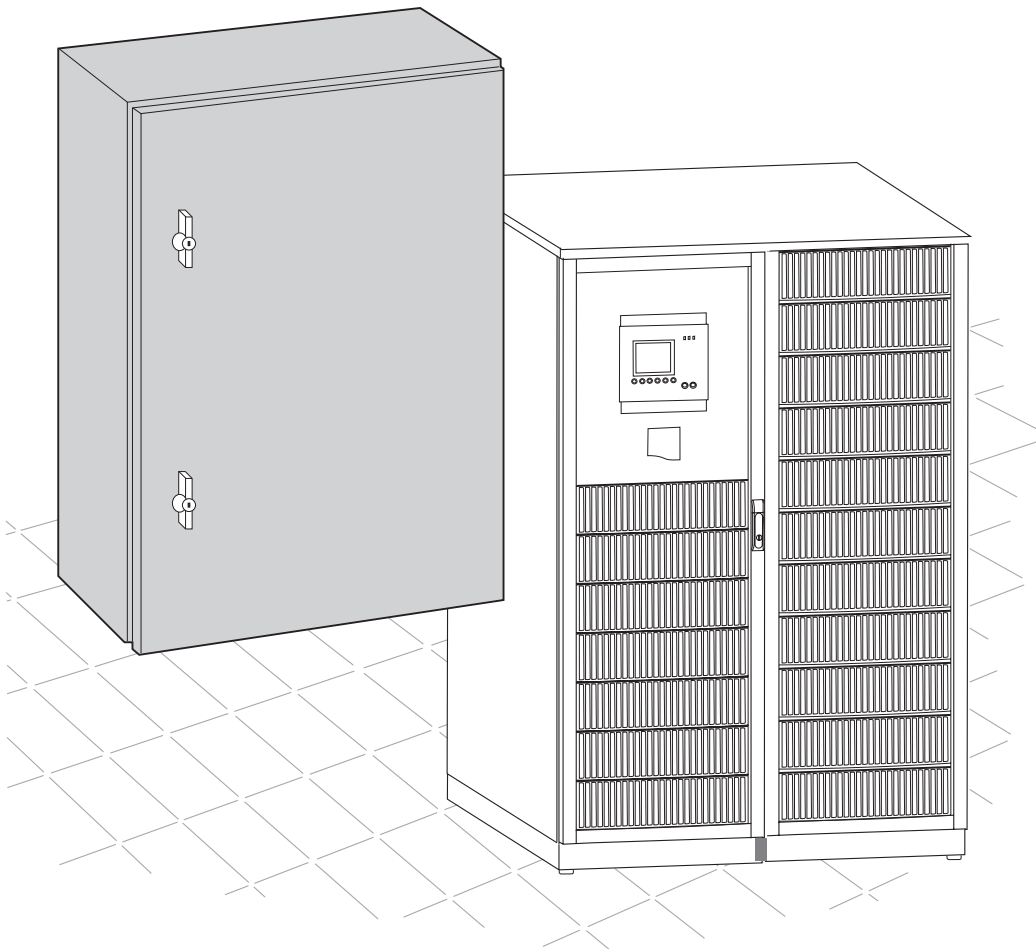


# MGE™ Galaxy™ 7000

160 – 500 kVA

Battery circuit-breaker  
enclosures

Installation manual





Thank you for selecting an APC by Schneider Electric product to protect your electrical equipment.

The **MGE™ Galaxy™ 7000** range has been designed with the utmost care.

We recommend that you take the time to read this manual to take full advantage of the many features of your **UPS (Uninterruptible Power System)**.

APC by Schneider Electric pays great attention to the environmental impact of its products.

Measures that have made **MGE™ Galaxy™ 7000** a reference in environmental protection include:

- ▶ the eco-design approach used in product development,
- ▶ the elimination of harmonic disturbances reinjected into the AC source,
- ▶ production in an ISO 14001 certified factory,
- ▶ recycling of the **MGE™ Galaxy™ 7000** at the end of its service life.

To discover the entire range of APC by Schneider Electric products and the options available for the **MGE™ Galaxy™ 7000** range, we invite you to visit our web site at [www.apc.com](http://www.apc.com) or contact your local representative.

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To take into account evolving standards and technology, equipment may be modified without notice. Indications concerning technical characteristics and dimensions are not binding unless confirmed by APC by Schneider Electric.

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"MGE™ Galaxy™ 7000 Battery circuit-breaker installation manual no. 3402152900".

# 1. Installation of enclosure



Only qualified persons can install UPS or its auxiliaries.

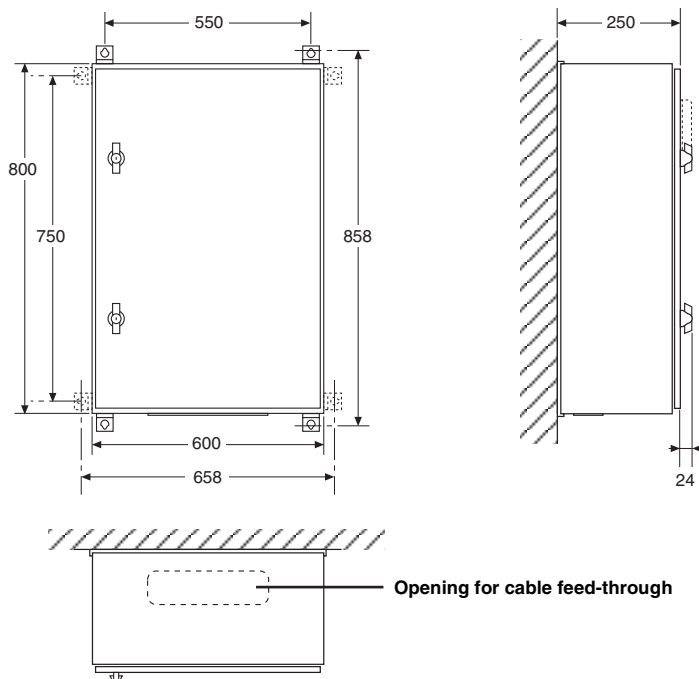
UPS or its auxiliaries must be installed in a room with restricted access.

The circuit-breaker enclosure must be located as close to the battery as possible,

The enclosure is fixed to a vertical wall by means of 4 screws of diameter 8 using the fastening lugs placed in the vertical or horizontal position

Only maintenance persons with a electrical security clearance are authorised to open enclosures.

## 1.1 1 Circuit-breaker NSX630S DC enclosure



► The enclosure door is closed by two lock knobs with a key (405 type) on one of the knobs,

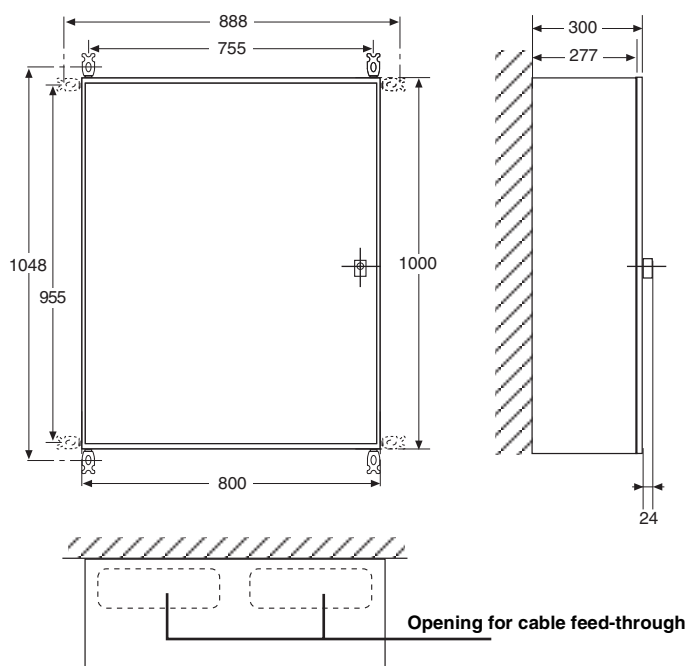
► cables are fed through the bottom of the enclosure via a 315 x 90 mm opening.

**enclosure weights :**

- 35 kg

Fig. 1

## 1.2 2 Circuit-breakers NSX630S DC enclosure



► The enclosure door is closed by only one point with a key (405 type),

► cables are fed through the bottom of the enclosure via two 345 x 130 mm openings.

**enclosure weights :**

- 65 kg

Fig. 2

## 2. Electrical characteristics of enclosure

- ▶ the characteristics of the enclosures indicated in the tables below are valid for a linear load charge with power factor of 0.9 and a minimum battery voltage set to 422 V on the UPS side,
- ▶ the recommended cable crosssections are applicable to U1000R02V type copper conductors. They are calculated in relation to permissible temperature rises and take into account a maximum line voltage drop of 1% for a maximum cable length of 25 m. For greater cable lengths, cross-sections will be chosen to keep the voltage drop within 1%.

UPS rated power in kVA	Maximum battery backup times at Sn(1) for a power factor of 0.9 in minutes	QF1 circuit-breaker			Max. cable cross-section in mm <sup>2</sup>
		Type	Release	Magnetic setting	
160	All	NSX630S DC	MP1	1000	1x95
200	All	NSX630S DC	MP1	1000	1x120
250	All	NSX630S DC	MP1	1500	1x150
300	≤ 15 mn > 15 mn	NSX630S DC 2 X NSX630S DC	MP1 MP1	1500 see below	1x185 1x185
400	≤ 5 mn > 5 mn	NSX630S DC 2 X NSX630S DC	MP1 MP1	1600 see below	1x240 1x240
500	All	2 X NSX630S DC	MP1	see below	2x150

(1) Sn = rated power ; for other values, consult the after sales department or your local agency.

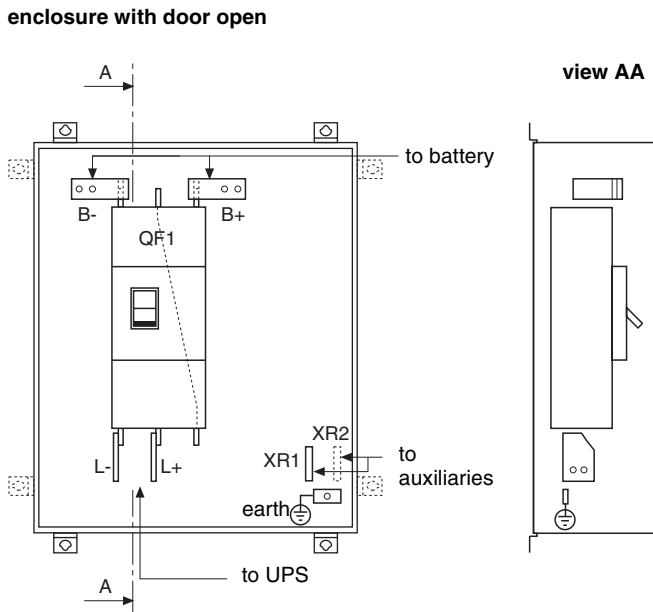
### Setting the 2 circuit-breakers NSX630S DC enclosure

UPS rated power in kVA	Maximum battery backup times	Total number of battery strings	QF1-1 circuit-breaker		QF1-2 circuit-breaker	
			Number of battery strings	Magnetic setting (A)	Number of battery strings	Magnetic setting (A)
300	>15 mn	2	1	800	1	800
		3	2	1000	1	800
		4	2	800	2	800
		5	3	1000	2	800
		6	3	800	3	800
400	>5 mn	2	1	800	1	800
		3	2	1100	1	800
		4	2	800	2	800
		5	3	1000	2	800
		6	3	800	3	800
500	Toutes	2	1	900	1	900
		3	2	1200	1	800
		4	2	900	2	900
		5	3	1100	2	800
		6	3	900	3	900

# 3. Connections

## 3.1 Connecting the 1 circuit-breaker NSX630S DC enclosure

### Connection points



► **connection to UPS** on 50 x 10 mm copper terminals with two 12,2 mm diameter holes,

► **connection to the battery** on 50 x 10 mm copper terminals with two 12,2 mm diameter holes,

► **earth connection** on 50 x 5 mm copper terminals with 12,2 mm diameter hole.

► **Connection order:**

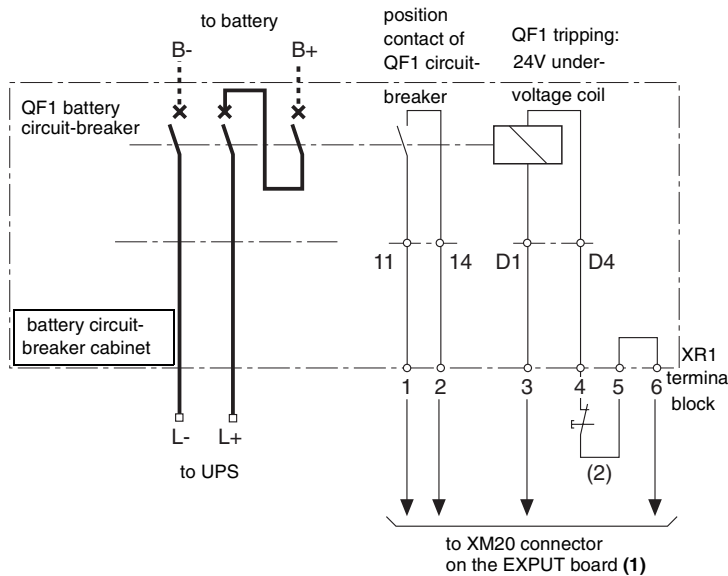
- 1 - Connect to earth
- 2 - Connect to the battery
- 3 - Connect to UPS
- 4 - Connect the control-wire cables as described below

► **Put the protective cover back in place after connection operations.**

Fig. 3

### Connection diagrams

Connection for a enclosure without insulation monitor (see electrical characteristics table)



► the cross-section of the power cables is given in the tables in the section entitled "Electrical characteristics of enclosure" page 5;

► recommended cross-section of auxiliary conductors: 1 mm<sup>2</sup> / AWG18 (terminal acceptance capacity: 2 mm<sup>2</sup> / AWG16 );

- make sure that the auxiliary conductors and power cables do not follow the same path,
- power cables and auxiliary conductors are not supplied.

**Important** : leave the QF1 circuit-breaker in «off» position until the **MGE™ Galaxy™ 7000** unit has been commissioned.

(1) See **MGE™ Galaxy™ 7000** n° 3402084600.

(2) Strap or one of the contacts of the emergency stop button, if any.

Fig. 4

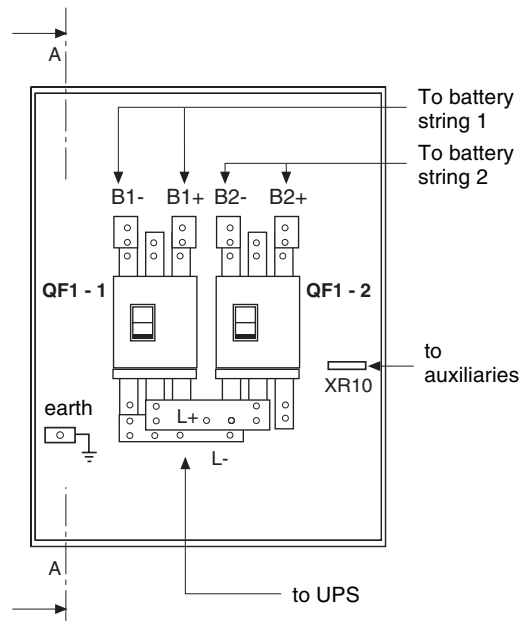
## 3.2 Connecting the 2 circuit-breakers NSX630S DC enclosure



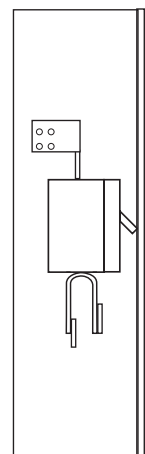
A maximum of 2 circuit-breakers NSX630S DC enclosures can be connected for each UPS.

### Connection points

Enclosure with door open



view AA



► **connection to UPS** on 63 x 8 mm copper terminals with four 12.2 mm diameter holes,

► **connection to the battery** on 80 x 5 mm copper terminals with four 12.2 mm diameter holes,

► **earth connection** on 50 x 8 mm copper terminals with three 12.2 mm diameter holes.

► **Connection order:**

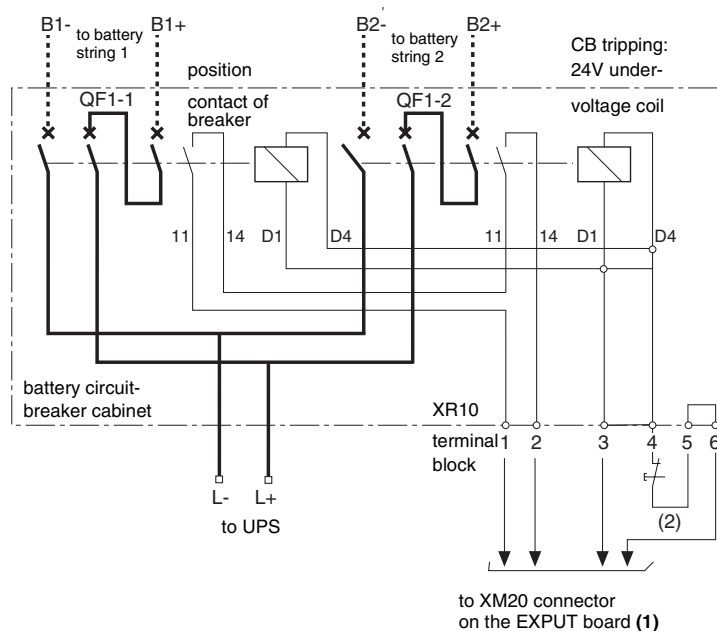
- 1 - Connect to earth
- 2 - Connect to the battery
- 3 - Connect to UPS
- 4 - Connect the control-wire cables as described below

► **Put the protective cover back in place after connection operations.**

Fig. 5

### Connection diagrams

Connection for a enclosure without insulation monitor (see electrical characteristics table)



► the cross-section of the power cables is given in the tables in the section entitled "Electrical characteristics of enclosure" page 5;

► recommended cross-section of auxiliary conductors: 1 mm<sup>2</sup> / AWG18 (terminal acceptance capacity: 2.5 mm<sup>2</sup> / AWG16 );

► **make sure that the auxiliary conductors and power cables do not follow the same path,**

► power cables and auxiliary conductors are not supplied.

**Important :** leave the QF1 circuit-breaker in «off» position until the MGE™ Galaxy™ 7000 unit has been commissioned.

(1) Don't use UPS EXPUT board pins 9 to 12 to connect the circuit-breaker enclosure. See MGE™ Galaxy™ 7000 n° 3402084600.

(2) Strap or one of the contacts of the emergency stop button, if any.

Fig. 6

# 3. Connections

## 3.2 Connecting the enclosure auxiliary cables to MGE™ Galaxy™ 7000 UPS cabinets

### EXPUT board location

