EcoStruxure™
Innovation At Every Level

Easy Series Coordination Table

Guide 2025
Complementary Technical Information

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General Introduction

Design and selection of equipment for low voltage electrical installations requires to consider and check the behavior of all devices on the current path in fault situation. High short-circuit current can damage equipment by electrodynamical and thermal effects. Each device can individually withstand the worst effects, but it may require significant oversizing and, on occasion, may be impossible. The protection of each devices or equipment relies on upstream over-current protective device. In that case, the proper “coordination” between the two devices shall be checked.

Lower amplitude faults such as overloads or some earth faults can also create disturbances by causing trips and power interruptions for larger sections of the installation than expected.

European Harmonization document HD60364-5-53 2015 for Low voltage electrical installation provides the following definition of coordination of electrical equipment:
530.3.5 Co-ordination of electrical equipment: *correct way of selecting electrical devices in series to help ensuring safety and continuity of service of the installation taking into account short-circuit protection and/or overload protection and/or selectivity*

Schneider Electric provides "coordination" performances for devices in the following cases:

Coordination Related to Continuity of Service

- Selectivity

Coordination Related to Safety

- Cascading (also called group short-circuit protection, or back up protection)
- Motor starter coordination type 1
- Coordination between switch-disconnector and circuit breaker or fuses

The information provided in this Guide contains general coordination performances for a selection of low voltage devices of Schneider Electric.

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General Content

Easy Series
Coordination Tables

Selectivity Tables

Cascading Tables

Switch-Disconnector Coordination Tables

Motor Protection Coordination Tables

Selectivity between Circuit Breakers
Introduction to Selectivity

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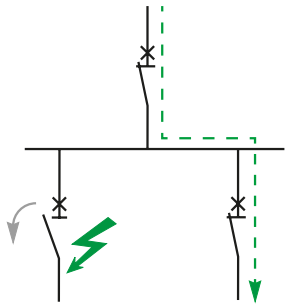
Selectivity of over-current protection is covered by circuit breakers standards: IEC 60947-2 Annex A and IEC 60898-1 Annex D.
Selectivity of residual current protection is covered by IEC 60364 series and product standards IEC 60947-2 Annex B and M, IEC 61009-1.



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Selectivity is essential to help ensuring continuity of supply and fast fault localization.

Selectivity

Selectivity is achieved by overcurrent and earth fault protective devices if a fault condition, occurring at any point in the installation, is cleared by the protective device located immediately upstream of the fault, while all the other protective devices remain unaffected.

Selectivity is required for installation supplying critical loads where one fault on one circuit shall not cause the interruption of the supply of other circuits. In the IEC 60364 series it is mandatory for installation supplying safety services (IEC60364-5-56 2009 560.7.4). Selectivity may also be required by some local regulations or for some special applications like:
- Medical location
- Marine
- High-rise building.

Selectivity is highly recommended when power availability and reliability is critical due to the nature of the loads such as:
- Data centers
- Infrastructure (tunnel, airport…)
- Critical processes.

From installation point of view: selectivity is achieved when the maximum short-circuit current at a point of installation is below selectivity limit of the circuit breakers supplying this point of installation. Selectivity shall be checked for all circuits supplied by one source and for all types of fault:
- Overload
- Short-circuit
- Earth fault.

When the system is supplied by different sources (Grid or Generator Set for instance) selectivity shall be checked in both cases.

To know more:

Coordination between circuit-breakers

Complementary Technical Information - Selectivity, Cascading and Coordination Guide

Selectivity between Circuit Breakers

Introduction to Selectivity

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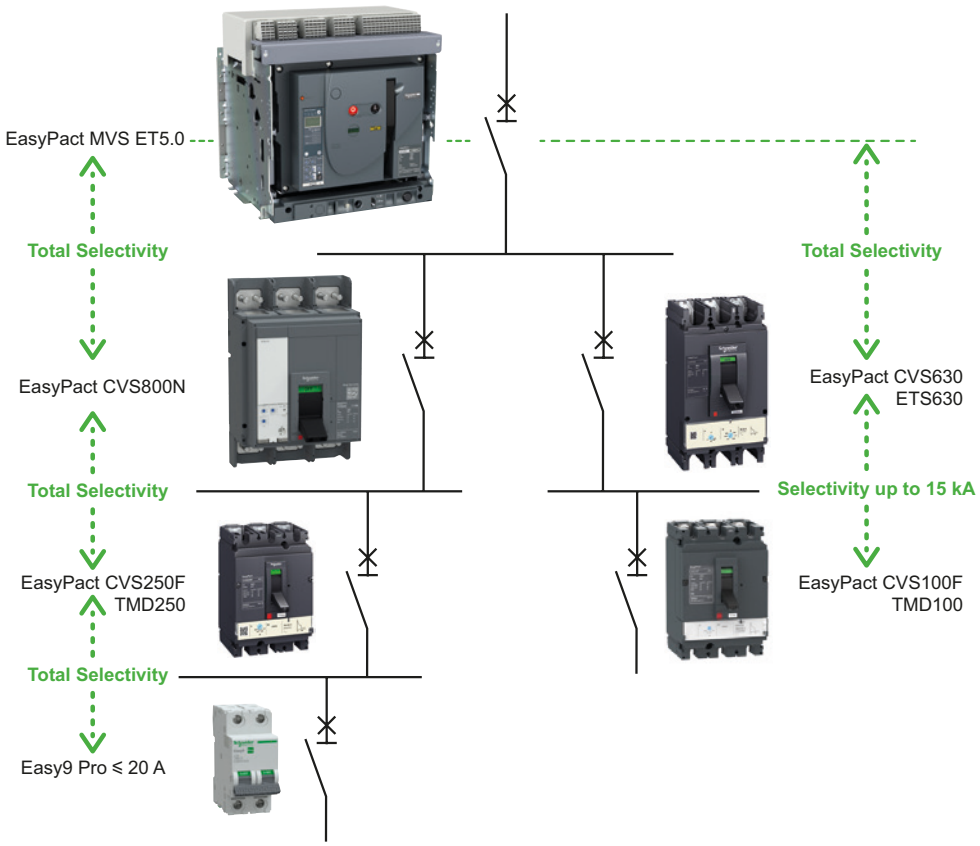


Practical example of selectivity at several levels with Schneider Electric circuit breakers described in this guide.

Selectivity between Circuit Breakers
Introduction to Selectivity

Selectivity limits given in the selectivity tables are the best performance that can be achieved between two given circuit breakers. When the upstream circuit breaker is adjustable and its setting values are not specified, it is considered that it is set to its maximum values.

How to Use the Selectivity Tables

Combinaisons providing full selectiivty are indicated by the symbol **T** (up to downstream circuit breaker breaking capacity: Icu).
If selectivity is partial, the table indicates the maximum fault current value (kA) until which selectivity is ensured.

Requisite conditions

The values indicated in the tables are valid for operational rated voltage 380 V 400 V 415 V 50-60 Hz.
Following ratios shall be respected in order to avoid overlapping of tripping curves.

Upstream	Downstream	Ir up / ir down	Im up / Im down
TM	TM	1.6	2
	MA + O/L	3	2
ETS	TM	1.6	2
	ETS	1.3 [1]	1.5
	MA + separate overload relay	3	2
ETS	TM	1.6	2
	ETS	1.3 [1]	1.5
	MA + separate overload relay	3	2

[1] When the Magnetic threshold is adjustable, the tables are based on maximum setting Im (= 10xIr typically).
When tr is adjustable tr upstream > tr downstream.
When tsd is adjustable tsd upstream > tsd downstream.

Instantaneous trip pickup current (Ii)

The selectivity tables show the limit of selectivity assuming the instantaneous trip pickup current is set to its maximum value or it is inhibited (category B circuit breaker only).

- When the limit of selectivity indicated in the table is 15 x In of the upstream device, the limit of selectivity is in fact the instantaneous trip pickup current of the upstream device.
- When selectivity is total (“T”), a different adjustment of Ii may be used provided that the ratio between the magnetic thresholds indicated above is observed and the additional following rules are applied.

Short time tripping delay (Tsd)

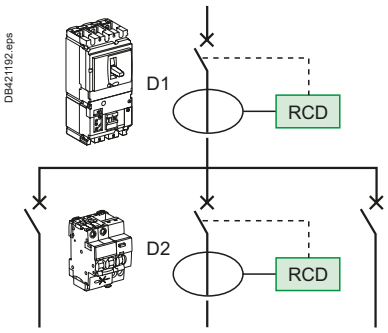
When the upstream and downstream circuit breakers are fitted with a LSI ETU, the minimum non-tripping time of the upstream device must be superior to the maximum tripping time of the downstream device. This is obtained by staging Tsd:

Tsd D1 > Tsd D2 (One band) & I2t Off

The tables show the limit of selectivity assuming function I2t OFF. If this is not the case, the user must verify that the curves do not overlap.

Selectivity between Circuit Breakers

Introduction to Selectivity



Selectivity of RCDs

When circuit breakers are equipped with RCD function, selectivity tables are valid for short-circuit and earth fault with high amplitude current.

Residual Current Devices are by design very sensitive to fault and shall be coordinated properly to achieve total selectivity in addition to overcurrent protection.

Schneider Electric proposes a wide range of solutions with the RCD function.

All these devices from Schneider Electric are following by design the same rules for sensitivity and tripping time even if they are covered by different standard (IEC/EN 61009-1, IEC/EN 60947-2 Annex B or Annex M, IEC 61008). So whatever the type of RCD, the following rules apply:

- The sensitivity of the upstream residual current device must be at least equal to three times the sensitivity of the downstream residual current device
- The upstream residual current device must be:
  - Of the selective (S) type (or setting) if the downstream residual current device is an instantaneous type,
  - Of the delayed (R) type (or setting) if the downstream residual current device is a selective type. The minimum non-tripping time of the upstream device will therefore be greater than the maximum tripping time of the downstream device for all current values.

$I\Delta n\ D1 \geqslant 3 \times I\Delta n\ D2$ & $\Delta t\ (D1) > \Delta t\ (D2)$.

Selectivity Tables

Upstream: **Easy**Pact CVS100BS TM•D
Downstream: **Easy**9 Pro, iK60N

Ue ⩽ 415 V AC

Upstream CB			EasyPact CVS100								
Trip unit type			TM•D								
Trip unit rating (A)			16	20	25	32	40	50	63	80	100
Im			300	300	300	300	500	500	750	1000	1000
Discrimination limit (kA)	Icu (kA) 415V										
iK60N	6000	6	0.3	0.3	0.3	0.3	0.5	0.5	0.75	1	1
	6000	10	0.3	0.3	0.3	0.3	0.5	0.5	0.75	1	1
B, C Curves	6000	16		0.3	0.3	0.3	0.5	0.5	0.75	1	1
1P 240 V	6000	20				0.3	0.5	0.5	0.75	1	1
2, 3, 4P 415 V	6000	25					0.5	0.5	0.75	1	1
	6000	32							0.75	1	1
	6000	40							0.75	1	1
	6000	50								1	1
	6000	63									1
Easy9 Pro	6000	2-4-6	0.3	0.3	0.3	0.3	0.5	0.5	0.75	1	1
"6000"	6000	10-13	0.3	0.3	0.3	0.3	0.5	0.5	0.75	1	1
B, C Curves	6000	16		0.3	0.3	0.3	0.5	0.5	0.75	1	1
1P 230 V	6000	20				0.3	0.5	0.5	0.75	1	1
2, 3, 4P 415 V	6000	25					0.5	0.5	0.75	1	1
	6000	32							0.75	1	1
	6000	40							0.75	1	1
	6000	50								1	1
	6000	63									1
Easy9 Pro	10000	2-4-6	0.3	0.3	0.3	0.3	0.5	0.5	0.75	1	1
"10000"	10000	10	0.3	0.3	0.3	0.3	0.5	0.5	0.75	1	1
B, C Curves	10000	16		0.3	0.3	0.3	0.5	0.5	0.75	1	1
1P 230 V	10000	20				0.3	0.5	0.5	0.75	1	1
2, 3, 4P 415 V	10000	25					0.5	0.5	0.75	1	1
	10000	32							0.75	1	1
	10000	40							0.75	1	1
	10000	50								1	1
	10000	63									1

4 Selectivity limit = 4 kA.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS 16-250 B/F/N TM•D
Downstream: iK60N, **Easy**9 Pro MCB

Ue ⩽ 415 V AC

Upstream			EasyPact CVS100 B/F/N								CVS160 B/F/N			CVS250 B/F/N		
Trip unit type			TM•D								TM•D			TM•D		
Trip unit rating (A)			16	25	32	40	50	63	80	100	100	125	160	160	200	250
Im			190	300	400	500	500	500	640	800	800	1250	1250	1250	2000	2500
Downstream	**Icn (A)**		**Selectivity limit (kA)**													
iK60N	**6000**	**6**	0.19	0.3	0.4	0.9	0.9	0.9	0.63	0.8	0.8	T	T	T	T	T
	6000	**10**	0.19	0.3	0.4	0.9	0.9	0.9	0.63	0.8	0.8	T	T	T	T	T
B, C Curves	**6000**	**16**		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.8	T	T	T	T	T
1P 240 V	**6000**	**20**			0.4	0.5	0.5	0.5	0.63	0.8	0.8	T	T	T	T	T
2, 3, 4P 415 V	**6000**	**25**				0.5	0.5	0.5	0.63	0.8	0.8	2	2	2	T	T
	6000	**32**					0.5	0.5	0.63	0.8	0.8	1.5	1.5	1.5	5	T
	6000	**40**						0.5	0.63	0.8	0.8	1.5	1.5	1.5	4.5	T
	6000	**50**							0.63	0.8	0.8	1.5	1.5	1.5	4	T
	6000	**63**								0.8	0.8	1.5	1.5	1.5	3	5
Easy9 Pro	**6000**	**2-4-6**	0.19	0.3	0.4	0.9	0.9	0.9	0.63	0.8	0.8	T	T	T	T	T
"6000"	**6000**	**10-13**	0.19	0.3	0.4	0.9	0.9	0.9	0.63	0.8	0.8	T	T	T	T	T
B, C Curves	**6000**	**16**		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.8	T	T	T	T	T
1P 240 V	**6000**	**20**			0.4	0.5	0.5	0.5	0.63	0.8	0.8	T	T	T	T	T
2, 3, 4P 415 V	**6000**	**25**				0.5	0.5	0.5	0.63	0.8	0.8	2	2	2	T	T
	6000	**32**					0.5	0.5	0.63	0.8	0.8	1.5	1.5	1.5	5	T
	6000	**40**						0.5	0.63	0.8	0.8	1.5	1.5	1.5	4.5	T
	6000	**50**							0.63	0.8	0.8	1.5	1.5	1.5	4	T
	6000	**63**								0.8	0.8	1.5	1.5	1.5	3	5
Easy9 Pro	**10000**	**2-4-6**	0.19	0.3	0.4	0.9	0.9	0.9	0.63	0.8	0.8	6	6	6	T	T
"10000"	**10000**	**10**	0.19	0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.8	6	6	6	T	T
B, C Curves	**10000**	**16**		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.8	6	6	6	T	T
1P 240 V	**10000**	**20**			0.4	0.5	0.5	0.5	0.63	0.8	0.8	6	6	6	T	T
2, 3, 4P 415 V	**10000**	**25**				0.5	0.5	0.5	0.63	0.8	0.8	2	2	2	6	6
	10000	**32**					0.5	0.5	0.63	0.8	0.8	1.5	1.5	1.5	5	6
	10000	**40**						0.5	0.63	0.8	0.8	1.5	1.5	1.5	4.5	6
	10000	**50**							0.63	0.8	0.8	1.5	1.5	1.5	4	6
	10000	**63**								0.8	0.8	1.5	1.5	1.5	3	5

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS 100-250 B/F/N ETS 2.2
Downstream: iK60N, **Easy**9 Pro

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Upstream			EasyPact CVS100 B/F/N								CVS160 B/F/N				CVS250 B/F/N		
Trip unit type			ETS 2.2								ETS 2.2				ETS 2.2		
Trip unit rating (A)			40				100				160				250		
Setting			18	25	32	40	50	63	80	100	80	100	125	160	160	200	250
Isd			Isd = 1.5Ir - **10 Ir**			Ii = 15In	Isd = 1.5Ir - **10 Ir**			Ii = 15In	Isd = 1.5Ir - **10 Ir**			Ii = 15In	Isd = 1.5Ir - **10 Ir**		Ii = 15In
Downstream	**Icn (A)**		**Selectivity limit (kA)**														
iK60N	**6000**	**6**	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	**10**	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	**6000**	**16**			0.6	0.6	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	**6000**	**20**				0.6	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	**6000**	**25**					T	T	T	T	T	T	T	T	T	T	T
	6000	**32**					T	T	T	T	T	T	T	T	T	T	T
	6000	**40**						T	T	T	T	T	T	T	T	T	T
	6000	**50**							1	1	T	T	T	T	T	T	T
	6000	**63**								1		T	T	T	T	T	T
Easy9 Pro	**6000**	**2-4-6**	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
"6000"	**6000**	**10-13**	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	**6000**	**16**			0.6	0.6	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	**6000**	**20**				0.6	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	**6000**	**25**					T	T	T	T	T	T	T	T	T	T	T
	6000	**32**					T	T	T	T	T	T	T	T	T	T	T
	6000	**40**						T	T	T	T	T	T	T	T	T	T
	6000	**50**							1	1	T	T	T	T	T	T	T
	6000	**63**								1		T	T	T	T	T	T
Easy9 Pro	**10000**	**2-4-6**	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
"10000"	**10000**	**10**	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	**10000**	**16**			0.6	0.6	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	**10000**	**20**				0.6	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	**10000**	**25**					T	T	T	T	T	T	T	T	T	T	T
	10000	**32**					6	6	6	6	T	T	T	T	T	T	T
	10000	**40**						6	6	6	T	T	T	T	T	T	T
	10000	**50**							1	1	6	6	6	6	T	T	T
	10000	**63**								1		6	6	6	T	T	T

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS16-250 B/F/N TM•D
Downstream: **Easy**Pact CVS16-250 BS/B/F/N

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Upstream CB		EasyPact CVS100 B/F/N								CVS160 B/F/N			CVS250 B/F/N		
Trip unit type		TM•D								TM•D			TM•D		
Trip unit rating (A)		16	25	32	40	50	63	80	100	100	125	160	160	200	250
Im		190	300	400	500	500	500	640	800	800	1250	1250	1250	1000 **2000**	1250 **2500**
Downstream		**Selectivity limit (kA)**													
CVS100 BS TM•D	**16**		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	20			0.4	0.5	0.5	0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	25				0.5	0.5	0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	32					0.5	0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	40						0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	50							0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	63								0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	80										1.25	1.25	1.25	1-2	1.25 - 2.5
	100											1.25	1.25	1-2	1.25 - 2.5
CVS100 B/F/N TM•D	**16**		0.3	0.4	0.5	0.5	0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	25				0.5	0.5	0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	32					0.5	0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	40						0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	50							0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	63								0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
	80										1.25	1.25	1.25	1-2	1.25 - 2.5
	100											1.25	1.25	1-2	1.25 - 2.5
CVS160 B/F/N TM•D	**100**											1.25	1.25	1-2	1.25 - 2.5
	125													1-2	1.25 - 2.5
	160														1.25 - 2.5
CVS100 B/F/N ETS40	**40**						0.5	0.63	0.8	0.8	1.25	1.25	1.25	1-2	1.25 - 2.5
CVS100 B/F/N ETS100	**100**											1.25	1.25	1-2	1.25 - 2.5
CVS160 B/F/N ETS160	**160**														1.25 - 2.5

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1

Selectivity Tables

Upstream: **Easy**Pact CVS16-250 B/F/N ETS
Downstream: **Easy**Pact CVS16-250 BS/B/F/N

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Upstream CB		EasyPact CVS100 B/F/N								CVS160 B/F/N			CVS250 B/F/N		
Trip unit type		ETS								ETS			ETS		
Trip unit rating (A)		40			100					160			250		
Ir		18	32	40	40	50	63	80	100	100	125	160	160	200	250
Isd		10xIr	10xIr	10xIr	10xIr	10xIr	10xIr	10xIr	10xIr	10xIr	10xIr	10xIr	10xIr	10xIr	10xIr
Downstream		**Selectivity limit (kA)**													
CVS100 BS TM•D	**16**		0.3	0.4	0.4	0.5	0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	20			0.4	0.4	0.5	0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	25				0.4	0.5	0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	32					0.5	0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	40						0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	50							0.8	1	1	1.25	1.6	1.6	2	2.5
	63								1	1	1.25	1.6	1.6	2	2.5
	80										1.25	1.6	1.6	2	2.5
	100											1.6	1.6	2	2.5
CVS100 B/F/N TM•D	**16**		0.3	0.4	0.4	0.5	0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	25			0.4	0.4	0.5	0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	32					0.5	0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	40						0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
	50							0.8	1	1	1.25	1.6	1.6	2	2.5
	63								1	1	1.25	1.6	1.6	2	2.5
	80										1.25	1.6	1.6	2	2.5
	100											1.6	1.6	2	2.5
CVS160 B/F/N TM•D	**100**											1.6	1.6	2	2.5
	125													2	2.5
	160														2.5
CVS100 B/F/N ETS40	**40**						0.63	0.8	1	1	1.25	1.6	1.6	2	2.5
CVS100 B/F/N ETS100	**100**											1.6	1.6	2	2.5
CVS160 B/F/N ETS160	**160**														2.5

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS400 630 F/N/H TM•D
Downstream: iK60N, **Easy**9 Pro

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Upstream			CVS400 B/F/N								CVS630 B/F/N											
Trip unit type			TM•D								TM•D											
Trip unit rating (A)			320				400				500				600				630			
Setting			225	255	290	320	280	320	360	400	350	400	450	500	420	480	540	600	441	504	567	630
			Im = 5 - 10 In				Im = 5 - 10 In				Im = 5 - 10 In				Im = 4 - 8 In				Im = 5 - 10 In			
Im			1600	3200			2000	4000			2500	5000			2500	5000			3150-6300			
Downstream	Icn (A)		Selectivity limit (kA)																			
iK60N	6000	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	6000	16	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	6000	20	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	6000	25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	50	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Easy9 Pro	6000	2-4-6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
"6000"	6000	10-13	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	6000	16	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	6000	20	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	6000	25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	50	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	6000	63	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Easy9 Pro	10000	2-4-6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
"10000"	10000	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	10000	16	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	10000	20	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	10000	25	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	10000	32	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	10000	40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	10000	50	8	8	8	8	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	10000	63	6	6	6	6	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS400 630 F/N/H ETS 2.3
Downstream: iK60N, **Easy**9 Pro

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Upstream			CVS400 B/F/N						CVS630 B/F/N					
Trip unit type			ETS 2.3						ETS 2.3					
Trip unit rating (A)			400						630					
Setting			200	250	280	320	360	400	315	400	440	500	570	630
Isd			Isd = 1.5 Ir - 10 Ir					Ii = 12 In	Isd = 1.5 Ir - 10 Ir					Ii = 11 In
Downstream	Icn (A)		Selectivity limit (kA)											
iK60N	6000	6	T	T	T	T	T	T	T	T	T	T	T	T
	6000	10	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	6000	16	T	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	6000	20	T	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	6000	25	T	T	T	T	T	T	T	T	T	T	T	T
	6000	32	T	T	T	T	T	T	T	T	T	T	T	T
	6000	40	T	T	T	T	T	T	T	T	T	T	T	T
	6000	50	T	T	T	T	T	T	T	T	T	T	T	T
	6000	63	T	T	T	T	T	T	T	T	T	T	T	T
Easy9 Pro	6000	2-4-6	T	T	T	T	T	T	T	T	T	T	T	T
"6000"	6000	10-13	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	6000	16	T	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	6000	20	T	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	6000	25	T	T	T	T	T	T	T	T	T	T	T	T
	6000	32	T	T	T	T	T	T	T	T	T	T	T	T
	6000	40	T	T	T	T	T	T	T	T	T	T	T	T
	6000	50	T	T	T	T	T	T	T	T	T	T	T	T
	6000	63	T	T	T	T	T	T	T	T	T	T	T	T
Easy9 Pro	10000	2-4-6	T	T	T	T	T	T	T	T	T	T	T	T
"10000"	10000	10	T	T	T	T	T	T	T	T	T	T	T	T
B, C Curves	10000	16	T	T	T	T	T	T	T	T	T	T	T	T
1P 240 V	10000	20	T	T	T	T	T	T	T	T	T	T	T	T
2, 3, 4P 415 V	10000	25	T	T	T	T	T	T	T	T	T	T	T	T
	10000	32	T	T	T	T	T	T	T	T	T	T	T	T
	10000	40	T	T	T	T	T	T	T	T	T	T	T	T
	10000	50	T	T	T	T	T	T	T	T	T	T	T	T
	10000	63	T	T	T	T	T	T	T	T	T	T	T	T

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS400-630 F/N/H TM•D
Downstream: **Easy**Pact CVS

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Upstream CB		CVS320 F/N/H				CVS400 F/N/H				CVS500 F/N/H				CVS630 F/N/H				CVS630 F/N/H			
Trip unit type		TM•D				TM•D				TM•D				TM•D				TM•D			
Trip unit rating (A)		320				400				500				600				630			
Ir		225	255	290	320	280	320	360	400	350	400	450	500	420	480	540	600	441	504	567	630
Im		3.2 Im = 5- 10In				4 Im = 5- 10In				5 Im = 5- 10In				5 Im = 4- 8In				6.3 Im = 5- 10In			
Downstream		Selectivity Limit (kA)																			
CVS100 BS TM•D	**16**	3.2	3.2	3.2	3.2	4	4	4	4	7	7	7	7	7	7	7	7	7	7	7	7
	20	3.2	3.2	3.2	3.2	4	4	4	4	6	6	6	6	6	6	6	6	6	6	6	6
	25	3.2	3.2	3.2	3.2	4	4	4	4	6	6	6	6	6	6	6	6	6	6	6	6
	32	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	40	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	50	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	63	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	80	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	100	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
CVS100 B/F/N TM•D	**16**	3.2	3.2	3.2	3.2	4	4	4	4	7	7	7	7	7	7	7	7	7	7	7	7
	25	3.2	3.2	3.2	3.2	4	4	4	4	6	6	6	6	6	6	6	6	6	6	6	6
	32	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	40	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	50	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	63	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	80	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	100	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
CVS 160 B/F/N TM•D	**100**	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	125	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	160			3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
CVS 250 B/F/N TM•D	**160**			3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	200							4	4	5	5	5	5	5	5	5	5	6	6	6	6
	250								4		5	5	5		5	5	5		6	6	6
CVS100 B/F/N ETS	**40**	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	100	3.2	3.2	3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
CVS160 B/F/N ETS	**160**			3.2	3.2	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6	6
	250								4		5	5	5		5	5	5		6	6	6
CVS400 F/N/H TM-D	**320**															5	5			6	6
	400																5				6
CVS400 F/N/H ETS	**400**																5				6

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS400-600 F/N/H ETS
Downstream: **Easy**Pact CVS

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Upstream CB		CVS400 F/N/H						CVS630 F/N/H					
Trip unit type		ETS						ETS					
Trip unit rating (A)		400						630					
Setting		200	250	280	320	360	400	315	400	440	500	570	630
Im		Im = 10Ir		Ii = 11In				Im = 10Ir		Ii = 11In			
Downstream		Selectivity limit (kA)											
EasyPact CVS100 BS TM•D	**16**	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	20	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	25	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	32	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	40	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	50	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	63	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	80	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	100	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
EasyPact CVS100 B/F/N TM•D	**16**	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	25	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	32	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	40	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	50	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	63	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	80	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	100	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
CVS160 B/F/N TM•D	**100**	2	2.5	2.8	3.2	3.6	4	3.1	4	4.4	5	5.7	6.3
	125	2	2.5	2.8	3.2	3.6	4	3.1	4	4.4	5	5.7	6.3
	160			2.8	3.2	3.6	4	3.1	4	4.4	5	5.7	6.3
CVS250 B/F/N TM•D	**160**			2.8	3.2	3.6	4	3.1	4	4.4	5	5.7	6.3
	200					3.6	4	3.1	4	4.4	5	5.7	6.3
	250						4		4	4.4	5	5.7	6.3
CVS100 B/F/N ETS	**40**	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
	100	2	2.5	2.8	3.2	3.6	4	15	15	15	15	15	15
CVS160 B/F/N ETS	**160**			2.8	3.2	3.6	4	3.1	4	4.4	5	5.7	6.3
	250						4		4	4.4	5	5.7	6.3
CVS400 F/N/H TM•D	**320**											5.7	6.3
	400												6.3
CVS400 F/N/H ETS	**400**												6.3

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS 630 1600 F/N/H
Downstream: **Easy**Pact CVS 100 630

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Upstream		EasyPact CVS 630-1600 F/N/H			
Trip unit type		ETS 2.0 Isd = 10 In			
Trip unit rating (A)		800	1000	1250	1600
Setting Ir		800	1000	1250	1600
Downstream		Selectivity limit (kA)			
CVS100 BS TM•D	16	T	T	T	T
	20	T	T	T	T
	25	T	T	T	T
	32	T	T	T	T
	40	T	T	T	T
	50	T	T	T	T
	63	T	T	T	T
	80	T	T	T	T
	100	T	T	T	T
CVS100 B/F/N TM•D	16	T	T	T	T
	25	T	T	T	T
	32	T	T	T	T
	40	T	T	T	T
	50	T	T	T	T
	63	T	T	T	T
	80	T	T	T	T
	100	T	T	T	T
CVS100 B/F/N ETS	40	T	T	T	T
	100	T	T	T	T
CVS160 B/F/N TM•D	100	T	T	T	T
	125	T	T	T	T
	160	T	T	T	T
CVS160 B/F/N ETS	160	T	T	T	T
CVS250 B/F/N TM•D	160	T	T	T	T
	200	T	T	T	T
	250	T	T	T	T
CVS250 B/F/N ETS	250	T	T	T	T
CVS400 F/N TM•D	320	T	T	T	T
	400	T	T	T	T
CVS600 F/N TM•D	500	T	T	T	T
	600	T	T	T	T
CVS400 F/N ETU	320	T	T	T	T
	400	T	T	T	T
CVS630 F/N ETU	500	T	T	T	T
	630		T	T	T
CVS400 H TM•D	320	50	50	50	50
	400	50	50	50	50
CVS600 H TM•D	500	50	50	50	50
	600	50	50	50	50
CVS400 H ETU	320	50	50	50	50
	400	50	50	50	50
CVS630 H ETU	500	50	50	50	50
	630		50	50	50

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact CVS 630 1600 F/N/H
Downstream: **Easy**Pact CVS100 630 MA

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Upstream		EasyPact CVS 630-1600 F/N/H			
Trip unit type		ETS 2.0 Isd = 10 In			
Trip unit rating (A)		800	1000	1250	1600
Setting Ir		800	1000	1250	1600
Motor protection		Selectivity limit (kA)			
CVS100 B/F MA + O/L R	2.5	T	T	T	T
	6.3	T	T	T	T
	12.5	T	T	T	T
	25	T	T	T	T
	50	T	T	T	T
	100	T	T	T	T
CVS160 B/F MA + O/L R	100	T	T	T	T
	150		T	T	T
CVS250 B/F MA + O/L R	220	T	T	T	T
CVS400 F/N MA + O/L R	320		T	T	T
CVS600 F/N MA + O/L R	500				T
CVS400 H MA + O/L R	320		50	50	50
CVS600 H MA + O/L R	500				50

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact MVS
Downstream: **Easy**Pact CVS

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Upstream CB		EasyPact MVSC06-16					EasyPact MVS08-40N							
Trip unit type		ET 2I, 5S, 6G					ET 2I, 5S, 6G							
Trip unit rating (A)		630	800	1000	1250	1600	800	1000	1250	1600	2000	2500	3200	4000
Setting Ir		630	800	1000	1250	1600	800	1000	1250	1600	2000	2500	3200	4000
Downstream		Selectivity limit (kA)												
CVS100 BS TM•D	16	T	T	T	T	T	T	T	T	T	T	T	T	T
	20	T	T	T	T	T	T	T	T	T	T	T	T	T
	25	T	T	T	T	T	T	T	T	T	T	T	T	T
	32	T	T	T	T	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS100 B/F/N TM•D	16	T	T	T	T	T	T	T	T	T	T	T	T	T
	25	T	T	T	T	T	T	T	T	T	T	T	T	T
	32	T	T	T	T	T	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS100 B/F/N ETS	40	T	T	T	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS160 B/F/N TM•D	100	T	T	T	T	T	T	T	T	T	T	T	T	T
	125	T	T	T	T	T	T	T	T	T	T	T	T	T
	160	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS160 B/F/N ETS	160	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS250 B/F/N TM•D	160	T	T	T	T	T	T	T	T	T	T	T	T	T
	200	T	T	T	T	T	T	T	T	T	T	T	T	T
	250	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS250 B/F/N ETS	250	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS400 F/N/H TM•D	320	T	T	T	T	T	T	T	T	T	T	T	T	T
	400		T	T	T	T	T	T	T	T	T	T	T	T
CVS630 F/N/H TM•D	500		T	T	T	T	T	T	T	T	T	T	T	T
	600			T	T	T		T	T	T	T	T	T	T
CVS400 F/N/H ETS	320	T	T	T	T	T	T	T	T	T	T	T	T	T
	400	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS630 F/N/H ETS	500		T	T	T	T	T	T	T	T	T	T	T	T
	630			T	T	T		T	T	T	T	T	T	T

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.
When the upstream device is equipped with MET 6G, the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Selectivity Tables

Upstream: **Easy**Pact MVS
Downstream: **Easy**Pact CVS

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Upstream CB		EasyPact MVS08-40H							
Trip unit type		ET 2I, 5S, 6G							
Trip unit rating (A)		800	1000	1250	1600	2000	2500	3200	4000
Setting Ir		800	1000	1250	1600	2000	2500	3200	4000
Downstream		Selectivity limit (kA)							
CVS100 BS TM•D	16	T	T	T	T	T	T	T	T
	20	T	T	T	T	T	T	T	T
	25	T	T	T	T	T	T	T	T
	32	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T
CVS100 B/F/N TM•D	16	T	T	T	T	T	T	T	T
	25	T	T	T	T	T	T	T	T
	32	T	T	T	T	T	T	T	T
	40	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T
	63	T	T	T	T	T	T	T	T
	80	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T
CVS100 B/F/N ETS	40	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T
CVS160 B/F/N TM•D	100	T	T	T	T	T	T	T	T
	125	T	T	T	T	T	T	T	T
	160	T	T	T	T	T	T	T	T
CVS160 B/F/N ETS	160	T	T	T	T	T	T	T	T
CVS250 B/F/N TM•D	160	T	T	T	T	T	T	T	T
	200	T	T	T	T	T	T	T	T
	250	T	T	T	T	T	T	T	T
CVS250 B/F/N ETS	250	T	T	T	T	T	T	T	T
CVS400 F/N/H TM•D	320	T	T	T	T	T	T	T	T
	400	T	T	T	T	T	T	T	T
CVS630 F/N/H TM•D	500	T	T	T	T	T	T	T	T
	600	T	T	T	T	T	T	T	T
	630	T	T	T	T	T	T	T	T
CVS400 F/N/H ETS	320	T	T	T	T	T	T	T	T
	400	T	T	T	T	T	T	T	T
CVS630 F/N/H ETS	500	T	T	T	T	T	T	T	T
	630		T	T	T	T	T	T	T

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.
When the upstream device is equipped with MET 6G, the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Selectivity Tables

Upstream: **Easy**Pact MVS
Downstream: **Easy**Pact CVS

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Upstream CB		EasyPact MVSC06-16					EasyPact MVS08-40N							
Trip unit type		All trip units [1]					All trip units [1]							
Trip unit rating (A)		630	800	1000	1250	1600	800	1000	1250	1600	2000	2500	3200	4000
Setting Ir		630	800	1000	1250	1600	800	1000	1250	1600	2000	2500	3200	4000
Motor protection		Selectivity limit (kA)												
CVS100 B/F MA + O/L R	2.5	T	T	T	T	T	T	T	T	T	T	T	T	T
	6.3	T	T	T	T	T	T	T	T	T	T	T	T	T
	12.5	T	T	T	T	T	T	T	T	T	T	T	T	T
	25	T	T	T	T	T	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS160 B/F MA + O/L R	100	T	T	T	T	T	T	T	T	T	T	T	T	T
	150	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS250 B/F MA + O/L R	220	T	T	T	T	T	T	T	T	T	T	T	T	T
CVS400 F/N/H MA + O/L R	320			T	T	T		T	T	T	T	T	T	T
CVS630 F/N/H MA + O/L R	500					T				T	T	T	T	T

Upstream CB		EasyPact MVS08-40H							
Trip unit type		All trip units [1]							
Trip unit rating (A)		800	1000	1250	1600	2000	2500	3200	4000
Setting Ir		800	1000	1250	1600	2000	2500	3200	4000
Motor protection		Selectivity limit (kA)							
CVS100 B/F MA + O/L R	2.5	T	T	T	T	T	T	T	T
	6.3	T	T	T	T	T	T	T	T
	12.5	T	T	T	T	T	T	T	T
	25	T	T	T	T	T	T	T	T
	50	T	T	T	T	T	T	T	T
	100	T	T	T	T	T	T	T	T
CVS160 B/F MA + O/L R	100	T	T	T	T	T	T	T	T
	150	T	T	T	T	T	T	T	T
CVS250 B/F MA + O/L R	220	T	T	T	T	T	T	T	T
CVS400 F/N/H MA + O/L R	320	T	T	T	T	T	T	T	T
CVS630 F/N/H MA + O/L R	500	T	T	T	T	T	T	T	T

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

[1] When the upstream device is equipped with a trip unit with Ground fault protection the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.
When the upstream device is equipped with MET 6G, the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Selectivity Tables

Upstream: **Easy**Pact MVS
Downstream: **Easy**Pact CVS800 1600 A

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Upstream		EasyPact MVS C 06-16				EasyPact MVS C 06-16				EasyPact MVS C 06-16			
Trip unit type		TS 2.0/2.0S Ii = 10Ir ETA/V 2I Isd = 10Ir				TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii = 15 In [1]				TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii Off [1]			
Trip unit rating (A)		800	1000	1250	1600	800	1000	1250	1600	800	1000	1250	1600
Setting Ir (A)		800	1000	1250	1600	800	1000	1250	1600	800	1000	1250	1600
Downstream		Selectivity Limit (kA)											
CVS800-1600 F ETS 2.0	800			12.5	16			18.75	24			T	T
	1000				16				24				T
	1250												
	1600												
CVS800-1600 N ETS 2.0	800			12.5	16			18.75	24			T	T
	1000				16				24				T
	1250												
	1600												
CVS800-1600 H ETS 2.0	800			12.5	16			18.75	24			T	T
	1000				16				24				T
	1250												
	1600												

Upstream		EasyPact MVS 08-40N																							
Trip unit type		TS 2.0/2.0S Ii = 10Ir ETA/V 2I Isd = 10Ir								TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii = 15 In [1]								TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii Off [1]							
Trip unit rating (A)		800	1000	1250	1600	2000	2500	3200	4000	800	1000	1250	1600	2000	2500	3200	4000	800	1000	1250	1600	2000	2500	3200	4000
Setting Ir (A)		800	1000	1250	1600	2000	2500	3200	4000	800	1000	1250	1600	2000	2500	3200	4000	800	1000	1250	1600	2000	2500	3200	4000
Downstream		Selectivity Limit (kA)																							
CVS800-1600 F ETS 2.0	800			12.5	16	20	25	32	T			18.75	24	30	T	T	T			T	T	T	T	T	T
	1000				16	20	25	32	T				24	30	T	T	T				T	T	T	T	T
	1250					20	25	32	T					30	T	T	T					T	T	T	T
	1600						25	32	T						T	T	T						T	T	T
CVS800-1600 N ETS 2.0	800			12.5	16	20	25	32	40			18.75	24	30	37.5	48	T			T	T	T	T	T	T
	1000				16	20	25	32	40				24	30	37.5	48	T				T	T	T	T	T
	1250					20	25	32	40					30	37.5	48	T					T	T	T	T
	1600						25	32	40						37.5	48	T						T	T	T
CVS800-1600 H ETS 2.0	800			12.5	16	20	25	32	40			18.75	24	30	37.5	48	60			T	T	T	T	T	T
	1000				16	20	25	32	40				24	30	37.5	48	60				T	T	T	T	T
	1250					20	25	32	40					30	37.5	48	60					T	T	T	T
	1600						25	32	40						37.5	48	60						T	T	T

Upstream		EasyPact MVS 08-40H																							
Trip unit type		TS 2.0/2.0S Ii = 10Ir ETA/V 2I Isd = 10Ir								TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii = 15 In [1]								TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii Off [1]							
Trip unit rating (A)		800	1000	1250	1600	2000	2500	3200	4000	800	1000	1250	1600	2000	2500	3200	4000	800	1000	1250	1600	2000	2500	3200	4000
Setting Ir (A)		800	1000	1250	1600	2000	2500	3200	4000	800	1000	1250	1600	2000	2500	3200	4000	800	1000	1250	1600	2000	2500	3200	4000
Downstream		Selectivity Limit (kA)																							
CVS800-1600 F ETS 2.0	800			12.5	16	20	25	32	T			18.75	24	30	T	T	T			T	T	T	T	T	T
	1000				16	20	25	32	T				24	30	T	T	T				T	T	T	T	T
	1250					20	25	32	T					30	T	T	T					T	T	T	T
	1600						25	32	T						T	T	T						T	T	T
CVS800-1600 N ETS 2.0	800			12.5	16	20	25	32	40			18.75	24	30	37.5	48	T			T	T	T	T	T	T
	1000				16	20	25	32	40				24	30	37.5	48	T				T	T	T	T	T
	1250					20	25	32	40					30	37.5	48	T					T	T	T	T
	1600						25	32	40						37.5	48	T						T	T	T
CVS800-1600 H ETS 2.0	800			12.5	16	20	25	32	40			18.75	24	30	37.5	48	60			T	T	T	T	T	T
	1000				16	20	25	32	40				24	30	37.5	48	60				T	T	T	T	T
	1250					20	25	32	40					30	37.5	48	60					T	T	T	T
	1600						25	32	40						37.5	48	60						T	T	T

[1] When the upstream device is equipped with a trip unit with "G" ground fault protection the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.

Selectivity Tables

Upstream: **Easy**Pact MVS08-20
Downstream: **Easy**Pact MVSC06-16, MVS08-40 N/H

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Downstream		EasyPact MVS08-20-N/H																	
	Trip unit rating (A)	800		1000	1250	1600	2000	800		1000	1250	1600	2000	800		1000	1250	1600	2000
	Setting Ir	630	800	1000	1250	1600	2000	630	800	1000	1250	1600	2000	630	800	1000	1250	1600	2000
Upstream	Trip unit type	TS 2.0/2.0S Ii = 10Ir ETA/V 2I Isd = 10Ir						TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii = 15 In [1]						TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii Off [1]					
Circuit breaker		Selectivity limit (kA)																	
MVSC06	**400**	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
ET	**500**		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
MVS08 N/H	**320**	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
MVSC08	**400**	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
ET	**500**		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
	630			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
MVS10 N/H	**400**	6.3	8	10	12.5	16	20	12	12	15	18.75	24	30	T	T	T	T	T	T
MVSC10	**500**		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
ET	**630**			10	12.5	16	20			15	18.75	24	30			T	T	T	T
	800				12.5	16	20				18.75	24	30				T	T	T
	1000					16	20					24	30					T	T
MVS12 N/H	**500**		8	10	12.5	16	20		12	15	18.75	24	30		T	T	T	T	T
MVSC12	**630**			10	12.5	16	20			15	18.75	24	30			T	T	T	T
ET	**800**				12.5	16	20				18.75	24	30				T	T	T
	1000					16	20					24	30					T	T
	1250						20						30						T
MVS16 N/H	**630**			10	12.5	16	20			15	18.75	24	30			T	T	T	T
MVSC16	**800**				12.5	16	20				18.75	24	30				T	T	T
ET	**960**					16	20					24	30					T	T
	1250						20						30						T
	1600																		
MVS20 N/H	**800**				12.5	16	20				18.75	24	30				T	T	T
	1000					16	20					24	30					T	T
ET	**1250**						20						30						T
	1600																		

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

[1] When the upstream device is equipped with a trip unit with "G" ground fault protection the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1
When the upstream device is equipped with MET 6G, the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Selectivity Tables

Upstream: **Easy**Pact MVS25-40 N/H
Downstream: **Easy**Pact MVSC06-16 MV08-32 N/H

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Upstream CB		EasyPact MVS25-40 N/H								
Trip unit type		TS 2.0/2.0S Ii = 10Ir ETA/V 2I Isd = 10Ir			TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii = 15 In [1]			TS 5.0/5.0S/6.0S ETA/V 5S/6G Ii Off [1]		
Trip unit rating (A)		2500	3200	4000	2500	3200	4000	2500	3200	4000
Setting Ir		2500	3200	4000	2500	3200	4000	2500	3200	4000
Downstream		Selectivity limit (kA)								
MVSC06 ET	⩽ 630	25	32	40	37.5	T	T	T	T	T
MVSC08 ET	⩽ 800	25	32	40	37.5	T	T	T	T	T
MVSC10 ET	⩽ 1000	25	32	40	37.5	T	T	T	T	T
MVSC12 ET	⩽ 1250	25	32	40	37.5	T	T	T	T	T
MVSC16 ET	⩽ 1600	25	32	40	37.5	T	T	T	T	T
MVS08 N ET	⩽ 800	25	32	40	37.5	48	T	T	T	T
MVS10 N ET	⩽ 1000	25	32	40	37.5	48	T	T	T	T
MVS12 N ET	⩽ 1250	25	32	40	37.5	48	T	T	T	T
MVS16 N ET	⩽ 1600	25	32	40	37.5	48	T	T	T	T
MVS16 N ET	⩽ 1600	25	32	40	37.5	48	T	T	T	T
MVS20 N ET	⩽ 2000	25	32	40	37.5	48	T	T	T	T
MVS25 N ET	⩽ 2500		32	40		48	T		T	T
MVS32 N ET	⩽ 3200			40			T			T
MVS08 H ET	⩽ 800	25	32	40	37.5	48	60	T	T	T
MVS10 H ET	⩽ 1000	25	32	40	37.5	48	60	T	T	T
MVS12 H ET	⩽ 1250	25	32	40	37.5	48	60	T	T	T
MVS16 H ET	⩽ 1600	25	32	40	37.5	48	60	T	T	T
MVS16 H ET	⩽ 1600	25	32	40	37.5	48	60	T	T	T
MVS20 H ET	⩽ 2000	25	32	40	37.5	48	60	T	T	T
MVS25 H ET	⩽ 2500		32	40		48	60		T	T
MVS32 H ET	⩽ 3200			40			60			T

4 Selectivity limit = 4 kA.

T Total selectivity, up to the breaking capacity of the downstream circuit breaker.

No selectivity.

[1] When the upstream device is equipped with a trip unit with "G" ground fault protection the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Note: Respect the basic rules of selectivity for overload and short-circuit. See page A-1.
When the upstream device is equipped with MET 6G, the table provides selectivity limits for line to line or line to neutral short circuits, selectivity in earth fault condition shall be checked separately.

Cascading (or Back-up Protection, or Combined Short-Circuit Protection)

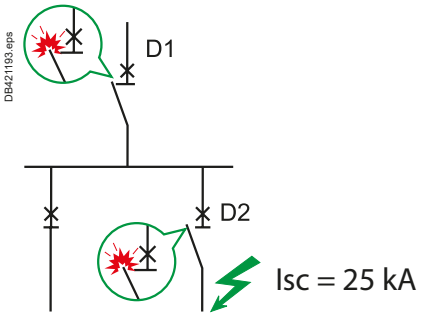
Cascading is the legacy name used by Schneider Electric.

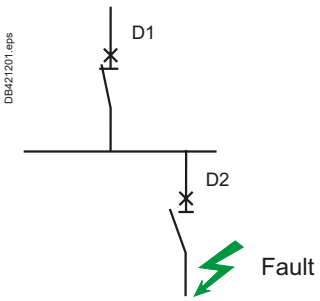
Product standards such as IEC/EN 60947, 60898, 61009-1 call this performance of two circuit-breakers "back-up protection".

Low voltage Electrical installation standard IEC 60364 series and in particular IEC 60364-5-53 (2019) Clause 535.5 use the wording "combined short-circuit protection".

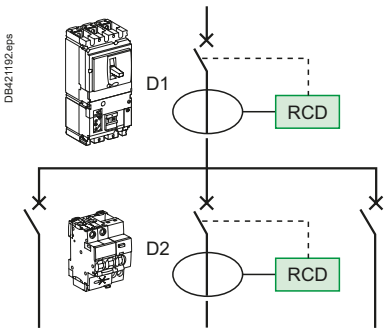
This document uses the word "cascading" but the three wordings are equivalent.

In North America and UL standards this performance is known as "series rating".





D1 and D2 in series.



IEC/EN 60947-2, Annex A
IEC 60364-4-43 (2008) § 434.5.1

What is cascading?

Cascading is the use of the current limiting capacity of circuit breakers at a given point to permit installation of lower-rated and therefore lower-cost circuit breakers downstream.
The upstream current limiting circuit breaker acts as a barrier against short-circuit currents. In this way, downstream circuit breakers with lower breaking capacities than the prospective short-circuit (at their point of installation) operate under their normal breaking conditions.

General Use of Cascading

With cascading, the devices can be installed in different switchboards. Thus, in general, cascading refers to any combination of circuit breakers where a circuit breaker with a breaking capacity less than the prospective Isc at its point of installation can be used. Of course, the breaking capacity of the upstream circuit breaker must be greater than or equal to the prospective short-circuit current at its point of installation.
The combination of two circuit breakers in cascading configuration is covered by the following standards of:

- Design and manufacture of circuit breakers (IEC/EN 60947-2, Annex A),
- Electrical distribution networks (IEC 60364-4-43 Ed 3 2008 § 434.5.1).

Coordination between Circuit Breakers

The use of a protective device possessing a breaking capacity less than the prospective short-circuit current at its installation point is permitted as long as another device is installed upstream with at least the necessary breaking capacity. In this case, the characteristics of the two devices must be coordinated in such a way that the energy let through by the upstream device is not more than that which can be withstood by the downstream device and the cables protected by these devices without damage.
Cascading can only be checked by laboratory tests and the possible combinations can be specified only by the circuit breaker manufacturer.

Cascading Tables

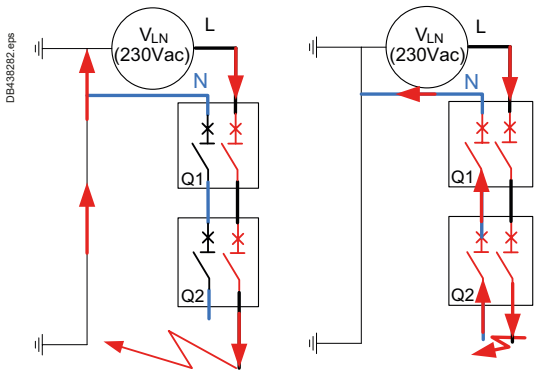
Schneider Electric cascading tables are:

- Drawn up on the basis of calculations (comparison between the energy limited by the upstream device and the maximum permissible thermal stress for the downstream device)
- Verified experimentally in accordance with IEC/EN standard 60947-2.

Circuit breaker with Vigi module (Add-On Residual Current Device - RCD):
When circuit breakers are equipped with Vigi module, the following cascading tables are still applicable.

How to use the table
The reinforced breaking capacity given in the table shall be compared to the presumed short-circuit current (rms value) at the point of installation without taking in consideration the limitation effect of the upstream circuit-breaker.

Cascading (or Back-up Protection, or Combined Short-Circuit Protection)



Line to Earth Fault (If)

Line to Neutral Fault (Ik1)

Difference between Line to Neutral and Line to Earth Fault Regarding Cascading

The number of poles breaking the current is different in case of line to neutral fault and line to earth fault.

The reinforced breaking capacity published in tables for a given "Line to Line" system voltage apply to all type of faults including line to earth.

Application of Cascading

Both "Industrial" circuit-breaker standard (IEC/EN 60947) and "residential" circuit-breaker standards (IEC/EN 60898 & 61009) define and provide test method for this "cascading" performance.

Anyway, Schneider Electric does not recommend to apply cascading in installation used by uninstructed persons. The following tables are therefore providing a "reinforced breaking capacity" according to IEC 60947-2 Annex A.

Cascading Tables

Upstream: **Easy**Pact CVS
Downstream: iK60N, **Easy**9 Pro, **Easy**Pact CVS

Ue ⩽ 415 V AC

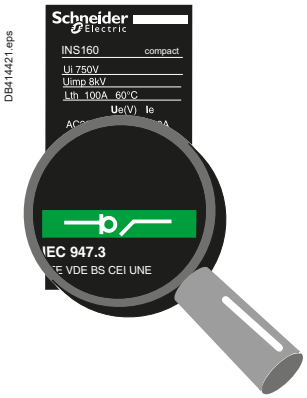
Upstream			CVS100	CVS100			CVS160			CVS250		
		Trip unit type	BS	B	F	N	B	F	N	B	F	N
		Icu (kA) 415V	25	25	36	50	25	36	50	25	36	50
Downstream			**Reinforced breaking capacity (kA) according to IEC/EN 60947-2 Annex A**									
CB type	**Icn (A)**	**Icu (kA)**										
Easy9 Pro	**6000**		10	10	10	10	10	10	10	10	10	10
iK60N	**6000**		10	10	10	10	10	10	10	10	10	10
CVS100BS		**25**			36	36		36	36		36	36
CVS100B		**25**			36	36		36	36		36	36
CVS100F		**36**				50			50			50
CVS160B		**25**				36			36		36	36
CVS160F		**36**				50			50			50

Upstream		CVS400			CVS630			CVS800-1600		
	Trip unit type	F	N	H	F	N	H	F	N	H
	Icu (kA) 415V	36	50	70	36	50	70	36	50	70
Downstream		**Reinforced breaking capacity (kA) according to IEC/EN 60947-2 Annex A**								
CB type	**Icu (kA)**									
CVS100BS	**25**	36	36	36	36	36	36			
CVS100B	**25**	36	36	36	36	36	36	36	36	36
CVS100F	**36**		50	50		50	50	50	50	50
CVS100N	**50**									
CVS160B	**25**	36	36	36	36	36	36	36	36	36
CVS160F	**36**		50	50		50	50	50	50	50
CVS160N	**50**									
CVS250B	**25**	36	36	36	36	36	36	36	36	36
CVS250F	**36**		50	50		50	50	50	50	50
CVS250N	**50**									
CVS400F	**36**		50	50		50	50		50	50
CVS400N	**50**						70			
CVS630F	**50**								50	50
CVS630N	**50**									
CVS630H	**50**									

Consult your Scheider Electric representative

B

Use of LV Switches
Presentation



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Functions and Positions of LV Switches

Switches are necessary in different levels of low voltage installation for the following main applications :

- Functional switching
- Supplying installation from different sources (transfert-switching equipment)
- Starting stopping equipements
- Emergency switching
- Switching off and disconnection for isolation of one circuit or switchboard for maintenance.

IEC 60364-5-53 Electrical installations of buildings – Part 5-53: Selection and erection of electrical equipment

Isolation, switching and control standard provides requirement for isolation of circuits, functional switching, and emergency switching.

IEC 60204-1 Safety of machinery - Electrical equipment of machines - Part 1: General requirements

standard provides requirements for disconnection of machines.

"Suitability for isolation" is necessary to help ensuring people's safety in open position.

Suitable for Isolation

Switch-disconnector

"Isolation" function i.e disconnection from supply is required for all circuits or equipement in order to help guaranteeing the safety of people during repairs or maintenance.

Low voltage electrical installation standards (IEC 60364 series for example) provide requirements to properly ensure this function:

Device for isolation shall:

- Isolate all live conductors (including neutral but not PEN)
- Withstand specified impulse voltage in open position
- Have a leakage current below specified values in open position
- Be lockable in the "open" position so as to help preventing any risk of unvolontary reclosing
- Ensures that the isolating distance between open contacts of the device is visible or be clearly and reliably indicated by "off" or "open" marking.

These requirements are totally covered with devices compliant to IEC 60947-1/2/3 suitable for isolation.

This characteristic is clearly marked on the products by the symbol of switch-disconnector.

Coordination

All switches must be protected by an overcurrent protection device placed upstream.

The tables below give the coordination performance of circuit breakers and switch-disconnector of main EasyPact CVS range: in the event of an overload or a short-circuit the circuit breaker proposed in the table will help protecting the switch-disconnector according to its electrodynamic withstand and short-time and permanent withstand.

Switch-Disconnector Coordination

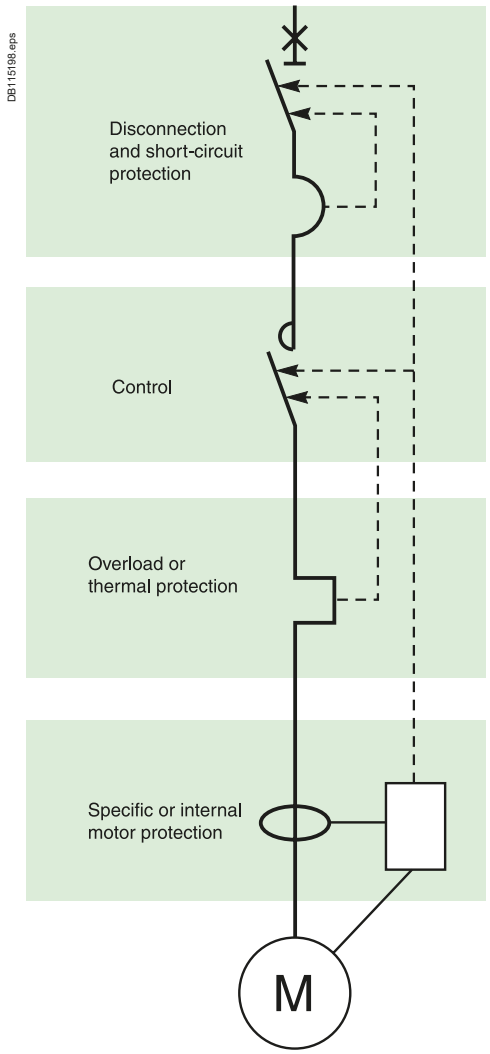
Upstream: Circuit Breaker **Easy**Pact CVS or gG fuses
Downstream: Switch Disconnector **Easy**Pact CVS NA

Ue ⩽ 415 V AC

		CVS100NA	CVS160NA	CVS250NA	CVS400NA	CVS630NA
Switch disconnector EasyPacT CVS NA						
Upstream Protection = CVS						
type / rating (A)		**CVS100B/100**	**CVS160B/160**	**CVS250B/250**		
Conditionnal short circuit current	kA rms	25	25	25		
Making current	kA peak	53	53	53		
type / rating (A)		**CVS100F/100**	**CVS160F/160**	**CVS250F/250**	**CVS400F/400**	**CVS630F/630**
Conditionnal short circuit current	kA rms	36	36	36	36	36
Making current	kA peak	76	76	76	76	76
type / rating (A)		**CVS100N/100**	**CVS160N/160**	**CVS250N/250**	**CVS400N/400**	**CVS630N/630**
Conditionnal short circuit current	kA rms	50	50	50	50	50
Making current	kA peak	105	105	105	105	105
type / rating (A)					CVS400H/400	CVS630H/630
Conditionnal short circuit current	kA rms				70	70
Making current	kA peak				154	154
Upstream protection = gG fuses						
type / rating (A)		**gG 80**	**gG 125**	**gG 200**	**gG 315**	**gG 500**
Conditionnal short circuit current	kA rms	100	100	100	100	100
Making current	kA peak	220	220	220	220	220

		CVS800NA	CVS1000NA	CVS1250NA	CVS1600NA
Switch disconnector EasyPacT CVS NA					
Upstream Protection = CVS					
type / rating (A)		**CVS800F/800**	**CVS1000F/1000**	**CVS1250F/1250**	**CVS1600F/1600**
Conditionnal short circuit current	kA rms	36	36	36	36
Making current	kA peak	76	76	76	76
type / rating (A)		**CVS800N/800**	**CVS1000N/1000**	**CVS1250N/1250**	**CVS1600N/1600**
Conditionnal short circuit current	kA rms	50	50	50	50
Making current	kA peak	105	105	105	105
type / rating (A)		**CVS800H/800**	**CVS1000H/1000**	**CVS1250H/1250**	**CVS1600H/1600**
Conditionnal short circuit current	kA rms	70	70	70	70
Making current	kA peak	154	154	154	154

Protection of Motor Circuit with Circuit Breaker



Introduction

A circuit supplying a motor may include one, two, three or four switchgear or controlgear devices fulfilling one or more functions.

When a number of devices are used, they must be coordinated for providing optimal operation of the motor.

Protection of a motor circuit involves a number of parameters that depend on:

- The application (type of machine driven, starting frequency, etc.)
- The level of service continuity imposed by the load or the application
- The applicable standards to help ensuring protection of life and property.

The necessary electrical functions are of very different natures:

- Protection (motor-dedicated for overloads)
- Control (generally with high endurance levels)
- Isolation.

Protection Functions

Disconnection functions:

- Isolate a motor circuit prior to maintenance operations.

Short-circuit protection:

Helps protecting the starter and the cables against major overcurrents (> 10 In).

Control:

Start and stop the motor, and, if applicable:

- Gradual acceleration
- Speed control.

Overload protection:

Helps protecting the starter and the cables against minor overcurrents (< 10 In).

Additional specific protection:

- Limitative fault protection (while the motor is running)
- Preventive fault protection (monitoring of motor insulation with motor off).

Overloads (I < 10 In).

An overload may be caused by:

- An electrical problem, for instance on the mains (loss of a phase, voltage outside tolerances, etc.)
- A mechanical problem, for instance excessive torque due to abnormally high demands by the process or motor damage (bearing vibrations, etc.)

A further consequence of these two origins is excessively long starting.

Impedant short-circuit (10 < I < 50 In)

Deterioration of motor-winding insulation is the primary cause.

Short-circuit (I > 50 In)

This type of fault is relatively rare. A possible cause may be a connection error during maintenance.

Overload protection

Thermal relays provide protection against this type of fault. They may be:

- Integrated in the short-circuit protective device
- Separate.

Short-circuit protection

This type of protection is provided by a circuit breaker.

Protection against insulation faults

This type of protection may be provided by:

- A residual current device (RCD)
- An insulation monitoring device (IMD).

Protection of Motor Circuit with Circuit Breaker

Applicable Standards

A circuit supplying a motor must comply with the general rules set out in IEC/EN standard 60947-4-1 and in particular with those concerning contactors, motor starters and their protection as stipulated in IEC/EN 60947-4-1, notably:

- Coordination of the components of the motor circuit
- Trip class for thermal relays
- Contactor utilisation categories
- Coordination of insulation.

Coordination of the Components of the Motor Circuit

Two types of coordination

The standard defines tests at different current levels. The purpose of these tests is to place the switchgear and controlgear in extreme conditions. Depending on the state of the components following the tests, the standard defines two types of coordination:

- **Type 1:**

Deterioration of the contactor and the relay is acceptable under two conditions:

- No danger to operating personnel
- No danger to any components other than the contactor and the relay

- **Type 2:**

Only minor welding of the contactor or starter contacts is permissible and the contacts must be easily separated.

- Following type-2 coordination tests, the switchgear and controlgear functions must be fully operational.

Using the Coordination Tables for Circuit Breaker and Contactors:

- **Ordinary motor:**

The starter components can be selected directly from the coordination tables, whatever the values of the starting current (Id from 5.8 to 8.6 In) and the subtransient current.

- **High-efficiency motors with Id ≤ 7.5 In:**

The starter components can be selected directly from the coordination tables, whatever the values of the starting current and the subtransient current.

- **High-efficiency motors with Id > 7.5 In:**

When circuit breakers are used for motor currents in the neighbourhood of their rated current, they are set to provide minimum short-circuit protection at **19 In motor (A peak).**

- **There are two possibilities:**

- The subtransient starting current is known (indicated by the motor manufacturer) and is less than **19 In motor (A peak)**.

In this case, the starter components can be selected directly from the coordination tables, whatever the value of the starting current (for Id > 7.5 In).

- The subtransient starting current is unknown or greater than 19 In motor (A peak).

In this case, the value used for the motor power in the coordination tables should be increased by 20 % to satisfy optimum starting and coordination conditions.
Example: for a 110 kW 380-415 V 3-phase motor, the selected components are those for a motor power of 110 + 20 % = 132 kW.

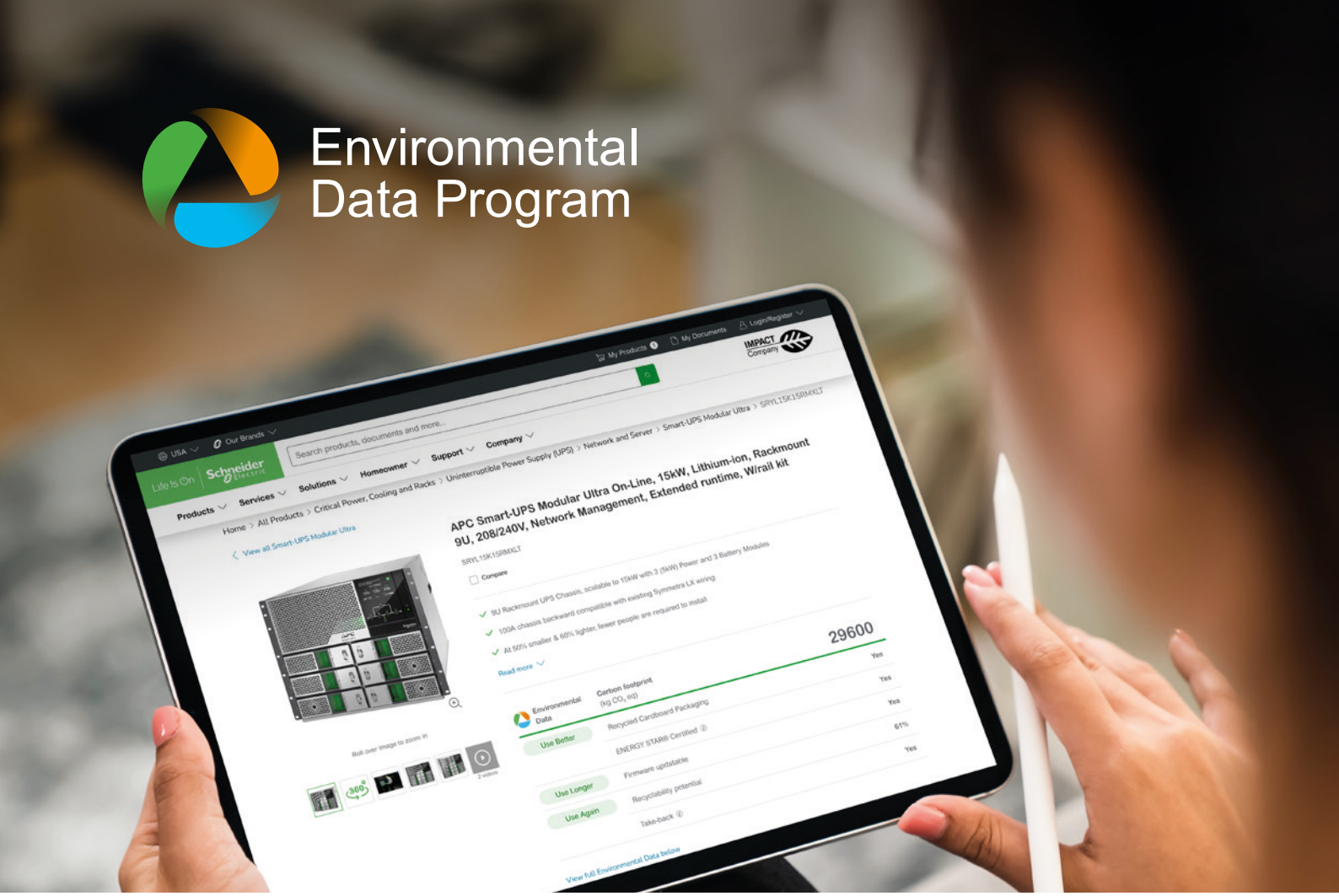
Type 1 Coordination (IEC/EN 60947-4-1)

380 V - 415 V AC

EasyPact CVS motors:								EasyPact TVS type 1		
P(kW)	I(A) 380V	I(A) 415V	Ie max	type	cal(A)	setting	Irm(A)	Contactor	O/L	Irth
0.37	1.2	1.1	1.6	CVS100-MA	2.5	6..13	22.5	LC1E06	LRE06	1..1.6
0.55	1.6	1.5	1.6	CVS100-MA	2.5	6..14	32.5	LC1E06	LRE06	1..1.6
0.75	2	1.8	2.5	CVS100-MA	2.5	6..14	32.5	LC1E06	LRE07	1.6..2.5
1.1	2.8	2.6	4	CVS100-MA	6.3	6..14	57	LC1E06	LRE08	2.5..4
1.5	3.7	3.4	4	CVS100-MA	6.3	6..14	57	LC1E06	LRE08	2.5..4
2.2	5.3	4.8	6	CVS100-MA	6.3	6..14	82	LC1E06	LRE10	4..6
3	7	6.5	8	CVS100-MA	12.5	6..14	113	LC1E09	LRE12	5.5..8
4	9	8.2	10	CVS100-MA	12.5	6..14	138	LC1E09	LRE14	7..10
5.5	12	11	12.5	CVS100-MA	12.5	6..14	163	LC1E12	LRE16	9..13
7.5	16	14	18	CVS100-MA	25	6..14	250	LC1E18	LRE21	16..24
10	21	19	25	CVS100-MA	25	6..14	325	LC1E25	LRE22	16..24
11	23	21	25	CVS100-MA	25	6..14	325	LC1E25	LRE22	16..24
15	30	28	32	CVS100-MA	50	6..14	450	LC1E32	LRE32	23..32
18.5	37	34	40	CVS100-MA	50	6..14	550	LC1E40	LRE355	30..40
22	43	40	50	CVS100-MA	50	6..14	650	LC1E50	LRE357	37..50
30	59	55	63	CVS100-MA	100	6..14	900	LC1E65	LRE359	48..65
37	72	66	100	CVS100-MA	100	6..14	1100	LC1E80	LRE363	63..80
45	85	80	100	CVS100-MA	100	6..14	1300	LC1E95	LRE481	62..99
55	105	100	135	CVS160-MA	150	9..14	1500	LC1E120	LRE482	84..135
75	140	135	150	CVS160-MA	150	9..14	1950	LC1E200	LRE483	124..198
90	170	160	185	CVS250-MA	220	9..14	2420	LC1E200	LRE484	146..234
110	210	200	220	CVS250-MA	220	9..14	2860	LC1E200	LRE484	146..234
			265	CVS400-MA	320	6..13	3500	LC1E250	LRE484	146..234
132	250	230	265	CVS400-MA	320	6..13	3500	LC1E300	LRE485	174..279
160	300	270	315	CVS400-MA	320	6..13	4160	LC1E300	LRE486	208..333
200	380	361	400	CVS630-MA	500	6..13	5700	LC1F400	LR9-F73 79	300..500
220	420	380	500	CVS630-MA	500	6..13	6500	LC1F500	LR9-F73 79	300..500
250	460	430	500	CVS630-MA	500	6..13	6500	LC1F500	LR9-F73 79	300..500

C

Environmental Data Program

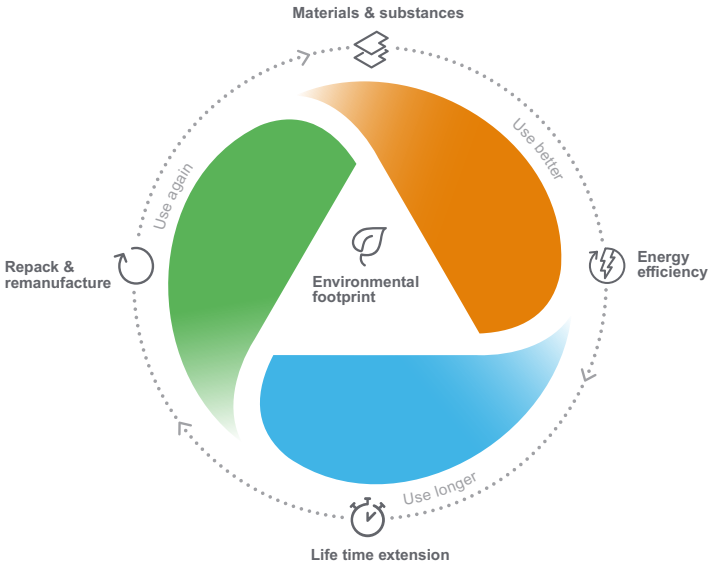


Next-level transparency for better-informed product choices

The Environmental Data Program is a framework for how we measure, categorize, and compare the environmental attributes and footprint of our products.

Using a rigorous, fact-based methodology, the program provides environmental data from across the product lifecycle.

Five data categories across the product lifecycle



Use Better: How sustainable a product is, including environmental footprint, materials and substances, packaging, and energy efficiency.

Use Longer: How a product's life time can be effectively extended in terms of repairability and updatability.

Use Again: How a product can be reused, from dismantling and remanufacturing to recyclability and manufacturer take back.

With this transparent, verified data, customers and partners are empowered to make conscious environmental choices and accurately evaluate and report on sustainability performance.

All our hardware offers have an associated environmental data available on se.com product pages.

Learn more about the Environmental Data Program

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Schneider Electric Industries SAS

35, rue Joseph Monier
CS 30323
92506 Rueil Malmaison Cedex
France

RCS Nanterre 954 503 439
Capital social 928 298 512 €
www.se.com

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