements of the EN 61131-2
Mechanical data	
Dimensions (W x H x D)	108 mm x 90 mm x 63 mm
Degree of protection	IP20
Cable cross section	2,5 mm ²
Assembly	Mounting rail according to DIN EN 60715 TH35
Weight	approx. 210 g

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