

Technical specification

scope of application

Safety design of hardware

Electrical specification

Power supply

Tolerance range

Current consumption

Fuse for power supply

Terminal connection
power supply
input level
output level

Interface

Inputs

Number of inputs

Galvanic isolation

Signal level at log "0"

Signal level at log "1"

Input current

min impulse duration

Status displayed via

Outputs - safe

Number of outputs - safe

Galvanic isolation

Output current at log "1"

Short circuit protection

Status displayed via

Outputs - Standard

Number of outputs - standard

Galvanic isolation

Output current at log "1"

Short circuit protection

Status displayed via

FMSC Master FMSC Slave

Programmable controller for safe and non safe applications

SIL 3 (IEC61508), pl e EN ISO 13849-1

FMSC Master FMSC Slave

24V DC

18 ... 30,0 V DC max. 10% ripple

typ. 20 mA

T 20 A extern

screw- or spring type
max. 2,5 mm²
max. 1,5 mm²
max. 2,5 mm²

Mirco USB for programming,
hardware diagnosis and Debug-Mode

FMSC Master FMSC Slave

6 (24V) and 6 (24V oder 5V)

no

0 ... 8V DC at 24V
0 ... 1,5V DC at 5V

15 ... 28V DC at 24V
3,5 ... 6V DC at 5V

4 mA (at 24V)

0,5 ms

LED

FMSC Master FMSC Slave

4

no

max. 4 A

electronically

LED

FMSC Master FMSC Slave

5

no

max. 0,5 A

electronically

LED

FISSLER

ELEKTRONIK

FMSC System-family

Technical data



Mechanical specification

Design size (hxbxt) without connectors

Installation on top hat rail

Protection class housing

Protection class terminals

Weight

FMSC Master FMSC Slave

114,5 x 22,5 x 99 mm

according to DIN 50 022

IP 20

IP 20

130 gr / 170 gr with connectors

Environmental conditions

Operating temperature range

Storage temperature range

Relative humidity

Creep distance

Oscillation

EMC

Condensation

FMSC Master FMSC Slave

0 ... + 55° C

-25° C ... +70° C

10% ... 95% RH

DIN EN 50 178

DIN EN 60 068-2-6

DIN EN 61 000-6-2

not allowed

Technical data

Number of counter inputs

Typ of sensors

Signal voltage

Resolution linear encoder

Resolution rotary encoder

The smallest possible speed with linear encoder

The smallest possible speed with rotary encoder

Number of pulse counter

FMSC Master FMSC Slave

2

Linear encoder
Rotary encoder

5V or 24V

1 - 1000 μ m

1 - 36000 Pulses

≥ 1 mm/s

≥ 1 U/min

2

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FMSC System-family

Technical data



electrical data

power supply

FMSC Slave Modbus Slave

24V DC

current draw

18 ... 30,0 V DC

Fuse

typ. 20 mA

connection type

voltage supply
output

T 1 A external

screw plug connector / Sub-D connector
max. 2,5 mm²
max. 2,5 mm²

mechanical data

size (HxDxW) without connector

FMSC Slave Modbus ASCII

114,5 x 22,5 x 99 mm

mounting on top-hat rail

according to DIN 50 022

protection method housing

IP 20

protection method connector

IP 20

weight

100 gr / 120 gr with connector

enviromental conditions

operating temperatur

FMSC Slave Modbus ASCII

0 ... + 55° C

storage temperatur

-25° C ... +70° C

relativ humidity

10% ... 95% RH

leakage current

DIN EN 50 178

Vibrations

DIN EN 60 068-2-6

EMC

DIN EN 61 000-6-2

condensation

prohibited

technical data

interfaces

FMSC Slave Modbus ASCII

RS485 : screw plug connector
BLxT Prog : screw plug connector
RS232 : SUB-D 9-pin

Outputs - standard

quantity

FMSC Slave Modbus ASCII

1

galvanical isolation

no

output current at log "1"

max. 0,5 A

short circuit protection

electronical

FISSLER
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FMSC system family

technical data



Overview about FMSC function elements

Emergency stop



AND - NAND



Safety gate monitoring



OR - NOR



Operating mode selector switch



XOR Inverter



Operating console evaluation



R- S- Flip- Flop



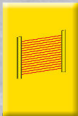
Valve monitoring dynamically or static



Ton and Toff delay



Safety light curtain evaluation



Monoflop rising or falling edge



Two hand control monitoring



Timer Counter upward



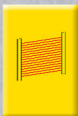
Fiessler AKAS evaluation



Decimal / binaryr or Binary / Decimal converter



Fiessler BLVT programming



Safety foot pedals



Fiessler AKAS muting system



Overrun distance measurement via counter



Direction and stop monitoring



Brake ramp monitoring



PSDI mode (1 up to 4 breaks)



various muting applications



FIessler
ELEKTRONIK

FMSC System-family

Technical data

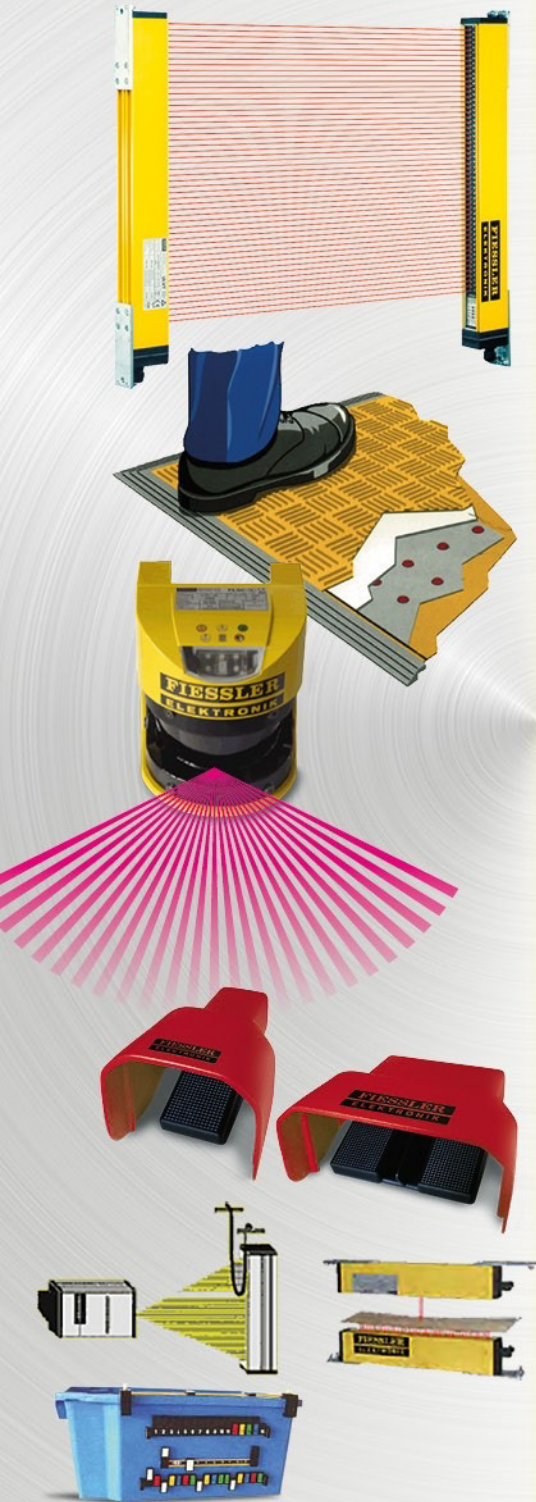


FMSC System-family

Type overview

Hardware overview	FMSC Master FMSC ECO	FMSC Master FMSC BASIC	FMSC Master FMSC ADVANCED	FMSC Master FMSC PROFI
I/O configuration	12 inputs 4 safe outputs 5 standard outputs	12 inputs 4 safe outputs 5 standard outputs	12 inputs 4 safe outputs 5 standard outputs	12 inputs 4 safe outputs 5 standard outputs
Expandable with...	- - - - -	... up to 4 slaves	... up to 8 slaves	... up to 16 slaves
Switch-off delay safe outputs in error mode	- - - - -	configurable	configurable	configurable
Fast shut down function 0,5 ms reaction time	- - - - -	- - - - -	configurable	configurable
Safe monitored number of axis	- - - - -	- - - - -	1 Axis / Master	1 Axis / Master up to 17 Axis complete system
Software overview	FMSC Master FMSC ECO	FMSC Master FMSC BASIC	FMSC Master FMSC ADVANCED	FMSC Master FMSC PROFI
PSDI - mode	- - - - -	- - - - -	implemented	implemented
Muting - application	- - - - -	- - - - -	implemented	implemented
BLVT - application	- - - - -	- - - - -	with communication Slave	with communication Slave
Connection overview		FMSC Slave FMSC BASIC	FMSC Slave FMSC ADVANCED	FMSC Slave FMSC PROFI
Connection to Master type of slaves		FMSC Basic Master FMSC Advanced Master FMSC Profi Master	FMSC Advanced Master FMSC Profi Master	FMSC Profi Master





Innovative solutions

Safety light curtains

Cat 4, SIL 3, PL e
Protective field height up to 2,500 mm
High range up to 60 m
Finger or hand protection
Very short response time as of 2 ms
Switching device integrated
Blanking and cascading

Safety foot mats

Type 3, SIL 2, PL d
individual sizes and shapes
Series connection of up to ten mats
Surface in plastic, aluminium or stainless steel
Capacity of up to 2,000 N
High safety through closed-circuit protection

Safety laser scanner

Cat 3, SIL 2, PL d
Simple assembly
Protective field 4 m, range 7 m
Warning field 15 m
Measuring field 50 m range
Several areas programmable

Safety foot-switch

single or double pedal

Control, measure, regulate

Measuring light curtains
Hole detection devices
Directional counting light barriers
Loop sensors
Encoding strips