

Protection - TECHNICAL CHARACTERISTICS

SPD transient voltage suppressor

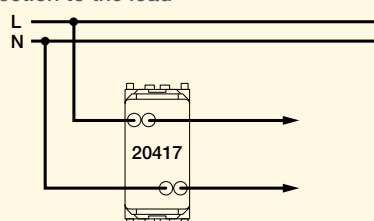
Scope

Protection of the socket outlets for the supply of any kind of household electrical appliances, especially those with electronic components (Hi-Fi, TV sets, videocassette recorders, computers etc.) from damages deriving from the presence of transient voltages in supply circuits.

Technical specifications

- protection type: suppressor differential (phase-neutral)
- rated voltage (Un): 120-230 V~ 50/60 Hz
- port number: 1
- rated load current IL: 16 A
- max continuous voltage (Uc): 250 V~
- test class: III
- protection level (Up): < 1,2 kV
- combined wave generator test voltage Uoc: 2,5 kV
- rated discharge current (In): 1 kA (8/20 ns) 20 times
- max discharge current (Imax): 2 kA (8/20 ns) 1 time
- integrated internal protection: fuse

20417 - Connection to the load



Operating

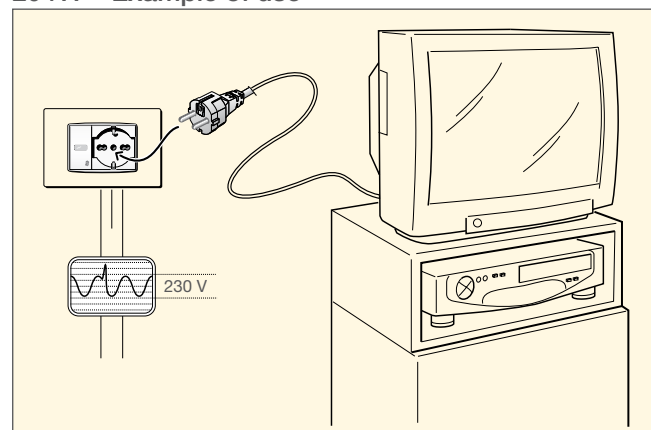
If the pilot lamp is green it means the current is connected and the protection device is working. If the pilot lamp is red it means the protection device has been activated and it needs to be replaced (the load is powered but not protected).

Conformity to Standards

LV Directive

EN 61643-11 Standard

20417 - Example of use



Circuit breakers

Scope

Protection of the circuits and of the electrical appliances connected against overload and short-circuit.

Technical specifications

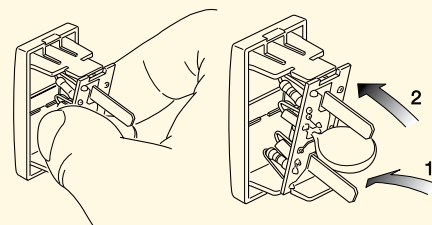
- supply voltage: 120-230 V~
- rated current: 6 A, 10 A, 16 A
- C type thermal-magnetic action (see Current-time tripping diagram)

Conformity to Standards

LV Directive

EN 60898-1 Standard

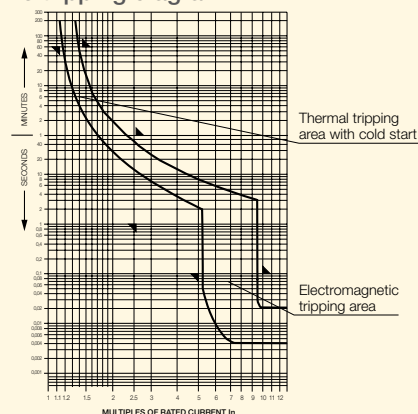
Protection device replacing



Circuit breaker

	1P		1P+N	
	Throughpass energy	Breaking capacity	Throughpass energy	Breaking capacity
C 6	14000 A²s	1500 A	10000 A²s	1500 A
C 10	14000 A²s	1500 A	26000 A²s	3000 A
C 16	15000 A²s	1500 A	30000 A²s	3000 A

Current-time tripping diagram



Protection device

20416	.B	.N	1P 16 A 250 V~ fuse carrier for ø 5x20 mm and ø 6,3x32 mm miniature fuses. Supplied without fuse
20417	.B	.N	Transient voltage suppressor (SPD), supply voltage 230 V~, to protect electronic devices connected to socket outlets, blow-out indicator
20417.R			Transient voltage suppressor (SPD) spare part



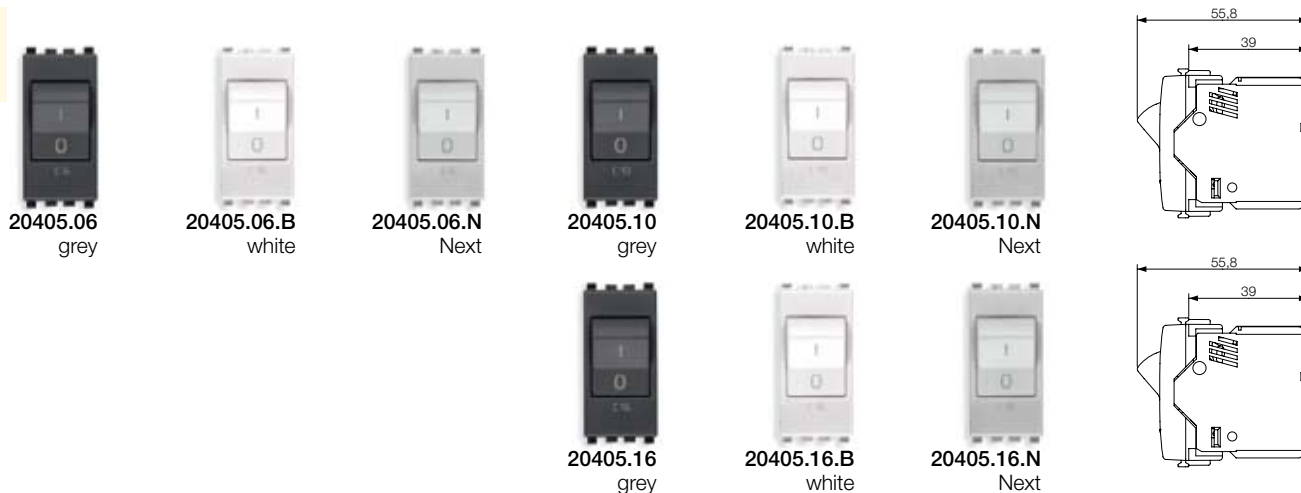
1P circuit breaker (CB)

20404.06	.B	.N	1P C 6 circuit breaker, supply voltage 120-230 V~ 50-60 Hz, breaking capacity 1500 A
20404.10	.B	.N	1P C 10 circuit breaker, supply voltage 120-230 V~ 50-60 Hz, breaking capacity 1500 A
20404.16	.B	.N	1P C 16 circuit breaker, supply voltage 120-230 V~ 50-60 Hz, breaking capacity 1500 A



1P+N circuit breaker (CB)

20405.06	.B	.N	1P+N C 6 circuit breaker, supply voltage 120-230 V~ 50-60 Hz, breaking capacity 1500 A
20405.10	.B	.N	1P+N C 10 circuit breaker, supply voltage 120-230 V~ 50-60 Hz, breaking capacity 3000 A
20405.16	.B	.N	1P+N C 16 circuit breaker, supply voltage 120-230 V~ 50-60 Hz, breaking capacity 3000 A



Protection - TECHNICAL CHARACTERISTICS

Residual current breaker with overcurrent protection

Scope

Equipments suitable to be installed at the end of a system for the protection of the load connected after them directly or through a socket outlet, against overload and short-circuit, and for the protection of the user against electrocution.

The protection against overload and against short-circuit is granted by the electromagnetic part of the equipment; the protection of the user against electrocution is given by the residual current breaker with overcurrent protection, for a value of 10 mA (sensitivity).

It is available also in the version with sensitivity $I_{\Delta n}$ of only 6 mA.

The green LED on the front indicates normal operation, i.e. mains voltage present and contacts closed.

The residual current function is also tripped by non-sinusoidal fault currents (alternating currents with unidirectional pulsating currents).

They are particularly suitable for the protection of:

- appliances at the end of the line in locations with high risk of electrocution (bathrooms, shower-baths, etc.)
- socket outlets for the supply of class I appliances with electronic circuits
- socket outlets for the supply of portable appliances in residential and similar applications (electric irons, electrical tools, etc.)

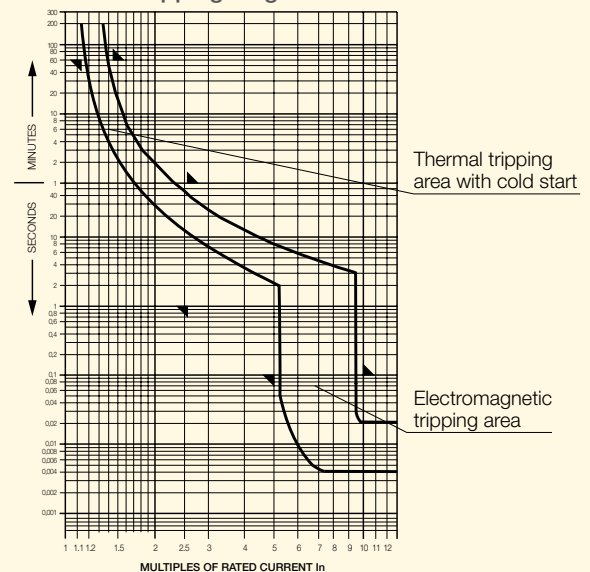
Technical specifications

- supply voltage: 120-230 V~
- residual current (sensitivity): $I_{\Delta n}$ 10 mA and 6 mA
- operation depending on the mains: must be installed after the differential master switch (§ 531.2.2.2 norma impianti CEI 64-8/5)
- rated current: 6 A, 10 A, 16 A
- two-pole section with 1 protected pole
- breaking capacity:
 - 1500 A (6 A)
 - 3000 A (10 A and 16 A)
- residual making and breaking capacity:
 - 1500 A
- C type thermal-magnetic action (see current-time tripping diagram)
- A type equipment for alternating and unidirectional pulsating fault current .

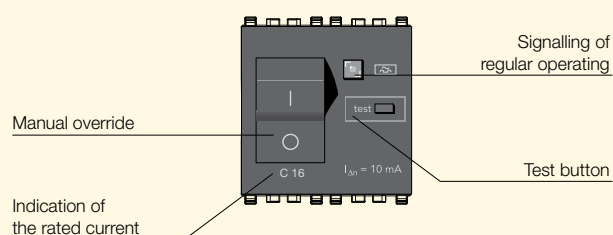
Conformity to Standards

LV Directive
EMC Directive
CEI 23-95 Standard

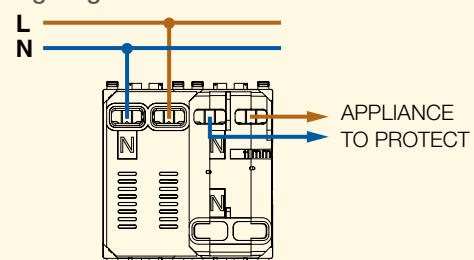
Current-time tripping diagram



Front view

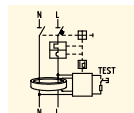


Wiring diagram



Residual current breaker with overcurrent protection (RCBO)

20411.06	.B	.N	1P+N C 6 residual current breaker with overcurrent protection, supply voltage 120-230 V~ 50-60 Hz, $I_{\Delta n}$ 10 mA, breaking capacity 1500 A - 2 modules
20411.10	.B	.N	1P+N C 10 residual current breaker with overcurrent protection, supply voltage 120-230 V~ 50-60 Hz, $I_{\Delta n}$ 10 mA, breaking capacity 3000 A - 2 modules



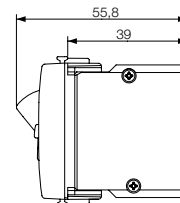
20411.06
grey



20411.06.B
white



20411.06.N
Next



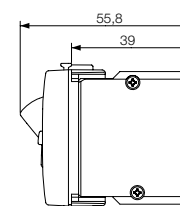
20411.10
grey



20411.10.B
white

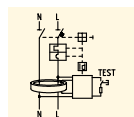


20411.10.N
Next



Residual current breaker with overcurrent protection (RCBO)

20411.16	.B	.N	1P+N C 16 residual current breaker with overcurrent protection, supply voltage 120-230 V~ 50-60 Hz, $I_{\Delta n}$ 10 mA, breaking capacity 3000 A - 2 modules
20411.16.6	.B	.N	1P+N C 16 residual current breaker with overcurrent protection, supply voltage 120-230 V~ 50-60 Hz, $I_{\Delta n}$ 6 mA, breaking capacity 3000 A - 2 modules



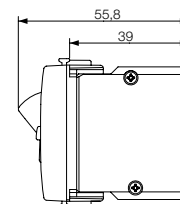
20411.16
grey



20411.16.B
white



20411.16.N
Next



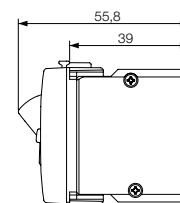
20411.16.6
grey



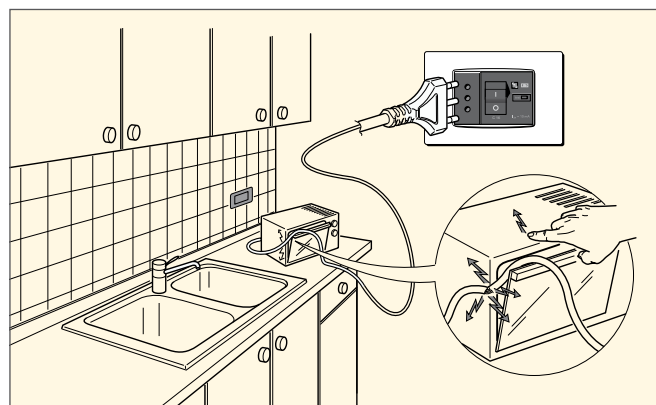
20411.16.6.B
white



20411.16.6.N
Next



Example of use in the kitchen



Example of use in the bathroom

