

# JetSafeControl 320

## Safety Controller

### Product Brief

With their integrated safety functions, the devices of the JSC-300 series let you implement safety solutions within an EtherCAT bus system. Safe communication between master and slave devices takes place via the EtherCAT protocol FSoE. An extensive library of safe building blocks makes programming easy. Deterministic program processing ensures defined response times. Status information can be easily exchanged with the EtherCAT master via virtual inputs and outputs.



### Product Features

- 14 safe digital inputs
- Up to 5 safe shutdown channels
- 2 relay outputs
- Fast-channel task with guaranteed processing time of 4 ms
- Simple integration of safe drives
- Small safety controller suitable up to PL e (EN ISO 13849-1) or SIL3 (IEC 61508)
- Connection of up to 32 FSoE slave modules
- Safe logic processing of input, output, status and enabling signals
- Easy and transparent programming and parameterization in the EtherCAT® environment with JetSafe
- Fast response time due to integrated fast-channel task with guaranteed processing time of 4 ms
- Safety parameters are stored within the JSC-320
- Coded status display via 7-segment display and status LEDs on the front
- Multi-function pushbutton (Quit, Start, Reset) can be operated from the front panel

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## Technical specifications

JSC-320	
Max. number of FSoE slave modules	32
Interface for expansion module	RJ-45
Number of digital inputs	14
Number of safe digital outputs	
▪ pp-switching*	4
▪ pn-switching*	2
Number of safe digital IOs	-
Number of relay outputs	2
Number of auxiliary outputs	-
Number of clock outputs	2
Connection type	Plug-in terminals with spring connection
Supply voltage (tolerance)	DC 24 V (-10%, +15%)
Fuse	24+ min. DC 30 V; max. 3.15 A AQ1+ min. DC 30 V; max. 10 A
Max. power consumption (logic section)	3.1 W
Ratings - digital inputs	DC 24 V; 20 mA, type 1 according to IEC 61131-2
Ratings - digital outputs	
▪ pn-switching	DC 24 V; 2 A
▪ pp-switching	DC 24 V; 2 A
Clock outputs	DC 24 V; 0.5 A
Ratings - relay outputs	
N/O	
▪ DC 13	DC 24 V; 2 A
▪ AC 15	DC 230 V; 2 A
Derating of outputs QX 00 ... QX 03**	
▪ Derating of outputs at 30 °C / 50 °C	2 A / 1.8 A
Temperature	0 °C ... +50 °C (operation) -25 °C ... +70 °C (storage, transport)
Degree of protection	IP 20
Climatic category	3K3 acc. to DIN EN 60721-3
Minimum, maximum relative humidity (no condensation)	5% ... 85%
EMC	DIN EN 61000-6-2, DIN EN 61000-6-4, DIN EN 61000-6-7, DIN EN 61800-3, DIN EN 61326-3, DIN EN 62061
Operating altitude	Up to 2000 m above sea level
Dimensions HxDxW [mm]	100 x 115 x 45 mm
Weight	312 g
Mounting type	Snap-on mounting to DIN rail
Min. connection cross-section / AWG	0.2 mm <sup>2</sup> / 24
Max. connection cross-section / AWG	2.5 mm <sup>2</sup> / 12

Further details and order information are available on request. Specifications are subject to change without notice. Errors and omissions excepted.

\* pn/pp can be parameterized via JetSafe.

\*\* Maximum current carrying capacity based on temperature. The total current must not exceed 10 A.

## Ordering information

10002017 - JSC-320 - FSoE Master Safety Controller  
 10001517 - JSC-PK - Programming cable  
 10002019 - JSX3-DIO16 - Distributed IO expansion module  
 10002020 - JSX3-DIO30 - Distributed IO expansion module  
 10001516 - JetSafe - Programming software

## Power supply | IO

X41	
24+ - Power supply of the device + DC 24 V	1
AQ1+ - Power supply of output DC 24 V	2
A1- - Power supply of the device DC 0 V	3
A1- - Power supply of the device DC 0 V	4

X42	
I12 - Safe digital input	1
I13 - Safe digital input	2
T1 - Clock output	3
T2 - Clock output	4

X43	
Q00 - Safe output pn-/pp-switching 00	1
Q01 - Safe output pn-/pp-switching 01	2
Q02 - Safe output pn-/pp-switching 02	3
Q03 - Safe output pn-/pp-switching 03	4

X44	
QR0L - Safe relay input	1
QR0 - Safe relay output	2
QR1L - Safe relay input	3
QR1 - Safe relay output	4

## Diagnostics | Configuration interface

RJ-10 jack, 4-pin	
GND (Ground)	1
RS485-	2
RS485+	3
VCCH	4

X66	
I00 - Safe digital input	1
I01 - Safe digital input	2
I02 - Safe digital input	3
I03 - Safe digital input	4

X67	
I04 - Safe digital input	1
I05 - Safe digital input	2
I06 - Safe digital input	3
I07 - Safe digital input	4

X68	
I04 - Safe digital input	1
I05 - Safe digital input	2
I06 - Safe digital input	3
I07 - Safe digital input	4

X65 - Without function

## EtherCAT® ports (IN/OUT)

RJ-45 jacks, 8-pin	
TX+ (Transmit Data +) (white-orange)	1
TX- (Transmit Data -) (orange)	2
RX+ (Receive Data +) (white-green)	3
Not connected (blue)	4
Not connected (white-blue)	5
RX- (Receive Data -) (green)	6
Not connected (white-brown)	7
Not connected (brown)	8

