

Low Voltage

# EasyPact CVS

Moulded-case circuit breakers and switch-disconnectors  
from 100 to 630 A

Catalogue  
2013



> Safe

> Reliable

> Simple

# The easy choice for quality and value

## EasyPact CVS

LV circuit breakers from 100 to 630A



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- > Has it been difficult to find high quality circuit breakers at the right price point?
- > Do you need the reach, support and accessibility of a global leader, with the value of a local supplier?



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Additional characteristics D-1

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Catalogue numbers E-1

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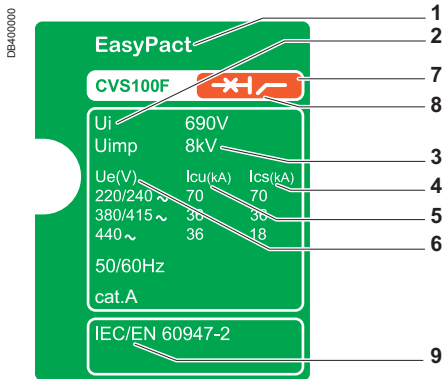
# Functions and characteristics





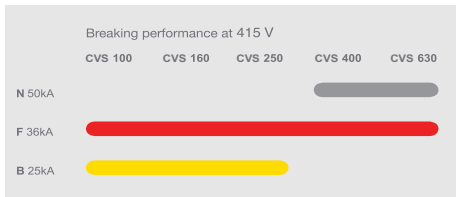
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Standardised characteristics indicated on the rating plate:

- 1 Type of device: frame size and breaking capacity class
- 2  $U_i$ : rated insulation voltage.
- 3  $U_{imp}$ : rated impulse withstand voltage.
- 4  $I_{cs}$ : service breaking capacity.
- 5  $I_{cu}$ : ultimate breaking capacity for various values of the rated operational voltage  $U_e$
- 6  $U_e$ : operational voltage.
- 7 Colour label indicating the breaking capacity class.



- 8 Suitable for Isolation symbol.
- 9 Reference standard.

**Note:** when the circuit breaker is equipped with an extended rotary handle, the door must be opened to access the rating plate.

## Compliance with standards

EasyPact CVS circuit breakers and auxiliaries comply with the following international recommendations:

- IEC 60947-1: general rules
- IEC 60947-2: circuit breakers
- IEC 60947-3: switch-disconnectors

## Pollution degree

EasyPact CVS circuit breakers are certified for operation in pollution-degree III environments as defined by IEC standards 60947-1 and 60664-1 (industrial environments).

## Climatic withstand

EasyPact CVS circuit breakers have successfully passed the tests defined by the following standards for extreme atmospheric conditions:

- IEC 60068-2-1: dry cold (-55°C)
- IEC 60068-2-2: dry heat (+85°C)
- IEC 60068-2-30: damp heat (95 % relative humidity at 55°C)
- IEC 60068-2-52 severity level 2: salt mist.

## Environment

EasyPact CVS respects the European environment directive EC/2002/95 concerning the restriction of hazardous substances (RoHS).

All EasyPact CVS production sites have set up an ISO 14001 certified environmental management system.

## Ambient temperature

■ EasyPact CVS circuit breakers can be used between -25°C and +70°C. For temperatures higher than 50°C (65°C for circuit breakers used to protect motor feeders), devices must be derated ([see page B-2](#)).

■ Circuit breakers should be put into service under normal ambient, operating-temperature conditions. Exceptionally, the circuit breaker can be put into service when the ambient temperature is between -35°C and -25°C.

■ The permissible storage-temperature range for EasyPact CVS circuit breakers in the original packing is -50°C and +85°C.

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## Suitable for isolation with positive contact indication

All EasyPact CVS circuit breakers are suitable for isolation as defined in IEC standard 60947-2:

- The isolation position corresponds to the O (OFF) position.
- The operating handle cannot indicate the OFF position unless the contacts are effectively open.
- Padlocks cannot be installed unless the contacts are open.

Installation of a rotary handle does not alter the reliability of the position-indication system.

The isolation function is certified by tests guaranteeing:

- The mechanical reliability of the position-indication system
- The absence of leakage currents
- Over voltage withstand capacity between upstream and downstream connections.

The tripped position does not ensure isolation with positive contact indication.

Only the OFF position guarantees isolation.

## Installation in class II switchboards

All EasyPact CVS circuit breakers are class II front face devices. They can be installed through the door of class II switchboards (as per IEC standards 61140 and 60664-1) without downgrading switchboard insulation. Installation requires no special operations, even when the circuit breaker is equipped with a rotary handle.

## Degree of protection

The following indications are in accordance with standards IEC 60529 (IP degree of protection) and IEC 62262 (IK protection against external mechanical impacts).

### Bare circuit breaker:

- with toggle: IP40, IK07 front face
- with extended rotary handle: IP 55, IK08

### Circuit breaker installed in a switchboard:

- with toggle: IP40, IK07 front face
- with extended rotary handle: IP 55, IK08

PE106462



EasyPact CVS100/160/250

PE106463



EasyPact CVS400/630

### Common characteristics

Rated voltages			
Insulation voltage (V)	<b>Ui</b>		690
Impulse withstand voltage (kV)	<b>Uimp</b>		8
Operational voltage (V)	<b>Ue</b>	AC 50/60 Hz	440
Suitability for isolation		IEC/EN 60947-2	yes
Utilisation category			A
Pollution degree		IEC 60664-1	3

### Circuit breakers

#### Performance

##### Electrical characteristics as per IEC 60947-2

Rated current (A)	<b>In</b>	50 °C
-------------------	-----------	-------

Number of poles

#### Breaking capacity levels

##### Breaking capacity (kA rms)

<b>Icu</b>	AC 50/60 Hz	220/240 V
		380/415 V
		440 V

##### Service breaking capacity (kA rms)

<b>Ics</b>	AC 50/60 Hz	220/240 V
		380/415 V
		440 V

Durability (C-O cycles)	Mechanical		
	Electrical	415V	In/2 In

#### Protection

Short-circuit protection	Magnetic only	
Overload/short-circuit protection	Thermal magnetic	
	Electronic	
	with neutral protection (Off-0.5-1)	

#### Installation/connections

##### Dimensions and weights

Dimensions (mm)	Fixed, front connections	3P
	W x H x D	4P
Weight (kg)	Fixed, front connections	3P
		4P

#### Connections

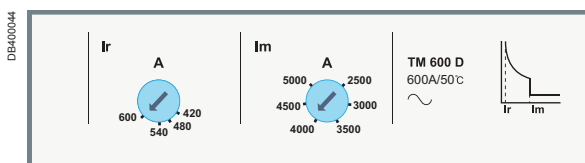
Connection terminals	Pitch	Without/With spreaders
Large Cu or Al cables	Cross-section	mm <sup>2</sup>



CVS100		CVS160		CVS250		CVS400		CVS630	
100		160		250		400		630	
3, 4		3, 4		3, 4		3, 4		3, 4	
B	F	B	F	B	F	F	N	F	N
40	70	40	70	40	70	40	70	40	70
25	36	25	36	25	36	36	50	36	50
20	36	20	36	20	36	30	42	30	42
40	70	40	70	40	70	40	70	40	70
25	36	25	36	25	36	36	50	36	50
15	18	15	18	15	18	23	32	23	32
30000		25000		20000		15000		15000	
30000		25000		20000		12000		8000	
12000		12000		10000		6000		4000	
■		■		■		■		■	
■		■		■		■		■	
-		-		-		■		■	
-		-		-		■		■	
105 x 161 x 86		105 x 161 x 86		105 x 161 x 86		140 x 255 x 110		140 x 255 x 110	
140 x 161 x 86		140 x 161 x 86		140 x 161 x 86		185 x 255 x 110		185 x 255 x 110	
1.8		1.8		2.0		4.7		5.2	
2.2		2.3		2.6		6.3		7.1	
35/45 mm		35/45 mm		35/45 mm		45/52.5 mm		45/52.5 mm	
						45/70 mm		45/70 mm	
300		300		300		4 x 240		4 x 240	

TM-D thermal-magnetic trip units can be used on EasyPact CVS100-630 circuit breakers with performance levels B/F/N.

## TM-D thermal-magnetic trip units



### Protection

TM-D trip units are used mainly in electrical distribution applications for protection of cables supplied by transformers.

#### Thermal protection (Ir)

Thermal protection operates according to:

- Ir that can be adjusted in amps from 0.7 to 1 times the rating of the trip unit (16 A to 250 A), corresponding to settings from 11 to 250 A for the range of trip units
- a non-adjustable time delay.

#### Magnetic protection (Im)

Short-circuit protection with a fixed or adjustable pick-up Im that initiates instantaneous tripping if exceeded.

- TM-D: fixed pick-up, Im, for 16 to 250 A ratings and adjustable from 5 to 10 x In for 400 A ratings, 4.2 to 8.3 x In for 600 A rating.

#### Protection versions

- 3-pole:
  - 3P 3D: 3-pole frame (3P) with detection on all 3 poles (3D)
- 4-pole:
  - 4P 4D: 4-pole frame (4P) with detection on all 4 poles (same threshold for phases and neutral).

Thermal-magnetic trip units		TM16D to 250D											TM320D to 600D				
Ratings (A)	In at 50 °C <sup>(1)</sup>	16	25	32	40	50	63	80	100	125	160	200	250	320	400	500	600
Circuit breaker	CVS100	■	■	■	■	■	■	■	■	-	-	-	-				
	CVS160	-	-	-	-	-	-	-	■	■	■	-	-				
	CVS250	-	-	-	-	-	-	-	-	-	■	■	■				
	CVS400													■	■	-	-
	CVS630													-	-	■	■
<b>Magnetic protection</b>																	
Pick-up (A)	Im	fixed											adjustable				
accuracy ±20 %	CVS100	190	300	400	500	500	500	640	800								
	CVS160/250								800	1250	1250	2000	2500				
	CVS400																1600 to 3200 (320A), 2000 to 4000 (400A)
	CVS630																2500 to 5000
<b>Thermal protection</b>																	
Pick-up (A) tripping between 1.05 and 1.30 Ir	Ir = In x ...	adjustable in amps from 0.7 to 1 x In															
<b>Neutral protection</b>																	
Fully protected neutral	4P 4D	1 x Ir															

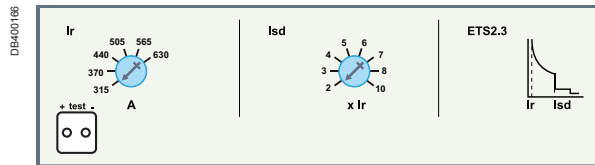
(1) For temperatures not equal to 50°C, the thermal protection characteristics are modified. See the temperature derating table on page B-2.

**Note:** All the trip units have a transparent lead-sealable cover that protects access to the adjustment dials.

# Protection of distribution systems

## ETS 2.3 electronic trip unit and accessories

### ETS 2.3 electronic trip unit



#### Protection

The protection functions can be set using the adjustment dials.

#### Overload protection

Long-time protection with an adjustable threshold and fixed tripping delay:

- Ir base setting (6-position dial from 0.5 to 1)

#### Short-circuit protection

Short-time and instantaneous protection:

- short-time protection with an adjustable pick-up and fixed tripping delay
- instantaneous protection with fixed pick-up.

#### Protection of the fourth pole

On 4-pole circuit breakers, neutral protection is set using a three-position switch to 4P 3D (neutral unprotected), 4P 3D + N/2 (neutral protection at 0.5 In) or 4P 4D (neutral protection at In).

Trip units		ETS 2.3	
Ratings (A) of circuit breaker	In 20 to 70 °C	400	630
Circuit breaker	CVS400 F/N	■	-
	CVS630 F/N	-	■
<b>Overload protection (Long time)</b>			
Current setting	$I_r = I_n \times \dots$	0.5...1 adj., 6 settings	
Time delay (s)		fixed	
(min....max.)	at 1.5 x Ir	90...180	
	at 6 x Ir	5...7.5	
	at 7.2 Ir	3.2...5.0	
<b>Short-circuit protection (Short time)</b>			
Pick-up (A)	$I_{sd} = I_r \times \dots$	2...10 adj., 8 settings	
accuracy ± 15 %			
Time delay (ms)		fixed	
	max. resettable time	≤ 40	
	max. break time	≤ 60	
<b>Short-circuit protection (instantaneous)</b>			
Pick-up (A)	$I_i = I_n \times \dots$	11	
<b>Protection of the fourth pole</b>			
Neutral unprotected	4P 3D	no protection	
Neutral protection at 0.5 In	4P 3D + N/2	0.5 x Ir	
Neutral protection at In	4P 4D	1 x Ir	
<b>Thermal memory</b>			
	CVS400 F/N	Yes	
	CVS630 F/N	Yes	

### Test equipment for ETS electronic trip unit

#### Mini test kit

The mini test kit is a portable unit requiring no external power supply, used to check operation of the electronic trip unit and circuit breaker tripping.

It connects to the test connector on the front of the circuit breaker.

Required power source: five 9 V alkaline batteries (not supplied).

#### Portable test kit

The portable test kit is used to check all aspects of the protection functions:

- long time protection
- short time protection
- instantaneous protection
- earth-fault protection.

Required power source: 110 or 220 V AC, 50/60 Hz.

#### Spare test plug and wiring kit

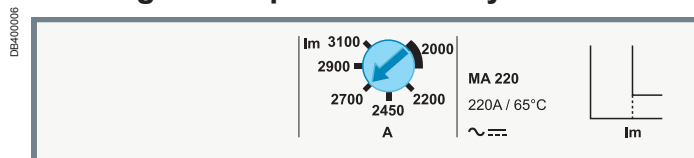
A spare test plug and wiring kit are available for this offer.



# Motor protection

## MA instantaneous trip units

### MA magnetic trip units for EasyPact CVS100-630A



Circuit breakers with an MA trip unit are combined with a thermal relay and a contactor or a starter.

### Protection

#### Magnetic protection (Im)

Short-circuit protection with an adjustable pick-up  $I_m$  that initiates instantaneous tripping if exceeded.

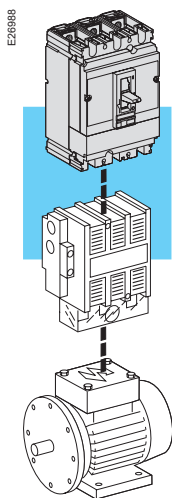
- $I_m = I_n \times \dots$  is set on an adjustment dial in multiples of the rating:
  - 6 to 14 x  $I_n$  (2.5 to 100 A ratings)
  - 9 to 14 x  $I_n$  (150 to 220 A ratings)
  - 6 to 13 x  $I_n$  (320 to 500 A ratings)

#### Protection version

- 3-pole (3P 3D): 3-pole frame (3P) equipped with detection on all 3 poles (3D).

### Motor protection up to 250 kW

Motor protection rating (kW)			
CVS 100/160/250		1.1...110	
CVS 400/630			18.5...250
Breaking capacity (kArms)	B	25	25
	F	36	36
	N	-	-



CVS100 to 630 circuit breakers, equipped with an MA magnetic trip unit with adjustable thresholds, offer:

- short-circuit protection
- suitability for isolation.

CVS100 to 630 circuit breakers with trip unit are supplied ready-assembled.

MA trip units											
Ratings (A)	$I_n$ at 65 °C	2.5	6.3	12.5	25	50	100	150	220	320	500
Circuit breaker	CVS100	■	■	■	■	■	■	-	-	-	-
	CVS160	-	-	-	-	-	■	■	-	-	-
	CVS250	-	-	-	-	-	-	■	■	-	-
	CVS400	-	-	-	-	-	-	-	-	■	-
	CVS630	-	-	-	-	-	-	-	-	-	■
Short-circuit protection (magnetic)											
Pick-up (A)	$I_m = I_n \times \dots$	setting						setting		setting	
CVS100		6...14 x $I_n$						9...14 x $I_n$		-	
CVS160/250		-						-		-	
CVS400/630		-						-		6...13 x $I_n$	

Installation standards require upstream protection. However EasyPact CVS100 to 630 NA switch-disconnectors are self-protected by their high-set magnetic release.



EasyPact CVS100 to 250 NA



EasyPact CVS400 to 630 NA

### Switch-disconnectors

#### Electrical characteristics as per IEC 60947-3 and EN 60947-3

Conventional thermal current (A)	<b>I<sub>th</sub></b>	50 °C	
Number of poles			
Operational current (A) depending on the utilisation category	<b>I<sub>e</sub></b>	AC 50/60 Hz	
			220/240 V
			380/415 V
			440 V
Short-circuit making capacity (kA peak)	<b>I<sub>cm</sub></b>	min. (switch-disconnector alone)	
		max. (protection by upstream circuit breaker)	
Rated short-time withstand current (A rms)	<b>I<sub>cw</sub></b>	for	1 s
			3 s
			20 s
Durability (C-O cycles)	mechanical		
	electrical	AC	
		415 V	I <sub>n</sub>

#### Additional indication and control auxiliaries

Indication contacts			
Voltage releases		MX shunt release	
		MN undervoltage release	

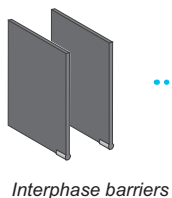
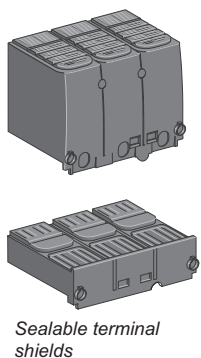
#### Installation/connections

Dimensions (mm)	fixed, front connections	3P
W x H x D		4P
Weight (kg)	fixed, front connections	3P
		4P

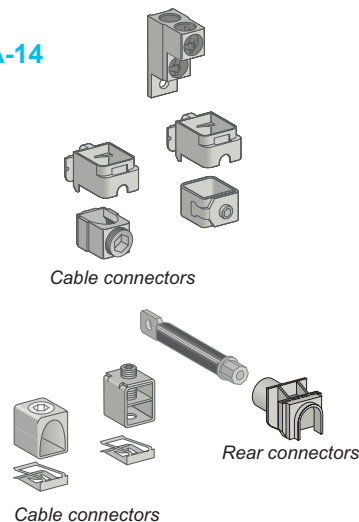
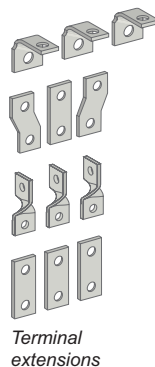
CVS100NA	CVS160NA	CVS250NA	CVS400NA	CVS630NA
<b>100</b>	<b>160</b>	<b>250</b>	<b>400</b>	<b>630</b>
3, 4	3, 4	3, 4	3, 4	3, 4
<b>AC22A / AC23A</b>	<b>AC22A / AC23A</b>	<b>AC22A / AC23A</b>	<b>AC22A / AC23A</b>	<b>AC22A / AC23A</b>
100	160	250	400	630/500
100	160	250	400	630/500
100	160	250	400	630/500
2.6	3.6	4.9	7.1	8.5
75	75	75	105	105
1800	2500	3500	5000	6000
1800	2500	3500	5000	6000
690	960	1350	1930	2320
30000	25000	20000	15000	15000
<b>AC22A / AC23A</b>	<b>AC22A / AC23A</b>	<b>AC22A / AC23A</b>	<b>AC22A / AC23A</b>	<b>AC22A / AC23A</b>
8000	8000	6500	4000	2500
■			■	
■			■	
■			■	
105 x 161 x 86			140 x 255 x 110	
140 x 161 x 86			185 x 255 x 110	
1.5 to 1.8			5.2	
2.0 to 2.2			6.8	

Insulation accessories ▶ E-9, E-19

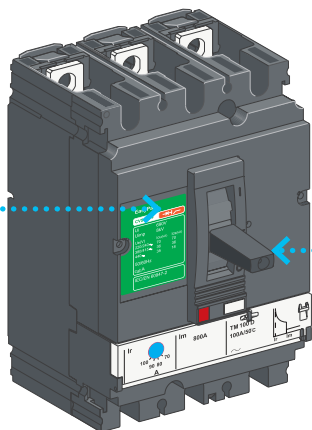
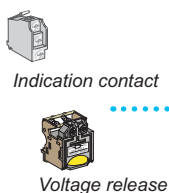
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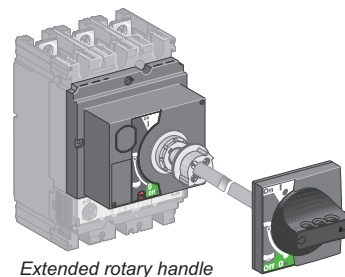
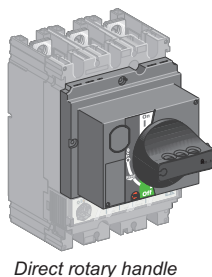
Connection ▶ A-14



Electrical auxiliaries ▶ A-17



Control accessories ▶ A-19



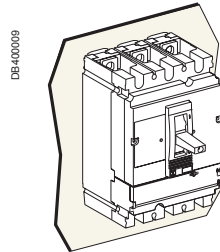
# Accessories and auxiliaries

## Device installation

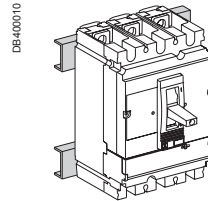
CVS circuit breakers may be installed horizontally, vertically or flat on their back, without derating performance levels.

### Fixed circuit breakers

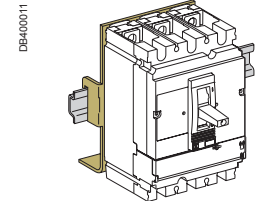
Fixed circuit breakers are designed for standard connection using bars or cables with lugs. Bare-cable connectors are available for connection to bare copper or aluminium cables.



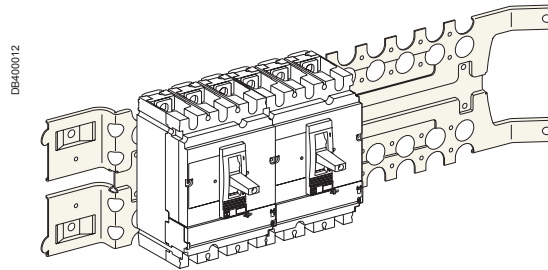
Mounting on a backplate.



Mounting on rails.

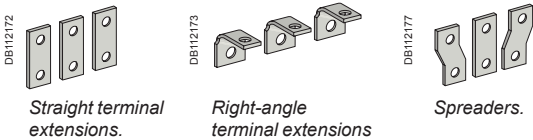
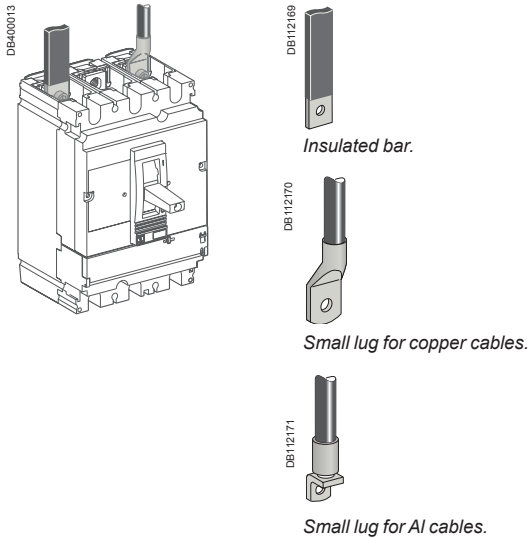


Mounting on DIN rail (with adaptor).



Mounting on a Prisma mounting plate.

Fixed circuit breakers are designed for standard front connection using bars or cables with lugs. Cable connectors are available for bare cables. Rear connection is also possible.



## Front connection

### Bars or cables with lugs

#### Standard terminals

EasyPact CVS100 to 630 come with terminals comprising snap-in nuts with screws:

- EasyPact CVS100: M6 nuts and screws.
- EasyPact CVS160/250: M8 nuts and screws
- EasyPact CVS400/630: M10 nuts and screws.

These terminals may be used for:

- direct connection of insulated bars or cables with lugs
- terminal extensions.

Interphase barriers or terminal shields are recommended. They are mandatory for certain connection accessories (in which case the interphase barriers are provided).

#### Bars

When the switchboard configuration has not been tested, insulated bars are mandatory.

#### Maximum size of bars

EasyPact CVS circuit breaker		100/160/250	400/630
Without spreaders	pitch (mm)	35	45
	maximum bar size (mm)	20 x 3	32 x 8
With spreaders	pitch (mm)	45	52.5
	maximum bar size (mm)	32 x 2	40 x 6

#### Crimp lugs

There are two modules of lugs, for aluminium and copper cables.

Interphase barriers or long terminal shields must be used with narrow lugs. The lugs are supplied with interphase barriers.

EasyPact CVS circuit breaker		100/160/250	400/630
Copper cables	size (mm <sup>2</sup> )	150, 185	240, 300
	crimping	hexagonal barrels or punching	
Aluminium cables	size (mm <sup>2</sup> )	150, 185	240, 300
	crimping	hexagonal barrels	

#### Terminal extensions

Extensions with anti-rotation ribs can be attached to the standard terminals to provide numerous connection possibilities in little space:

- straight terminal extensions
- right-angle terminal extensions

#### Spreaders

Spreaders may be used to increase the pitch:

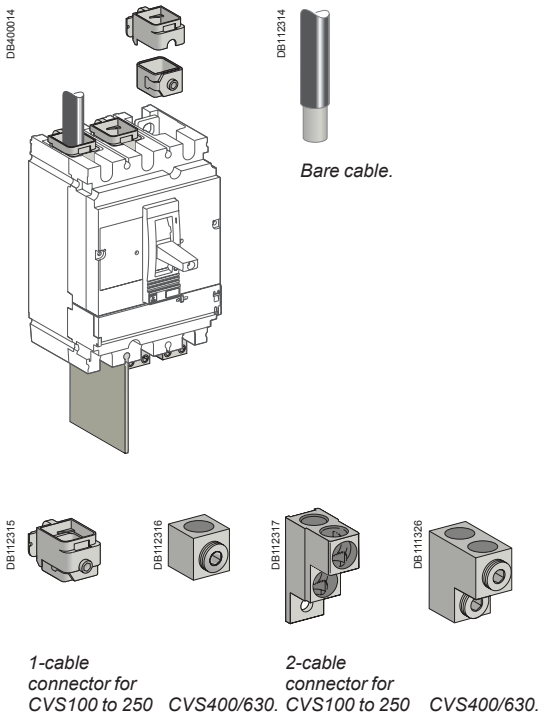
- CVS100 to 250: the 35 mm pitch can be increased to 45 mm
  - CVS400/630: the 45 mm pitch can be increased to 52 or 70 mm.
- Bars, cable lugs or cable connectors can be attached to the ends.

#### Pitch (mm) depending on the type of spreader

EasyPact CVS circuit breaker	CVS100 to 250	CVS100 to 630
Without spreaders	35	45
With spreaders	45	52.5 or 70

# Accessories and auxiliaries

## Connection of devices



### Bare cables

Bare-cable connectors may be used for both copper and aluminium cables.

#### 1-cable connectors for EasyPact CVS100 to 250

The connectors snap directly on to the device terminals or are secured by clips to right-angle and straight terminal extensions as well as spreaders.

#### 1-cable connectors for EasyPact CVS400 to 630

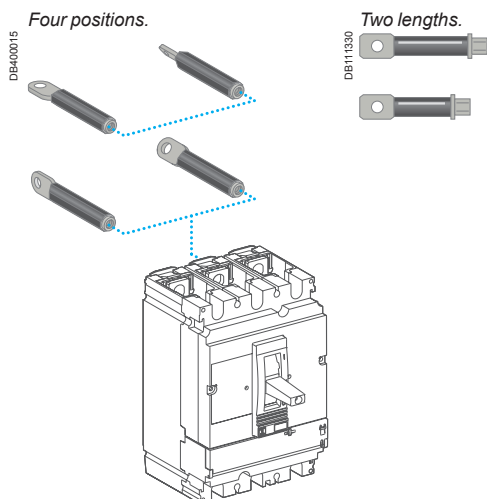
The connectors are screwed directly to the device terminals.

#### 2-cable connectors for EasyPact CVS100 to 250 and 400/630

The connectors are screwed to device terminals or right-angle terminal extensions.

### Maximum size of cables depending on the type of connector

EasyPact CVS circuit breaker		100/160	250	400	630
Steel connectors	1.5 to 95 mm <sup>2</sup>	■			
Aluminium connectors	25 to 95 mm <sup>2</sup>	■	■		
	120 to 185 mm <sup>2</sup>	■	■		
	2 cables 50 to 120 mm <sup>2</sup>	■	■		
	2 cables 35 to 240 mm <sup>2</sup>			■	■
	35 to 300 mm <sup>2</sup>			■	■



### Rear connection

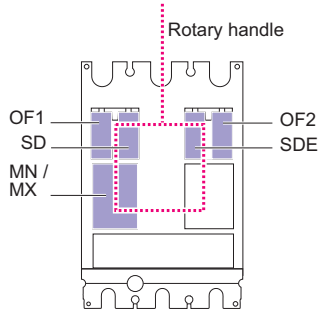
Device mounting on a backplate with suitable holes enables rear connection.

### Bars or cables with lugs

Rear connections for bars or cables with lugs are available in two lengths. Bars may be positioned flat, on edge or at 45° angles depending on how the rear connections are positioned.

The rear connections are simply fitted to the device connection terminals. All combinations of rear connection lengths and positions are possible on a given device.

DB400183



**EasyPact CVS100/160/250**

**Standard**

All EasyPact CVS100/160/250 circuit breakers and switch-disconnectors have slots for the electrical auxiliaries listed below.

**5 indication contacts** (see page A-17)

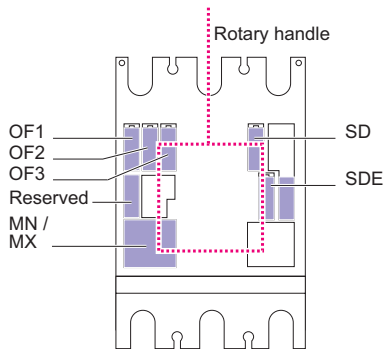
- 2 ON/OFF (OF1 and OF2)
- 1 trip indication (SD)
- 1 fault-trip indication (SDE)

**1 remote-tripping release** (see page A-18)

- either 1 MN undervoltage release
- or 1 MX shunt release.

**All these auxiliaries can be installed with a rotary handle.**

DB400184



**EasyPact CVS400/630**

**Standard**

All EasyPact CVS400/630 circuit breakers and switch-disconnectors have slots for the electrical auxiliaries listed below.

**6 indication contacts** (see page A-17)

- 3 ON/OFF (OF3)
- 1 trip indication (SD)
- 1 fault-trip indication (SDE)

**1 remote-tripping release** (see page A-18)

- either 1 MN undervoltage release
- or 1 MX shunt release.

**All these auxiliaries can be installed with a rotary handle.**

The illustration shown (TMD, MA, NA and ETS 2.3 standard) indicates auxiliary possibilities depending on the type of trip unit.



# Accessories and auxiliaries

## Indication contacts

One contact model provides circuit-breaker status indications (OF - SD - SDE - SDV).

DB125549



Indication contacts.

These common-point changeover contacts provide remote circuit-breaker status information.

They can be used for indications, electrical locking, relaying, etc. They comply with the IEC 60947-5 international recommendation.

### Functions

#### Breaker-status indications, during normal operation or after a fault

A single type of contact provides all the different indication functions:

- OF (ON/OFF) indicates the position of the circuit breaker contacts
- SD (trip indication) indicates that the circuit breaker has tripped due to:
  - an overload
  - a short-circuit
  - an earth fault (Vigi)
  - operation of a voltage release
  - operation of the “push to trip” button
  - disconnection when the device is ON.

The SD contact returns to de-energised state when the circuit breaker is reset.

#### ■ SDE (fault-trip indication) indicates that the circuit breaker has tripped due to:

- an overload
- a short-circuit
- an earth fault (Vigi)

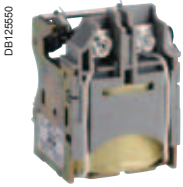
### Installation

■ OF, SD, SDE functions: a single type of contact provides all these different indication functions, depending on where it is inserted in the device. The contacts clip into slots behind the front cover of the circuit breaker.

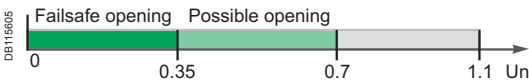
The SDE function on a CVS100 - 630 A equipped with a magnetic, thermal-magnetic or ETS2.3 trip unit requires the SDE adaptor.

### Electrical characteristics of auxiliary contacts

Contacts		Standard				Low level			
Types of contacts		All				OF, SD, SDE			
Rated thermal current (A)		6				5			
Minimum load		100 mA at 24 V DC				1 mA at 4 V DC			
Utilisation cat. (IEC 60947-5-1)		AC12	AC15	DC12	DC14	AC12	AC15	DC12	DC14
Operational current (A)	24 V AC/DC	6	6	6	1	5	3	5	1
	48 V AC/DC	6	6	2.5	0.2	5	3	2.5	0.2
	110 V AC/DC	6	5	0.6	0.05	5	2.5	0.6	0.05
	220/240 V AC	6	4	-	-	5	2	-	-
	250 V DC	-	-	0.3	0.03	5	-	0.3	0.03
380/440 V AC		6	2	-	-	5	1.5	-	-



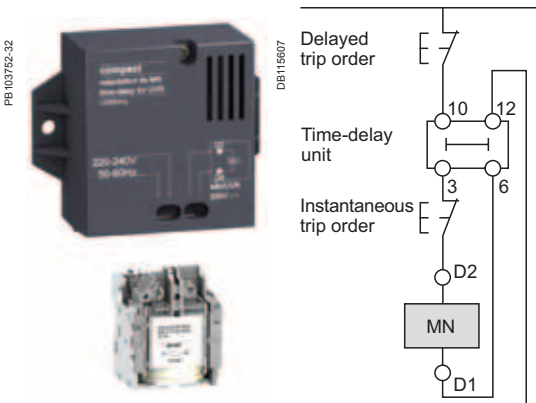
MX or MN voltage release.



Opening conditions of the MN release.

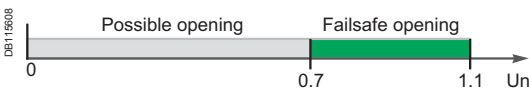


Closing conditions of the MN release.



MN release with a time-delay unit.

Wiring diagram for emergency-off function with MN + time-delay unit.



Opening conditions of the MX release.

**MN undervoltage release**

- This release trips the circuit breaker when the control voltage drops below a tripping threshold
- The tripping threshold is between 0.35 and 0.7 times the rated voltage
- Circuit breaker closing is possible only if the voltage exceeds 0.85 times the rated voltage.

**Characteristics**

Power supply	V AC	50/60 Hz: 24 - 48 - 100/130 - 200/240
		50 Hz: 380/415    60 Hz: 208/277
Operating threshold	V DC	12 - 24 - 30 - 48 - 60 - 125 - 250
	Opening	0.35 to 0.7 Un
	Closing	0.85 Un
Operating range		0.85 to 1.1 Un
Consumption (VA or W)		Pick-up: 10 - Hold: 5
Response time (ms)		50

**Time-delay unit for an MN release**

A time delay unit for the MN release eliminates the risk of nuisance tripping due to a transient voltage dip lasting  $\leq 200$  ms. For shorter micro-outages, a system of capacitors provides temporary supply to the MN at  $U > 0.7$  to ensure non tripping. The correspondence between MN releases and time-delay units is shown below.

Power supply	Corresponding MN release
<b>Unit with fixed delay 200 ms</b>	
48 V AC	48 V DC
220 / 240 V AC	250 V DC
<b>Unit with adjustable delay (0.5s, 0.9s, 1.5s, 3s)</b>	
48 - 60 V AC/DC	48 V DC
100 - 130 V AC/DC	125 V DC
220 - 250 V AC/DC	250 V DC

**MX shunt release**

The MX release opens the circuit breaker via an impulse-type ( $\geq 20$  ms) or maintained order.

**Opening conditions**

When the MX release is supplied, it automatically opens the circuit breaker. Opening is ensured for a voltage  $U \geq 0.7 \times U_n$ .

**Characteristics**

Power supply	V AC	50/60 Hz: 24 - 48 - 100/130 - 200/240
		50 Hz: 380/415    60 Hz: 208/277
Operating range	V DC	12 - 24 - 30 - 48 - 60 - 125 - 250
		0.7 to 1.1 Un
Consumption (VA or W)		Pick-up: 10
Response time (ms)		50

**Circuit breaker control by MN or MX**

When the circuit breaker has been tripped by an MN or MX release, it must be reset before it can be reclosed.

MN or MX tripping takes priority over manual closing.

In the presence of a standing trip order, closing of the contacts, even temporary, is not possible.

Connection using wires up to 1.5mm<sup>2</sup> to integrated terminal blocks.

**Note:** circuit breaker opening using an MN or MX release must be reserved for safety functions. This type of tripping increases wear on the opening mechanism. Repeated use reduces the mechanical endurance of the circuit breaker by 50 %.

# Accessories and auxiliaries

## Rotary handles

There are two types of rotary handle:

- direct rotary handle
- extended rotary handle.

PB106453



EasyPact CVS with a rotary handle.

PB106454



EasyPact CVS with an extended rotary handle installed at the back of a switchboard, with the keylock option and key.

PB106455



PB106456



### Direct rotary handle

#### Standard handle

Degree of protection IP40, IK07.

The direct rotary handle maintains:

- visibility of and access to trip-unit settings
- suitability for isolation
- indication of the three positions O (OFF), I (ON) and tripped
- access to the "push to trip" button.

#### Device locking

The rotary handle facilitates circuit-breaker locking.

- Padlocking:
  - standard situation, in the OFF position, using 1 to 3 padlocks, shackle diameter 5 to 8 mm, not supplied

### Extended rotary handle

Degree of protection IP56, IK08.

The extended rotary handle makes it possible to operate circuit breakers installed at the back of switchboards, from the switchboard front.

It maintains:

- visibility of and access to trip-unit settings
- suitability for isolation
- indication of the three positions O (OFF), I (ON) and tripped.

#### Device and door padlocking

Padlocking locks the circuit-breaker handle and disables door opening:

- standard situation, in the OFF position, using 1 to 3 padlocks, shackle diameter 5 to 8 mm, not supplied

#### Parts of the extended rotary handles

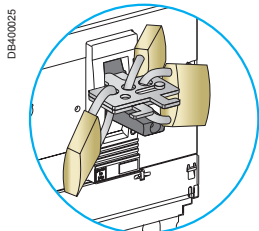
- A unit that replaces the front cover of the circuit breaker (secured by screws).
- An assembly (handle and front plate) on the door that is always secured in the same position, whether the circuit breaker is installed vertically or horizontally.
- An extension shaft that must be adjusted to the distance. The min/max distance between the back of circuit breaker and door is:
  - 185...600 mm for EasyPact CVS100 to 250
  - 209...600 mm for EasyPact CVS 400/630.

### Manual source-changeover systems

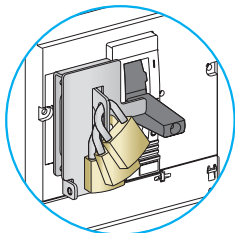
An additional accessory interlocks two devices with rotary handles to create a source-changeover system. Closing of one device is possible only if the second is open.

This function is compatible with direct or extended rotary handles.

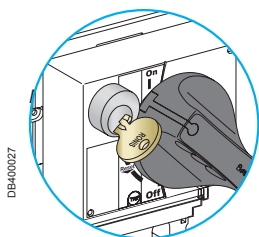
Up to three padlocks can be used to lock in the OFF or ON position.



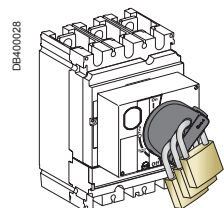
Toggle locking using padlocks and an accessory:  
Removable device



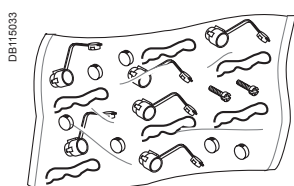
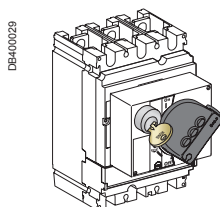
Fixed device attached to the case.



Rotary-handle locking using a keylock.



Rotary-handle locking using a padlock or a keylock.



Sealing accessories.

### Locks

Locking in the OFF position guarantees isolation as per IEC 60947-2. Padlocking systems can receive up to three padlocks with shackle diameters ranging from 5 to 8 mm (padlocks not supplied). Certain locking systems require an additional accessory.

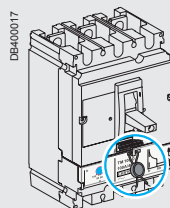
Control device	Function	Means	Required accessories
Toggle	Lock in OFF position	Padlock	Removable device
	Lock in OFF or ON position	Padlock	Fixed device
Direct rotary handle	Lock in	Padlock	-
	<ul style="list-style-type: none"> <li>■ OFF position</li> <li>■ OFF or ON position <sup>(1)</sup></li> </ul>	Keylock	Locking device + keylock
Extended rotary handle	Lock in	Padlock	-
	<ul style="list-style-type: none"> <li>■ OFF position</li> <li>■ OFF or ON position <sup>(1)</sup> with door opening prevented <sup>(2)</sup></li> </ul>		
	Lock in OFF position	Padlock	UL508 control accessory
	<ul style="list-style-type: none"> <li>■ OFF or ON position <sup>(1)</sup> inside the switchboard</li> </ul>	Keylock	Locking device + keylock

<sup>(1)</sup> Following a simple modification of the mechanism.

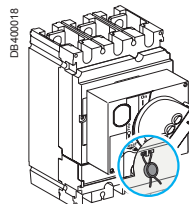
<sup>(2)</sup> Unless door locking has been voluntarily disabled.

### Sealing accessories

#### Toggle control



#### Rotary handle



#### Types of seals

#### Protected operations

#### Protection cover for settings

- modification of settings.

# Accessories and auxiliaries

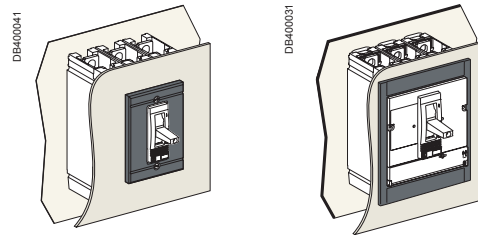
## Escutcheons and protection collars

Escutcheons are an optional feature mounted on the switchboard door. They increase the degree of protection to IP40, IK07. Protection collars maintain the degree of protection, whatever the position of the device (connected, disconnected).

### IP40 escutcheons for fixed devices

There are three types of escutcheon with a gasket which are screwed to the door cut-out:

- three escutcheons for all control types (toggle, handle or motor mechanism)



*Escutcheon for toggle without and with access to the trip unit.*

# Installation recommendations



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*Functions and characteristics* A-1

**Operating conditions and temperature derating** **B-2**

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**Installation in switchboards** **B-4**

Power supply and weights B-4

Safety clearances and minimum distances B-5

Installation example B-6



Power loss/Resistance B-8

*Dimensions and connection* C-1

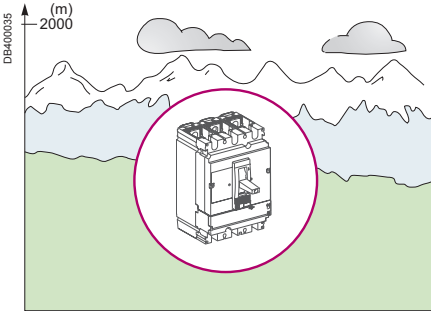
*Additional characteristics* D-1

*Catalogue numbers* E-1

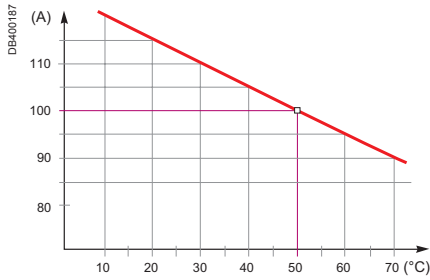
# Installation recommendations

# Operating conditions and temperature derating

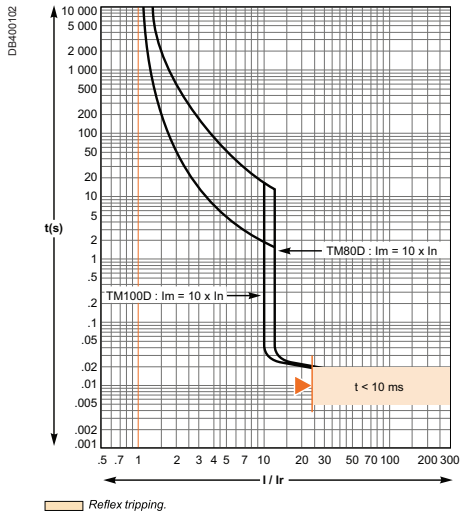
When thermal-magnetic trip units are used at ambient temperatures other than 50 °C, the I<sub>r</sub> pick-up is modified.



Electronic trip units are not affected by variations in temperature. If the trip units are used in high-temperature environments, the ETS setting must nevertheless take into account the temperature limits of the circuit breaker.



Temperature derating curve for CVS100.



Thermal-protection curve with minimum and maximum values.

## Altitude derating

Altitude does not significantly affect the characteristics of EasyPact CVS circuit breakers up to 2000 m. Above this altitude, it is necessary to take into account the decrease in the dielectric strength and cooling capacity of air.

Altitude (m)	2000	3000	4000	5000	
Impulse Withstand voltage U <sub>imp</sub> (kV)	8	7	6	5.2	EasyPact CVS 100-630
current ratio	1,00	0,96	0,93	0,90	
U <sub>i</sub>	690	600	520	450	
U <sub>e</sub>	440	400	400	380	

## Vibrations

CVS devices resist electromagnetic or mechanical vibrations. Tests are carried out in compliance with standard IEC 60068-2-6 for the levels required by merchant-marine inspection organisations (Veritas, Lloyds, etc.):

- 2 to 13.2 Hz: amplitude ±1 mm
- 13.2 to 100 Hz: constant acceleration 0.7 g.

Excessive vibration may cause tripping, breaks in connections or damage to mechanical parts.

## Degree of protection

CVS circuit breakers have been tested for degree of protection (IP) and mechanical impact protection (IK). See page A-3.

The overload protection is calibrated at 50 °C in the lab. This means that when the ambient temperature is less than or greater than 50 °C, the I<sub>r</sub> protection pick-up is slightly modified.

To obtain the tripping time for a given temperature:

- see the tripping curves for 50 °C (see pages D-2 and D-3)
- determine tripping times corresponding to the I<sub>r</sub> value (thermal setting on the device), corrected for the ambient temperature as indicated in the tables below.

## Settings of CVS100 to 630 equipped with TM-D trip units as a function of the temperature

The table indicates the real I<sub>r</sub> (A) value for a given rating and temperature.

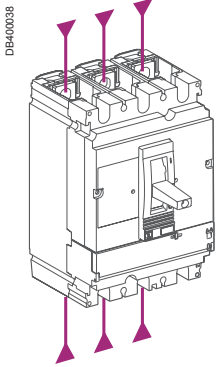
Rat. (A)	Temperature (°C)												
	10	15	20	25	30	35	40	45	50	55	60	65	70
16	18.9	18.6	18.2	17.9	17.5	17.2	16.8	16.4	16	15.6	15.2	14.8	14.3
25	29.6	29.0	28.5	28.0	27.4	26.8	26.2	25.6	25	24.4	23.7	23.0	22.4
32	37.9	37.2	36.5	35.8	35.1	34.3	33.6	32.8	32	31.2	30.4	29.5	28.6
40	47.3	46.5	45.6	44.7	43.8	42.9	42.0	41.0	40	39.0	37.9	36.9	35.8
50	59.2	58.1	57.0	55.9	54.8	53.6	52.4	51.2	50	48.7	47.4	46.1	44.7
63	74.5	73.2	71.8	70.4	69.0	67.6	66.1	64.6	63	61.4	59.8	58.1	56.3
80	94.7	93.0	91.2	89.4	87.6	85.8	83.9	82.0	80	78.0	75.9	73.8	71.6
100	118.3	116.2	114.0	111.8	109.5	107.2	104.9	102.5	100	97.5	94.9	92.2	89.4
125	147.9	145.2	142.5	139.8	136.9	134.0	131.1	128.1	125	121.8	118.6	115.2	111.8
160	189.3	185.9	182.4	178.9	175.3	171.6	167.8	164.0	160	155.9	151.8	147.5	143.1
200	236.6	232.4	228.0	223.6	219.1	214.5	209.8	204.9	200	194.9	189.7	184.4	178.9
250	295.8	290.5	285.0	279.5	273.9	268.1	262.2	256.2	250	243.7	237.2	230.5	223.6
320	377.6	371.2	364.8	358.4	352.0	342.4	336.0	326.4	320	310.4	304.0	294.4	284.8
400	472.0	464.0	456.0	448.0	440.0	428.0	420.0	408.0	400	388.0	380.0	368.0	356.0
500	590.0	580.0	570.0	560.0	550.0	535.0	525.0	510.0	500	485.0	475.0	460.0	445.0
600	708.0	696.0	684.0	672.0	660.0	642.0	630.0	612.0	600	582.0	570.0	552.0	534.0



**CVS400 and 630 (equipped with ETS2.3 electronic trip unit)**

The table below indicates the maximum long-time (LT) protection setting  $I_r$  (A) depending on the ambient temperature.

Type of device	Rating (A)	Temperature (°C)						
		40	45	50	55	60	65	70
<b>CVS400</b>								
Fixed	<b>400</b>	400	400	400	390	380	370	360
<b>CVS630</b>								
Fixed	<b>630</b>	630	615	600	585	570	550	535



### Power supply from the top or bottom

CVS circuit breakers can be supplied from either the top or the bottom, without any reduction in performance. This capability facilitates connection when installed in a switchboard. All connection and insulation accessories can be used on circuit breakers supplied either from the top or bottom.

### Weight

The table below presents the weights (in kg) of the circuit breakers.

Type of device	Circuit breakers	
	CVS with TM-D	CVS with ETS
CVS100	3P 3D	1.64
	4P 4D	2.01
CVS160	3P 3D	1.60
	4P 4D	2.08
CVS250	3P 3D	1.79
	4P 4D	2.39
CVS400	3P 3D	4.37
	4P 4D	5.83
CVS630	3P 3D	4.80
	4P 4D	6.40

**General rules**

When installing a circuit breaker, minimum distances (safety clearances) must be maintained between the device and panels, bars and other protection devices installed nearby. These distances, which depend on the ultimate breaking capacity, are defined by tests carried out in accordance with standard IEC 60947-2.

If installation conformity is not checked by type tests, it is also necessary to:

- use insulated bars for circuit-breaker connections
- segregate the busbars using insulating screens.

For CVS100 to 630 devices, terminal shields and interphase barriers are recommended and may be mandatory depending on the operating voltage of the device and type of installation (fixed, withdrawable, etc.).

**Power connections**

The table below indicates the rules to be respected for CVS100 to 630 devices to ensure insulation of live parts for fixed devices.

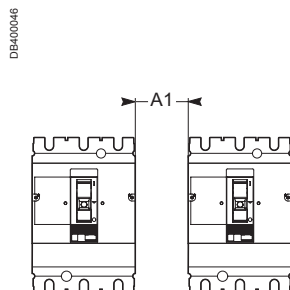
**CVS100 to 630: rules to be respected to ensure insulation of live parts**

Type of connection		Fixed, front connection			Fixed, rear connection
Possible, recommended or mandatory accessories:		No insulating accessory	Interphase barriers	Long terminal shields <sup>(1)</sup>	Short terminal shields
With:					
operating voltage	type of conductor				
≤ 440 V	Insulated bars 	Possible	Possible	Possible	Recommended
	Extension terminals Cables + crimp lugs 	No	Mandatory (supplied)	Possible (instead of ph. barriers)	Recommended
	Bare cables + connectors 	Possible for CVS100 to 250	Possible for CVS100 to 250	Possible for CVS100 to 250	Recommended
		No	Mandatory (supplied)	Possible (instead of ph. barriers)	

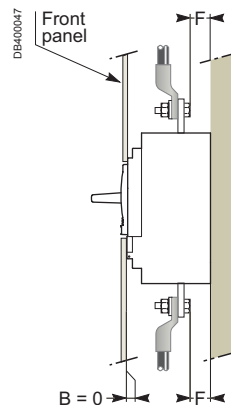
<sup>(1)</sup> Long terminal shields provide a degree of protection of IP40 (ingress) and IK07 (mechanical impact).

### Safety clearance

Minimum distance between two adjacent circuit breakers

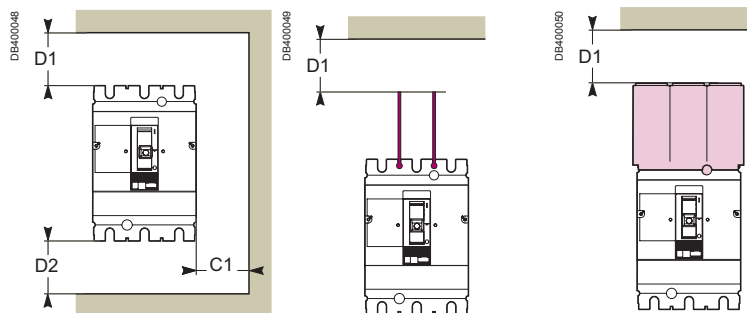


Minimum distance between circuit breaker and front or rear panels



Bare or painted sheet metal **Note:** if  $F < 8$  mm: an insulating screen or long terminal shield is mandatory.

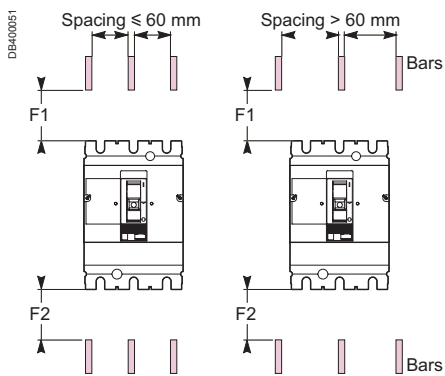
Minimum distance between circuit breaker and top, bottom or side panels



Devices without accessories.      Devices with interphase barriers or long terminal shields.

#### Minimum safety clearances for CVS100 to 630

Dimensions (mm) Compact circuit breaker	Insulation, insulated bars or painted sheet metal			Bare sheetmetal			
	C1	D1	D2	C1	D1	D2	A1
CVS100-250 $U \leq 440V$	0	30	30	5	35	35	0
CVS400-630 $U \leq 440V$	0	30	30	5	60	60	0



Live busbars.

### Clearances with respect to live bare busbars

Minimum clearances for CVS100 to 630

Operating voltage	Clearances with respect to live bare busbars			
	spacing ≤ 60 mm		spacing > 60 mm	
	F1	F2	F1	F2
U < 440 V	350	350	80	80
U = 440 V	350	350	120	120

*These clearances can be reduced for special installations as long as the configuration is checked by tests.*



EasyPact CVS thermal power loss values are used to calculate total temperature rise in the switchboard in which the circuit breakers are installed.

The values indicated in the tables below are typical values for a device at full rated load and 50/60 Hz.

### Power loss per pole (P/pole) in Watts (W)

The value indicated is the power loss at  $I_N$ , 50/60 Hz, for a three-pole or four-pole circuit breaker. Measurement and calculation of power loss are carried out in compliance with the recommendations of Annex G of standard IEC 60947-2.

### Resistance per pole (R/pole) in milliohms (mΩ)

The value of the resistance per pole is provided as a general indication for a new device.

The value of the contact resistance must be determined on the basis of the measured voltage drop, in accordance with the manufacturer's test procedure (ABT instruction document no. 1 - BEE - 02.2 -A).

**Note:** this measurement is not sufficient to determine the quality of the contacts, i.e. the capacity of the circuit breaker to carry its rated current.

### Additional power loss

Additional power loss is equal to the sum of the power dissipated by the following:

- ammeter module
- transformer module.

### Calculation of total power loss

Total power loss at full rated load and 50/60 Hz is equal to the sum of the device and additional power losses per pole multiplied by the number of poles (2, 3 or 4).

### EasyPact CVS100 to 630 equipped with TM-D trip units

Type of device 3/4 poles	Fixed device		
	Rat. (A)	R/pole	P/pole
CVS100	16	11.91	3.05
	25	6.91	4.32
	32	4.43	4.54
	40	4.125	6.60
	50	3.30	8.25
	63	1.92	7.62
	80	1.86	11.90
CVS160	100	1.37	13.70
	100	0.77	7.70
	125	0.69	10.78
CVS250	160	0.55	14.08
	160	0.46	11.78
	200	0.39	15.60
CVS400	250	0.3	18.75
	320	0.24	24.00
CVS630	400	0.19	30.00
	500	0.17	40.80
	600	0.15	53.80

### EasyPact CVS100 to 630 equipped with MA trip units

Type of device 3/4 poles	Fixed device		
	Rat. (A)	R/pole	P/pole
CVS100	2.5	148.91	0.93
	6.3	99.51	3.95
	12.5	4.54	0.71
	25	2.15	1.34
	50	1.16	2.90
	100	0.52	5.20
CVS160	150	0.38	8.55
CVS250	220	0.3	14.52
CVS400	320	0.15	15.40
CVS630	500	0.13	32.20



The values indicated in the table below are typical values for a device at full rated load and 50/60 Hz. The definitions and information are the same as that for circuit breakers equipped with thermal-magnetic trip units.

### CVS400 to 630 equipped with electronic trip units

Type of device 3/4 poles	Fixed device		
	Rat. (A)	R/pole	P/pole
CVS400	400	0.15	24.00
CVS630	630	0.12	47.63

# Dimensions and connection





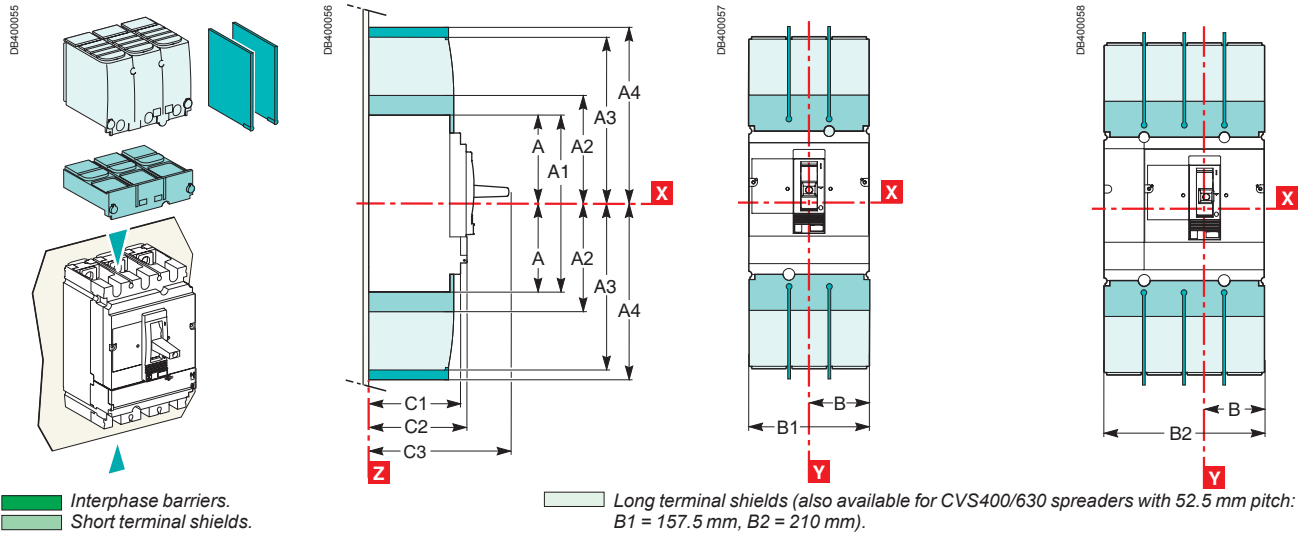
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<i>Functions and characteristics</i>	A-1
<i>Installation recommendations</i>	B-1
<b>Dimensions and mounting</b>	<b>C-2</b>
EasyPact CVS100 to 630	C-2
Direct rotary handle for EasyPact CVS100 to 630	C-3
Extended rotary handle for EasyPact CVS100 to 630	C-4
<b>Front-panel accessories</b>	<b>C-5</b>
EasyPact CVS100 to 630	C-5
<b>Front-panel cutouts</b>	<b>C-6</b>
EasyPact CVS100 to 630	C-6
Direct rotary handle for EasyPact CVS100 to 630	C-7
<b>Power connections</b>	<b>C-9</b>
EasyPact CVS100 to 630	C-10
Connection of insulated bars or cables with lugs to EasyPact CVS100 to 630	C-12
Connection of bare cables to EasyPact CVS100 to 630	C-13
<i>Additional characteristics</i>	D-1
<i>Catalogue numbers</i>	E-1

### Dimensions

3P

4P



### Mounting

CVS100 to 250

CVS400/630

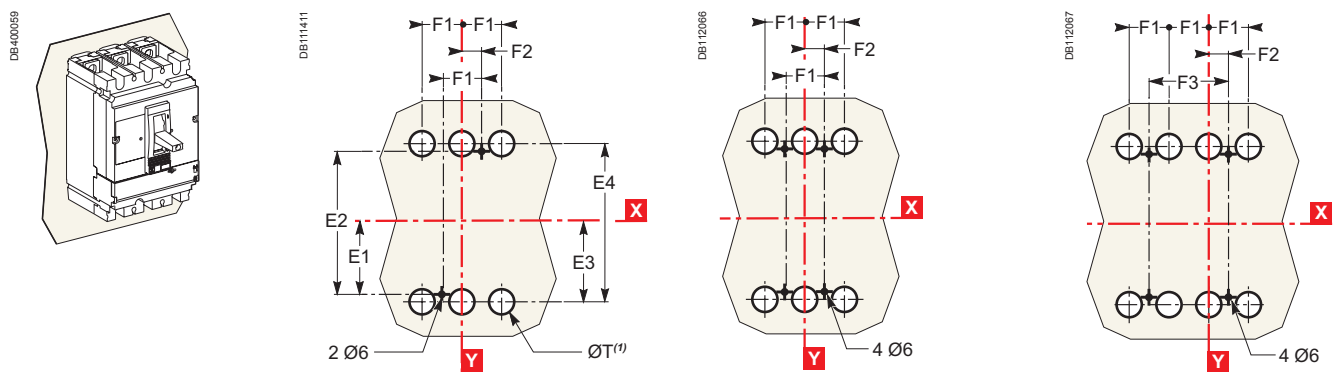
CVS100 to 630

On backplate

3P

3P

4P

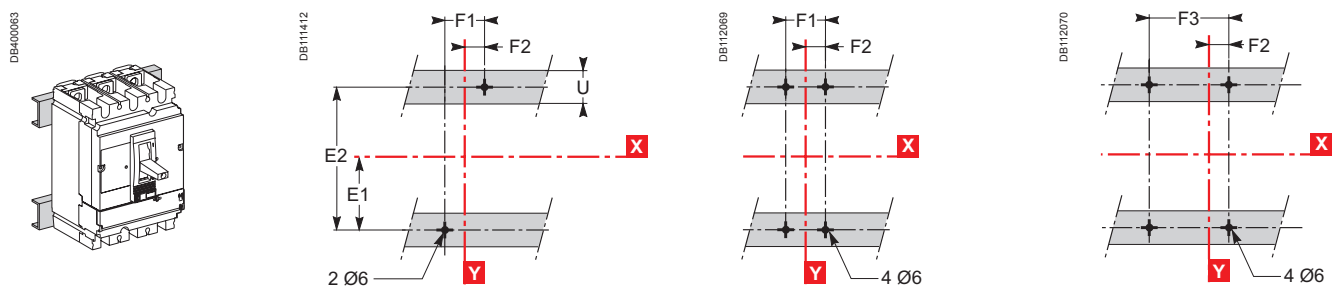


On rails

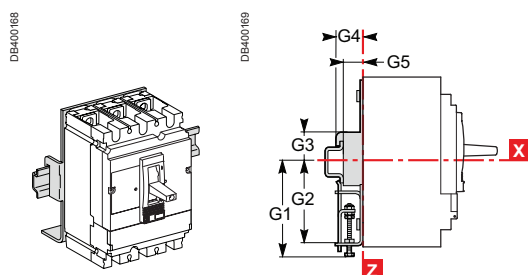
3P

3P

4P



On DIN rail with adaptor plate (CVS100 to 250)



# Dimensions and mounting

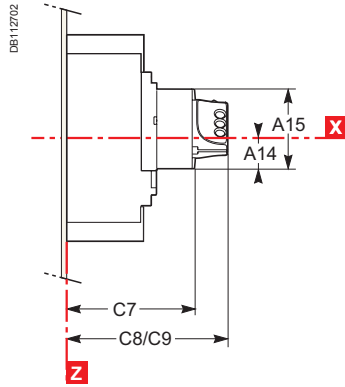
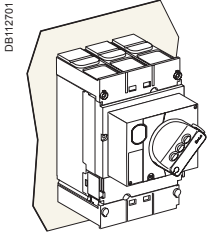
## Direct rotary handle for EasyPact CVS100 to 630

### Dimensions

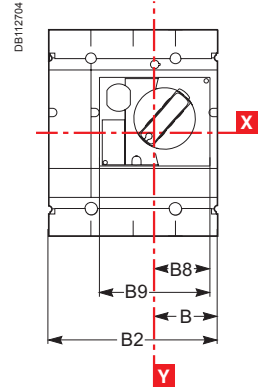
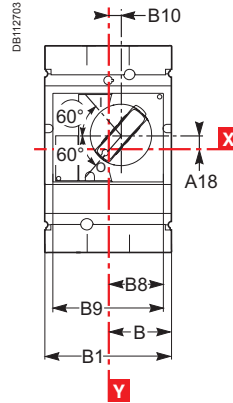
3P

4P

#### Fixed circuit breaker



C8: without keylock  
C9: with keylock



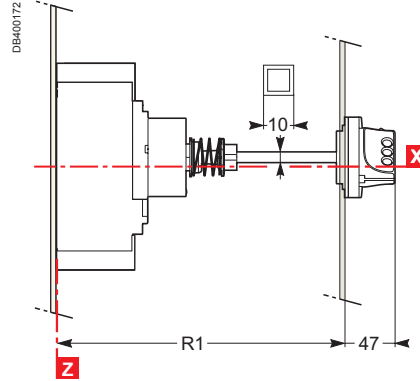
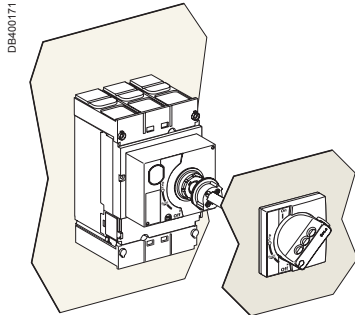
Type	A	A1	A2	A3	A4	A5	A6	A7	A8	A9	B	B1	B2	C1	C2	C3	E1
CVS100/160/250	80.5	161	94	145	178.5	155.5	236	169	220	253.5	52.5	105	140	81	86	111 <sup>(2)</sup>	62.5
CVS400/630	127.5	255	142.5	200	237	227.5	355	242.5	300	337	70	140	185	95.5	110	168	100
Type	E2	E3	E4	E5	E6	E7	E8	F1	F2	F3	G1	G2	G3	G4	G5	ØT	U
CVS100/160/250	125	70	140	137.5	200	145	215	35	17.5	70	95	75	13.5	23	17.5	24	≤ 32
CVS400/630	200	113.5	227	200	300	213.5	327	45	22.5	90	-	-	-	-	-	32	≤ 35

<sup>(2)</sup> C3=126mm for EasyPact CVS250B/F.

Type	A14	A15	A18	B8	B9	B10	C7	C8	C9
CVS100/160/250	27.5	73	9	45.5	91	9.25	121	155	164
CVS400/630	40	123	24.6	61.5	123	5	145	179	188

### Dimensions

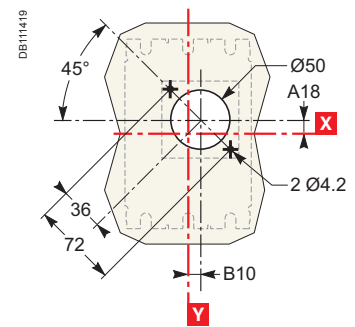
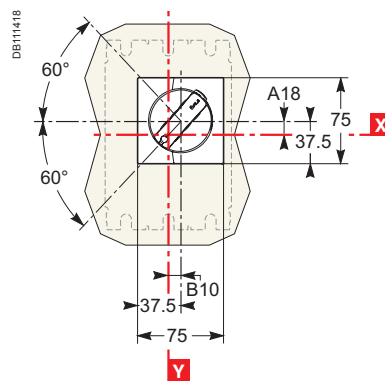
#### Fixed circuit breakers



Cutout for shaft (mm)

Type	R1
CVS100/160/250	min. 171 max. 600
CVS400/630	min. 195 max. 600

### Dimensions and front-panel cutout



Type	A18	B10
CVS100/160/250	9	9.25
CVS400/630	24.6	5

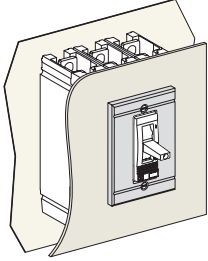
# Front-panel accessories

## EasyPact CVS100 to 630

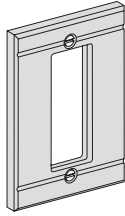
### IP40 front-panel escutcheons

For toggle

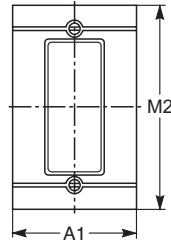
DB400041



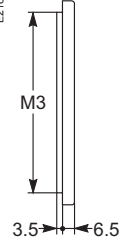
EZ1641



EZ1642

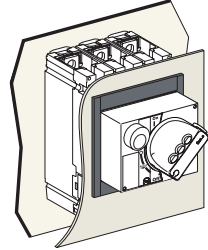


EZ1643

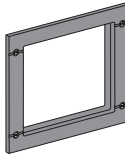


For rotary handle or module and protection collar

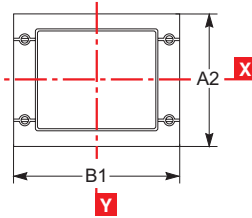
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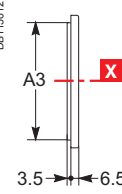
DB115010



DB115011



DB115012



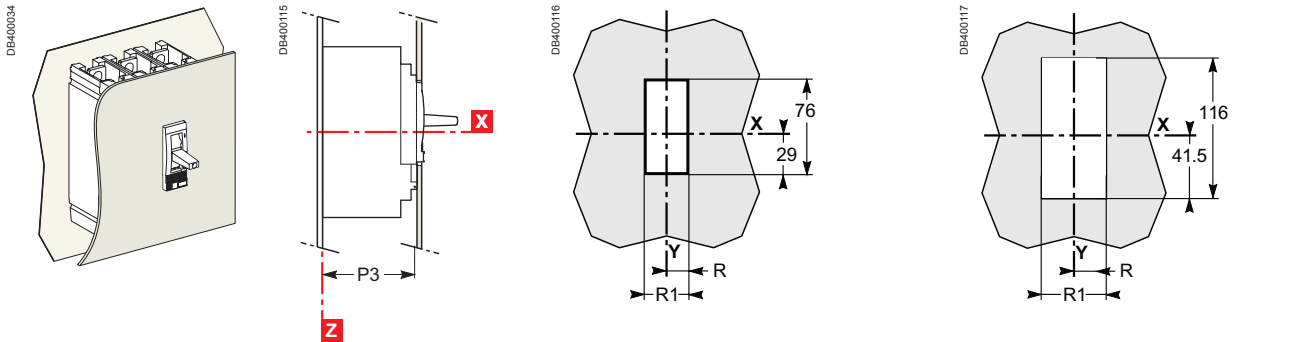
Type	A1	A2	A3	B1	M2	M3
CVS100/160/250	91	114	101	157	115	102
CVS400/630	123	164	151	189	155	142

## Bare sheet metal

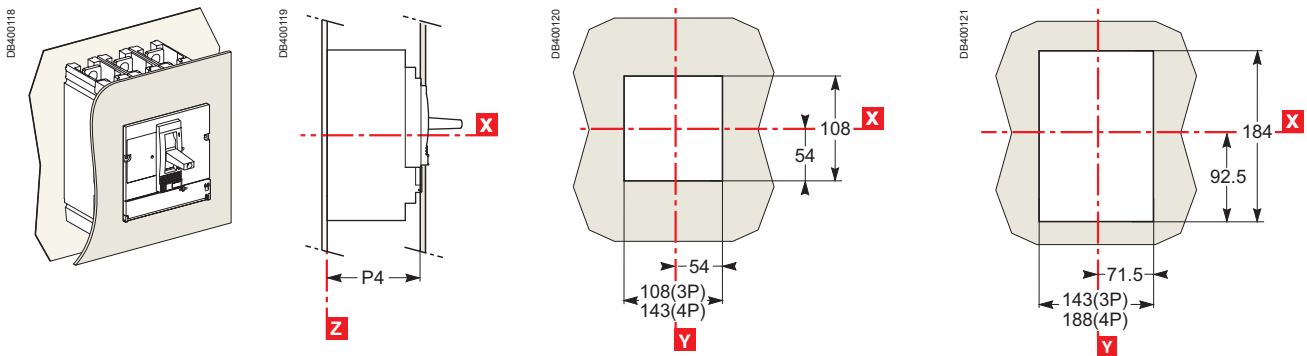
## CVS100 to 250

## CVS400/630

### For toggle



### For toggle with access to trip unit



Type	P3	P4	R	R1
CVS100/160/250	88	83	14.5	29
CVS400/630	112	107	31.5	63

# Front-panel cutouts

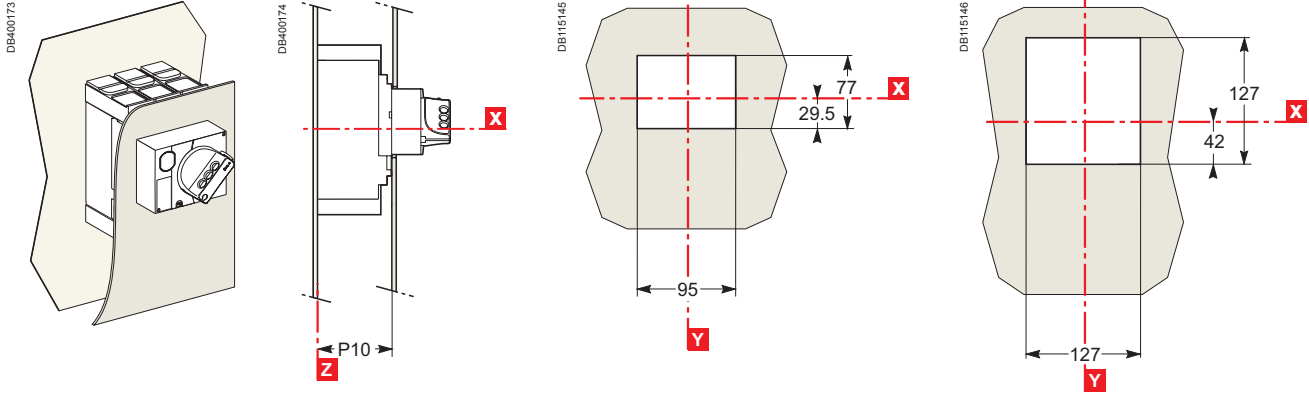
## Direct rotary handle for EasyPact CVS100 to 630

### Fixed circuit breakers

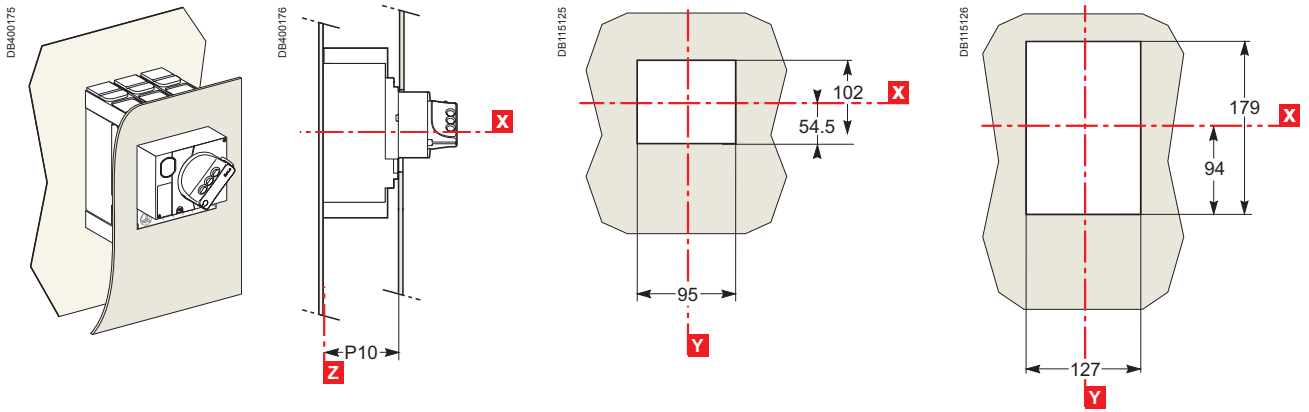
### CVS100 to 250

### CVS400/630

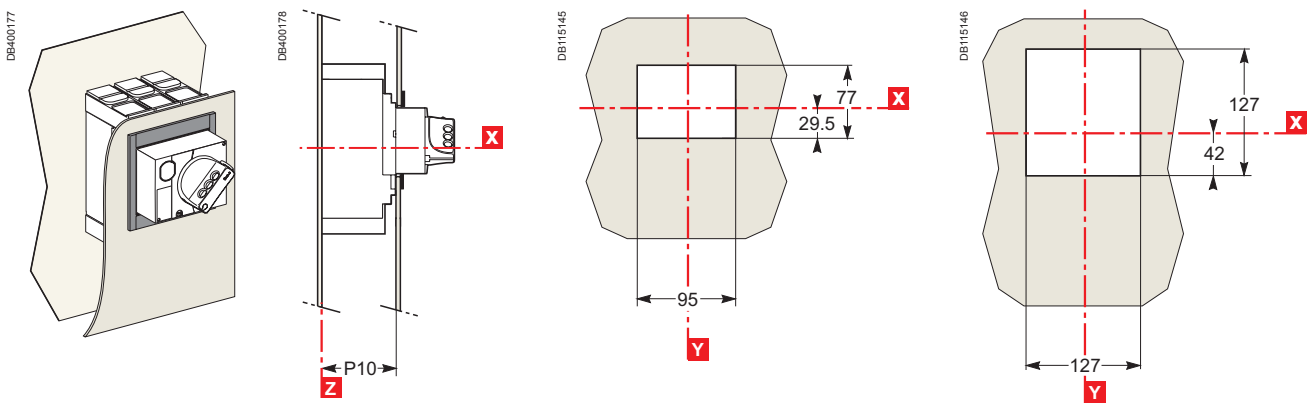
#### Bare sheet metal



#### Bare sheet metal with access to the trip unit



#### With IP30 front-panel escutcheon

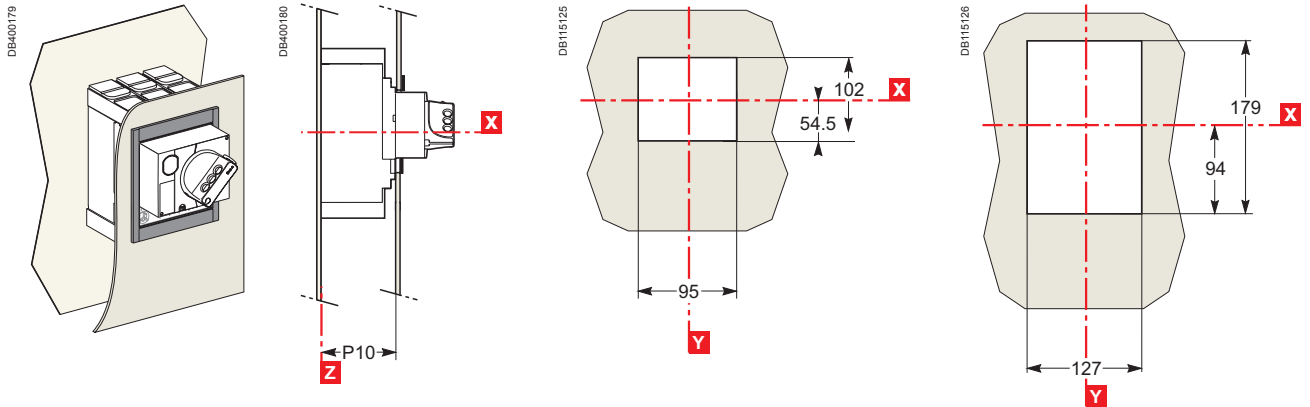


### Fixed circuit breakers (cont.)

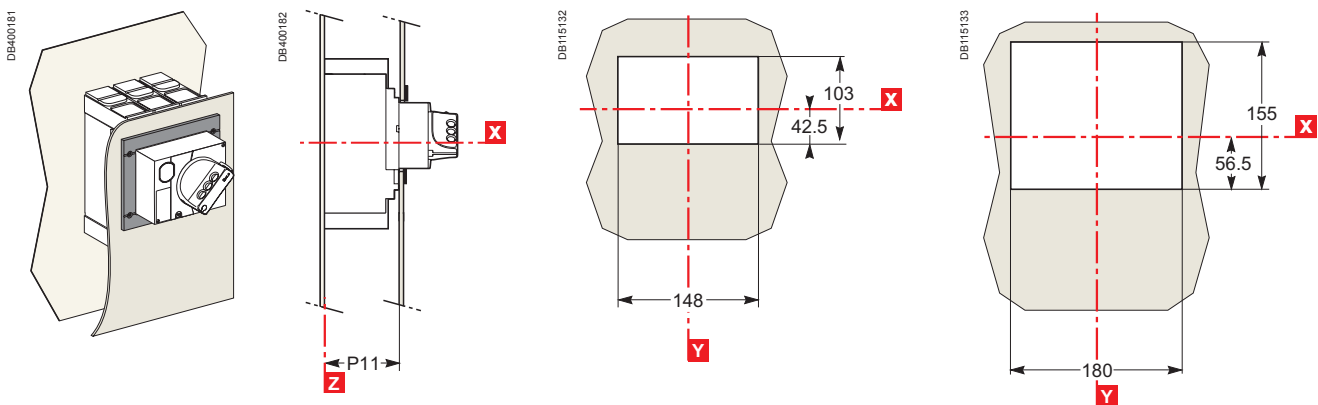
#### CVS100 to 250

#### CVS400/630

With IP30 front-panel escutcheon with access to the trip unit



With IP40 front-panel escutcheon



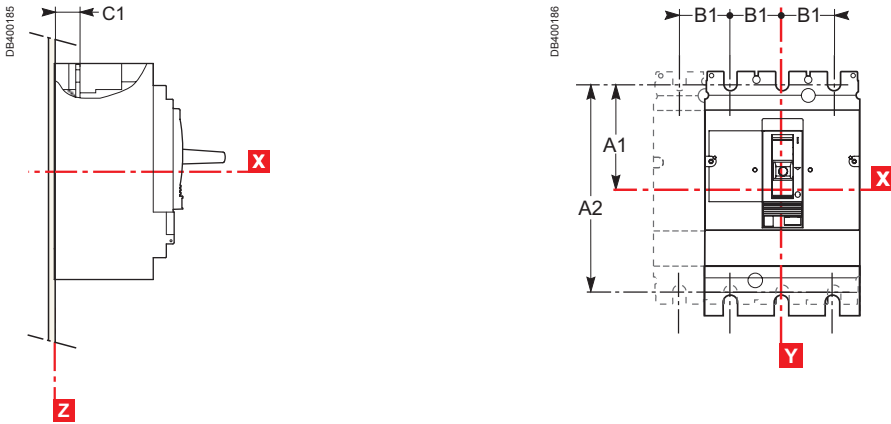
Type	P10	P11	P12
CVS100/160/250	89	90	123
CVS400/630	112	113	147



# Power connections

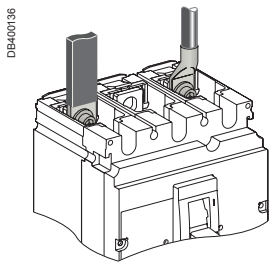
## EasyPact CVS100 to 630

### Connection locations

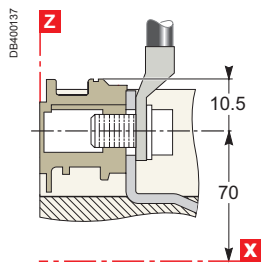


Type	A1	A2	B1	C1	C2
CVS100/160	70	140	35	19.5	19.5
CVS250	70	140	35	21.5	19.5
CVS400/630	113.5	227	45	26	26

### Front connection without accessories

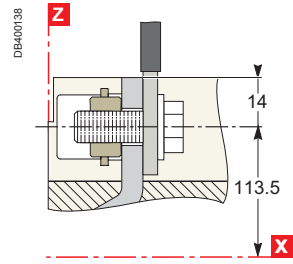


CVS100 to 250



Cables with lugs/bars

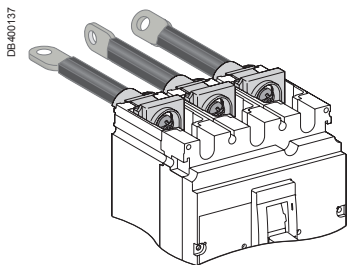
CVS400/630



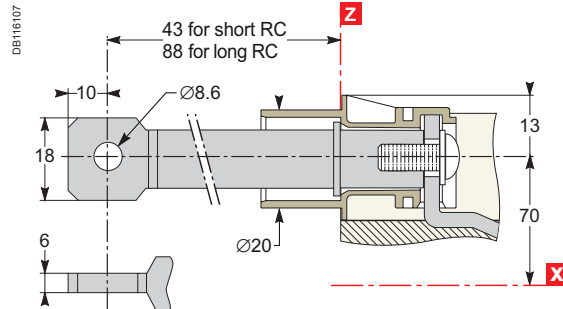
Bars/cables with lugs

### Connection with accessories

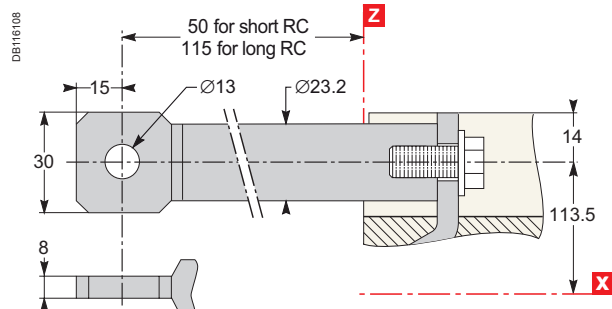
#### Long and short rear connectors



CVS100 to 250



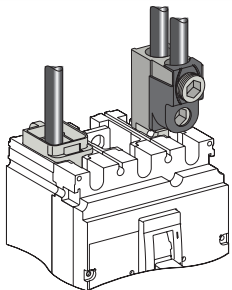
CVS400/630



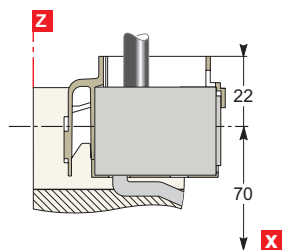
## Connection with accessories (cont.)

### Bare-cable connectors

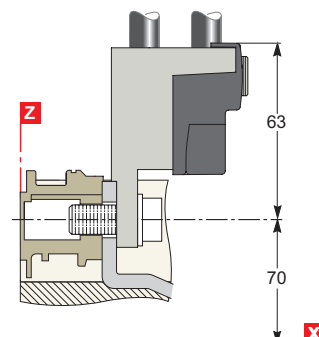
DB400138



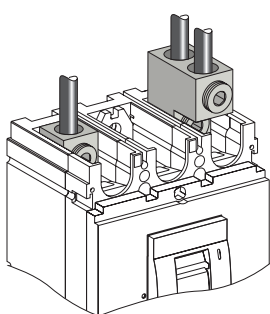
DB115451 CVS100 to 250



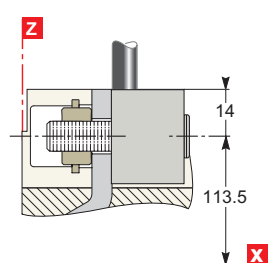
DB115462



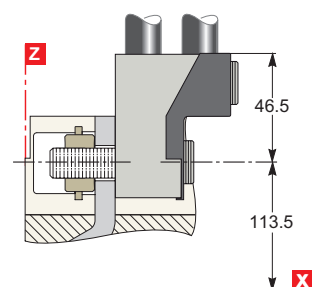
DB400139



DB115454 CVS400/630

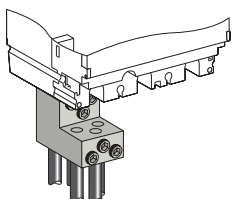


DB115455

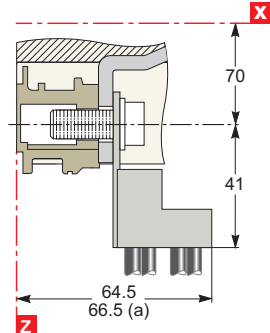


### Distribution connectors (for CVS100 to 250 only)

DB115456



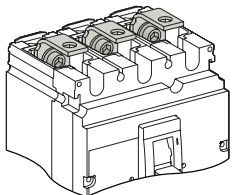
DB115457



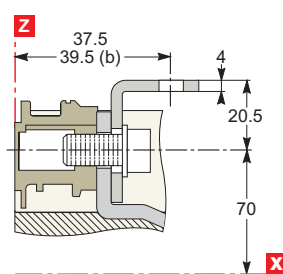
(a) CVS250.

### Right-angle terminal extensions (upstream only)

DB400140

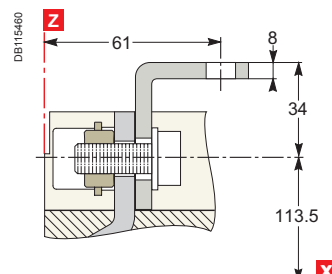


DB115459 CVS100 to 250



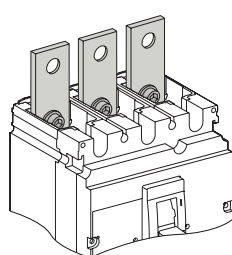
(b) CVS250.

DB115460 CVS400/630

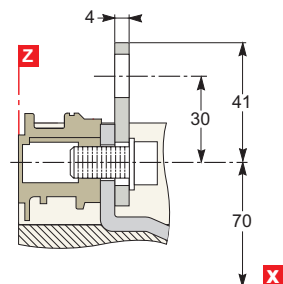


### Straight terminal extensions (for CVS100 to 250 only)

DB400141



DB115462



# Power connections

## EasyPact CVS100 to 630

### Connection with accessories (cont.)

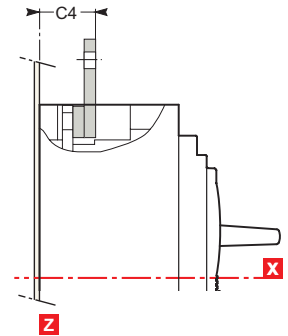
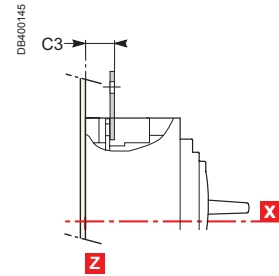
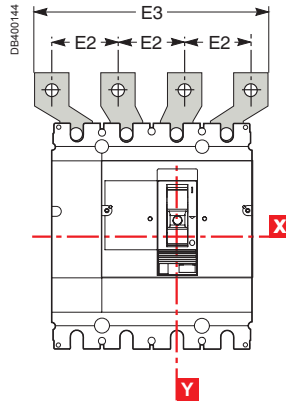
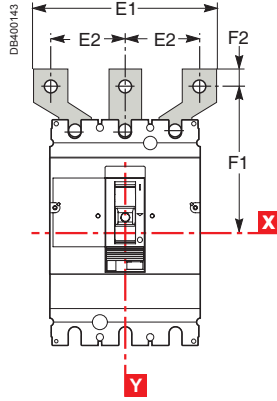
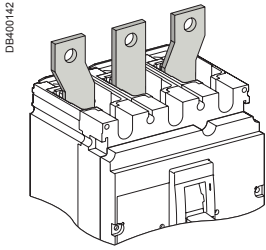
Spreaders

3P

4P

CVS100 to 250

CVS400/630

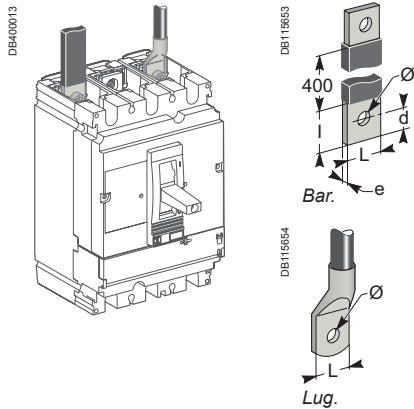


Type	C3	C4	E1	E2	E3	F1	F2
CVS100/160	23.5	-	114	45	159	100	11
CVS250	25.5	-	114	45	159	100	11
CVS400/630	-	44	135 170	52.5 70	187.5 240	152.5 166	15

# Dimensions and connection

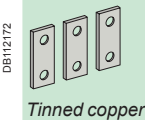
# Power connections

## Connection of insulated bars or cables with lugs to EasyPact CVS100 to 630

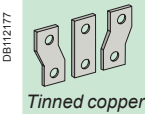


### Accessories for CVS100 to 250

#### Straight terminal extensions

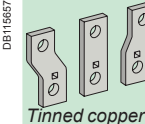


#### Spreaders: separate parts



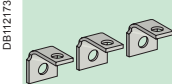
### Accessories for CVS400 and 630

#### Spreaders made up of separate parts for 52.5 and 70 mm pitch



### Accessories for CVS100 to 630

#### Right-angle terminal extensions



To be mounted on upstream side.

### Direct connection to CVS100 to 630

Dimensions		CVS100	CVS160/250	CVS400/630
<b>Bars</b>	L (mm)	≤ 25	≤ 25	≤ 32
	l (mm)	d + 10	d + 10	d + 15
	d (mm)	≤ 10	≤ 10	≤ 15
	e (mm)	≤ 6	≤ 6	3 ≤ e ≤ 10
	Ø (mm)	6.5	8.5	10.5
<b>Lugs</b>	L (mm)	≤ 25	≤ 25	≤ 32
	Ø (mm)	6.5	8.5	10.5
<b>Torque (Nm) <sup>(1)</sup></b>		10	15	50
<b>Torque (Nm) <sup>(2)</sup></b>		5/5	5/5	20/11

(1) Tightening torque on the circuit breaker for lugs or bars.

(2) Tightening torque on fixed devices for rear connectors.

### Connection with accessories to CVS100 to 250 (IEC 228)

Pole pitch	
Without spreaders	35 mm
With spreaders	45 mm

Dimensions		With spreaders or terminal extensions	
		CVS100	CVS160/250
<b>Bars</b>	L (mm)	≤ 25	≤ 25
	l (mm)	20 ≤ l ≤ 25	20 ≤ l ≤ 25
	d (mm)	≤ 10	≤ 10
	e (mm)	≤ 6	≤ 6
	Ø (mm)	6.5	8.5
<b>Lugs</b>	L (mm)	≤ 25	≤ 25
	Ø (mm)	6.5	8.5
<b>Torque (Nm) <sup>(1)</sup></b>		10	15

(1) Tightening torque on the circuit breaker for spreaders or terminal extensions.

Spreaders and straight, right-angle, 45°, double-L and edgewise terminal extensions are supplied with flexible interphase barriers.

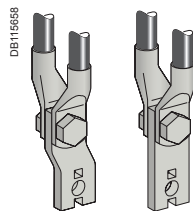
### Connection with accessories to CVS400 and 630 (IEC 228)

Pole pitch	
Without spreaders	45 mm
With spreaders	52.5 or 70 mm

Dimensions		With spreaders	With terminal extensions
<b>Bars</b>	L (mm)	≤ 40	≤ 32
	l (mm)	d + 15	30 ≤ l ≤ 34
	d (mm)	≤ 20	≤ 15
	e (mm)	3 ≤ e ≤ 10	3 ≤ e ≤ 10
	Ø (mm)	12.5	10.5
<b>Lugs</b>	L (mm)	≤ 40	≤ 32
	Ø (mm)	12.5	10.5
<b>Torque (Nm) <sup>(1)</sup></b>		50	50

(1) Tightening torque on the circuit breaker for spreaders or terminal extensions.

Spreaders and right-angle, 45° and edgewise terminal extensions are supplied with flexible interphase barriers.

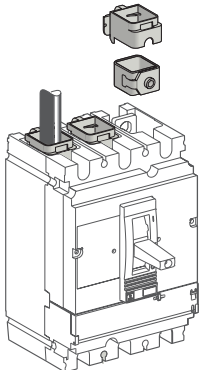


Mounting detail: 2 cables with lugs.

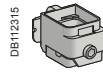
# Power connections

## Connection of bare cables to EasyPact CVS100 to 630

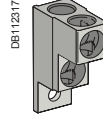
DE400149



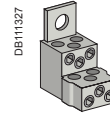
### Connection for CVS100 to 250



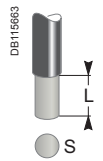
1-cable connector



2-cable connector



DB115663



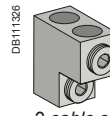
	1-cable connector	Steel ≤ 160 A	Aluminium ≤ 250 A	
L (mm)	25			
S (mm <sup>2</sup> ) Cu/Al	1.5 to 95 <sup>(1)</sup>	25 to 50	70 to 95	120 to 185 150 max. flex.
Torque (Nm)	12	20	26	26
<b>2-cable connector</b>				
L (mm)	25 or 50			
S (mm <sup>2</sup> ) Cu/Al	2 x 50 to 2 x 120			
Torque (Nm)	22			
<b>6-cable distribution connector (copper or aluminium)</b>				
L (mm)	15 or 30			
S (mm <sup>2</sup> ) Cu / Al	1.5 to 6 <sup>(1)</sup>	8 to 35		
Torque (Nm)	4	6		

<sup>(1)</sup> For flexible cables from 1.5 to 4 mm<sup>2</sup>, connection with crimped or self-crimping ferrules.

### Connection to CVS400 and 630

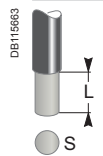


1-cable connector



2-cable connector

DB115663



	1-cable connector	2-cable connector
L (mm)	30	30 or 60
S (mm <sup>2</sup> ) Cu/Al	35 to 300 rigid 240 max. flex.	2 x 35 to 2 x 240 rigid 240 max. flex.
Torque (Nm)	31	31

### Conductor materials and electrodynamic stresses

EasyPact CVS circuit breakers can be connected indifferently with bare-copper, tinned-copper and tinned-aluminium conductors (flexible or rigid bars, cables). In the event of a short-circuit, thermal and electrodynamic stresses will be exerted on the conductors. They must therefore be correctly sized and held in place by supports. Electrical connection points on switchgear devices (switch-disconnectors, contactors, circuit breakers, etc.) should not be used for mechanical support. Any partition between upstream and downstream connections of the device must be made of non-magnetic material.

# Additional characteristics



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<i>Functions and characteristics</i>	A-1
<i>Installation recommendations</i>	B-1
<i>Dimensions and connection</i>	C-1

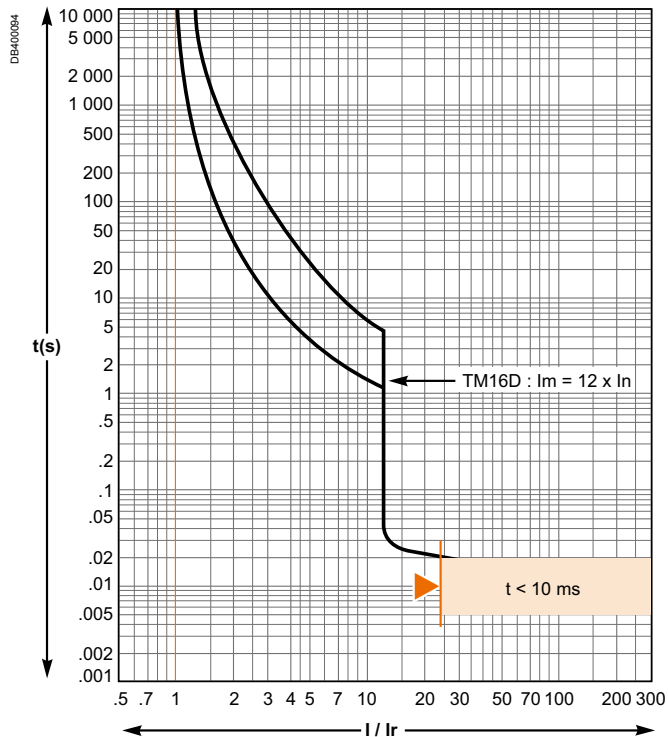
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<b>Tripping curves</b>	<b>D-2</b>
EasyPact CVS100 to 630 Protection of distribution systems	D-2
EasyPact CVS100 to 250 Motor protection	D-6
Current and energy limiting curves	D-7

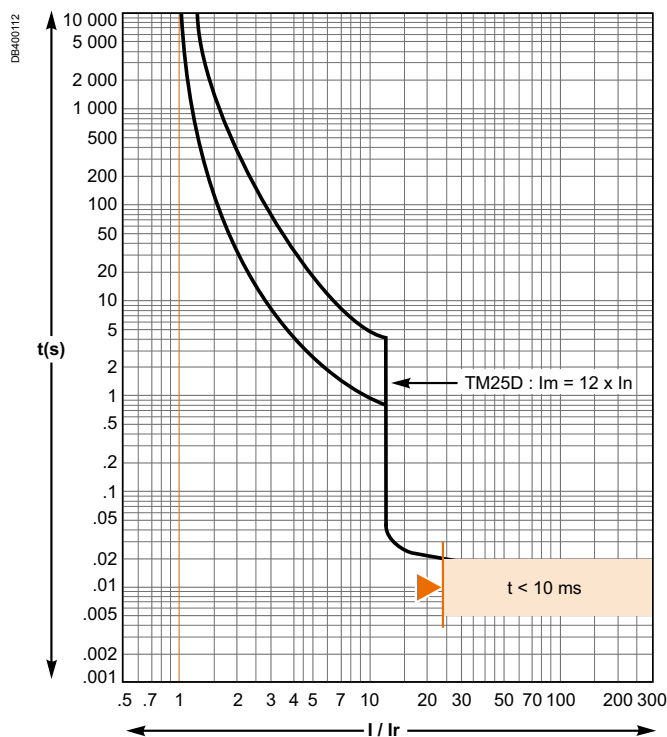
<i>Catalogue numbers</i>	E-1
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TM magnetic trip units

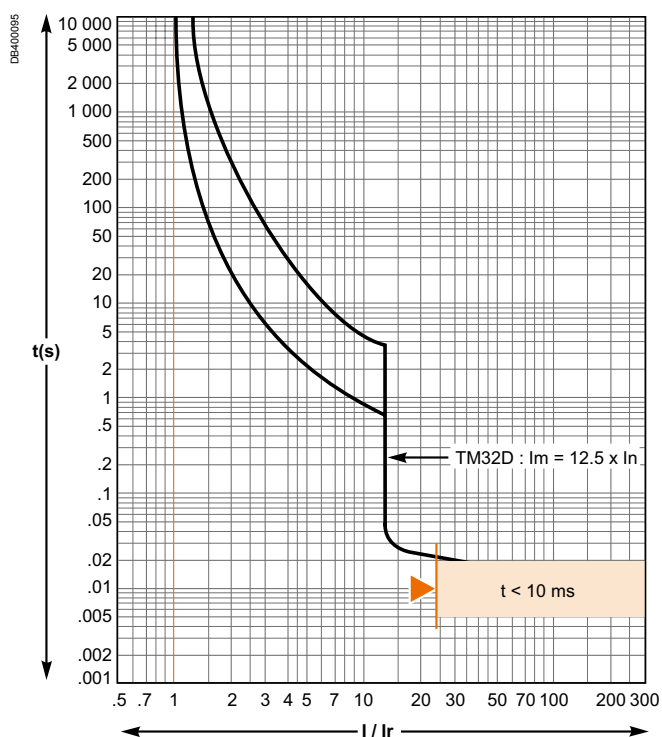
TM16D



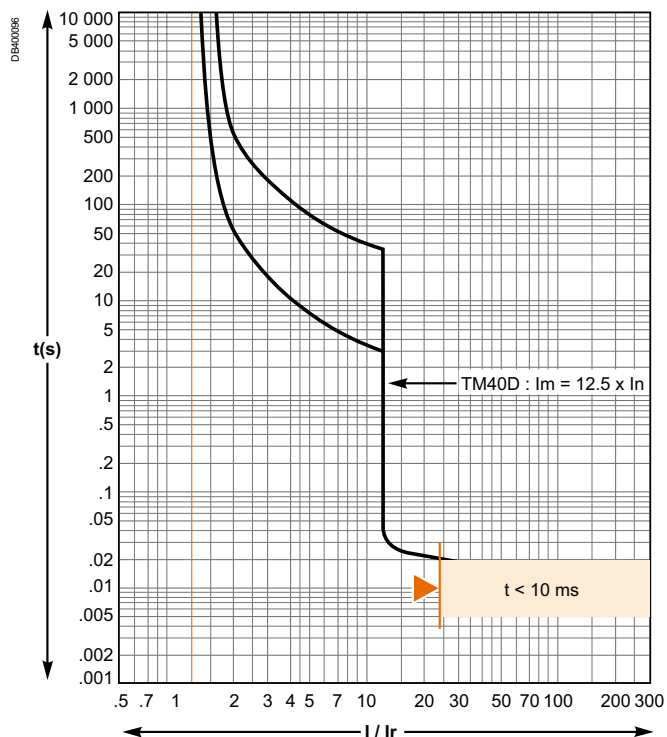
TM25D



TM32D



TM40D



Reflex tripping.



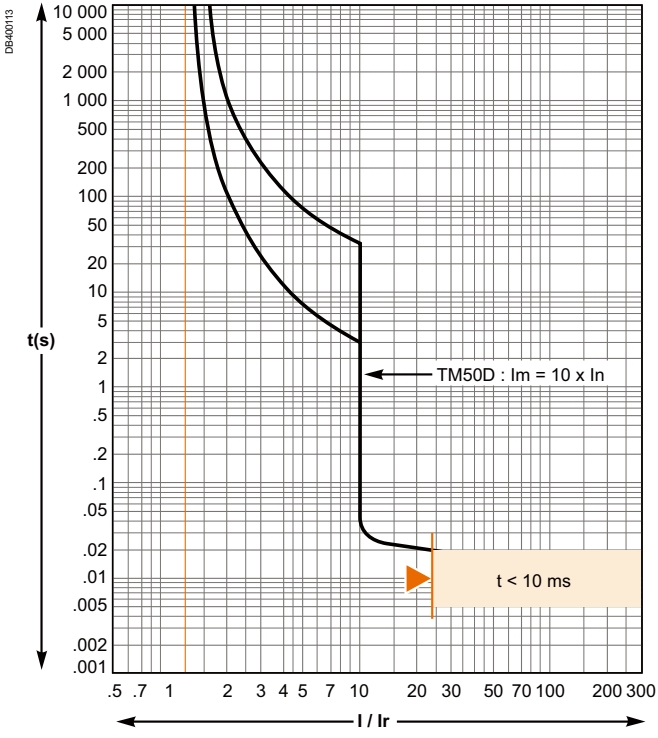
# Tripping curves

## EasyPact CVS100 to 630

### Protection of distribution systems

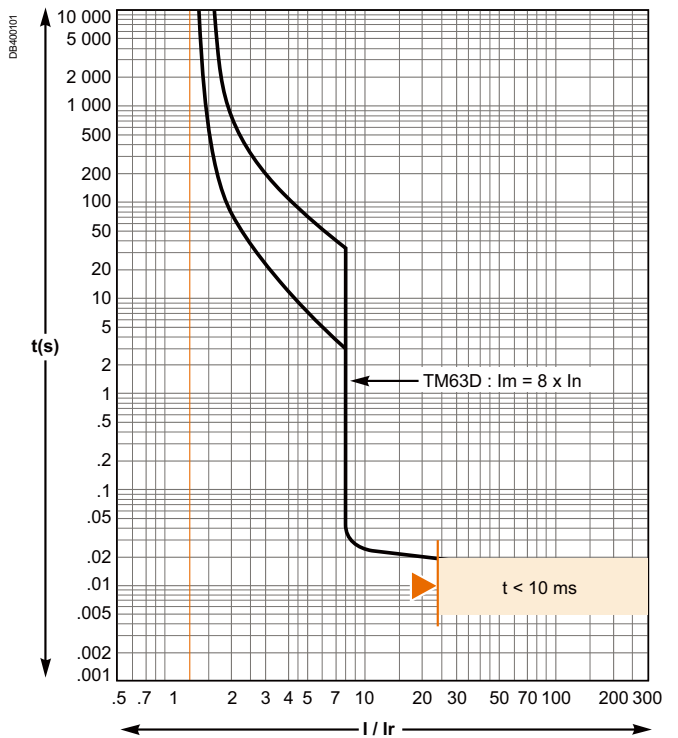
#### TM magnetic trip units (cont.)

**TM50D**



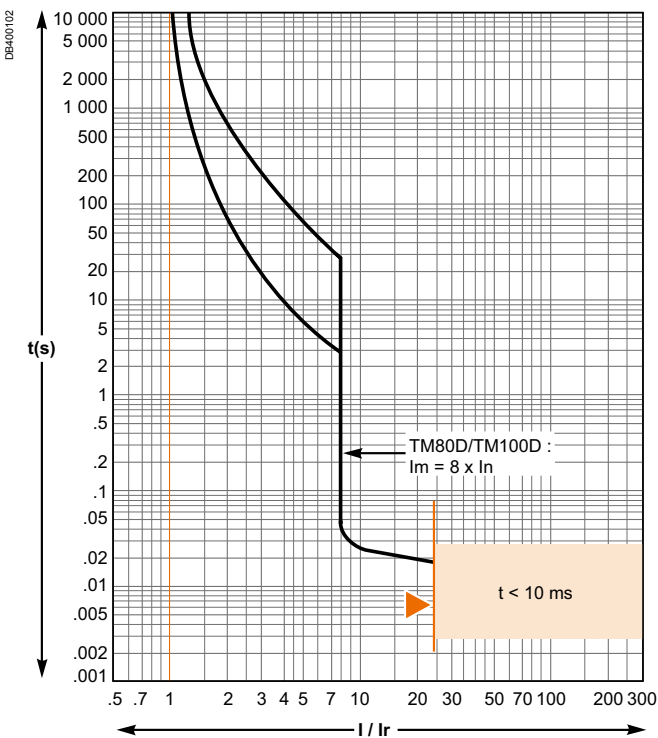
Reflex tripping.

**TM63D**

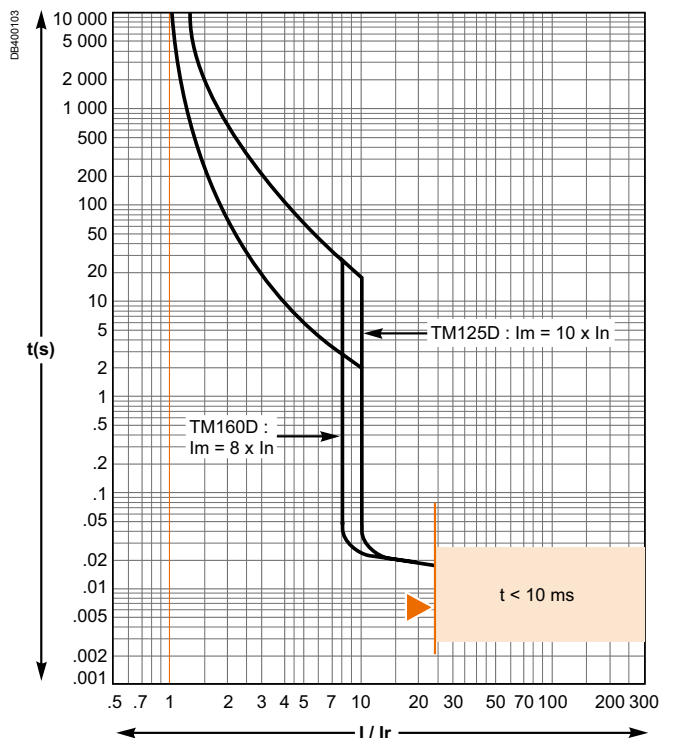


Reflex tripping.

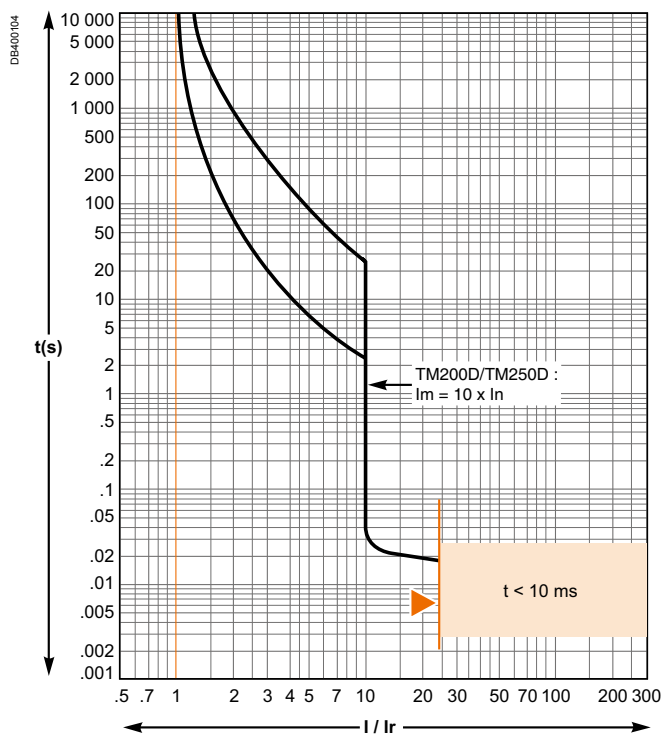
**TM80D/100D**



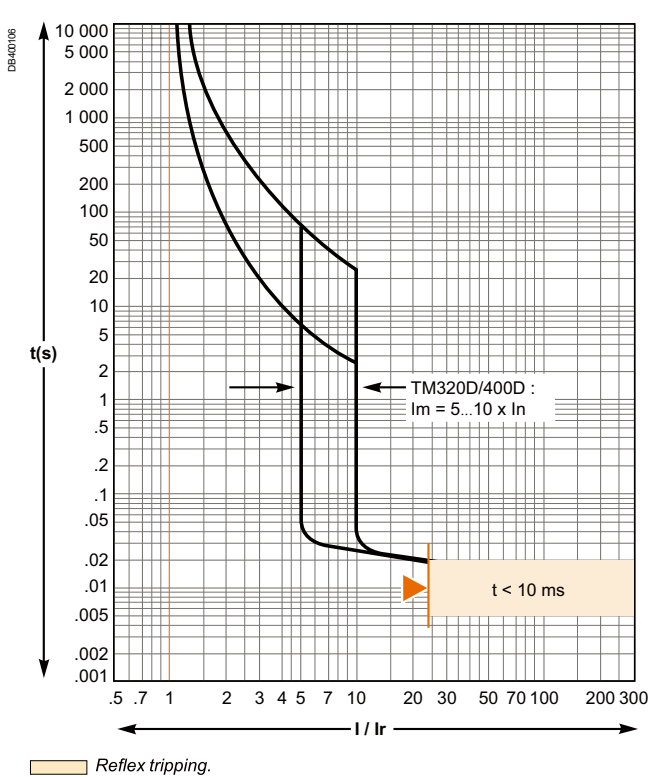
**TM125D/160D**



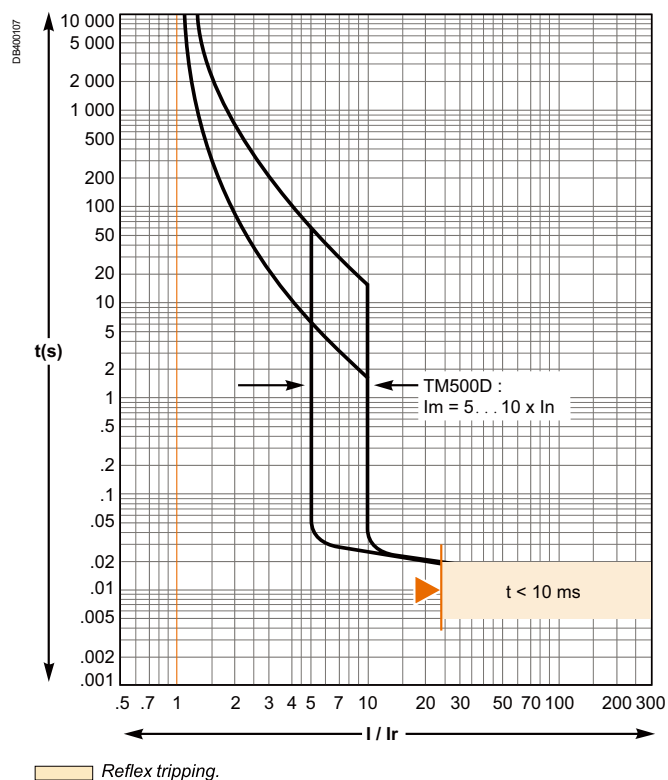
TM200D/250D



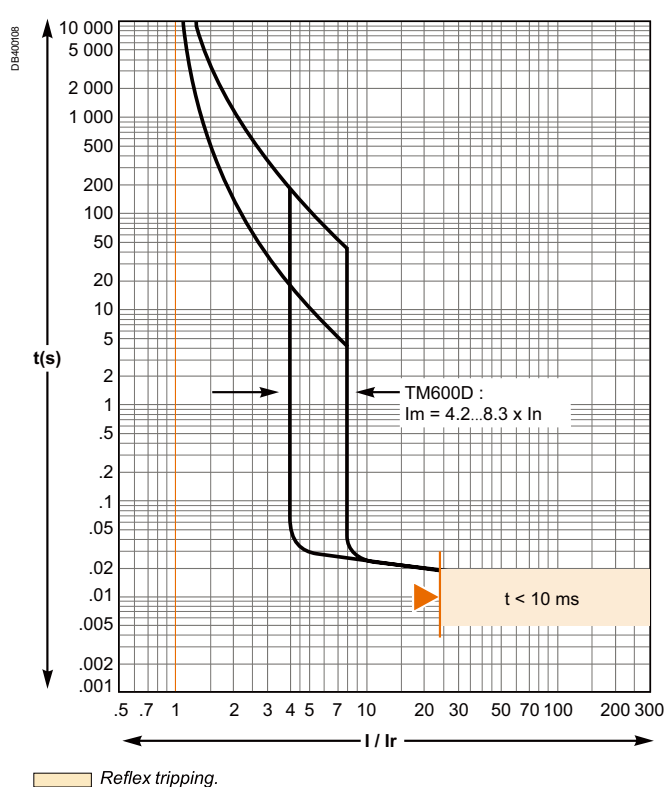
TM320D/400D



TM500D



TM600D

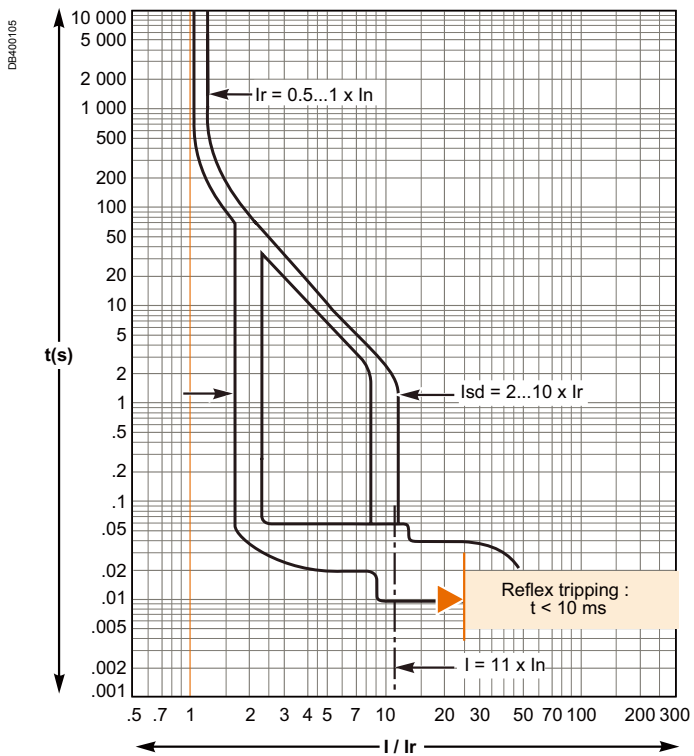


# Tripping curves

## EasyPact CVS400 to 630

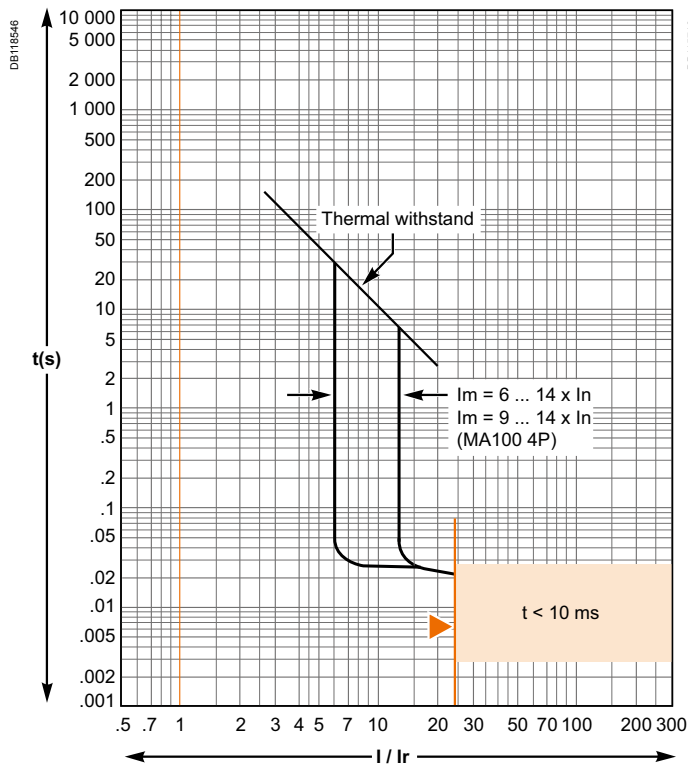
### Protection of distribution systems

#### ETS 2.3 electronic trip units



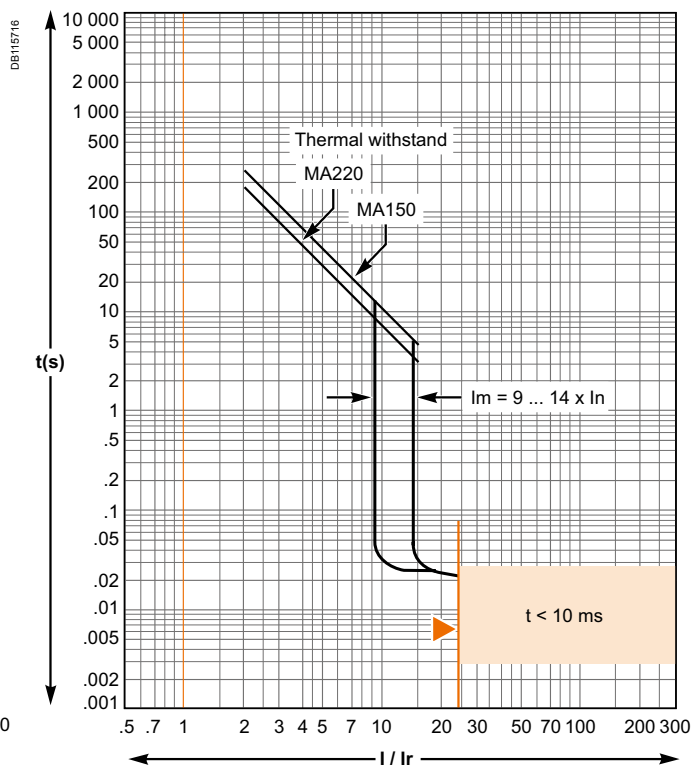
## MA magnetic trip units

MA2.5... MA100



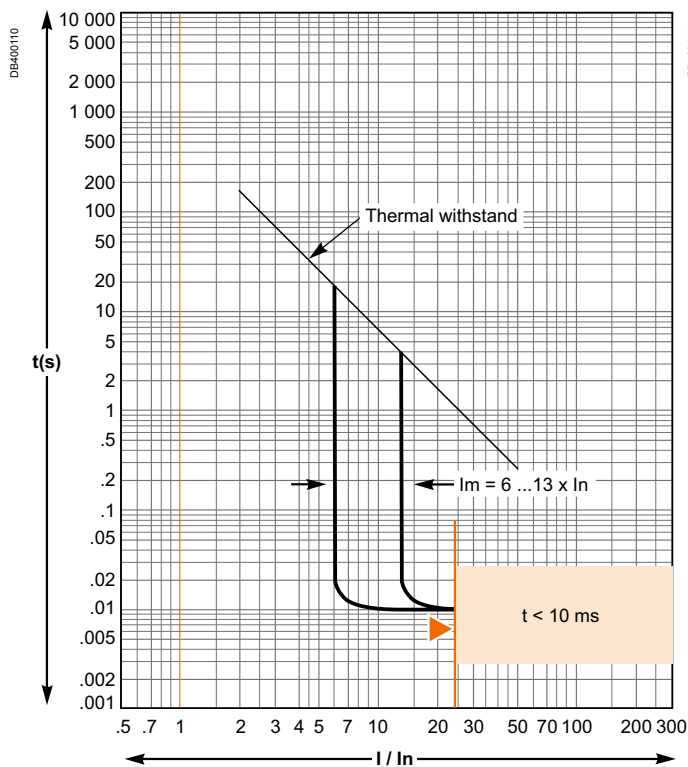
Reflex tripping.

MA150 and MA220



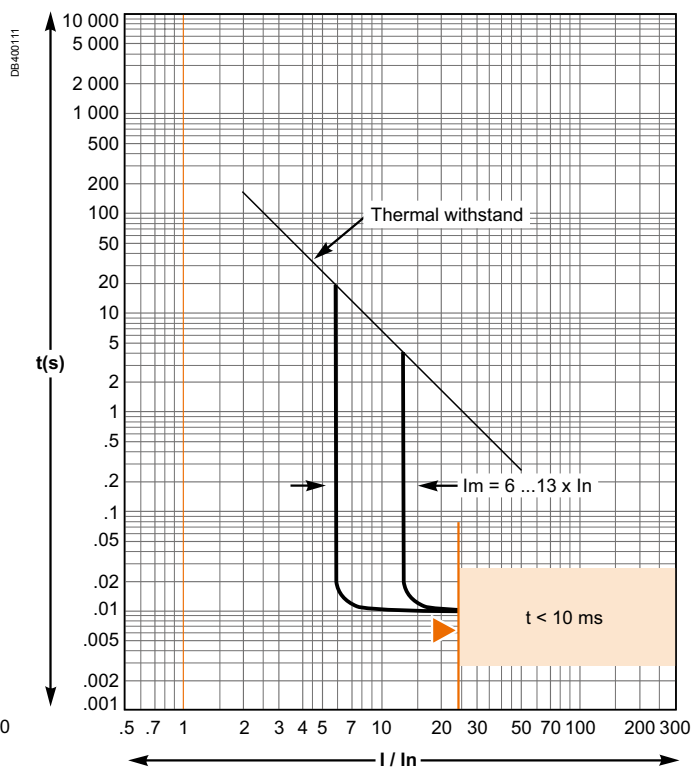
Reflex tripping.

MA320



Reflex tripping.

MA500

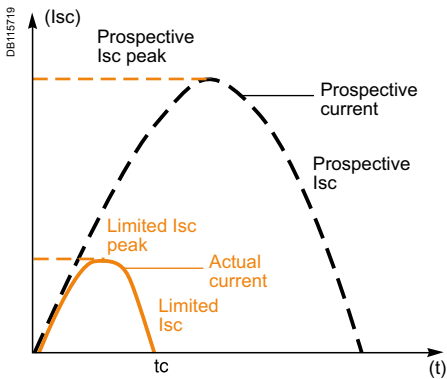


Reflex tripping.

# Tripping curves

## Current and energy limiting curves

The limiting capacity of a circuit breaker is its aptitude to let through a current, during a short-circuit, that is less than the prospective short-circuit current.



The exceptional limiting capacity of the EasyPact CVS range is due to the rotating double-break technique (very rapid natural repulsion of contacts and the appearance of two arc voltages in-series with a very steep wave front).

### Ics = 100 % Icu

The exceptional limiting capacity of the EasyPact CVS range greatly reduces the forces created by fault currents in devices.

The result is a major increase in breaking performance.

In particular, the service breaking capacity  $I_{cs}$  is equal to 100 % of  $I_{cu}$ .

The  $I_{cs}$  value, defined by IEC standard 60947-2, is guaranteed by tests comprising the following steps:

- break three times consecutively a fault current equal to 100% of  $I_{cu}$
- check that the device continues to function normally, that is:
  - it conducts the rated current without abnormal temperature rise
  - protection functions perform within the limits specified by the standard
  - suitability for isolation is not impaired.

### Longer service life of electrical installations

Current-limiting circuit breakers greatly reduce the negative effects of short-circuits on installations.

#### Thermal effects

Less temperature rise in conductors, therefore longer service life for cables.

#### Mechanical effects

Reduced electrodynamic forces, therefore less risk of electrical contacts or busbars being deformed or broken.

#### Electromagnetic effects

Fewer disturbances for measuring devices located near electrical circuits.

### Current and energy limiting curves

The limiting capacity of a circuit breaker is expressed by two curves which are a function of the prospective short-circuit current (the current which would flow if no protection devices were installed):

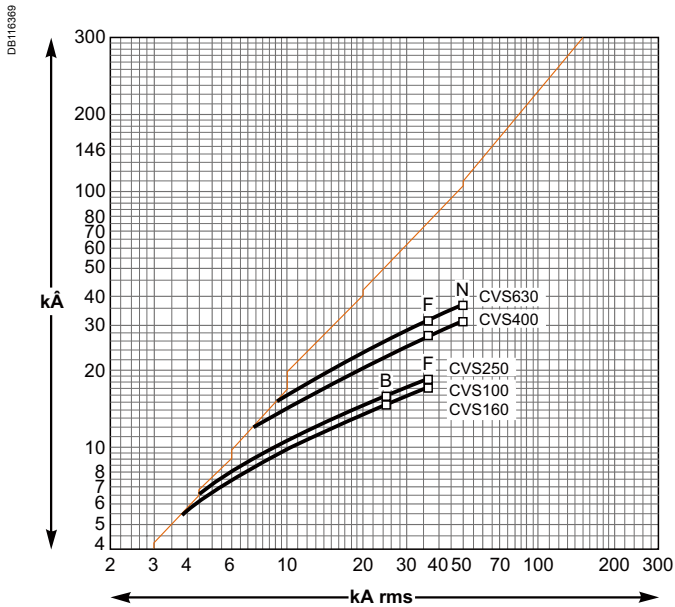
- the actual peak current (limited current)
- thermal stress ( $A^2s$ ), i.e. the energy dissipated by the short-circuit in a conductor with a resistance of  $1 \Omega$ .

### Maximum permissible cable stresses

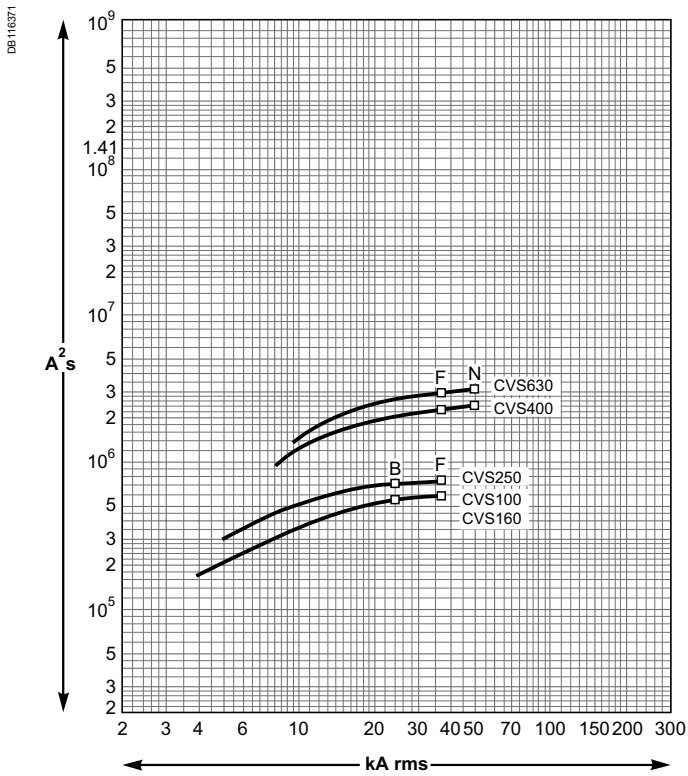
The table below indicates the maximum permissible thermal stresses for cables depending on their insulation, conductor (Cu or Al) and their cross-sectional area (CSA). CSA values are given in  $mm^2$  and thermal stresses in  $A^2s$ .

CSA		1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>
PVC	Cu	2.97x10 <sup>4</sup>	8.26x10 <sup>4</sup>	2.12x10 <sup>5</sup>	4.76x10 <sup>5</sup>	1.32x10 <sup>6</sup>
	Al					5.41x10 <sup>5</sup>
PRC	Cu	4.10x10 <sup>4</sup>	1.39x10 <sup>5</sup>	2.92x10 <sup>5</sup>	6.56x10 <sup>5</sup>	1.82x10 <sup>6</sup>
	Al					7.52x10 <sup>5</sup>
CSA		16 mm <sup>2</sup>	25 mm <sup>2</sup>	35 mm <sup>2</sup>	50 mm <sup>2</sup>	
PVC	Cu	3.4x10 <sup>6</sup>	8.26x10 <sup>6</sup>	1.62x10 <sup>7</sup>	3.31x10 <sup>7</sup>	
	Al	1.39x10 <sup>6</sup>	3.38x10 <sup>6</sup>	6.64x10 <sup>6</sup>	1.35x10 <sup>7</sup>	
PRC	Cu	4.69x10 <sup>6</sup>	1.39x10 <sup>7</sup>	2.23x10 <sup>7</sup>	4.56x10 <sup>7</sup>	
	Al	1.93x10 <sup>6</sup>	4.70x10 <sup>6</sup>	9.23x10 <sup>6</sup>	1.88x10 <sup>7</sup>	

Current-limiting curves



Energy-limiting curves





# Catalogue numbers





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<i>Functions and characteristics</i>	A-1
<i>Installation recommendations</i>	B-1
<i>Dimensions and connection</i>	C-1
<i>Additional characteristics</i>	D-1

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<b>EasyPact CVS100 to 250</b>	<b>E-3</b>
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<b>EasyPact CVS400 to 630</b>	<b>E-13</b>
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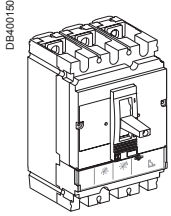
<b>CVS100/160/250B: complete fixed/FC device</b>	<b>E-4</b>
EasyPact CVS100/160/250B (25 kA 380/415 V)	E-4
EasyPact CVS100/160/250F (36 kA 380/415 V)	E-5
<b>CVS100/160/250NA: complete fixed/FC device</b>	<b>E-6</b>
EasyPact CVS100/160/250NA	E-6
<b>Accessories</b>	<b>E-7</b>
EasyPact CVS100/160/250	E-7

# CVS100/160/250B: complete fixed/FC device

EasyPact CVS100/160/250B  
(25 kA 380/415 V)

## EasyPact CVS100/160/250B

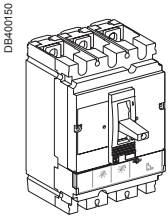
### With TM-D thermal-magnetic trip unit



EasyPact CVS100B (25 kA at 380/415 V)		
Rating	3P 3d	4P 4d
TM16D	LV510770	LV510792
TM25D	LV510771	LV510793
TM32D	LV510772	LV510794
TM40D	LV510773	LV510795
TM50D	LV510774	LV510796
TM63D	LV510775	LV510797
TM80D	LV510778	LV510798
TM100D	LV510779	LV510799
EasyPact CVS160B (25 kA at 380/415 V)		
Rating	3P 3d	4P 4d
TM100D	LV516621	LV516631
TM125D	LV516622	LV516632
TM160D	LV516623	LV516633
EasyPact CVS250B (25 kA at 380/415 V)		
Rating	3P 3d	4P 4d
TM160D	LV525606	LV525616
TM200D	LV525607	LV525617
TM250D	LV525608	LV525618

## EasyPact CVS100/160/250B

### With Magnetic trip unit MA



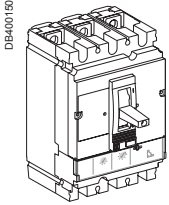
EasyPact CVS100B (25 kA at 380/415 V)		
Rating	3P 3d	
MA2,5	LV510430	
MA6,3	LV510431	
MA12,5	LV510432	
MA25	LV510433	
MA50	LV510434	
MA100	LV510435	
EasyPact CVS160B (25 kA at 380/415 V)		
Rating	3P 3d	
MA100	LV516430	
MA150	LV516431	
EasyPact CVS250B (25 kA at 380/415 V)		
Rating	3P 3d	
MA150	LV525435	
MA220	LV525436	

# CVS100/160/250F: complete fixed/FC device

## EasyPact CVS100/160/250F (36 kA 380/415 V)

### EasyPact CVS100/160/250F

#### With TM-D thermal-magnetic trip unit



DB400150

#### EasyPact CVS100F (36 kA at 380/415 V)

Rating	3P 3d	4P 4d
TM16D	LV510802	LV510822
TM25D	LV510803	LV510823
TM32D	LV510804	LV510824
TM40D	LV510805	LV510825
TM50D	LV510806	LV510826
TM63D	LV510807	LV510827
TM80D	LV510808	LV510828
TM100D	LV510809	LV510829

#### EasyPact CVS160F (36 kA at 380/415 V)

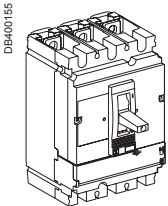
Rating	3P 3d	4P 4d
TM100D	LV516636	LV516646
TM125D	LV516637	LV516647
TM160D	LV516638	LV516648

#### EasyPact CVS250F (36 kA at 380/415 V)

Rating	3P 3d	4P 4d
TM160D	LV525621	LV525631
TM200D	LV525622	LV525632
TM250D	LV525623	LV525633

### EasyPact CVS100/160/250F

#### With MA magnetic trip unit



DB400155

#### EasyPact CVS100F (36 kA at 380/415 V)

Rating	3P 3d
MA2.5	LV510440
MA6.3	LV510441
MA12.5	LV510442
MA25	LV510443
MA50	LV510444
MA100	LV510445

#### EasyPact CVS160F (36 kA at 380/415 V)

Rating	3P 3d
MA100	LV516439
MA150	LV516440

#### EasyPact CVS250F (36 kA at 380/415 V)

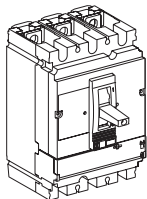
Rating	3P 3d
MA150	LV525438
MA220	LV525439

# CVS100/160/250NA: complete fixed/FC device EasyPact CVS100/160/250NA

## EasyPact CVS100/160/250NA switch-disconnector

With NA switch-disconnector unit

DB400155



EasyPact CVS100NA		
Rating	3P	4P
100	LV510425	LV510426
EasyPact CVS160NA		
Rating	3P	4P
160	LV516425	LV516426
EasyPact CVS250NA		
Rating	3P	4P
250	LV525425	LV525426

# Accessories


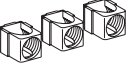

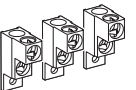
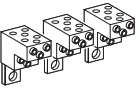

## EasyPact CVS100/160/250

### Connection accessories (Cu or Al)


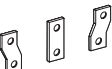
#### Rear connections

DB11225 	2 short			LV429235
	2 long			LV429236

#### Bare cable connectors

DB11226 	Steel connectors	1 x (1.5 to 95 mm <sup>2</sup> ) ; ≤ 160 A	Set of 3	LV429242
			Set of 4	LV429243
DB11225 	Aluminium connectors	1 x (25 to 95 mm <sup>2</sup> ) ; ≤ 250 A	Set of 3	LV429227
			Set of 4	LV429228
		1 x (120 to 185 mm <sup>2</sup> ) ; ≤ 250 A	Set of 3	LV429259
			Set of 4	LV429260
DB11276 	Clips for connectors		Set of 10	LV429241
DB11227 	Aluminium connectors for 2 cables <sup>(1)</sup>	2 x (50 to 120 mm <sup>2</sup> ) ; ≤ 250 A	Set of 3	LV429218
			Set of 4	LV429219
DB11228 	Aluminium connectors <sup>(1)</sup> for 6 cables	6 x (1.5 to 35 mm <sup>2</sup> ) ; ≤ 250 A	Set of 3	LV429248
			Set of 4	LV429249
DB11274 	6.35 mm voltage tap for steel or aluminium connectors		Set of 10	LV429348

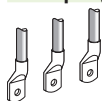
#### Terminal extensions

DB11231 	Edgewise terminal extensions <sup>(1)</sup>		Set of 3	LV429308
			Set of 4	LV429308
DB11232 	Right-angle terminal extensions <sup>(1)</sup>		Set of 3	LV429261
			Set of 4	LV429262
DB11233 	Straight terminal extensions <sup>(1)</sup>		Set of 3	LV429263
			Set of 4	LV429264
DB11235 	Spreaders from 35 to 45 mm pitch <sup>(1)</sup>		Set of 3	LV431563
			Set of 4	LV431564

<sup>(1)</sup> Supplied with 2 or 3 interphase barriers.

### Crimp lugs for copper cable <sup>(1)</sup>

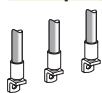
DB112237



For cable 120 mm <sup>2</sup>	Set of 3	LV429252
	Set of 4	LV429256
For cable 150 mm <sup>2</sup>	Set of 3	LV429253
	Set of 4	LV429257
For cable 185 mm <sup>2</sup>	Set of 3	LV429254
	Set of 4	LV429258

### Crimp lugs for aluminium cable <sup>(1)</sup>

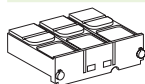
DB112238



For cable 150 mm <sup>2</sup>	Set of 3	LV429504
	Set of 4	LV429505
For cable 185 mm <sup>2</sup>	Set of 3	LV429506
	Set of 4	LV429507

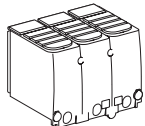
### Insulation accessories

DB400045



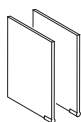
1 short terminal shield for breaker	3 P	LV429515
	4 P	LV429516

DB400060



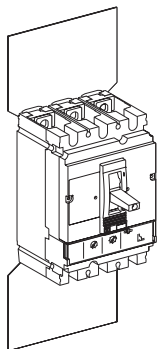
1 long terminal shield for breaker	3 P	LV429517
	4 P	LV429518

DB400061



Interphase barriers for breaker	Set of 6	LV429329
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DB400163



2 insulating screens for breaker (45 mm pitch)	3P	LV429330
	4P	LV429331

<sup>(1)</sup> Supplied with 2 or 3 interphase barriers.



# Accessories

## EasyPact CVS100/160/250

### Electrical auxiliaries

#### Auxiliary contacts (changeover)

DB112254



OF or SD or SDE	29450
OF or SD or SDE	29452
SDE adaptor, mandatory for trip unit TM, MA	LV429451

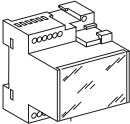
#### Voltage releases

DB111454



	Voltage	MX	MN
AC	24 V 50/60 Hz	LV429384	LV429404
	48 V 50/60 Hz	LV429385	LV429405
	110-130 V 50/60 Hz	LV429386	LV429406
	220-240 V 50/60 Hz and 208-277 V 60 Hz	LV429387	LV429407
	380-415 V 50 Hz and 440-480 V 60 Hz	LV429388	LV429408
DC	12 V	LV429382	LV429402
	24 V	LV429390	LV429410
	30 V	LV429391	LV429411
	48 V	LV429392	LV429412
	60 V	LV429383	LV429403
	125 V	LV429393	LV429413
	250 V	LV429394	LV429414

DB116601

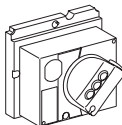


<b>MN 48 V 50/60 Hz with fixed time delay</b>			
Composed of:	MN 48 V DC		LV429412
	Delay unit 48 V 50/60 Hz		LV429426
<b>MN 220-240 V 50/60 Hz with fixed time delay</b>			
Composed of:	MN 250 V DC		LV429414
	Delay unit 220-240 V 50/60 Hz		LV429427
<b>MN 48 V DC/AC 50/60 Hz with adjustable time delay</b>			
Composed of:	MN 48 V DC		LV429412
	Delay unit 48 V 50/60 Hz		33680
<b>MN110-130 V DC/AC 50/60 Hz with adjustable time delay</b>			
Composed of:	MN 125 V DC		LV429413
	Delay unit 110-130 V 50/60 Hz		33681
<b>MN 220-250 V 50/60 Hz with adjustable time delay</b>			
Composed of:	MN 250 V DC		LV429414
	Delay unit 220-250 V 50/60 Hz		33682

**Rotary handles**

**Direct rotary handle**

DB112289

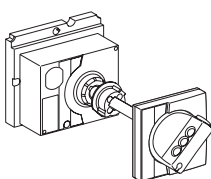


With black handle

LV429337

**Extended rotary handle**

DB112280



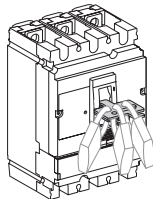
With black handle

LV429338

**Locks**

**Toggle locking device for 1 to 3 padlocks**

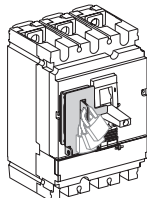
DB400164



By removable device

29370

DB400165

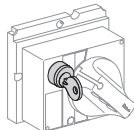


By fixed device

29371

**Locking of rotary handle**

DB112263



Keylock adaptor (keylock not included)

LV429344

Keylock (keylock adaptor not included)

Ronis 1351B.500

41940

Profalux KS5 B24 D4Z


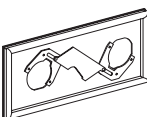
42888

# Accessories

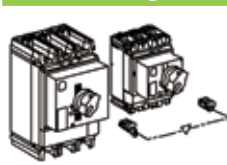
## EasyPact CVS100/160/250

### Interlocking

#### Mechanical interlocking for circuit breakers

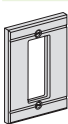
DB111487		With toggles	29354
		With rotary handles	LV429369

#### Interlocking with key (2 keylocks / 1 key) for rotary handles

E26706		Keylock kit (keylock not included) <sup>(1)</sup>	LV429344
		1 set of 2 keylocks (1 key only, keylock kit not included)	Ronis 1351B.500 41950
		Profalux KS5 B24 D4Z	42878


### Installation accessories

#### Front-panel escutcheons

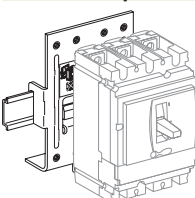
E21641		IP40 toggle escutcheon (small cut-out)	29315
		IP40 escutcheon for Rotary handle	LV429317
		IP40 escutcheon for Vigi module	LV429316

IP40

#### Lead-sealing accessories

DB1119515		Bag of accessories	LV429375
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#### Din rail adaptor

DB1112739		1 adaptor	LV429305
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### Spare parts

E18624		10 toggle extensions	LV429313
		Bag of screws	LV429312
		12 snap-in nuts (fixed/FC)	M6 for CVS100B/F LV510100
			M8 for CVS160/250B/F LV516060
		1 set of 10 identification labels	LV429226

<sup>(1)</sup> For only 1 device.



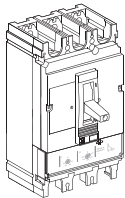
<b>CVS400/630: complete fixed/FC device</b>	<b>E-14</b>
EasyPact CVS400/630F/N	E-14
EasyPact CVS400/630NA	E-17
<b>Accessories</b>	<b>E-18</b>
EasyPact CVS400/630	E-18

# CVS400/630: complete fixed/FC device EasyPact CVS400/630F/N

## EasyPact CVS400/630F

With TM-D thermal-magnetic trip unit

DBE400008



### EasyPact CVS400F (36 kA at 380/415 V)

Rating	3P 3d	4P 4d
TM320D	LV540405	LV540411
TM400D	LV540406	LV540412

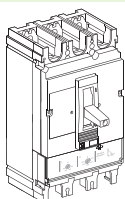
### EasyPact CVS630F (36 kA at 380/415 V)

Rating	3P 3d	4P 4d
TM500D	LV563405	LV563411
TM600D	LV563406	LV563412

## EasyPact CVS400/630N

With TM-D thermal-magnetic trip unit

DBE400008



### EasyPact CVS400N (50 kA at 380/415 V)

Rating	3P 3d	4P 4d
TM320D	LV540415	LV540421
TM400D	LV540416	LV540422

### EasyPact CVS630N (50 kA at 380/415 V)

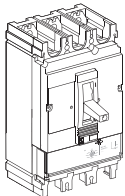
Rating	3P 3d	4P 4d
TM500D	LV563415	LV563421
TM600D	LV563416	LV563422

# CVS400/630: complete fixed/FC device EasyPact CVS400/630F/N

## EasyPact CVS400/630F/N

### With MA magnetic trip unit

DB400020



#### EasyPact CVS400F (36 kA at 380/415 V)

Rating 3P 3D

MA320 LV540550

#### EasyPact CVS400N (50 kA at 380/415 V)

Rating

MA320 LV540552

#### EasyPact CVS630F (36 kA at 380/415 V)

Rating

MA500 LV563550

#### EasyPact CVS630N (50 kA at 380/415 V)

Rating

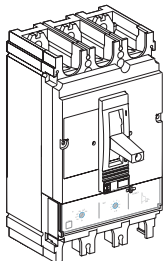
MA500 LV563552

# CVS400/630: complete fixed/FC device EasyPact CVS400/630F/N

## EasyPact CVS400/630F

### ETS 2.3 electronic trip unit (LS<sub>0</sub>I protection)

DE400021

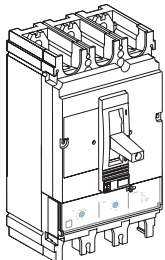


		3P 3d	4P 3d, 4d, 3d + N/2
EasyPact CVS400F (36 kA at 380/415 V)	400 A	<b>LV540505</b>	<b>LV540506</b>
EasyPact CVS630F (36 kA at 380/415 V)	630 A	<b>LV563505</b>	<b>LV563506</b>

## EasyPact CVS400/630N

### ETS 2.3 electronic trip unit (LS<sub>0</sub>I protection)

DE400021



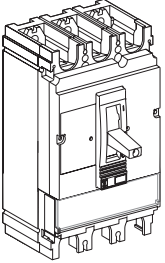
		3P 3d	4P 3d, 4d, 3d + N/2
EasyPact CVS400N (50 kA at 380/415 V)	400 A	<b>LV540510</b>	<b>LV540511</b>
EasyPact CVS630N (50 kA at 380/415 V)	630 A	<b>LV563510</b>	<b>LV563511</b>



# CVS400/630: complete fixed/FC device EasyPact CVS400/630NA

## EasyPact CVS400/630 NA switch-disconnector

DB400023



	3P	4P
EasyPact CVS400 NA	LV540400	LV540401
EasyPact CVS630 NA	LV563400	LV563401

### Connection accessories (Cu or Al)

#### Rear connections

DB112225



2 short	LV432475
2 long	LV432476

#### Cable connectors <sup>(1)</sup>

E22040



Aluminium connector 1x (35 to 300 mm <sup>2</sup> )	Set of 3	LV432479
	Set of 4	LV432480

E22041



Aluminium connector 2x (35 to 240 mm <sup>2</sup> )	Set of 3	LV432481
	Set of 4	LV432482

Voltage plug for aluminium connector 1 or 2 cables	Set of 10	LV429348
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#### Terminal extension <sup>(1)</sup>

E21276



Right-angle terminal extension	Set of 3	LV432484
	Set of 4	LV432485

E21276



Edgewise terminal extensions	Set of 3	LV432486
	Set of 4	LV432487

E21012



Spreaders	52.5 mm	3P	LV432490
		4P	LV432491
	70 mm	3P	LV432492
		4P	LV432493

#### Crimp lugs for copper cable <sup>(1)</sup>

E18602



For cable 240 mm <sup>2</sup>	Set of 3	LV432500
	Set of 4	LV432501
For cable 300 mm <sup>2</sup>	Set of 3	LV432502
	Set of 4	LV432503

Supplied with 2 (or 3) interphase barriers

#### Crimp lugs for aluminium cable <sup>(1)</sup>

E30908



For cable 240 mm <sup>2</sup>	Set of 3	LV432504
	Set of 4	LV432505
For cable 300 mm <sup>2</sup>	Set of 3	LV432506
	Set of 4	LV432507

Supplied with 2 (or 3) interphase barriers

#### Insulation accessories

E18618



Short terminal shield, 45 mm (1 piece)	3P	LV432591
	4P	LV432592

Long terminal shield, 45 mm (1 piece)	3P	LV432593
	4P	LV432594

Interphase barriers	Set of 6	LV432570
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E18606



Long terminal shielded for spreaders, 52,5mm (1 piece) (supplied with insulating plate)	3P	LV432595
	4P	LV432596

2 insulating screens (70 mm pitch)	3P	LV432578
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	4P	LV432579
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<sup>(1)</sup> supplied with 2 or 3 interphase barriers

# Accessories

## EasyPact CVS400/630

### Electrical auxiliaries

#### Auxiliary contacts (changeover)

E10608



OF or SD or SDE	29450
OF or SD or SDE	29452
SDE adaptor mandatory for trip unit TM, MA and ETS2.3	LV540050

#### Voltage releases

E10609

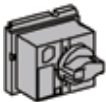


	Voltage	MX	MN
AC	24 V 50/60 Hz	LV429384	LV429404
	48 V 50/60 Hz	LV429385	LV429405
	110-130 V 50/60 Hz	LV429386	LV429406
	220-240 V 50/60 Hz and 208-277 V 60 Hz	LV429387	LV429407
	380-415 V 50 Hz and 440-480 V 60 Hz	LV429388	LV429408
DC	Voltage		
	12 V	LV429382	LV429402
	24 V	LV429390	LV429410
	30 V	LV429391	LV429411
	48 V	LV429392	LV429412
	60 V	LV429383	LV429403
	125 V	LV429393	LV429413
250 V	LV429394	LV429414	
<b>MN 48 V 50/60 Hz with fixed time delay</b>			
Composed of:	MN 48 V DC		LV429412
	Delay unit 48 V 50/60 Hz		LV429426
<b>MN 220-240 V 50/60 Hz with fixed time delay</b>			
Composed of:	MN 250 V DC		LV429414
	Delay unit 220-240 V 50/60 Hz		LV429427
<b>MN 48 V DC/AC 50/60 Hz with adjustable time delay</b>			
Composed of:	MN 48 V DC		LV429412
	Delay unit 48 V 50/60 Hz		33680
<b>MN 110-130 V DC/AC 50/60 Hz with adjustable time delay</b>			
Composed of:	MN 125 V DC		LV429413
	Delay unit 110-130 V 50/60 Hz		33681
<b>MN 220-250 V 50/60 Hz with adjustable time delay</b>			
Composed of:	MN 250 V DC		LV429414
	Delay unit 220-250 V 50/60 Hz		33682

**Rotary handle**

**Direct rotary handle**

E18611

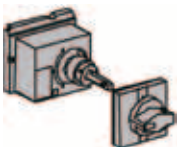


Standard black handle

LV432597

**Extended rotary handle**

E18612



Standard extended rotary handle

LV432598

**Locks**

**Toggle locking device for 1 to 3 padlocks**

E18621



By removable device

29370

E18613



By fixed device

32631

**Locking of the rotary handle**

E18620



Keylock adaptor (keylock not included)

LV432604

Keylock (keylock adaptor not included)

Ronis 1351B.500

41940

Profalux KS5 B24 D4Z

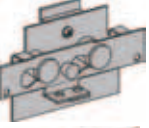

42888

# Accessories

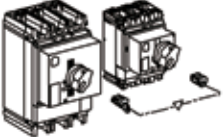
## EasyPact CVS400/630

### Interlocking

#### Mechanical interlocking for circuit breakers


E 21288 E 10780		With toggles	32614
		With rotary handles	LV432621

#### Interlocking with key (2 keylocks/1 key) for rotary handles

E 26766		Keylock kit (keylock not included) <sup>(1)</sup>	LV432604
		1 set of 2 keylocks (1 key only, keylock kit not included)	Ronis 1351B.500 41950
			Profalux KS5 B24 D4Z 42878
		(1) for only 1 device	

### Installation accessories

#### Front-panel escutcheons

E 21841		IP40 Toggle escutcheon (small cut-out)	32556
		IP40 escutcheon for rotary handle	LV432558
		IP40 escutcheon for Vigi module	LV429316

#### Lead-sealing accessories

			LV429375
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### Spare parts

#### Front-panel escutcheons

		Toggle extension	LV432553
		Bag of screws	LV432552
		1 set of 10 identification labels	LV429226

### Test

#### Test kits

E 21280		Mini test kit for STR trip units	43362
E 38271		Portable test kit for STR trip units	34547
		Spare test plug for portable test kit 34547	34503
		Wiring kit (spare part)	34546

# Notes

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