



Bimanual control device according to EN 574 type III C or safety module with synchronism control

Main functions

- For safety applications up to SIL 3 / PL e
- Input circuit with 2 channels for bimanual control device or safety gate
- Connection of the input channels to opposite potentials
- Small 22,5 mm housing
- 3 NO safety contacts, 1 NC auxiliary contact
- 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

Certificate CE type n°: IMQ BP 210 DM

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

Code structure

CS DM-01V024

Kind of connection		Supply voltage	
V	screw terminals	024	24 Vac/dc ±15%
M	connector with screw terminals	120	120 Vac ±15%
X	connector with spring terminals	230	230 Vac ±15%

Technical data

Housing

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

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

Dimensions: see page 5/81, shape A

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

Device type for bimanual control: EN 574: type III C

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): 4 kV

Rated insulation voltage (Ui): 250 V

Over-voltage category: II

Weight: 0,3 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_h=0,5 A

Operating time of PTC: intervention > 100 ms, reset > 3 s

Max input resistance: ≤ 50 Ω

Current for each input: < 30 mA

Operating time t_A: < 50 ms

Releasing time t_{R1}: < 20 ms

Releasing time in absence of power supply t_R: < 70 ms

Time range for synchronized control t_{SN}: < 0,5 s

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: 3 NO safety contacts, 1 NC auxiliary contact

Contacts type: forced guided contacts

Contacts material: silver alloy, gold plated

Max switching voltage: 230/240 Vac; 300 Vdc

Max switching current per contact: 6 A

Conventional free air thermal current I_{th}: 6 A

Max currents sum Σ I_{th}²: 64 A²

Min. current: 10 mA

Contacts resistance: ≤ 100 mΩ

Contact protection fuse: 6 A, F type

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.

Items available on stock

CS DM-01V024

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

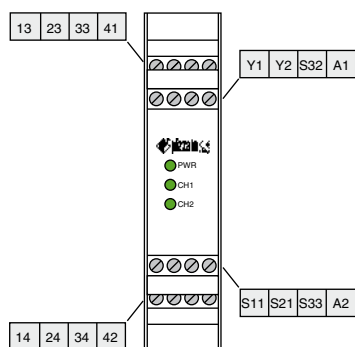
Utilization category: C300

Notes:

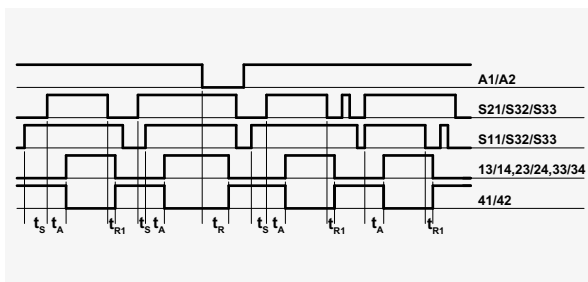
- Use 60° or 75 °C copper (Cu) conductor and wire size No. 30-12 AWG.
- Terminal tightening torque of 5-7 Lb In.
- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

Safety module CS DM-01

Terminals layout



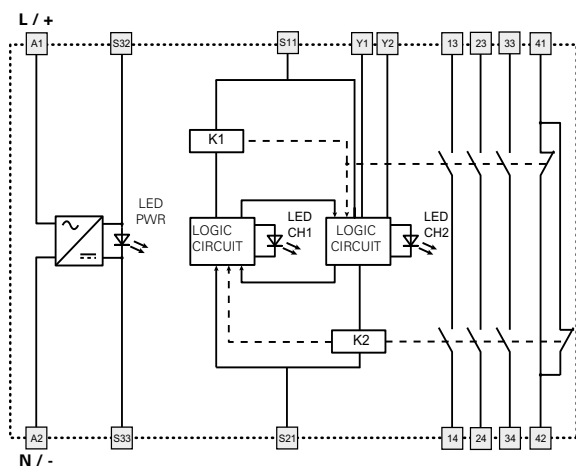
Operations diagram



Legend:

- t_{SN} : Time range for synchronized control
- t_A : Operating time
- t_R : Releasing time
- t_{R1} : Releasing time in absence of power supply

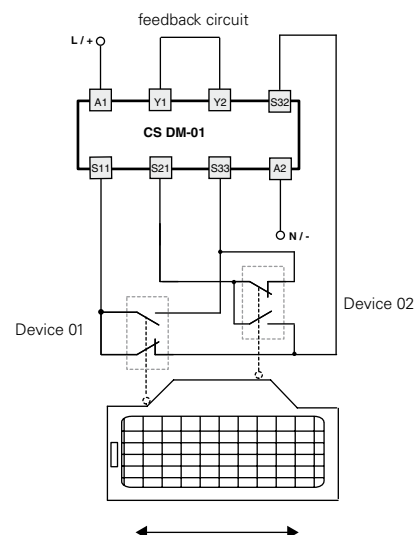
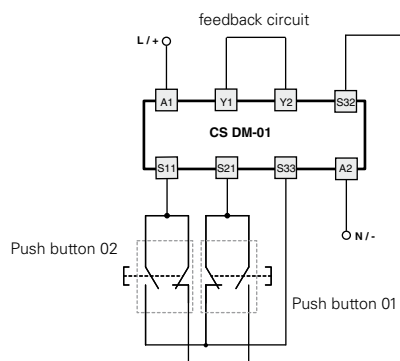
Internal wiring diagram



Inputs configuration

Bimanual control device type III C according to EN 574

Safety gate monitoring with automatic start wiring and simultaneity between channels < 0,5 s (safety category 4)



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



Bimanual control device according to EN 574 type III C or safety module with synchronism control

Main functions

- For safety applications up to SIL 3 / PL e
- Input circuit with 2 channels for bimanual control device or safety gate
- Connection of the input channels to opposite potentials
- Small 22,5 mm housing
- 2 NO safety 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

Certificate CE type n°: IMQ BP 210 DM

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 5/81, shape A

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

Device type for bimanual control:

EN 574: type III C

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):

4 kV

Rated insulation voltage (Ui):

250 V

Over-voltage category:

II

Weight:

0,3 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_h=0,5 A

Operating time of PTC:

intervention > 100 ms, reset > 3 s

Max input resistance:

≤ 50 Ω

Current for each input:

< 30 mA

Operating time t_A:

< 30 ms

Releasing time t_{R1}:

< 25 ms

Releasing time in absence of power supply t_R:

< 90 ms

Time range for synchronized control t_{SN}:

< 0,5 s

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:

2 NO safety contacts,

Contacts type:

forced guided contacts

Contacts material:

silver alloy, gold plated

Max switching voltage:

230/240 Vac; 300 Vdc

Max switching current per contact:

6 A

Conventional free air thermal current I_{th}:

6 A

Max currents sum Σ I_{th}²:

36 A²

Min. current:

10 mA

Contacts resistance:

≤ 100 mΩ

Contact protection fuse:

6 A, F type

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 DM-02V024

Kind of connection	Supply voltage
V screw terminals	024 24 Vac/dc ±15%
M connector with screw terminals	120 120 Vac ±15%
X connector with spring terminals	230 230 Vac ±15%

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

Notes:

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

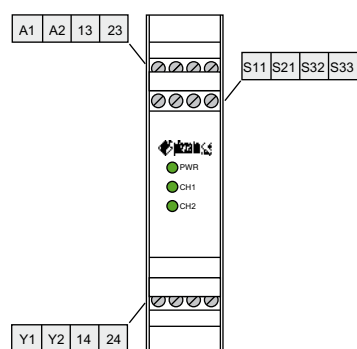
- Terminal tightening torque of 5-7 Lb In.

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

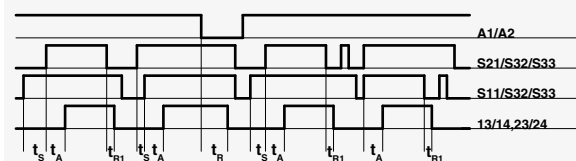


Safety module CS DM-02

Terminals layout



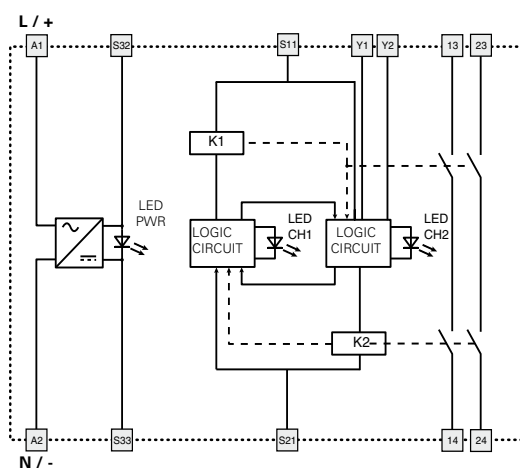
Operations diagram



Legend:

- t_{SN} : Time range for synchronized control
- t_A : Operating time
- t_{R1} : Releasing time
- t_R : Releasing time in absence of power supply

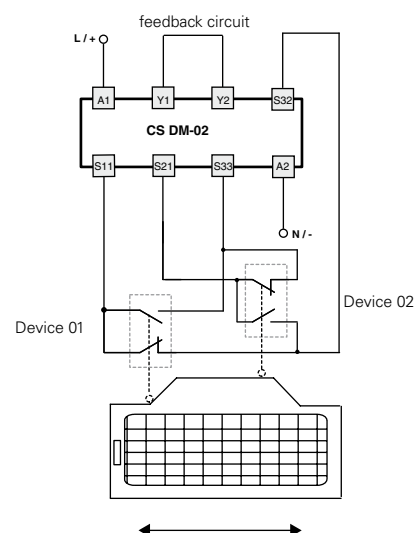
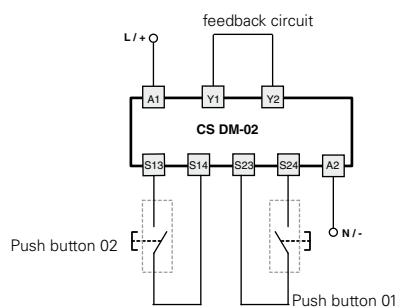
Internal wiring diagram



Inputs configuration

Bimanual control device type III A according to EN 574

Safety gate monitoring with automatic start wiring and simultaneity between channels < 0,5 s (safety category 4)



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



Bimanual control device according to EN 574 type III A or safety module with synchronism control

Main functions

- For safety applications up to SIL 1 / PL c
- Input circuit with 2 channels for bimanual control device or safety gate
- Connection of the input channels to opposite potentials
- Small 22,5 mm housing
- 2 NO safety contacts,
- Supply voltages:
24 Vac/dc, 120 Vac, 230 Vac

Utilization categories

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

U_e (V) 230

I_e (A) 3

Direct current: DC13 (6 operations/minute)

U_e (V) 24

I_e (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 5/81, shape A

General data

SIL level (SIL CL):

up to SIL 1 according to EN IEC 62061

Performance Level (PL):

up to PL c according to EN ISO 13849-1

Safety category:

uptocat. 1 according to EN ISO 13849-1

Device type for bimanual control:

EN 574: type III A

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_{imp}):

4 kV

Rated insulation voltage (U_i):

250 V

Over-voltage category:

II

Weight:

0,2 kg

Power supply

Rated operating voltage (U_n):

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 U_n

Rated power consumption AC:

< 5 VA

Rated power consumption DC:

< 2 W

Control circuit

Protection against short circuits:

resistance PTC, I_h=0,5 A

Operating time of PTC:

intervention > 100 ms, reset > 3 s

Max input resistance:

≤ 100 Ω

Current for each input:

< 32 mA

Operating time t_A:

< 12 ms

Releasing time t_{R1}:

< 10 ms

Releasing time in absence of power supply t_R:

< 200 ms

Time range for synchronized control t_{SN}:

< 0,5 s

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:

2 NO safety contacts,

Contacts type:

forced guided contacts

Contacts material:

silver alloy, gold plated

Max switching voltage:

230/240 Vac; 300 Vdc

Max switching current per contact:

6 A

Conventional free air thermal current I_{th}:

6 A

Max currents sum Σ I_{th}²:

36 A²

Min. current:

10 mA

Contacts resistance:

≤ 100 mΩ

Contact protection fuse:

6 A, F type

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 DM-20V024

Kind of connection	Supply voltage
V screw terminals	024 24 Vac/dc ±15%
M connector with screw terminals	120 120 Vac ±15%
X connector with spring terminals	230 230 Vac ±15%

Data type approved by UL

Rated operating voltage (U_n): 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

Notes:

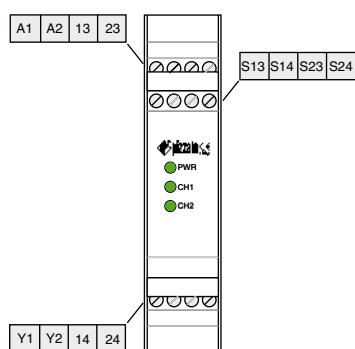
- Use 60° or 75 °C copper (Cu) conductor and wire size No. 30-12 AWG.

- Terminal tightening torque of 5-7 Lb In.

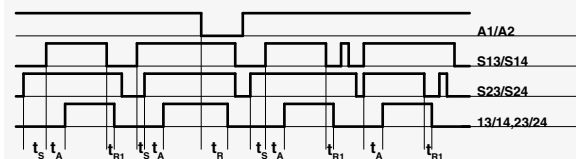
- Only for 24 Vac/dc version, supply from remote class 2 source or limited voltage and limited energy.

Safety module CS DM-20

Terminals layout



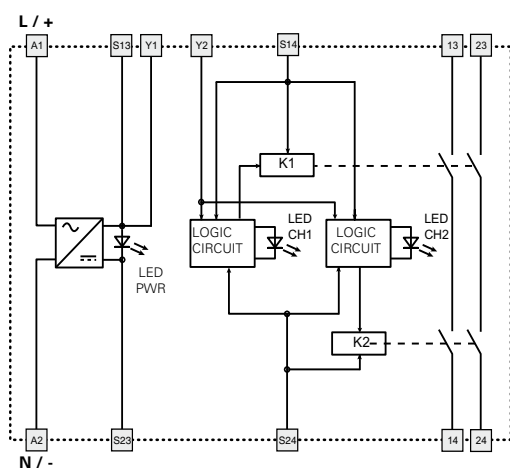
Operations diagram



Legend:

- t_{SN} : Time range for synchronized control
- t_A : Operating time
- t_R : Releasing time
- t_{R1} : Releasing time in absence of power supply

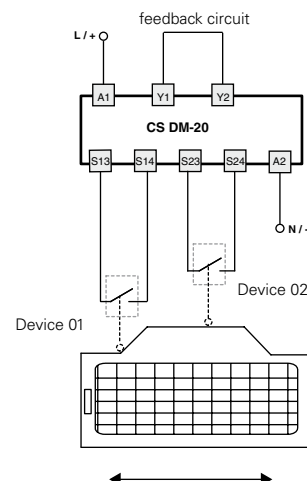
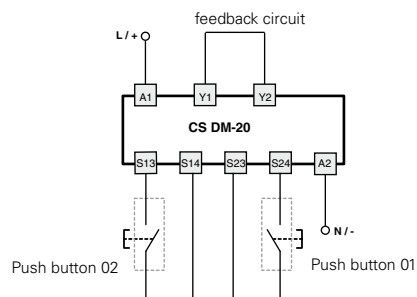
Internal wiring diagram



Inputs configuration

Bimanual control device type III C according to EN 574

Safety gate monitoring with automatic start wiring and simultaneity between channels < 0,5 s



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