

# Electronic timers CT range



2CDC 255 056 F0006

**ABB**

## Electronic timers CT range



**F**or many years, ABB's CT range of electronic timers has been used in applications worldwide and has proven its excellent functionality in daily use, even under harshest environmental conditions. Three ranges of electronic timers provide timing functions for all applications: The highly sophisticated CT-S range is ideally suitable for universal use. The CT-D range with modular design in only 17.5 mm wide enclosures. And the CT-E range offers an excellent price/performance ratio and is an ideal solution for serial applications. Make use of ABB's excellent competence in industry electronics.



1SVC 110 000 F0507

1SVC 110 000 F0506

### Remote potentiometer connection

The CT-S range offers the possibility of connecting a remote potentiometer for the fine adjustment of the time delay. When an external potentiometer is connected, the internal, front-face potentiometer is disabled.

### Connecting screws in M3 (Pozidrive 1)

Easy tightening and release of the connecting screws, with pozidrive, pan- or cross-head screwdriver.



CT-S range

NEW!

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### Integrated marker labels

Integrated markers allow the product to be marked quickly and simply. No additional marking labels are required (CT-S range).

### Sealable transparent cover

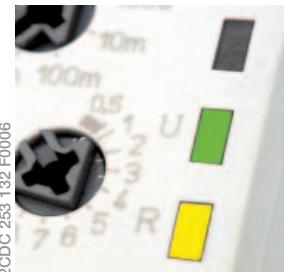
Protection against unauthorized changes of time and threshold values. Available as an accessory.

2CDC 253 064 F0006

2CDC 253 065 F0006

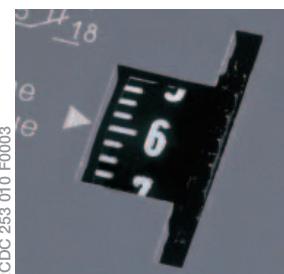
### LEDs for status indication

All actual operational states are displayed by front-face LEDs, thus simplifying commissioning and troubleshooting.



### Time range preselection and fine adjustment

Direct assignment of the pre-selected time range to the fine adjustment potentiometer scale by multicolor scales.



### Direct reading scales

Direct setting of the time delay without any additional calculation provides accurate time delay adjustment.

### Safety

The “real distance” is hidden. Our products’ air and creepage distances exceed international standards, and substantially increase the safety of these products.



## Electronic timers CT-D range: The modular timers

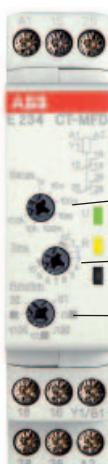


The CT-D range represents a link between the industry and the installation types. For highest flexibility in operation, 10 single-function as well as 2 multifunction devices with 7 timing functions are available. The devices offer 4 or 7 time ranges from 0.05 seconds up to 100 hours. Their wide input voltage range allows the use in applications world-wide.

### Operating controls

- ① LEDs for status indication
  - U - green LED:
    - control supply voltage applied
    - timing
  - R - yellow LED:
    - output relay energized
- ② Time range adjustment
- ③ Fine adjustment of the time delay
- ④ Preselection of the timing function

### multifunctional



2CDC 256 059 F0006

### single-functional



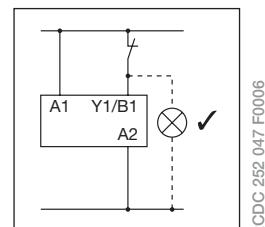
2CDC 253 022 F0004



**Control input: Voltage-related triggering,**  
polarized, capable of switching a parallel load.

#### Switching currents

The CT-D range timers allow an output load of up to 6 A on devices with 1 c/o contact and up to 5 A on devices with 2 c/o contacts.



2CDC 252 047 F0006

#### Width 17.5 mm

With their width of 17.5 mm, the CT-D range timers are ideally suited for installation in distribution panels.



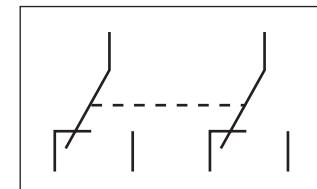
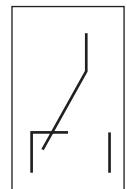
2CDC 253 021 F0004

#### Characteristics of the CT-D range

- Diversity:
  - 2 multifunction timers
  - 10 single-function timers
- Control supply voltages:
  - Wide range: 12-240 V AC/DC
  - Multi range: 24-48 V DC, 24-240 V AC
- 4 time ranges, from 0.05 s – 10 min, or 7 time ranges, from 0.05 s – 100 h
- Width of only 17.5 mm
- Light-grey enclosure in RAL 7035
- Devices with:
  - 1 c/o contact (250 V / 6 A) or 2 c/o contacts (250 V / 5 A)
  - Control input: voltage-related triggering, polarized, capable of switching a parallel load
- Approvals / Marks<sup>1)</sup>
  - UL LISTED, FCC, CB, IECEx / CE, C

1) existing for devices with 1 c/o contact, pending for devices with 2 c/o contacts

#### 1 or 2 c/o contacts



2CDC 252 048 F0006

2CDC 252 050 F0006

#### Direct reading scales

Direct setting of the time delay without any additional calculation provides accurate time delay adjustment.



2CDC 253 066 F0006



2CDC 253 132 F0006

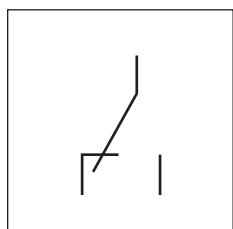
#### LEDs for status indication

All actual operational states are displayed by front-face LEDs, thus simplifying commissioning and troubleshooting.

#### Connecting terminals

Wide terminal spacing allows connection of wires:

- 2 x 1.5 mm<sup>2</sup> (2 x 16 AWG) with wire end ferrules or
- 2 x 2.5 mm<sup>2</sup> (2 x 14 AWG) without ferrules.



2CDC 252 048 F0006



2CDC 253 033 F0004

# Electronic timers CT-E range: The economic timers



The CT-E range with its excellent price/performance ratio offers an ideal solution for serial applications. 11 single-function devices with 5 different single time ranges as well as 2 multifunction timer with 6 functions and 8 time ranges offer the highest possible flexibility for almost every application. For high operating cycles, contact-free CT-E timers with solid-state output are available.

## Operating controls

- ① LEDs for status indication

U – green LED:  
└ control supply voltage applied

R – red LED:  
└ output relay energized

- ② Time range adjustment

- ③ Fine adjustment of the time delay

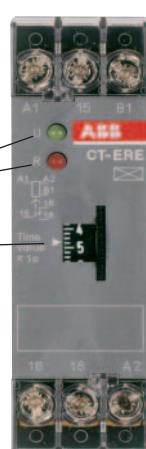
- ④ Preselection of the timing function

## multifunctional



1SVC 110 000 F0503

## single-functional



1SVC 110 000 F0500



## Characteristics of the CT-E range

- Diversity:
  - 2 multifunction timers
  - 11 single-function timers
  - 2 switching relays
- Control supply voltages
  - Dual range: 24 V AC/DC
  - Single range: 110-130 V AC, 220-240 V AC
  - Wide range: 24-240 V AC/DC (CT-MFE)
- Time ranges:
  - 5 single time ranges: 0.05-1 s, 0.1-10 s, 0.3-30 s, 3-300 s, 0.3-30 min
  - 8 time ranges: 0.05 s – 100 h (CT-MFE)
- Devices with:
  - 1 c/o contact (250 V / 4 A) or solid-state output for high switching frequencies (thyristor 0.8 A)
  - Wide connecting screws for easy and fast connection
  - Switching relay CT-IRE for added switching contacts with either side-by-side or diagonal positioned connection terminals
- Approvals / Marks
  -

1) not for devices with solid-state output

2CDC 255 011 F0005



### Connecting screws in M3 (Pozidrive 1)

Easy and fast tightening and release of the connecting screws with pozidrive, pan- or crosshead screwdriver.

1SVC 110 000 F0508



### Direct reading scales

Direct setting of the time delay without any additional calculation provides accurate time delay adjustment.

1SVC 110 000 F0508



### LEDs for status indication

All actual operational states are displayed by front-face LEDs, thus simplifying commissioning and troubleshooting.

2CDC 255 011 F0005

## Electronic timers CT-S range: The high-end timers



The CT-S range is ABB's most modern and universal time relay range. This program comprises of 13 single-function devices and 8 multifunction timers with up to 11 functions, offering the highest flexibility in operation. The devices feature 7 or 10 time ranges that are adjustable from 0.05 seconds to 300 hours.



### Operating controls

- ① LEDs for status indication
  - U/T – green LED:
    - control supply voltage applied
    - timing
  - R/R1/R2 – yellow LED:
    - 1. / 2. output relay energized
- ② Time range adjustment
- ③ Fine adjustment of the time delay
- ④ Preselection of the timing function
- ⑤ Set the 2nd c/o contact as an instantaneous contact

### multifunctional



2CDC 256 060 F0006

### single-functional



2CDC 256 061 F0006



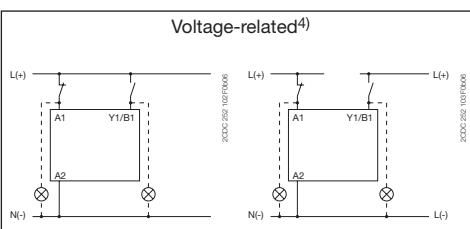
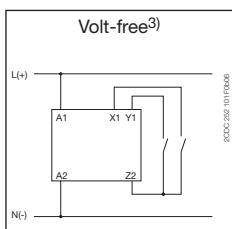
NEW!

### Control input with volt-free<sup>2)</sup> or voltage-related<sup>3)</sup> triggering<sup>1)</sup>

The new CT-S range offers two types of devices:

one with volt-free and one with voltage-related triggering.

The control inputs of the devices with voltage-related triggering are capable of switching a parallel load and are not polarized. They can be powered either by the control supply voltage applied to A1 or by another voltage out of the rated control supply voltage range.



1) selected devices

2) volt-free = dry/floating

3) voltage-related = wet/non-floating

### Characteristics of the CT-S range

- Diversity:
  - 8 multifunction timers
  - 13 single-function timers
  - 8 switching relays
- Control supply voltages:
  - Multi ranges: 24-48 V DC, 24-240 V AC
  - Wide range: 24-240 V AC/DC
  - Single range: 380-440 V AC
- Devices with:
  - 1 or 2 c/o contacts
  - 2nd c/o contact can be selected as instantaneous contact<sup>1)</sup>
  - Remote potentiometer connection<sup>1)</sup>
  - Control input with volt-free<sup>2)</sup> or voltage-related<sup>3)</sup> triggering e.g. to start timing, pause timing
- Sealable transparent cover for protection against unauthorized changes of time and threshold values
- Integrated marker label
- Approvals / Marks (depending on device)

2CDC 255 057 F0006



2CDC 253 062 F0006

### Time range preselection and fine adjustment

Direct assignment of the preselected time range to the fine adjustment potentiometer scale by multicolor scales.



2CDC 253 063 F0006

### Indication of operational states

All actual operational states are displayed by front-face LEDs, thus simplifying commissioning and troubleshooting.



2CDC 253 010 F0003

### Double-chamber cage connecting terminals

Double-chamber cage connecting terminals provide connection of wires up to 2 x 2.5 mm<sup>2</sup> (2 x 14 AWG), rigid or fine-strand, with or without wire end ferrules. Potential distribution does not require additional terminals.



1SV/C110 000 F0507

### Remote potentiometer connection

The CT-S range offers the possibility of connecting a remote potentiometer for the fine adjustment of the time delay. When an external potentiometer is connected, the internal, front-face potentiometer is disabled.

# Selection guides and order references for electronic timers



## CT-S range

**NEW!**

Type	Symbol	Function	Output contacts 0.05 s-300 h 0.05-10 min	Control input	Remote potentiometer connection 2. c/o contact selectable as instantaneous contact	Rated control supply voltage	Order code
CT-MFS.21	Multifunctional timer	ON-delay OFF-delay with auxiliary voltage Impulse-ON, Impulse-OFF with auxiliary voltage Symmetrical ON- and OFF-delay Flasher starting with ON or OFF	2 c/o    ✓    □/□    ✓    ✓		24-240 V AC/DC		1SVR 630 010 R0200
CT-MBS.22	Multifunctional timer	Star-delta change-over with impulse Pulse former ON/OFF-function	2 c/o    ✓    □    ✓    ✓		24-48 V DC / 24-240 V AC		1SVR 630 010 R3200
CT-MVS.21	Multifunctional timer	ON-delay OFF-delay with auxiliary voltage Impulse-ON, Impulse-OFF with auxiliary voltage Symmetrical ON- and OFF-delay Flasher starting with ON or OFF	2 c/o    ✓    ■    ✓    ✓		24-240 V AC/DC		1SVR 630 020 R0200
CT-MVS.12	Multifunctional timer	Star-delta change-over with impulse <sup>1)</sup> Pulse former Accumulative ON-delay ON/OFF-function	1 c/o    ✓    ■    ■		24-48 V DC / 24-240 V AC		1SVR 630 020 R3100
CT-MVS.22	Multifunctional timer	2 c/o    ✓    ■    ■			24-48 V DC / 24-240 V AC		1SVR 630 020 R3300
CT-MVS.23	Multifunctional timer	2 c/o    ✓    ■			380-440 V AC		1SVR 630 021 R2300
CT-MXS.12	Multifunctional timer with 2 time circuits	Asymmetrical ON- and OFF-delay Impulse-ON/OFF Pulse generator starting with ON or OFF Single pulse generator ON/OFF-function	2 c/o    2 x    ■    2 x		24-48 V DC / 24-240 V AC		1SVR 630 030 R3300
CT-WBS.22	Impulse and flasher timer	Flasher starting with ON / OFF Impulse-ON ON-delay ON/OFF-function Fixed impulse with adjustable time delay Adjustable impuls with fixed time delay	2 c/o    ✓		24-48 V DC / 24-240 V AC		1SVR 630 040 R3300
CT-ERS.12	☒	ON-delay	1 c/o    ✓		24-48 V DC / 24-240 V AC		1SVR 630 100 R3100
CT-ERS.21			2 c/o    ✓		24-240 V AC/DC		1SVR 630 100 R0300
CT-ERS.22			2 c/o    ✓		24-48 V DC / 24-240 V AC		1SVR 630 100 R3300
CT-APS.12	■	OFF-delay	1 c/o    ✓    ■		24-48 V DC / 24-240 V AC		1SVR 630 180 R3100
CT-APS.21			2 c/o    ✓    ■		24-240 V AC/DC		1SVR 630 180 R0300
CT-APS.22			2 c/o    ✓    ■		24-48 V DC / 24-240 V AC		1SVR 630 180 R3300
CT-AHS.22			2 c/o    ✓    □		24-48 V DC / 24-240 V AC		1SVR 630 110 R3300
CT-ARS.11	OFF-delay without auxiliary voltage	1 c/o    ✓			24-240 V AC/DC		1SVR 630 120 R3100
CT-ARS.21		2 c/o    ✓			24-240 V AC/DC		1SVR 630 120 R3300
CT-VBS.17	OFF-delay without auxiliary voltage, for DC coils				100-127 V AC		1SVR 430 261 R6000
CT-VBS.18					200-240 V AC		1SVR 430 261 R5000
CT-SDS.22	△	Star-delta timers	2 n/o    ✓		24-48 V DC / 24-240 V AC		1SVR 630 210 R3300
CT-SDS.23			2 n/o    ✓		380-440 V AC		1SVR 630 211 R2300
CT-IRS.16	□	Switching relays	1 c/o		24 V AC / DC		1SVR 430 220 R9100
CT-IRS.14					110-240 V AC		1SVR 430 221 R7100
CT-IRS.26					24 V AC / DC		1SVR 430 220 R9300
CT-IRS.24					110-240 V AC		1SVR 430 221 R7300
CT-IRS.26G					24 V AC / DC		1SVR 430 230 R9300
CT-IRS.24G					110-240 V AC		1SVR 430 231 R7300
CT-IRS.36					24 V AC / DC		1SVR 430 220 R9400
CT-IRS.35			3 c/o		220-240 V AC		1SVR 430 221 R1400

1) not for CT-MVS.12

2) with gold contacts

■ Control input with voltage-related (wet/non-floating) triggering

□ Control input with volt-free (dry/floating) triggering

Accessories: COV.01 sealable cover in 22,5 mm width:

1SVR 430 005 R0100

Type	Product	Diameter	Protection	Resistance	Order code
CT-POT.01	Remote potentiometer	30,5 mm	IP65	50 kΩ	1SVR 700 800 R1000
CT-POT.02	Remote potentiometer	22,5 mm	IP65	50 kΩ	1SVR 214 017 R0900
CT-POT.03	Remote potentiometer	10,5 mm	IP40	50 kΩ	1SVR 214 017 R0900



# CT-E range

1) Functions: ON-delay, OFF-delay, impulse-ON, flasher starting with ON or OFF, pulse forming

2) Polarized, not capable of switching a parallel load

- Control input with voltage-related (wet/non-floating) triggering

## CT-D range, CT-E range, CT-S range



### CT-E range, solid-state output

	Type	Symbol	Function	Function diagram	Output contacts	Control input	Rated control supply voltage	Order code
CT-MKE <sup>1)</sup>		Multifunctional timer <sup>2)</sup>		thyristor 240 V/0.8 A	✓	✓	24-240 V AC/DC	1SVR 550 019 R0000
CT-EKE		ON-delay		thyristor 240 V/0.8 A	✓	✓	24-240 V AC/DC	1SVR 550 509 R1000
CT-AKE					✓	✓		1SVR 550 509 R4000
					✓	✓		1SVR 550 509 R2000
						■	24-240 V AC/DC	1SVR 550 519 R1000
								1SVR 550 519 R4000
								1SVR 550 519 R2000

1) contactless, function and time range selection via external jumpers

2) Functions: ON-delay (AC/DC), Impulse-ON (AC only), Flasher starting with ON (AC only), Flasher starting with OFF (AC only)

■ Control input with voltage-related (wet/non-floating) triggering



### CT-D range, modular

NEW: 2 c/o contacts

	Type	Symbol	Function	Function diagram	Output contacts	Control input	Rated control supply voltage	Order code
CT-MFD.12	Multifunctional timer		ON-delay OFF-delay with auxiliary voltage Impulse-ON		1 c/o	✓	■	24-48 V DC, 24-240 V AC 1SVR 500 020 R0000
CT-MFD.21					2 c/o			
CT-ERD.12			ON-delay		1 c/o	✓	24-48 V DC, 24-240 V AC	1SVR 500 100 R0000
CT-ERD.22					2 c/o	✓		
CT-AHD.12			OFF-delay		1 c/o	✓	24-48 V DC, 24-240 V AC	1SVR 500 110 R0000
CT-AHD.22					2 c/o	✓		
CT-VWD.12			Impulse-ON		1 c/o	✓	24-48 V DC, 24-240 V AC	1SVR 500 130 R0000
CT-EBD.12			Flasher, starting with the ON time		1 c/o	✓	24-48 V DC, 24-240 V AC	1SVR 500 150 R0000
CT-TGD.12			Pulse generators		1 c/o	✓	24-48 V DC, 24-240 V AC	1SVR 500 160 R0000
CT-TGD.22					2 c/o	✓		
CT-SDD.22			Star-delta timer	Transition time fix 50 ms Transition time adjustable <sup>1)</sup>	2 c/o	✓	24-48 V DC, 24-240 V AC	1SVR 500 211 R0100
CT.SAD.22					2 c/o	✓		

1) 20-100 ms in 10 ms increments

■ Control input with voltage-related (wet/non-floating) triggering



## Conversion table CT-S range 1SVR 430 ... → 1SVR 630 ...

Type old	Order code old	Type new / alternative	Order code new / alternative
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Type old	Order code old	Type new / alternative	Order code new / alternative
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### Multifunctional timers

CT-MFS	1SVR 430 010 R0200	CT-MFS.21	1SVR 630 010 R0200
		CT-MVS.21	1SVR 630 020 R0200
CT-MVS	1SVR 430 023 R0200	CT-MVS.22	1SVR 630 020 R3300
CT-MBS	1SVR 430 010 R1200	CT-MBS.22	1SVR 630 010 R3200
		CT-MVS.22	1SVR 630 020 R3300
CT-MBS	1SVR 430 012 R0200	CT-MBS.22	1SVR 630 010 R3200
		CT-MVS.22	1SVR 630 020 R3300
CT-MBS	1SVR 430 011 R2200	CT-MVS.23	1SVR 630 021 R2300
CT-MBS	1SVR 430 010 R1100	CT-MBS.22	1SVR 630 010 R3200
		CT-MFS.21	1SVR 630 010 R0200
CT-MBS	1SVR 430 013 R0100	CT-MBS.22	1SVR 630 010 R3200
		CT-MFS.21	1SVR 630 010 R0200
CT-MBS	1SVR 430 011 R2100	CT-MVS.23	1SVR 630 021 R2300

### Impulse-ON relays

CT-VWS	1SVR 430 132 R0100	CT-WBS.22	1SVR 630 040 R3300
CT-VWS	1SVR 430 133 R0200	CT-WBS.22	1SVR 630 040 R3300

### Impulse-OFF relays

CT-AWS	1SVR 430 143 R0100	CT-MVS.12	1SVR 630 020 R3100
CT-AWS	1SVR 430 143 R0200	CT-WBS.22	1SVR 630 040 R3300

### Flasher

CT-EBS	1SVR 430 152 R0100	CT-WBS.22	1SVR 630 040 R3300
CT-EBS	1SVR 430 153 R0200	CT-WBS.22	1SVR 630 040 R3300

### Pulse generators

CT-TGS	1SVR 430 163 R0100	CT-MXS.22	1SVR 630 030 R3300
CT-PGS	1SVR 430 253 R0100	CT-MXS.22	1SVR 630 030 R3300

### Star-delta change-over timer

CT-YDAV	1SVR 430 203 R0200	CT-SDS.22	1SVR 630 210 R3300
CT-YDAV	1SVR 430 201 R2300	CT-SDS.23	1SVR 630 211 R2300
CT-YDEW	1SVR 430 213 R0200	CT-SDS.22	1SVR 630 210 R3300
		CT-MBS.22	1SVR 630 010 R3200

### Switching relays

CT-IRS	1SVR 430 220 R9100	CT-IRS.16	1SVR 430 220 R9100
CT-IRS	1SVR 430 220 R8100	not replaced	-
CT-IRS	1SVR 430 221 R7100	CT-IRS.14	1SVR 430 221 R7100
CT-IRS	1SVR 430 220 R9300	CT-IRS.26	1SVR 430 220 R9300
CT-IRS	1SVR 430 220 R8300	not replaced	-
CT-IRS	1SVR 430 221 R7300	CT-IRS.24	1SVR 430 221 R7300
CT-IRS	1SVR 430 230 R9300	CT-IRS.26G	1SVR 430 230 R9300
CT-IRS	1SVR 430 231 R7300	CT-IRS.24G	1SVR 430 231 R7300
CT-IRS	1SVR 430 220 R9400	CT-IRS.36	1SVR 430 220 R9400
CT-IRS	1SVR 430 220 R8400	not replaced	-
CT-IRS	1SVR 430 221 R1400	CT-IRS.35	1SVR 430 221 R1400

### OFF-delay timers

CT-AHS	1SVR 430 113 R0100	CT-AHS.22	1SVR 630 110 R3300
CT-AHS	1SVR 430 113 R0200	CT-AHS.22	1SVR 630 110 R3300
CT-APS	1SVR 430 183 R0300	CT-APS.22	1SVR 630 180 R3300
CT-ARS	1SVR 430 120 R0100	CT-ARS.11	1SVR 630 120 R3100 <sup>1)</sup>
CT-ARS	1SVR 430 120 R0300	CT-ARS.21	1SVR 630 120 R3300 <sup>1)</sup>
CT-VBS	1SVR 430 261 R6000	CT-VBS.17	1SVR 430 261 R6000
CT-VBS	1SVR 430 261 R5000	CT-VBS.18	1SVR 430 261 R5000

### ON- and OFF-delay timers

CT-EAS	1SVR 430 173 R0100	CT-MXS.22	1SVR 630 030 R3300
		CT-MFS.21	1SVR 630 010 R0200
CT-EAS	1SVR 430 173 R0200	CT-MXS.22	1SVR 630 030 R3300
		CT-MBS.22	1SVR 630 010 R3200
CT-EVS	1SVR 430 193 R0100	CT-MXS.22	1SVR 630 030 R3300

1) available in 3th quarter 2007, until then old types available



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[www.abb.com/lowlvoltage](http://www.abb.com/lowlvoltage) -> Control Products