



### Safety timer module with delayed contacts at energizing

#### Main functions

- For safety applications up to SIL 3 / PL e
- Timed circuits through safety system with self-monitoring and redundancy
- Suitable to control safety interlocked devices
- 45 mm housing
- Output contacts:
  - 1 NO safety contact,
  - 2 NC auxiliary contacts,
- Supply voltages:
  - 24 Vac/dc, 120 Vac, 230 Vac

#### Utilization categories

Alternate current: AC15 (50...60 Hz)

Ue (V) 230

Ie (A) 3

Direct current: DC13 (6 operations/minute)

Ue (V) 24

Ie (A) 4

#### Markings, quality marks and certificates:



Approval UL: E131787

Approval GOST: POCC IT.AB24.B04512

#### Complying with the requirements requested by:

Low Voltage Directive 2006/95/EC,

Machinery Directive 2006/42/EC,

Electromagnetic Compatibility 2004/108/EC

#### Technical data

##### Housing

Made of polyamide PA 6.6 self-extinguishing, class V0 (UL94)

Protection degree:

IP40 (housing), IP20 (terminals)

Dimensions:

see page 5/82, shape C

##### General data

SIL level (SIL CL):

up to SIL 3 according to EN IEC 62061

Performance Level (PL):

up to PL e according to EN ISO 13849-1

Safety category:

upto cat. 4 according to EN ISO 13849-1 (dependent from the circuit structure)

Safety parameters:

see page 7/34

Ambient temperature:

-25°C...+55°C

Mechanical endurance:

>10 millions of operations

Electrical endurance:

>100.000 operations

Pollution degree:

outside 3, inside 2

Rated impulse with stand voltage (Uimp):

2.5 kV

Rated insulation voltage (Ui):

250 V

Over-voltage category:

II

Weight:

0,2 kg

##### Power supply

Rated operating voltage (Un):

24 Vac/dc; 50...60 Hz

120 Vac; 50...60 Hz

230 Vac; 50...60 Hz

Max residual ripple in DC:

10%

Supply voltage tolerance:

±15% of Un

Rated power consumption AC:

< 5 VA

Rated power consumption DC:

< 2 W

##### Control circuit

Protection against short circuits:

resistance PTC, I<sub>h</sub>=0,5 A

Operating time of PTC:

intervention > 100 ms, reset > 3 s

Operating time t<sub>A</sub>:

see "Code structure"

Releasing time in absence of power supply t<sub>R</sub>:

< 40 ms

#### In conformity with standards:

IEC 60947-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN ISO 13849-1, EN 999, EN 1037, EN ISO 12100-1, EN ISO 12100-2, EN ISO 13850, IEC 529, EN 60529, EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-5-1, EN 62061, EN 13849-1, UL 508, CSA C22.2 n° 14-95

##### Output circuit

Output contacts:

1 NO safety contact,  
2 NC auxiliary contacts,  
forced guided contacts

Contacts type:

silver alloy

Contacts material:

230/240 Vac; 300 Vdc

Max switching voltage:

6 A

Max switching current per contact:

6 A

Conventional free air thermal current I<sub>th</sub>:

36 A<sup>2</sup>

Max currents sum  $\Sigma I_{th}^2$ :

10 mA

Min. current:

≤ 100 mΩ

Contacts resistance:

6 A, F type

Contact protection fuse:

The number and the load capacity of output contacts can be increased by using expansion modules or contactors See page See page 5/51 - 5/61.

#### Code structure

## CS FS-11V024-TF1

##### Operating time t<sub>A</sub>

<b>0</b>	Fixed time (see TFx)
<b>1</b>	from 0,3 to 3 s, step 0,3 s
<b>2</b>	from 1 to 10 s, step 1 s
<b>3</b>	from 3 to 30 s, step 3 s
<b>4</b>	from 30 to 300 s, step 30 s

##### Operating time t<sub>A</sub>

<b>TF0.5</b>	fixed 0,5 s
<b>TF1</b>	fixed 1 s
<b>TF3</b>	fixed 3 s
<b>TF10</b>	fixed 10 s

##### Supply voltage

<b>024</b>	24 Vac/dc	±15%
<b>120</b>	120 Vac	±15%
<b>230</b>	230 Vac	±15%

##### Kind of connection

<b>V</b>	screw terminals
<b>M</b>	connector with screw terminals
<b>X</b>	connector with spring terminals

#### Data type approved by UL

Rated operating voltage (Un):	24 Vac/dc; 50...60 Hz 120 Vac; 50...60 Hz 230 Vac; 50...60 Hz
Rated power consumption AC:	< 5 VA
Rated power consumption DC:	< 2 W
Max switching voltage:	230 Vac
Max switching current per contact:	6 A
Utilization category	C300

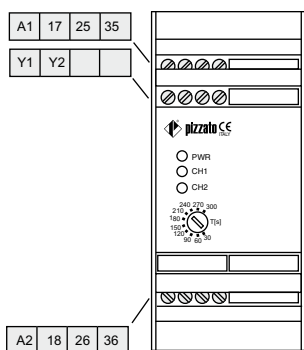
Note:

- Use 60° or 75 °C copper (Cu) conductor and wire size No. 30-12 AWG.
- Terminal tightening torque of 5-7 Lb In.
- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

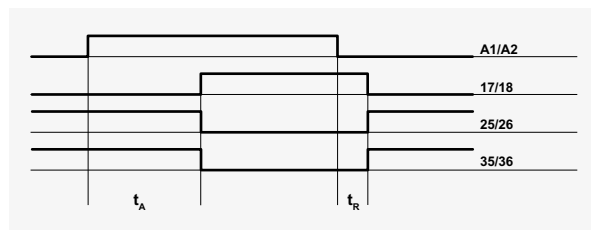


### Safety module CS FS-1

#### Terminals layout

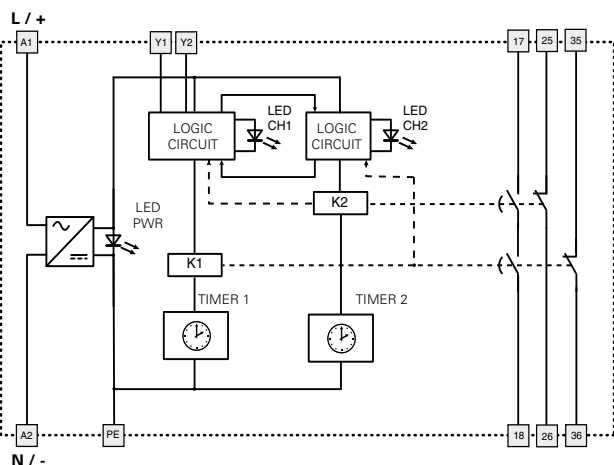


#### Operations diagram



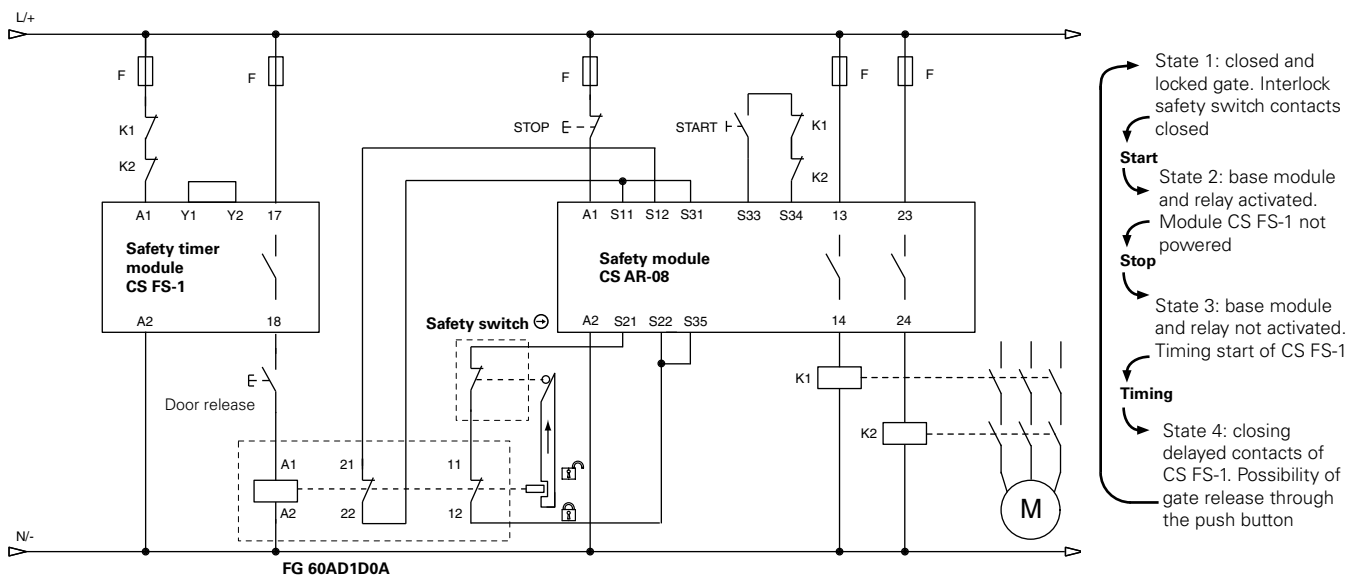
Legend:  
 $t_A$ : Adjustable operating time (see "Code structure")  
 $t_R$ : Releasing time in absence of power supply

#### Internal wiring diagram



#### Circuit structure

#### Control of a door-lock system with manual release



The diagram shown displays the operation principle of a typical circuit for the control of a door-lock system with door blocking when interlock safety switch is not energized, and manual release of the single doors. In order to obtain the complete wiring diagram with different modalities of electrical blocking or with automatic door release, please contact our technical office.

The diagram does not show the exact position of clamps in the product



### Safety timer module with delayed contacts at energizing

#### Main functions

- For safety applications up to SIL 2 / PL d
- Timed circuits through safety system with self-monitoring and redundancy
- Suitable to control safety interlocked devices
- 45 mm housing
- Output contacts:
  - 1 NO safety contact,
  - 1 NC auxiliary contact,
  - 1 CO auxiliary contact,
- Supply voltages:
  - 24 Vdc, 120 Vac

#### Utilization categories

Alternate current: AC15 (50...60 Hz)

U<sub>e</sub> (V) 230

I<sub>e</sub> (A) 3

Direct current: DC13 (6 operations/minute)

U<sub>e</sub> (V) 24

I<sub>e</sub> (A) 4

#### Markings and quality marks:



Approval UL: E131787

Approval TÜV SÜD: Z10 10 09 75157 002

Approval GOST: POCC ITAB24.B04512

#### Complying with the requirements requested by:

Low Voltage Directive 2006/95/EC,

Machinery Directive 2006/42/EC,

Electromagnetic Compatibility 2004/108/EC

### Technical data

#### Housing

Made of polyamide PA 6.6 self-extinguishing, class V0 (UL94)

Protection degree:

IP40 (housing), IP20 (terminals)

Dimensions:

see page 5/82 shape C

#### General data

SIL level (SIL CL):

up to SIL 2 according to EN IEC 62061

Performance Level (PL):

up to PL d according to EN ISO 13849-1

Safety category:

upto cat.3 according to EN ISO 13849-1

Safety parameters:

see page 7/34

Ambient temperature:

-25°C...+55°C

Mechanical endurance:

>10 millions of operations

Electrical endurance:

>100.000 operations

Pollution degree:

outside 3, inside 2

Rated impulse with stand voltage (U<sub>imp</sub>):

4 kV

Rated insulation voltage (U<sub>i</sub>):

250 V

Over-voltage category:

II

Weight:

0,2 kg

#### Power supply

Rated operating voltage (U<sub>n</sub>):

24 Vdc (A1-A2)

120 Vac; 50...60 Hz (B1-B2)

Max residual ripple in DC:

10%

Supply voltage tolerance:

±15% of U<sub>n</sub>

Rated power consumption AC:

< 5 VA

Rated power consumption DC:

< 2 W

#### Control circuit

Protection against short circuits:

resistance PTC, I<sub>h</sub>=0,5 A

Operating time of PTC:

intervention > 100 ms, reset > 3 s

Operating time t<sub>A</sub>:

see "Code structure"

Releasing time in absence of power supply t<sub>R</sub>:

< 40 ms

#### In conformity with standards:

IEC 60947-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN ISO 13849-1, EN 999, EN 1037, EN ISO 12100-1, EN ISO 12100-2, EN ISO 13850, IEC 529, EN 60529, EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-5-1, EN 62061, EN 13849-1, UL 508, CSA C22.2 n° 14-95

#### Output circuit

Output contacts:

1 NO safety contact,

1 NC auxiliary contact,

1 CO auxiliary contact,

forced guided contacts

Contacts type:

Contacts material:

silver alloy

Max switching voltage:

230/240 Vac; 300 Vdc

Max switching current per contact:

6 A

Conventional free air thermal current I<sub>th</sub>:

6 A

Max currents sum Σ I<sub>th</sub><sup>2</sup>:

36 A<sup>2</sup>

Min. current:

10 mA

Contacts resistance:

≤ 100 mΩ

Contact protection fuse:

6 A, F type

Error signalling output (Y14):

Type PNP

Rated operational voltage (U<sub>e</sub>):

24 Vdc

Rated operational current (I<sub>e</sub>):

10 mA

The number and the load capacity of output contacts can be increased by using expansion modules or contactors. See page 5/51 - 5/61.

### Code structure

## CS FS-20VU24-TFxx

#### Operating time t<sub>A</sub>

<b>0</b>	Fixed time (see TFxx)
<b>1</b>	from 0,3 to 3 s, step 0,3 s
<b>2</b>	from 1 to 10 s, step 1 s
<b>3</b>	from 3 to 30 s, step 3 s
<b>4</b>	from 30 to 300 s, step 30 s

#### Operating time t<sub>A</sub>

TFxx xx s (fixed time)

#### Supply voltage

<b>U24</b>	24 Vdc	±15%
<b>120</b>	24 Vdc (A1-A2)	±15%
	120 Vac (B1-B2)	±15%

#### Kind of connection

<b>V</b>	screw terminals
<b>M</b>	connector with screw terminals
<b>X</b>	connector with spring terminals

#### Data type approved by UL

Rated operating voltage (U<sub>n</sub>): 24 Vdc, 120 Vac; 50...60 Hz:

Rated power consumption AC: < 5 VA

Rated power consumption DC: < 2 W

Max switching voltage: 230 Vac

Max switching current per contact: 6 A

Utilization category: C300

- Use 60° or 75° copper (Cu) conductor and wire size No. 30-12 AWG.

- Terminal tightening torque of 5-7 Lb In.

- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

#### Data type approved by TÜV SÜD

Rated operating voltage (U<sub>n</sub>): 24 Vdc; ± 15%, 120 Vac ± 15%

Rated power consumption: 5 VA max AC, 2 W max DC

Output switching current (max): 4 A

Output switching power (max): 1380 VA

Working temperature: -25 °C ... + 55°C

Storage temperature: -25 °C ... + 70°C

Protection degree: IP40 (housing), IP20 (terminals)

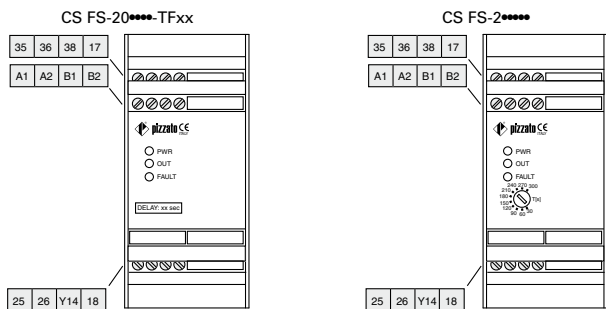
Tested according to: 2006/42/EEC Machine Directive, EN ISO 13849-1:2008 (up to Cat. 4 PL e), EN 50178:1997, EN 60947-5-3/A1:2005,

EN 61508-1:1998 (SIL 1-3), EN 61508-2:2000 (SIL 1-3), EN 61508-4:1998 (SIL 1-3), IEC 62061:2005 (SIL CL 3)



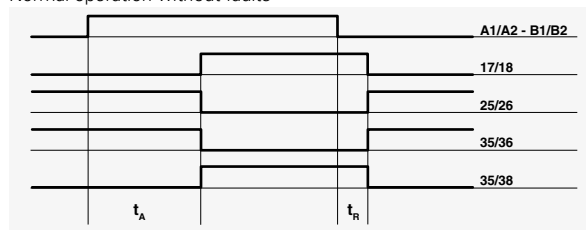
### Safety module CS FS-2

#### Terminals layout



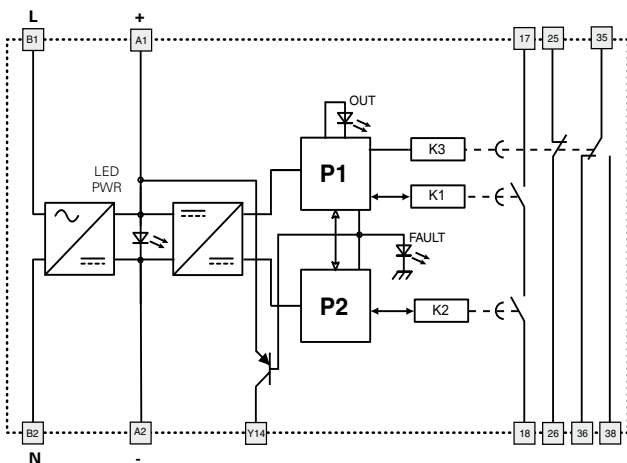
#### Operations diagram

CS FS-2\*\*\*\* Delay on  
Normal operation without faults



Legend:  
 $t_A$ : Adjustable operating time (see "Code structure")  
 $t_R$ : Releasing time in absence of power supply

#### Internal wiring diagram



A1-A2: 24 Vdc  
 B1-B2: 120 Vac



### Safety timer module with ON pulse function

#### Main functions

- For safety applications up to SIL 2 / PL d
- Timed circuits through safety system with self-monitoring and redundancy
- Suitable to control safety interlocked devices
- 45 mm housing
- Output contacts:
  - 1 NO safety contact,
  - 1 NC auxiliary contact,
  - 1 CO auxiliary contact,
- Supply voltages:
  - 24 Vdc, 120 Vac

#### Utilization categories

Alternate current: AC15 (50...60 Hz)

U<sub>e</sub> (V) 230

I<sub>e</sub> (A) 3

Direct current: DC13 (6 operations/minute)

U<sub>e</sub> (V) 24

I<sub>e</sub> (A) 4

#### Markings and quality marks:



Approval UL: E131787

Approval TÜV SÜD: Z10 10 09 75157 002

Approval GOST: POCC IT.AB24.B04512

#### Complying with the requirements requested by:

Low Voltage Directive 2006/95/EC,

Machinery Directive 2006/42/EC,

Electromagnetic Compatibility 2004/108/EC

### Technical data

#### Housing

Made of polyamide PA 6.6 self-extinguishing, class V0 (UL94)

Protection degree:

IP40 (housing), IP20 (terminals)

Dimensions:

see page 5/82 shape C

#### General data

SIL level (SIL CL):

up to SIL 2 according to EN IEC 62061

Performance Level (PL):

up to PL d according to EN ISO 13849-1

Safety category:

upto cat.3 according to EN ISO 13849-1

Safety parameters:

see page 7/34

Ambient temperature:

-25°C...+55°C

Mechanical endurance:

>10 millions of operations

Electrical endurance:

>100.000 operations

Pollution degree:

outside 3, inside 2

Rated impulse with stand voltage (U<sub>imp</sub>):

4 kV

Rated insulation voltage (U<sub>i</sub>):

250 V

Over-voltage category:

II

Weight:

0,2 kg

#### Power supply

Rated operating voltage (Un):

24 Vdc (A1-A2)

120 Vac; 50...60 Hz (B1-B2)

Max residual ripple in DC:

10%

Supply voltage tolerance:

±15% of Un

Rated power consumption AC:

< 5 VA

Rated power consumption DC:

< 2 W

#### Control circuit

Protection against short circuits:

resistance PTC, I<sub>h</sub>=0,5 A

Operating time of PTC: ng time t<sub>A</sub>:

see "Code structure"

Releasing time in absence of power supply t<sub>R</sub>:

< 40 ms

Start-up time t<sub>S</sub>:

< 200 ms

#### In conformity with standards:

IEC 60947-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN ISO 13849-1, EN 999, EN 1037, EN ISO 12100-1, EN ISO 12100-2, EN ISO 13850, IEC 529, EN 60529, EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-5-1, EN 62061, EN 13849-1, UL 508, CSA C22.2 n° 14-95

#### Output circuit

Output contacts:

1 NO safety contact,

1 NC auxiliary contact,

1 CO auxiliary contact,

forced guided contacts

silver alloy

Contacts type:

Contacts material:

Max switching voltage:

230/240 Vac; 300 Vdc

Max switching current per contact:

6 A

Conventional free air thermal current I<sub>th</sub>:

6 A

Max currents sum  $\Sigma I_{th}^2$ :

36 A<sup>2</sup>

Min. current:

10 mA

Contacts resistance:

≤ 100 mΩ

Contact protection fuse:

6 A, F type

Error signalling output (Y14):

Type PNP

Rated operational voltage (U<sub>e</sub>):

24 Vdc

Rated operational current (I<sub>e</sub>):

10 mA

The number and the load capacity of output contacts can be increased by using expansion modules or contactors. See page See page 5/51 - 5/61.

### Code structure

## CS FS-30VU24-TFxx

#### Releasing time t<sub>A</sub>

- |          |                             |
|----------|-----------------------------|
| <b>0</b> | Fixed time (see TFxx)       |
| <b>1</b> | from 0,3 to 3 s, step 0,3 s |
| <b>2</b> | from 1 to 10 s, step 1 s    |
| <b>3</b> | from 3 to 30 s, step 3 s    |
| <b>4</b> | from 30 to 300 s, step 30 s |

#### Releasing time t<sub>A</sub>

TFxx xx s (fixed time)

#### Kind of connection

- |          |                                 |
|----------|---------------------------------|
| <b>V</b> | screw terminals                 |
| <b>M</b> | connector with screw terminals  |
| <b>X</b> | connector with spring terminals |

#### Supply voltage

<b>U24</b>	24 Vdc	±15%
<b>120</b>	24 Vdc (A1-A2)	±15%
	120 Vac (B1-B2)	±15%

#### Data type approved by UL

Rated operating voltage (Un): 24 Vdc, 120 Vac; 50...60 Hz:

Rated power consumption AC: < 5 VA

Rated power consumption DC: < 2 W

Max switching voltage: 230 Vac

Max switching current per contact: 6 A

Utilization category: C300

- Use 60° or 75 °C copper (Cu) conductor and wire size No. 30-12 AWG.

- Terminal tightening torque of 5-7 Lb In.

- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

#### Data type approved by TÜV SÜD

Rated operating voltage (Un): 24 Vdc; ± 15%, 120 Vac ± 15%

Rated power consumption: 5 VA max AC, 2 W max DC

Output switching current (max): 4 A

Output switching power (max): 1380 VA

Working temperature: -25 °C ... + 55°C

Storage temperature: -25 °C ... + 70°C

Protection degree: IP40 (housing), IP20 (terminals)

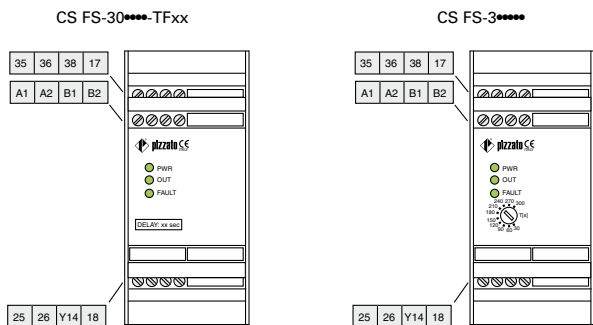
Tested according to: 2006/42/EEC Machine Directive, EN ISO 13849-1:2008 (up to Cat. 4 PL e), EN 50178:1997, EN 60947-5-3/A1:2005,

EN 61508-1:1998 (SIL 1-3), EN 61508-2:2000 (SIL 1-3), EN 61508-4:1998 (SIL 1-3), IEC 62061:2005 (SIL CL 3)



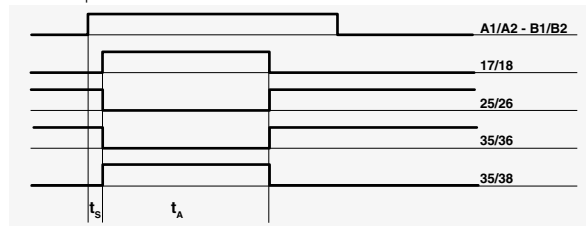
### Safety module CS FS-3

#### Terminals layout

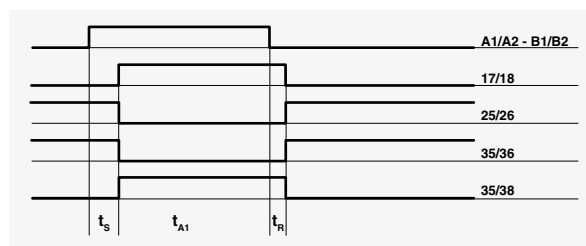


#### Operations diagram

CS FS-3\*\*\*\* Delay off  
Normal operation without faults

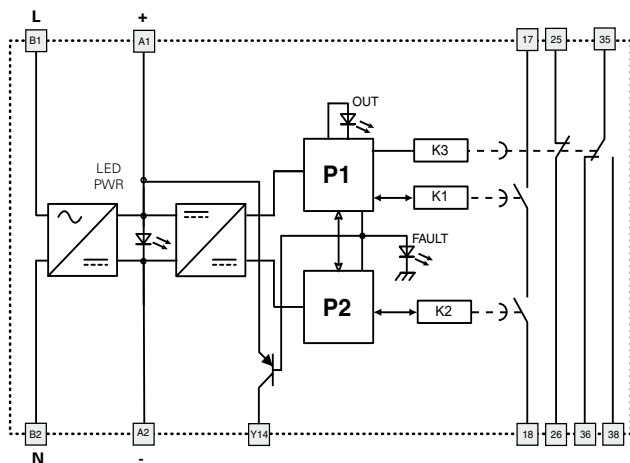


Operation without power supply



- Legend:
- $t_A$ : Adjustable releasing time (see "Code structure")
  - $t_{A1}$ : Releasing time if power supply is minor to  $t_A$
  - $t_R$ : Releasing time in absence of power supply
  - $t_s$ : Start-up time

#### Internal wiring diagram



A1-A2: 24 Vdc  
B1-B2: 120 Vac



### Safety timer module with delayed contacts at opening of the input channels

#### Main functions

- For safety applications up to SIL 2 / PL d
- Timed circuits through safety system with self-monitoring and redundancy
- Suitable to control safety interlocked devices
- 45 mm housing
- Output contacts:
  - 1 NO safety contact,
  - 1 NC auxiliary contact,
  - 1 CO auxiliary contact,
- Supply voltages:
  - 24 Vdc, 120 Vac

#### Utilization categories

Alternate current: AC15 (50...60 Hz)

U<sub>e</sub> (V) 230

I<sub>e</sub> (A) 3

Direct current: DC13 (6 operations/minute)

U<sub>e</sub> (V) 24

I<sub>e</sub> (A) 4

#### Markings and quality marks:



Approval UL: E131787

Approval TÜV SÜD: Z10 10 09 75157 002

Approval GOST: POCC IT.AB24.B04512

#### Complying with the requirements requested by:

Low Voltage Directive 2006/95/EC,

Machinery Directive 2006/42/EC,

Electromagnetic Compatibility 2004/108/EC

### Technical data

#### Housing

Made of polyamide PA 6.6 self-extinguishing, class V0 (UL94)

Protection degree:

IP40 (housing), IP20 (terminals)

Dimensions:

see page 5/82 shape C

#### General data

SIL level (SIL CL):

up to SIL 2 according to EN IEC 62061

Performance Level (PL):

upto PL d according to EN ISO 13849-1

Safety category:

upto cat. 3 according to EN ISO 13849-1

Safety parameters:

see page 7/34

Ambient temperature:

-25°C...+55°C

Mechanical endurance:

> 10 millions of operations

Electrical endurance:

> 100.000 operations

Pollution degree:

outside 3, inside 2

Rated impulse with stand voltage (U<sub>imp</sub>):

4 kV

Rated insulation voltage (U<sub>i</sub>):

250 V

Over-voltage category:

II

Weight:

0,2 kg

#### Power supply

Rated operating voltage (U<sub>n</sub>):

24 Vdc (A1-A2)

120 Vac; 50...60 Hz (B1-B2)

Max residual ripple in DC:

10%

Supply voltage tolerance:

±15% of U<sub>n</sub>

Rated power consumption AC:

< 5 VA

Rated power consumption DC:

< 2 W

#### Control circuit

Protection against short circuits:

resistance PTC, I<sub>h</sub>=0,5 A

Operating time of PTC:

intervention > 100 ms, reset > 3 s

Releasing time t<sub>A</sub>:

see "Code structure"

Releasing time in absence of power supply t<sub>R</sub>:

< 40 ms

#### Input circuit

Max input resistance:

≤ 50 Ω

Input current:

< 8 mA

Activation time t<sub>S</sub>:

< 40 ms

Minimum endurance of input signal t<sub>MIN</sub>:

> 50 ms

#### In conformity with standards:

IEC 60947-1, EN 60947-5-1, IEC 60204-1, EN 60204-1, EN ISO 13849-1, EN 999, EN 1037, EN ISO 12100-1, EN ISO 12100-2, EN ISO 13850, IEC 529, EN 60529, EN 61000-6-2, EN 61000-6-3, EN 62326-1, EN 60664-1, EN 60947-5-1, EN 62061, EN 13849-1, UL 508, CSA C22.2 n° 14-95

#### Output circuit

Output contacts:

1 NO safety contact,  
1 NC auxiliary contact,  
1 CO auxiliary contact,  
forced guided contacts

Contacts type:

silver alloy

Contacts material:

Max switching voltage:

230/240 Vac; 300 Vdc

Max switching current per contact:

6 A

Conventional free air thermal current I<sub>th</sub>:

6 A

Max currents sum Σ I<sub>th</sub><sup>2</sup>:

36 A<sup>2</sup>

Min. current:

10 mA

Contacts resistance:

≤ 100 mΩ

Contact protection fuse:

6 A, F type

Error signalling output (Y14):

Type PNP

Rated operational voltage (U<sub>e</sub>):

24 Vdc

Rated operational current (I<sub>e</sub>):

10 mA

The number and the load capacity of output contacts can be increased by using expansion modules or contactors. See page 5/51 - 5/61.

### Code structure

## CS FS-50VU24-TFxx

#### Releasing time t<sub>A</sub>

- |   |                             |
|---|-----------------------------|
| 0 | Fixed time (see TFxx)       |
| 1 | from 0,3 to 3 s, step 0,3 s |
| 2 | from 1 to 10 s, step 1 s    |
| 3 | from 3 to 30 s, step 3 s    |
| 4 | from 30 to 300 s, step 30 s |

#### Releasing time t<sub>A</sub>

TFxx xx s (fixed time)

#### Kind of connection

- |   |                                 |
|---|---------------------------------|
| V | screw terminals                 |
| M | connector with screw terminals  |
| X | connector with spring terminals |

#### Supply voltage

U24	24 Vdc	±15%
120	24 Vdc (A1-A2)	±15%
	120 Vac (B1-B2)	±15%

#### Data type approved by UL

Rated operating voltage (U<sub>n</sub>): 24 Vdc, 120 Vac; 50...60 Hz:

Rated power consumption AC: < 5 VA

Rated power consumption DC: < 2 W

Max switching voltage: 230 Vac

Max switching current per contact: 6 A

Utilization category: C300

- Use 60° or 75° copper (Cu) conductor and wire size No. 30-12 AWG.

- Terminal tightening torque of 5-7 Lb In.

- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

#### Data type approved by TÜV SÜD

Rated operating voltage (U<sub>n</sub>): 24 Vdc; ± 15%, 120 Vac ± 15%

Rated power consumption: 5 VA max AC, 2 W max DC

Output switching current (max): 4 A

Output switching power (max): 1380 VA

Working temperature: -25 °C ... + 55 °C

Storage temperature: -25 °C ... + 70 °C

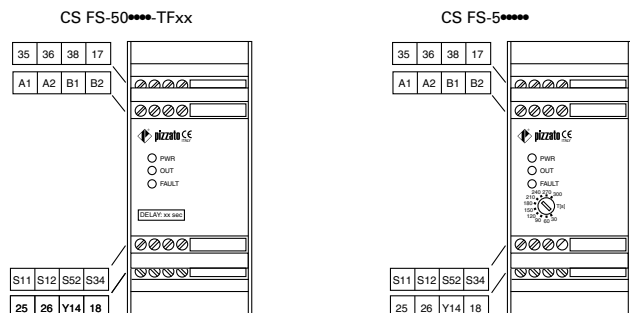
Protection degree: IP40 (housing), IP20 (terminals)

Tested according to: 2006/42/EEC Machine Directive, EN ISO 13849-1:2008 (up to Cat. 4 PL e), EN 50178:1997, EN 60947-5-3/A1:2005, EN 61508-1:1998 (SIL 1-3), EN 61508-2:2000 (SIL 1-3), EN 61508-4:1998 (SIL 1-3), IEC 62061:2005 (SIL CL 3)



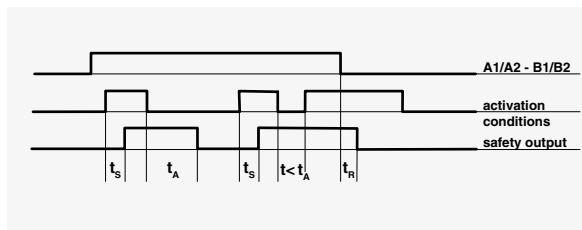
### Safety module CS FS-5

#### Terminals layout

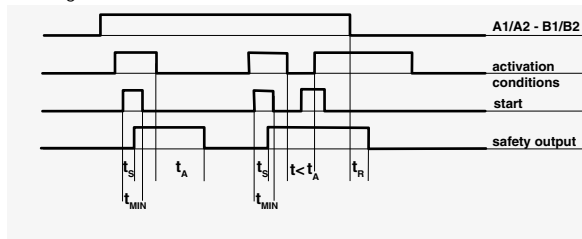


#### Operations diagram

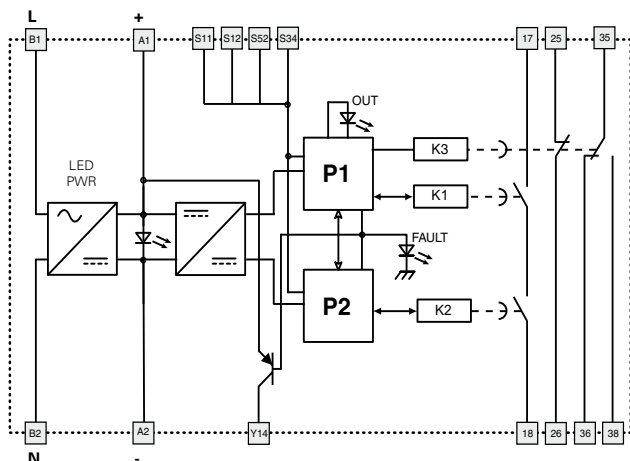
Configuration with automatic start



Configuration with manual start



#### Internal wiring diagram



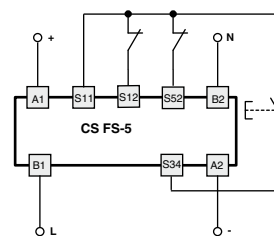
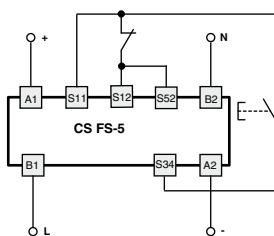
A1-A2: 24 Vdc  
B1-B2: 120 Vac

Legend:

- $t_A$ : Adjustable releasing time (see "Code structure")
- $t_R$ : Releasing time in absence of power supply
- $t_s$ : Activation time
- $t_{MIN}$ : Minimum endurance of input signal

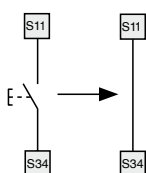
#### Inputs configuration

Gate monitoring	
Input configuration with manual start	
1 channel	2 channels



#### Automatic start

As regards the indicated diagrams, in order to activate the module with the automatic start, it is necessary to short the start button between S33 and S34 terminals.



#### Gate monitoring and safety magnetic sensors.

The safety module can control both gate monitoring circuits or safety magnetic sensors. Replace the switches contacts with the sensors contacts. The sensors can only be used in the 2-channel configuration.

