



APC MGE Upsilon STS - руководство по эксплуатации. Юниджет

Постоянная ссылка на страницу: <https://www.uni-jet.com/catalog/staticheskie-avr/apc-mge-upsilon-sts.html>





MGE™ UPSILON™ STS
50, 60 Hz
30A-60A-100A-160A 250A-
400A-630A

**Installation and user
manual**

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

The **MGE™ Upsilon™ STS** range has been designed with the upmost care. We recommend that you take the time to read this manual to take full advantage of the many features of your new equipment.

APC by Schneider Electric pays great attention to the environmental impact of its products. Measures that have made **MGE™ Upsilon™ STS** a reference in environmental protection include:

- ▶ the eco-design approach used in product development,
- ▶ production on an industrial site certified ISO 14001,
- ▶ recycling of **MGE™ Upsilon™ STS** 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™ Upsilon™ STS** range, we invite you to visit our web site at **www.apc.com** or contact your APC by Schneider Electric representative.

Standards

The STS must be installed in agreement with the IEC 60364 standards family (including IEC 60364-4-41, IEC 60364-4-42 and IEC 60364-4-43) and local regulations.

Emc

This product is an apparatus answering the Class A requirements as described in the CISPR 11 standard.

It is intended to be connected to an installation separated from the public mains by a transformer. It can be connected to the public mains (residential installation or any installation having the the same supply mains) only by a professional, insuring that the installation requirements are respected.

All products in the **MGE™ Upsilon™ STS** range are protected by patents. They implement original technology not available to competitors of APC by Schneider Electric.

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.

This document may be copied only with the written consent of APC by Schneider Electric. Authorised copies must be marked "**MGE™ Upsilon™ STS** Installation and User Manual, no. 3402011300".

Foreword

Using this document

Information may be found primarily by consulting:

- ▶ the contents,
- ▶ the index.

Pictograms Document

	Important instructions that must be followed		Up / down selection		Go up or down one page
	Information, advice, help		Other selection		Select date for event log consultation
	Visual indication		Confirm		Increase
	Action		Details		Reduce
	Audio indication		Scrolling menu		Save
	LED off		Graphic display		Enter characters
	LED flashing		Graphic display for 1 phase		Phase-to-neutral measurements
	LED on green		Graphic display for 3 phases simultaneously		Phase-to-phase measurements
	LED on orange		Return to previous display		Interrupt manual transfer without break
	LED on red		Delete		Transfer
	Earth cables		Access to measurements		Alarm
	Other cables		Buzzer off		Status conditions
			Fast forward		Settings
			Forward		Maintenance

Note: LEDs and switches are represented in their rest position. Transient conditions are indicated by dotted arrows.

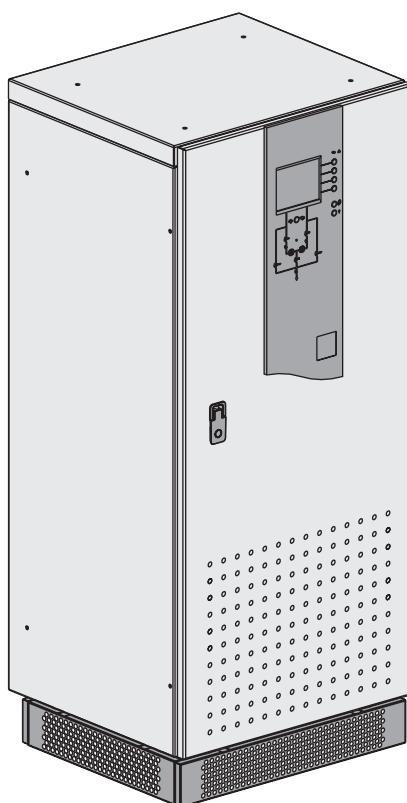
1.	Presentation	
1.1	MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 A (cabinet 1400 mm high)	7
1.2	MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 - 400 - 630 A (cabinet 1900 mm high)	7
1.3	Access to control and connections	8
	MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 A (cabinet 1400 mm high)	8
	MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 - 400 - 630 A (cabinet 1900 mm high)	8
1.4	Man / machine interface	9
1.5	Relay communication card	10
1.6	JBus communication card	10
1.7	MGE SNMP/Web card communication card (optional)	10
1.8	PowerService Telpac communication card (optional)	10
2.	Installation	
2.1	Positioning	11
	MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 A (cabinet 1400 mm high)	11
	MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 - 400 - 630 A (cabinet 1900 mm high)	11
2.2	Power connections	12
	MGE™ Upsilon™ STS 30 to 250 A with input/output: 3 phases + PEN,	12
	MGE™ Upsilon™ STS 30 to 250 A with input: 3 phases + PEN, output: 3 phases + PE + Neutral .	12
		12
	MGE™ Upsilon™ STS 30 to 250 A with input: 3 phases + PEN, output: 3 phases + PE	13
	MGE™ Upsilon™ STS 30 to 250 A with input/output: 3 phases + PE + Neutral	13
	MGE™ Upsilon™ STS 30 to 250 A with input/output: 3 phases + PE	13
	MGE™ Upsilon™ STS 400 to 630 A with input/output: 3 phases + PEN	14
	MGE™ Upsilon™ STS 400 to 630 A with input: 3 phases + PEN, output: 3 phases + PE + Neutral	14
		14
	MGE™ Upsilon™ STS 400 to 630 A with input: 3 phases + PEN, output: 3 phases + PE	15
	MGE™ Upsilon™ STS 400 to 630 A with input/output: 3 phases + PE + Neutral	15
	MGE™ Upsilon™ STS 400 to 630 A with input/output: 3 phases + PE	15
	Cable running for cables entering through the top of the Upsilon STS 30 to 250 A cabinet	16
2.3	Connection of the communication cards	17
2.4	Connection of the JBUS communication card	17
2.5	Connection of the relay communication card	18
3.	Operation	
3.1	Start-up	19
3.2	Shutdown	19
3.3	Normal mode: operation on preferred source S1	20
	Operation on the preferred source	20
	Automatic transfer to the alternate source	20
	Manual transfer to the alternate source	20
	Manual transfer to an out-of-phase alternate source	21
3.4	Display screens	22
3.5	MGE™ Upsilon™ STS customization	23
3.6	Customization of the relay communication card	24
4	Maintenance	
4.1	Identification of anomalies	25

Contents

- 4.2 Transfer to the manual bypass 26
- 5 Environment27
- 6 Appendix
 - 6.1 Technical data 28
 - Output currents and voltage 28
 - Thermal characteristics 28
 - Noise level 28
 - Cable sizes 28
 - Recommended protection devices upstream of **Upsilon STS** 28
 - Permissible-overload curve 28
 - 6.2 Simplified diagrams 29
 - Upsilon STS** simplified diagram 29
 - Simplified diagram of an installation 29
 - 6.3 Glossary 30
 - 6.4 Index 31

1. Presentation

1.1 MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 A (cabinet 1400 mm high)



Dimensions in mm

Height	Width	Depth
1400 ±10	615	565

Weight in kg

STS	
30 - 60 - 100 A	157 kg
160 - 250 A	174 kg

Footprint

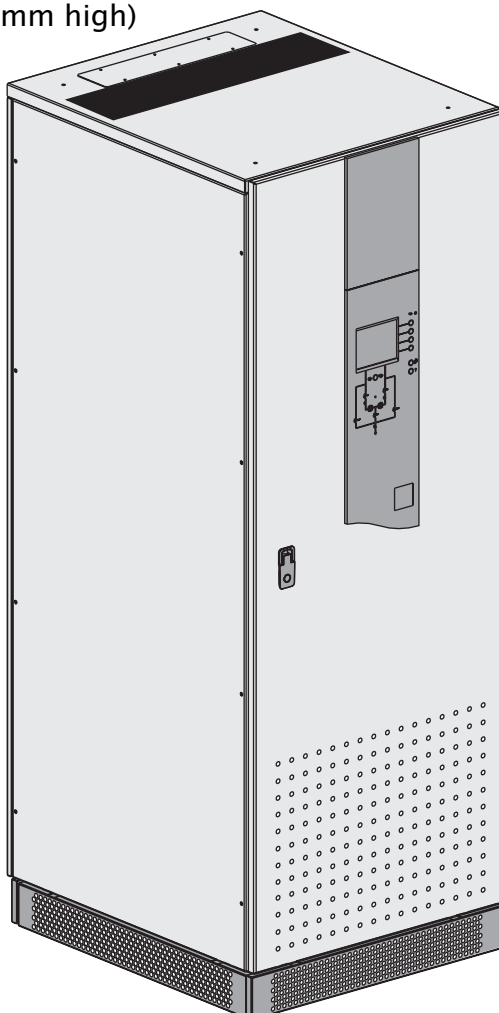
0.34 m ²



Important: correct ventilation requires at least 250 mm of free space behind the cabinet.

1.2 MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 - 400 - 630 A

(cabinet 1900 mm high)



Dimensions in mm

Height	Width	Depth
1900 ±10	715	825

Weight in kg

STS	
30 - 60 - 100 A	215 kg
160 - 250 A	225 kg
400 - 630 A	327 kg

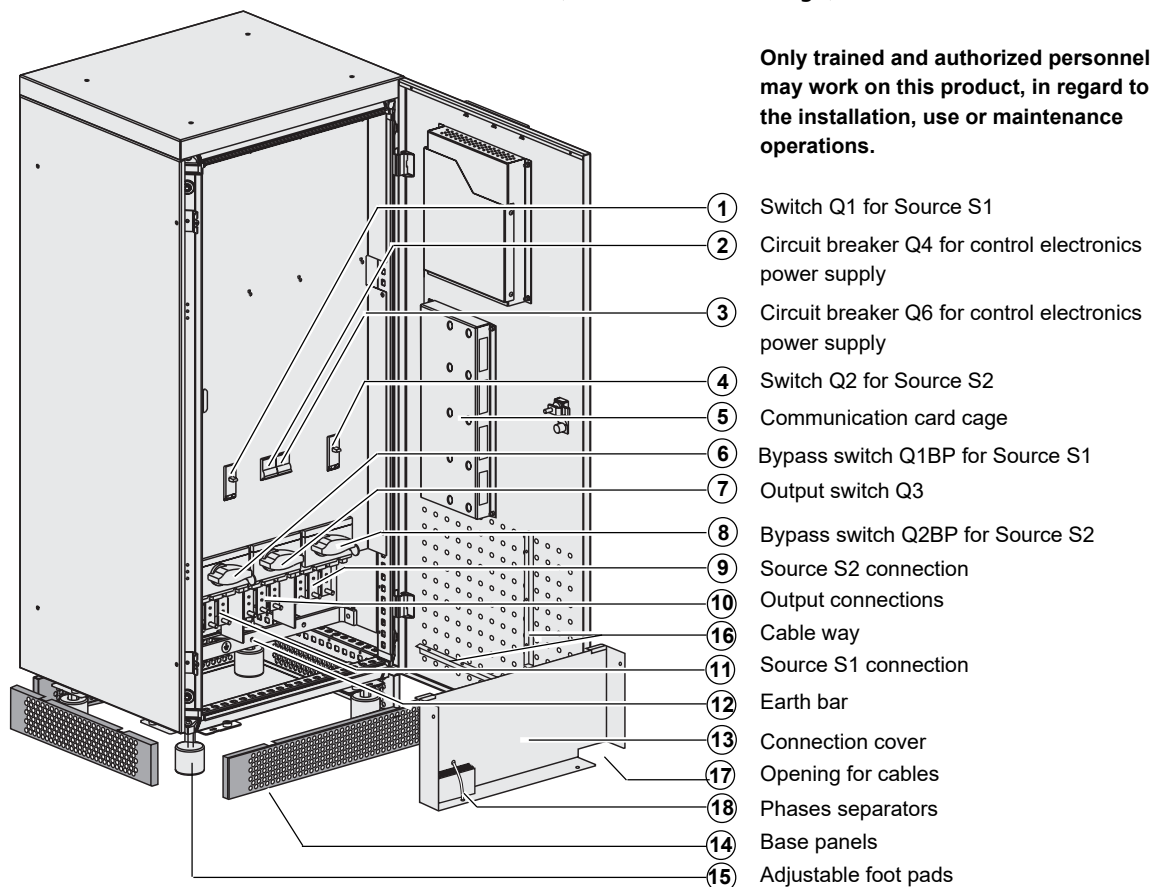
Footprint

0.60 m ²

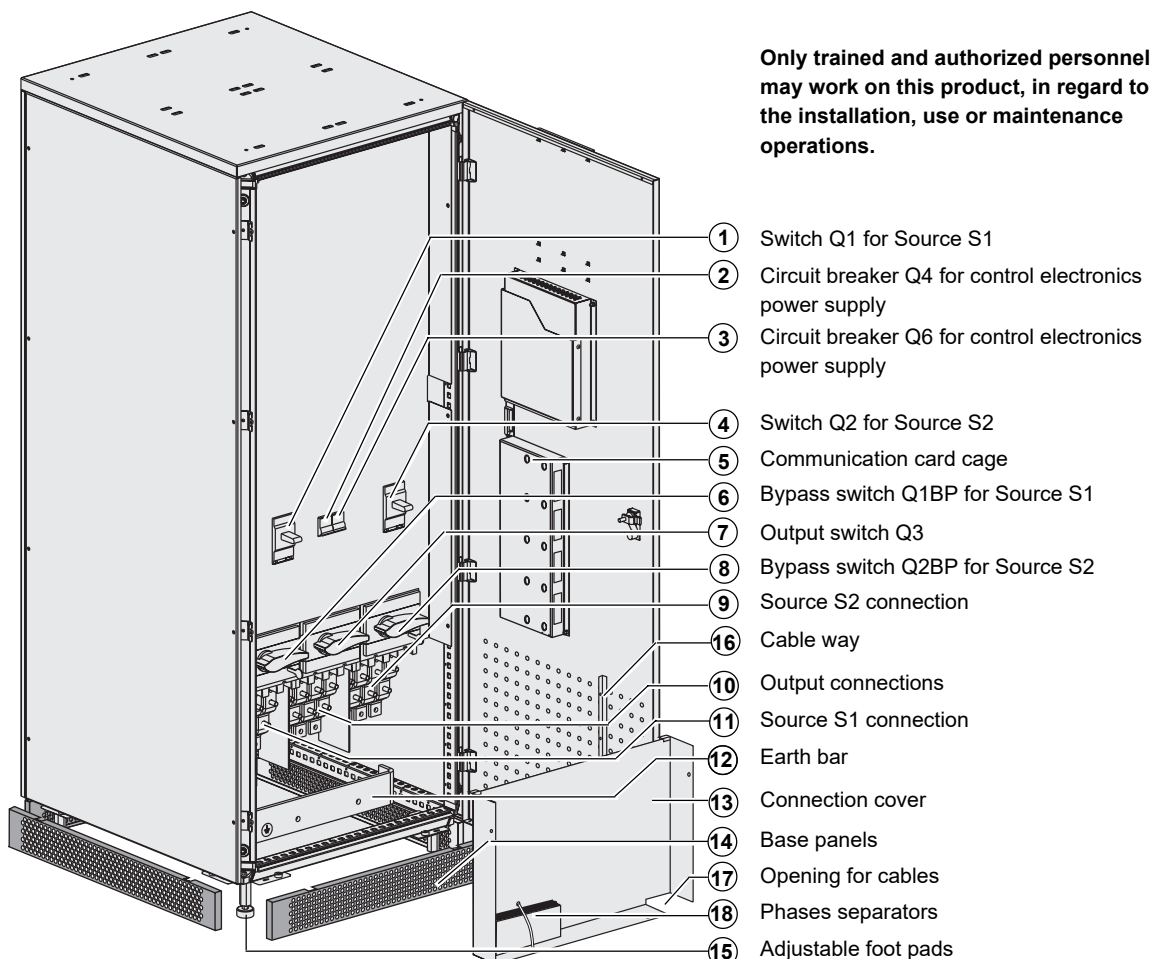
1. Presentation

1.3 Access to control and connections

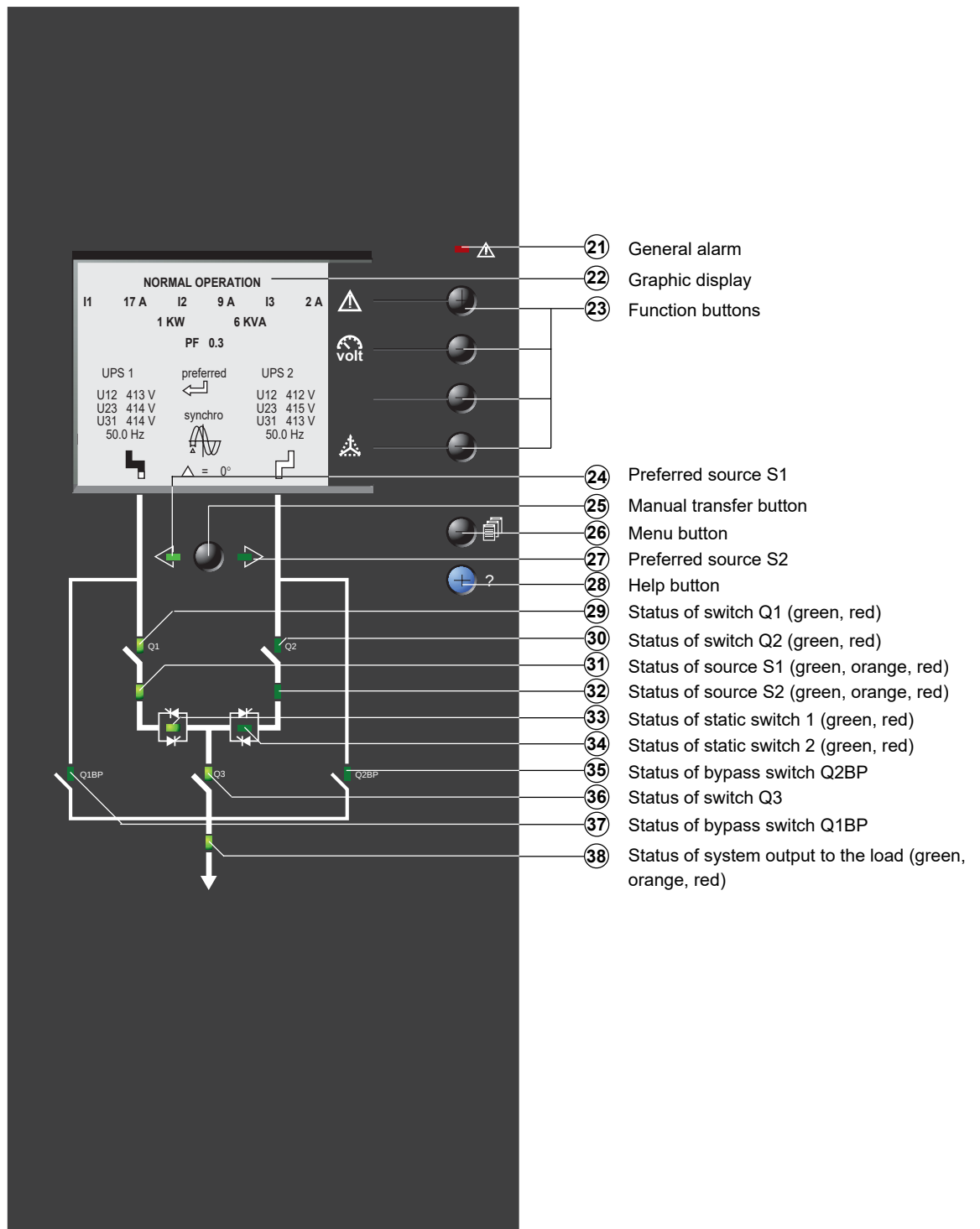
MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 A (cabinet 1400 mm high)



MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 - 400 - 630 A (cabinet 1900 mm high)

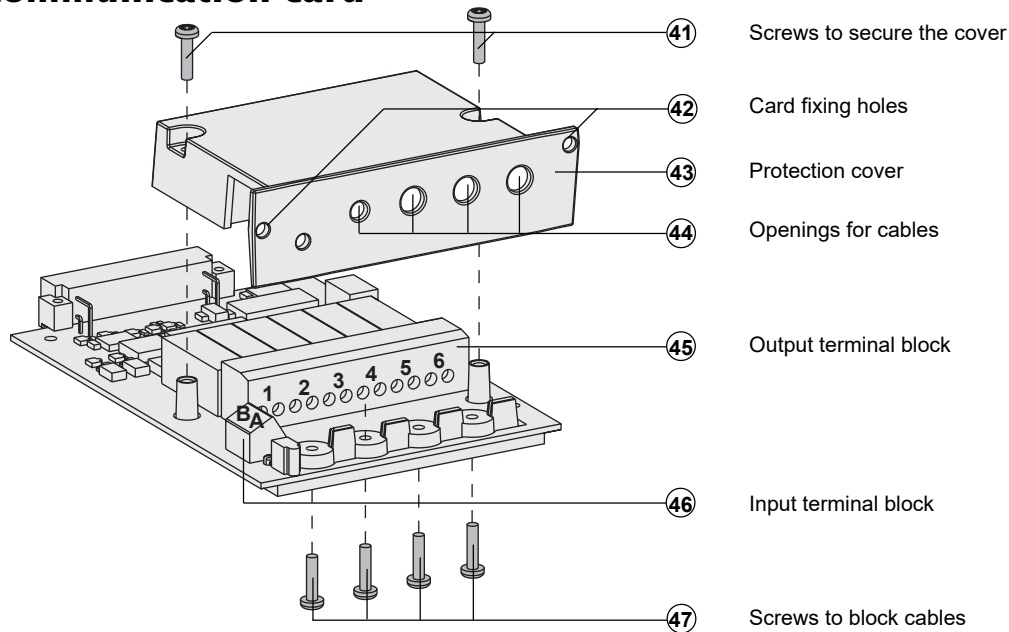


1.4 Man / machine interface

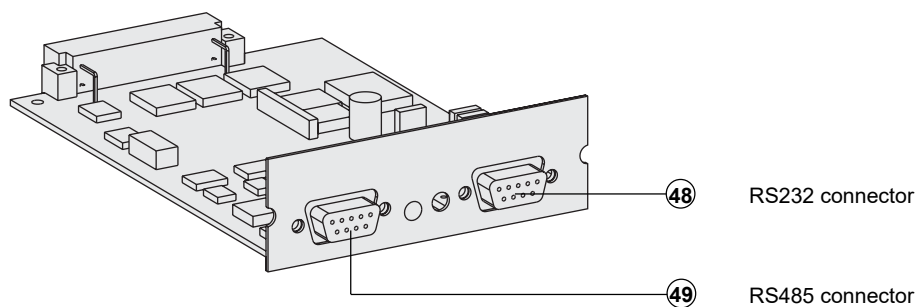


1. Presentation

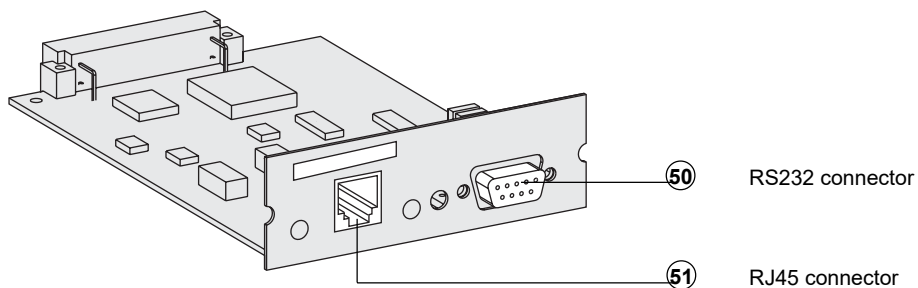
1.5 Relay communication card



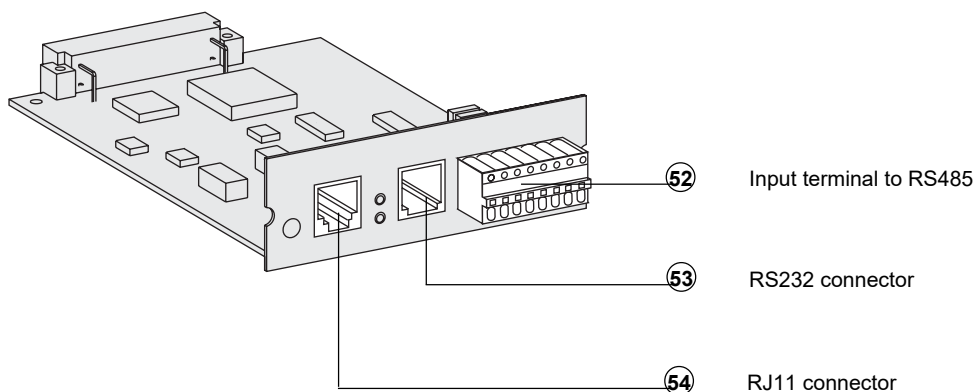
1.6 JBus communication card



1.7 MGE SNMP/Web card communication card (Optional)



1.8 PowerServices Telpac communication card (Optional)



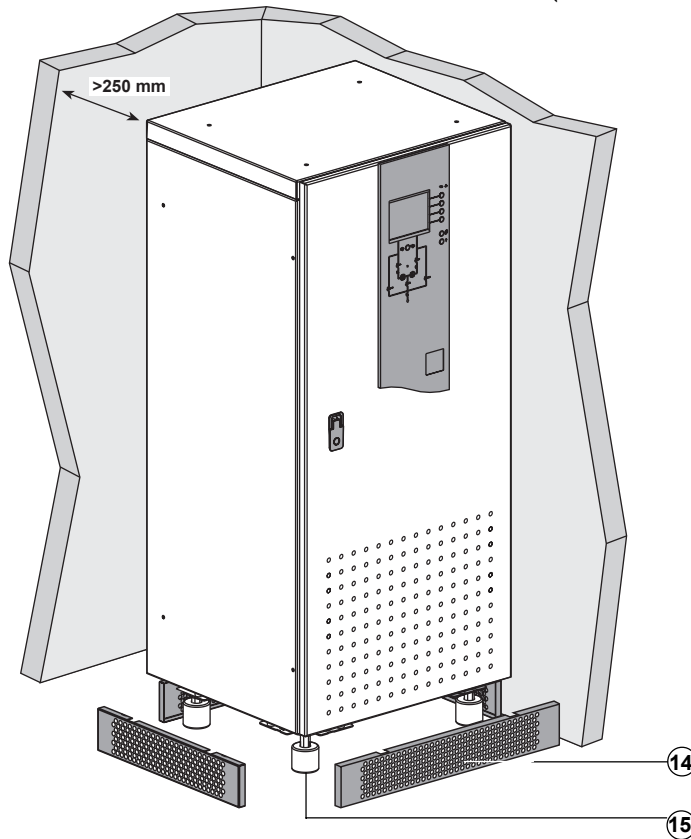
2. Installation

2.1 Positioning

The product must be installed in a restricted access area with access only to trained and authorized service personnel.

Only trained and authorized personnel may work on this product, in regard to the installation, use or maintenance operations.

MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 A (cabinet 1400 mm high)



Never expose the STS to direct sunlight, sources of heat or strong electromagnetic fields.



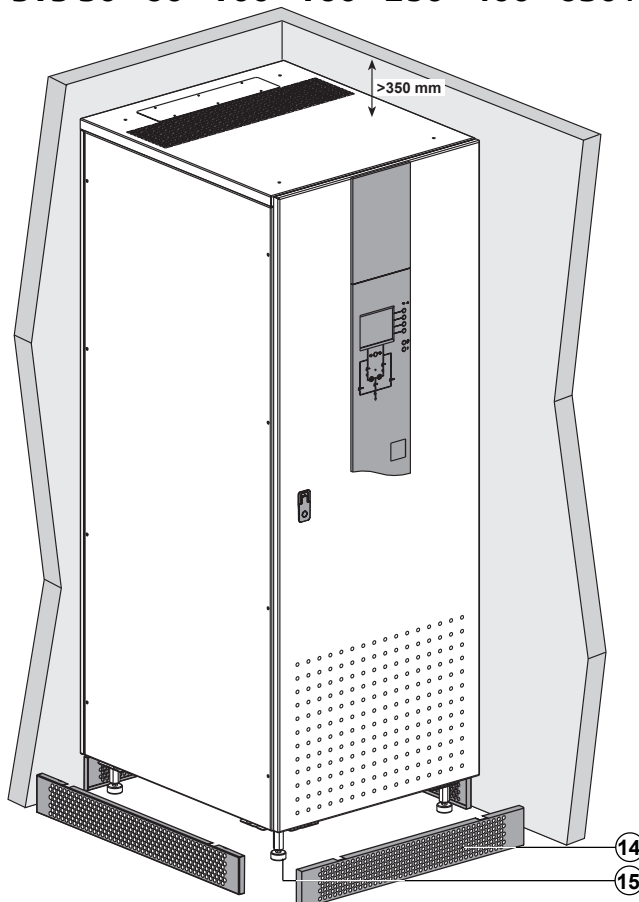
It must only be only positioned on a concrete floor or any other non-combustible surface.

- 1 - Unclip the base panels (14).
- 2 - Set the cabinet to a level position using the adjustable foot pads (15).
- 3 - Put the base panels (14) back in place.



Important: correct ventilation requires at least 250 mm of free space behind the cabinet.

MGE™ Upsilon™ STS 30 - 60 - 100 - 160 - 250 - 400 - 630 A (cabinet 1900 mm high)



Never expose the STS to direct sunlight, sources of heat or strong electromagnetic fields.



It must only be only positioned on a concrete floor or any other non-combustible surface.

- 1 - Unclip the base panels (14).
- 2 - Set the cabinet to a level position using the adjustable foot pads (15).
- 3 - Put the base panels (14) back in place.



Important: correct ventilation requires at least 350 mm of free space above the cabinet.

2. Installation

2.2 Power connections



See section 6.1 for information on sizing protection devices and cables (Appendix, Technical data).

The Upsilon STS has been designed to allow connection to a TT, TN and IT system (as defined by standards IEC/EN 60950-1 or IEC 60364-3).



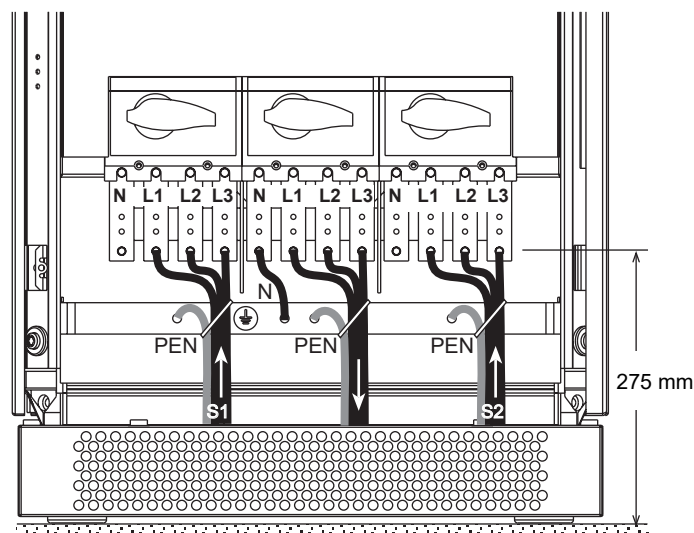
SELV circuits must have a separated path from other circuits or must be protected by a reinforced insulation.

- ▶ Separate the metallic conduits or ducts containing the power wiring (input / output) by at least 8 cm (3 inches) from the metallic conduits which contain the control wiring.
- ▶ Separate the non-metallic conduits or ducts containing the power wiring (input / output) by at least 30 cm (12 inches) from the conduits which contain the control wiring.
- ▶ Power wiring (input/output) and control wiring must always intersect at right angles.

MGE™ Upsilon™ STS 30 to 250 A

Input: 3 phases + PEN

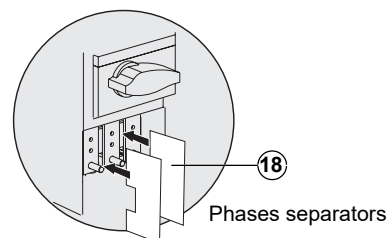
Output: 3 phases + PEN



See section 1.3 for information on accessing the connections.

Connections are made using lugs connected to threaded studs (diameter 8 mm).

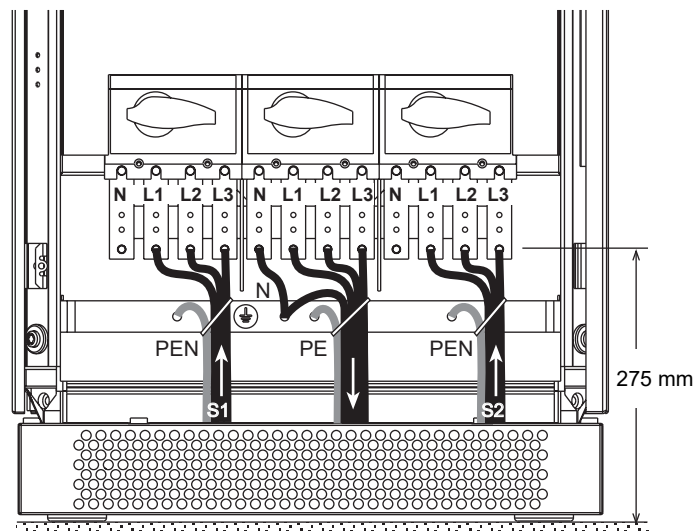
The cables are tied to the earth bar.



MGE™ Upsilon™ STS 30 to 250 A

Input: 3 phases + PEN

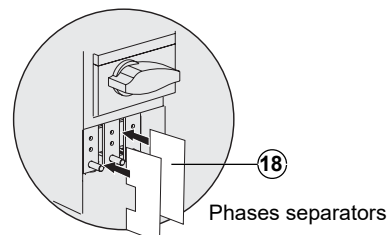
Output: 3 phases + PE + Neutral



See section 1.3 for information on accessing the connections.

Connections are made using lugs connected to threaded studs (diameter 8 mm).

The cables are tied to the earth bar.

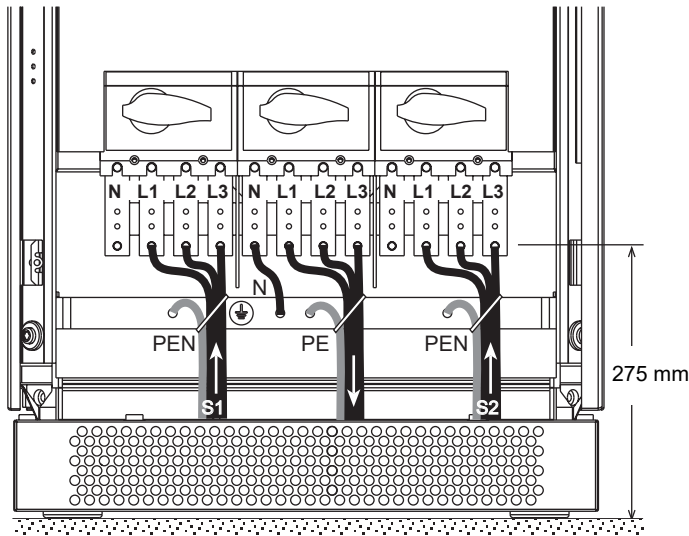


2. Installation

MGE™ Upsilon™ STS30 to 250 A

Input: 3 phases + PEN

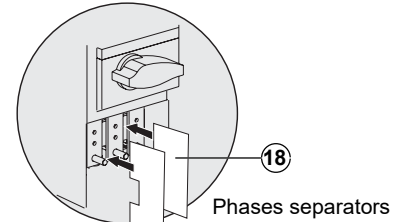
Output: 3 phases + PE



See section 1.3 for information on accessing the connections.

Connections are made using lugs connected to threaded studs (diameter 8 mm).

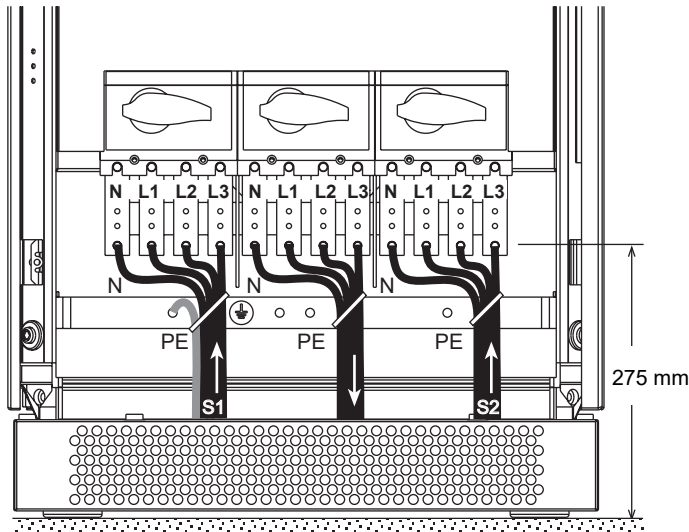
The cables are tied to the earth bar.



MGE™ Upsilon™ STS 30 to 250 A

Input: 3 phases + PE + Neutral

Output: 3 phases + PE + Neutral

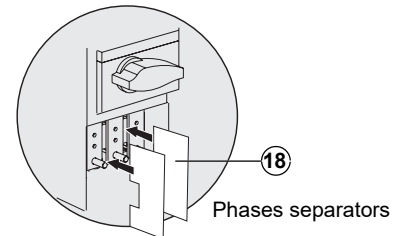


See section 1.3 for information on accessing the connections.

Connections are made using lugs connected to threaded studs (diameter 8 mm).

The cables are tied to the earth bar.

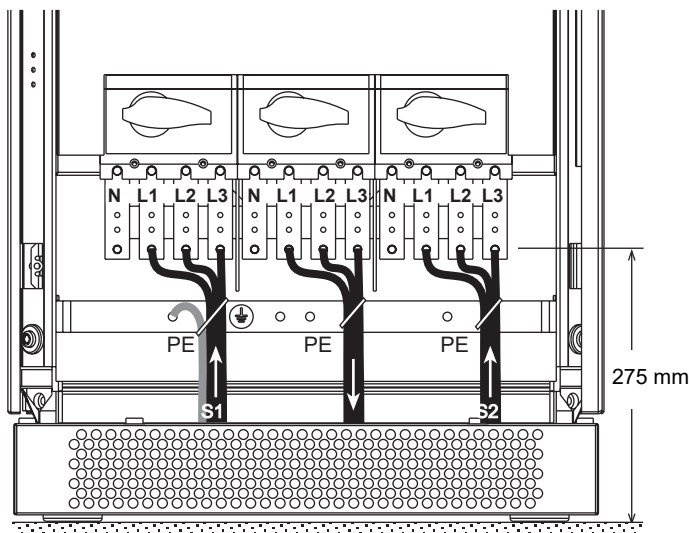
Only one earth must be connected to the product.



MGE™ Upsilon™ STS 30 to 250 A

Input: 3 phases + PE

Output: 3 phases + PE

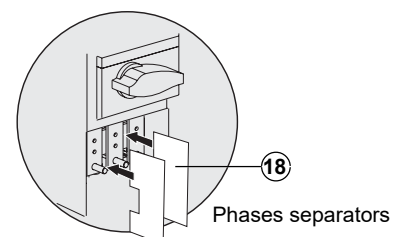


See section 1.3 for information on accessing the connections.

Connections are made using lugs connected to threaded studs (diameter 8 mm).

The cables are tied to the earth bar.

Only one earth must be connected to the product.



2. Installation



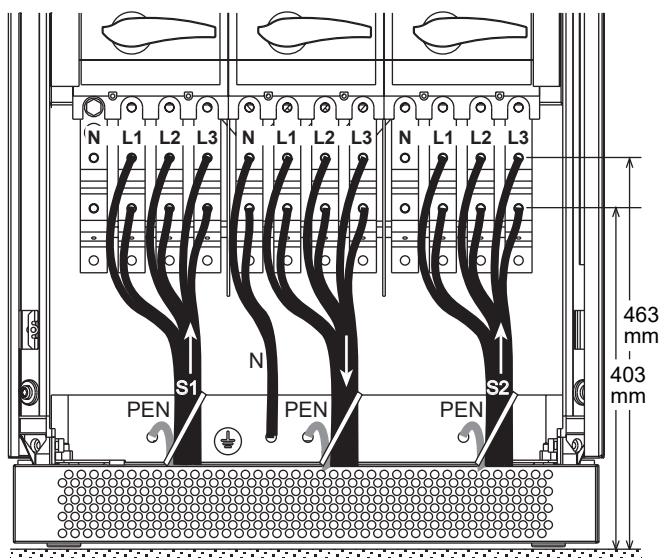
See section 6.1 for information on sizing protection devices and cables (Appendix, Technical data).

The Upsilon STS has been designed to allow connection to a TT, TN and IT system (as defined by standards IEC/EN 60950-1 or IEC 60364-3).

MGE™ Upsilon™ STS 400 to 630 A

Input: 3 phases + PEN

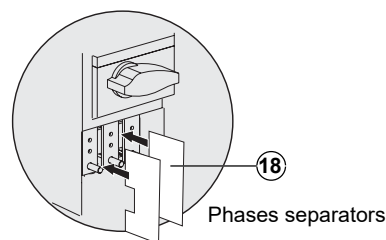
Output: 3 phases + PEN



See section 1.3 for information on accessing the connections.

Connections are made using lugs connected to two threaded studs per phase (diameter 10 mm).

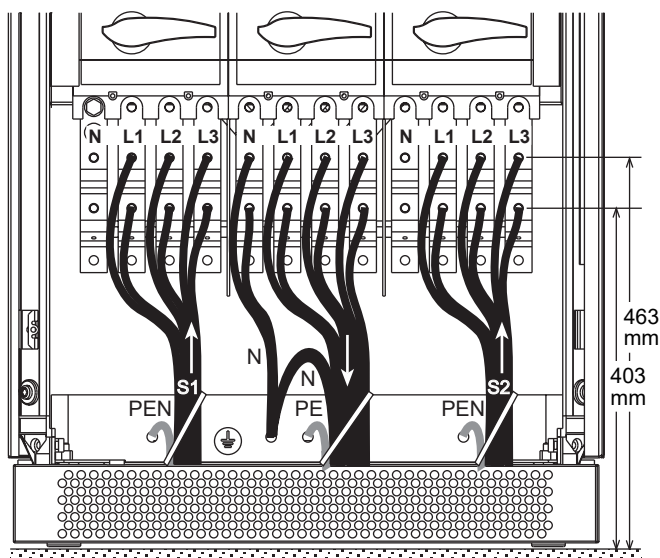
The cables are tied to the earth bar.



MGE™ Upsilon™ STS 400 to 630 A

Input: 3 phases + PEN

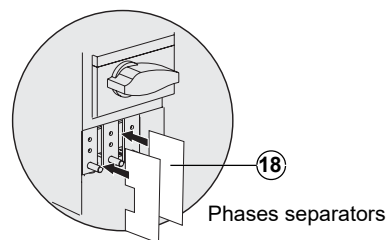
Output: 3 phases + PE + Neutral



See section 1.3 for information on accessing the connections.

Connections are made using lugs connected to two threaded studs per phase (diameter 10 mm).

The cables are tied to the earth bar.

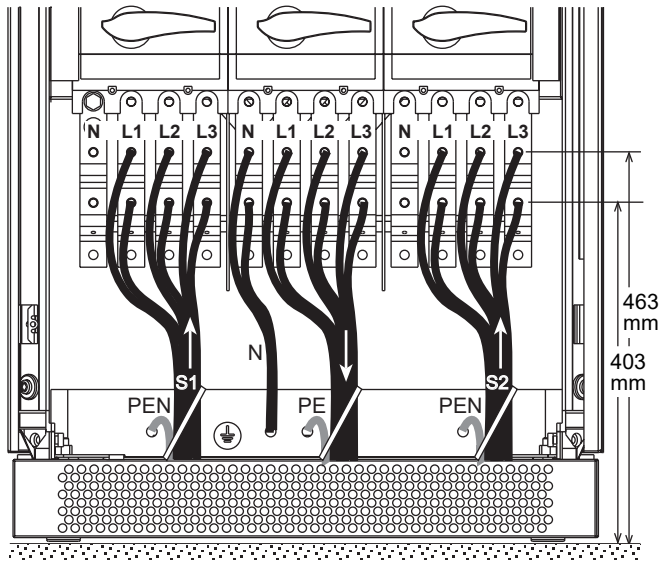


2. Installation

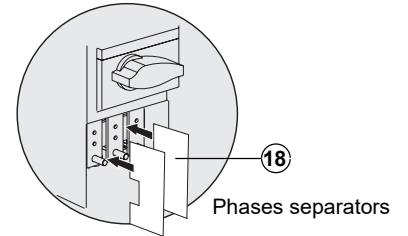
MGE™ Upsilon™ STS 400 to 630 A

Input: 3 phases + PEN

Output: 3 phases + PE



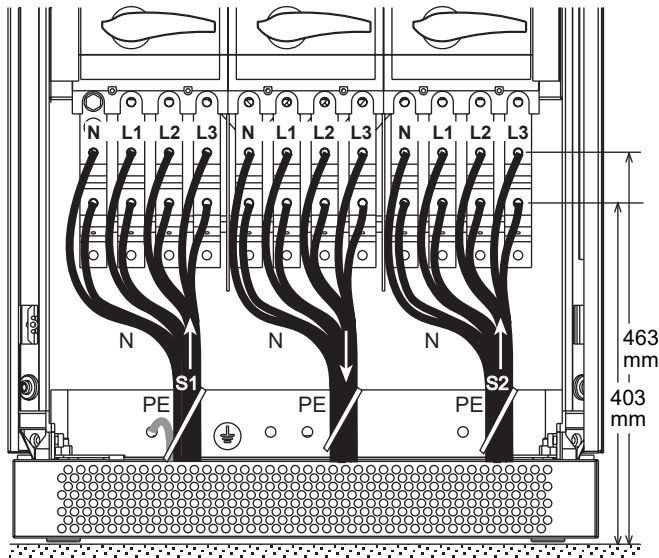
See section 1.3 for information on accessing the connections.
Connections are made using lugs connected to two threaded studs per phase (diameter 10 mm).
The cables are tied to the earth bar.



MGE™ Upsilon™ STS 400 to 630 A

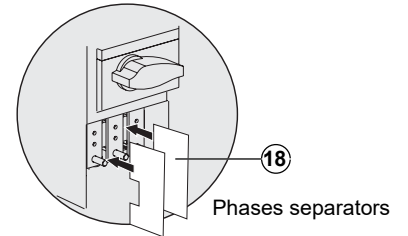
Input: 3 phases + PE + Neutral

Output: 3 phases + PE + Neutral



See section 1.3 for information on accessing the connections.
Connections are made using lugs connected to two threaded studs per phase (diameter 10 mm).
The cables are tied to the earth bar.

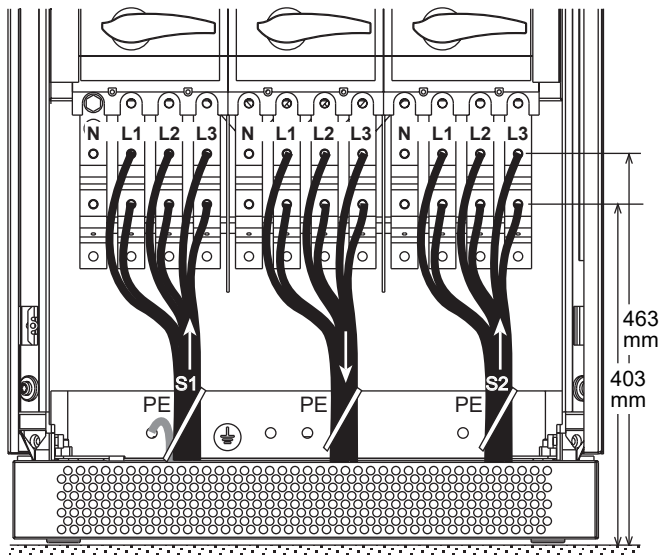
Only one earth must be connected to the product.



MGE™ Upsilon™ STS 400 to 630 A

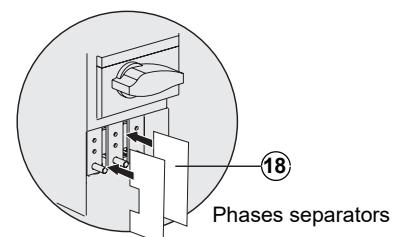
Input: 3 phases + PE

Output: 3 phases + PE



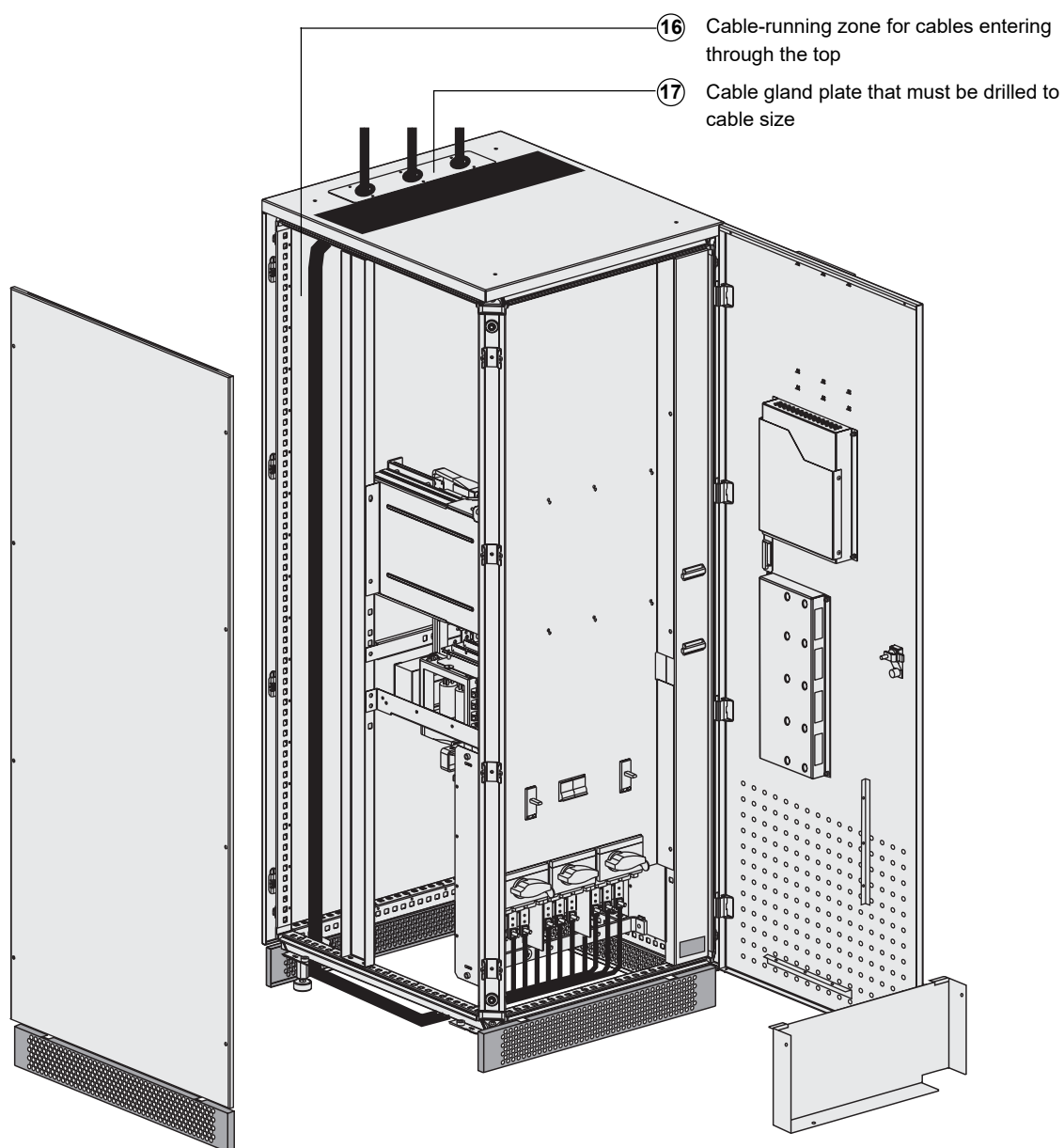
See section 1.3 for information on accessing the connections.
Connections are made using lugs connected to two threaded studs per phase (diameter 10 mm).
The cables are tied to the earth bar.

Only one earth must be connected to the product.



2. Installation

Cable running for cables entering through the top of the MGE™ Upsilon™ STS 30 to 250 A cabinet

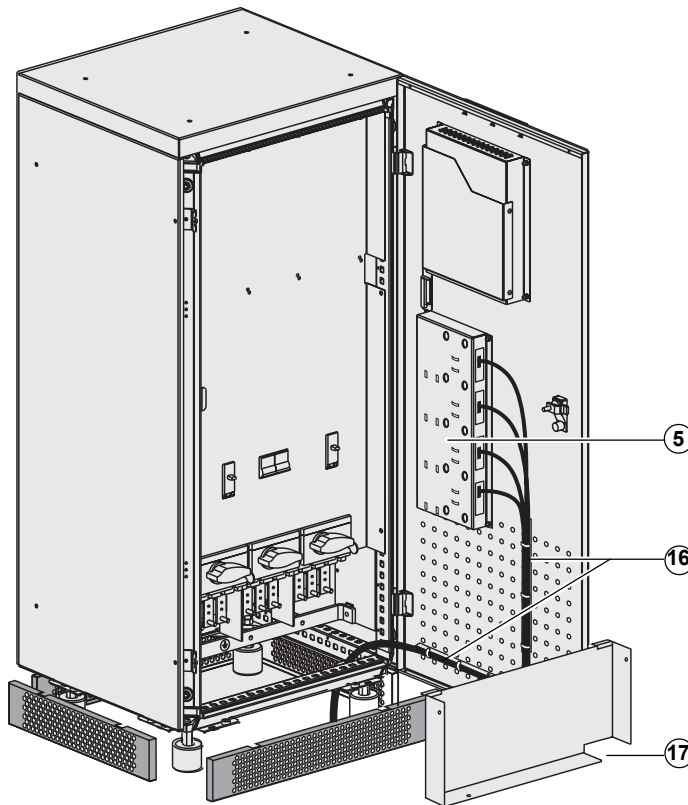


2. Installation

2.3 Connection of the communication cards

SELV circuits must have a separated path from other circuits or must be protected by a reinforced insulation.

- Separate the metallic conduits or ducts containing the power wiring (input / output) by at least 8 cm (3 inches) from the metallic conduits which contain the control wiring.
- Separate the non-metallic conduits or ducts containing the power wiring (input / output) by at least 30 cm (12 inches) from the conduits which contain the control wiring.
- Power wiring (input/output) and control wiring must always intersect at right angles.



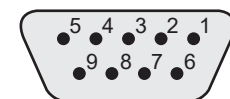
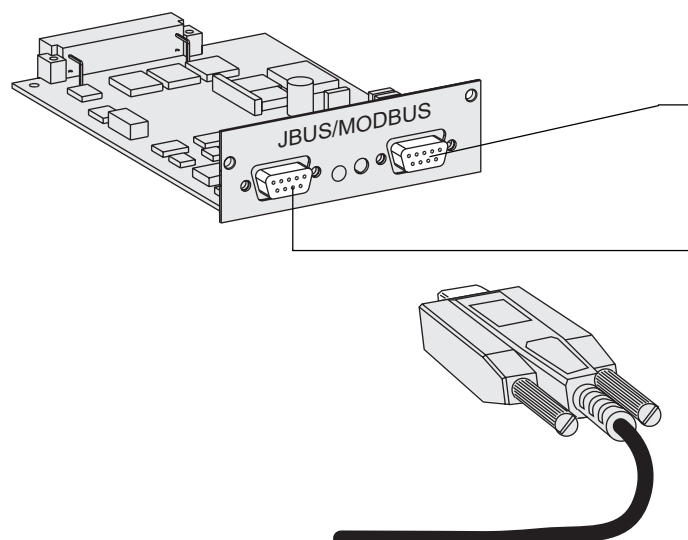
Tie the cables to the cable way (16) on the door.

? Do not run the control wires with the power cables.

? Use the cable cut-out (17) to connect external cables.

? Two slots are available in the card cage (5) for additional cards.

2.4 Connection of the JBUS communication card



RS232:

Pin 2: Rxd (or Txd)
Pin 3: Txd (or Rxd)
Pin 5: Earth

RS485:

Pin 4: R-
Pin 5: T-
Pin 8: R+
Pin 9: T+

? For information on using the communication card, see the JBUS communication card manual.

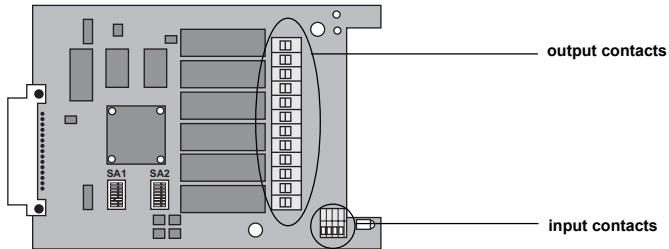
⚠ Only one communication port (the RS232 OR the RS485) may be used at a time.

2. Installation

2.5 Connection of the relay communication card



The card must only be installed by qualified personnel.
Before proceeding, disconnect all power sources connected to the card.
Do not mix Safety Extra Low Voltage (SELV) circuit and none-SELV circuits on the same board.
Requirements for SELV circuits must be respected when connected to other equipment.



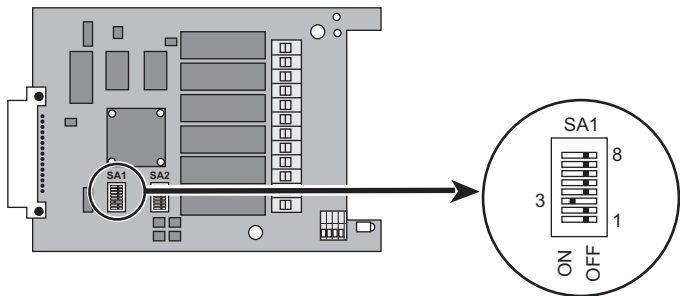
Contact characteristics:

Output :
Permissible voltage: 250 V AC, 30 V DC
Permissible current: 2 A
Cable: 4 x 0.93 mm², Ø 6.6 mm ± 0.3 mm.

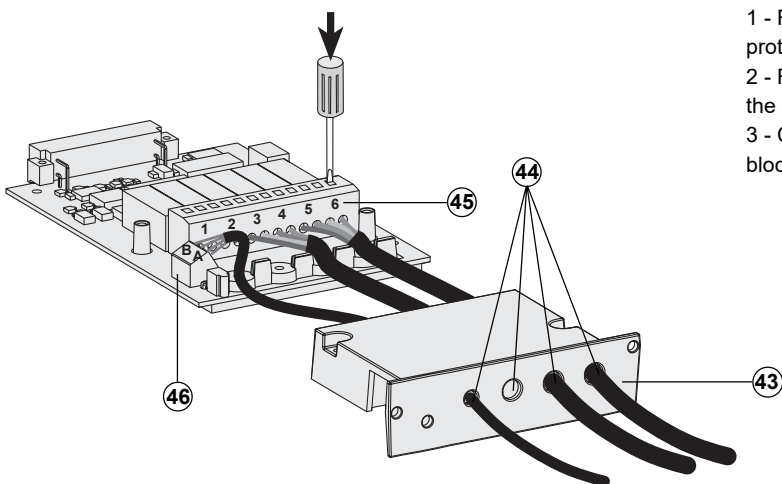
Input :
Note : the inputs must be considered as SELV circuits.

Switched voltage: 5 V DC
Current drawn: 10 mA
Cable: 4 x 0.34 mm², Ø 5 mm ± 0.5 mm.

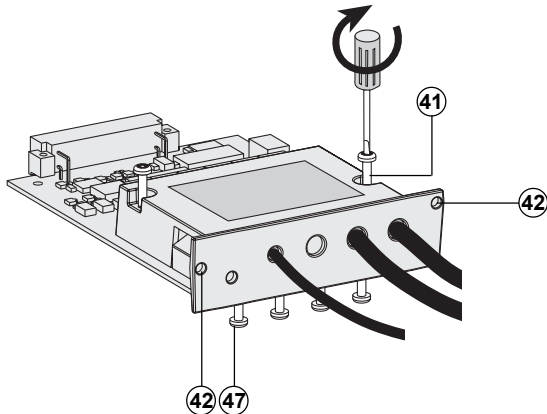
The contacts can be configured
see paragraph 3.6 page 24



Place the micro-switches SA1 as shown in the diagram opposite.



- 1 - Remove the screws (41) and the protection cover (43).
- 2 - Run the communication cables through the openings (44).
- 3 - Connect the cables to the input terminal block (46) and the output terminal block (45).



- 4 - Put the cover back in place and secure it with the screws (41).
- 5 - Secure the cables using the screws (47).
- 6 - Note the position of the power sources on the labels.
- 7 - Insert the card in its slot.
- 8 - Secure the card using the two screws (42).



The card must always must always be fitted with its protective cover

3. Operation

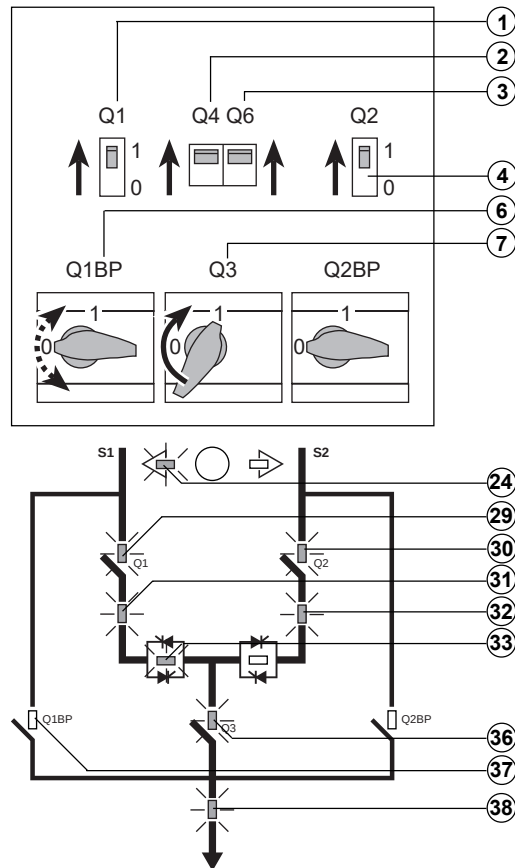


Make sure that the voltages of the two sources S1 and S2 are the same as the rated voltage (380/400/415V) of MGE™ Upsilon™ STS, otherwise see section 3.5 (Customization).

Switch Q3 is unlocked using a single key (K2) that must be inserted into the lock at the time of operation.

Switch Q1BP or Q2BP is unlocked using a single key (K1) that must be inserted into the lock at the time of operation.

3.1 Start-up



Only trained and authorized personnel may work on this product, in regard to the installation, use or maintenance operations.

1 - Check that the two sources are energised (voltage present).

2 - Set circuit breakers Q4 (2) and Q6 (3) to the ON position (position 1).

3 - Turn switch Q1BP (6) to the ON position (position 1). LEDs (24), (37) and (38) go on.

The load is supplied by Source 1 via the bypass.

4 - Set switches Q1 (1) and Q3 (7) to the ON position (position 1). LEDs (29), (31), (33) and (36) go on.

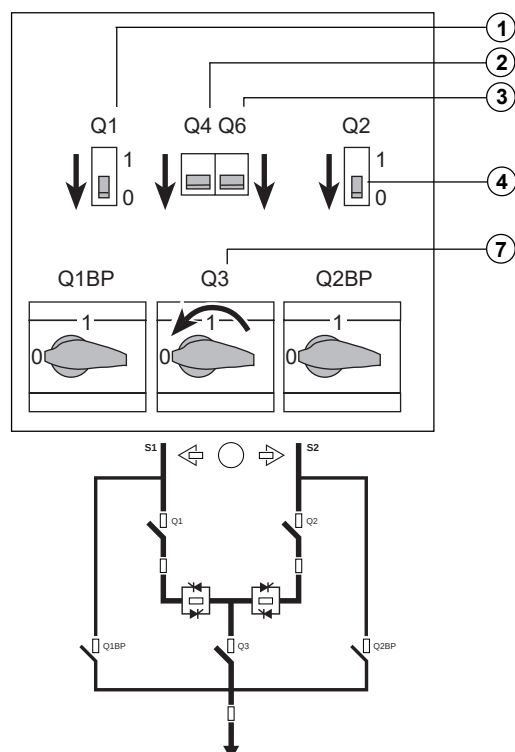
5 - Turn switch Q1BP (6) back to the OFF position (position 0). LED (37) goes off.

6 - Set switch Q2 (4) to the ON position (position 1). LEDs (30) and (32) go on.

The load is supplied by Source 1.

? If LED (33) is red or off, if LEDs (31), (38) and/or (32) are orange or red: see section "Maintenance".

3.2 Shutdown



1 - Set switches Q1 (1), Q2 (4) and Q3 (7) to the OFF position (position 0).

2 - Set circuit breakers Q4 (2) and Q6 (3) to the OFF position (position 0). All LEDs should go off.

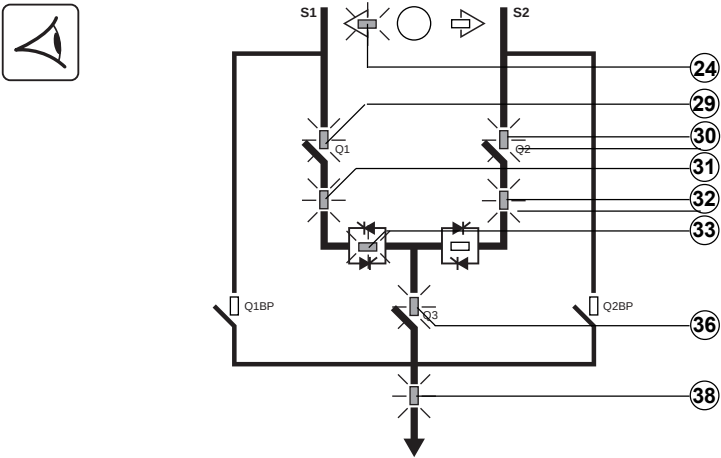
The load is not supplied with power.

! Dangerous voltage levels are still present inside the Upsilon STS cabinet, in the connection zone.

3. Operation

3.3 Normal mode. Operation on preferred source S1

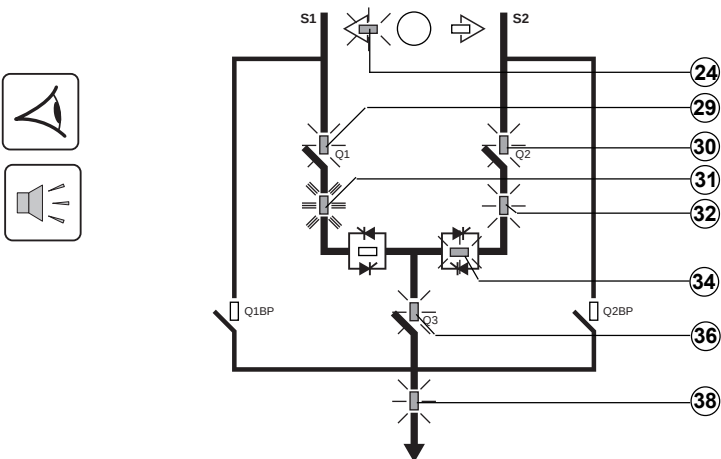
Operation on the preferred source



During normal operation on the preferred source S1, LEDs (24), (29), (30), (31), (32), (33), (36) and (38) are on in green.

? If LED (38) is orange, there is an overload.
If LED (38) is red, the load is no more supplied.

Automatic transfer to the alternate source



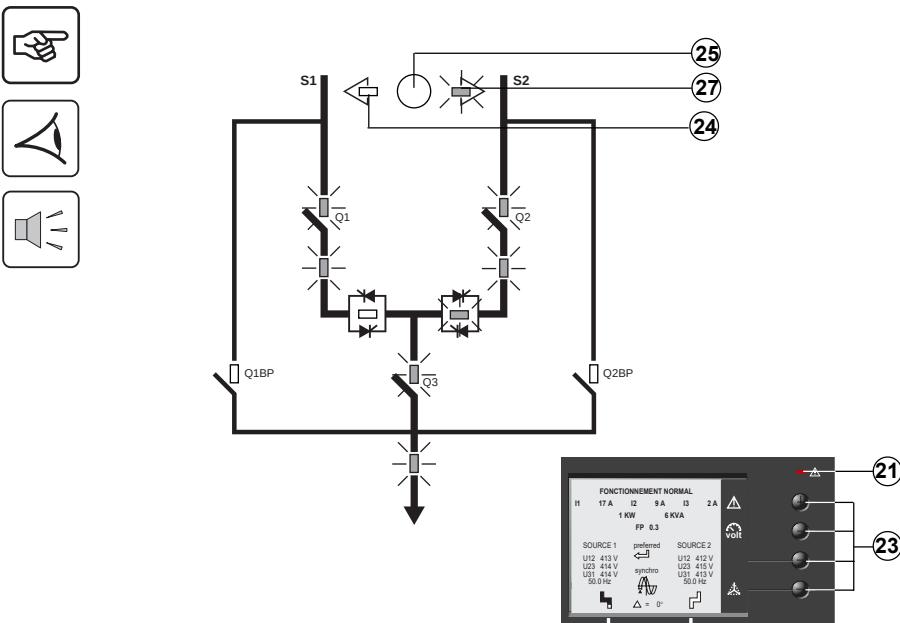
The load is automatically transferred to the source offering the highest level of power quality.

For example, if the preferred source S1 goes outside tolerances, LED (31) goes orange or red. The buzzer beeps. **MGTE™ Upsilon™ STS** automatically transfers the load to the alternate source S2. LEDs (24), (29), (30), (32), (34), (36) and (38) are on.

? **MGTE™ Upsilon™ STS** transfers the load back to the preferred source S1 as soon as it returns to within tolerances.

? To stop the buzzer, press the function button marked .

Manual transfer to the alternate source



1 - Press the manual transfer button (25):

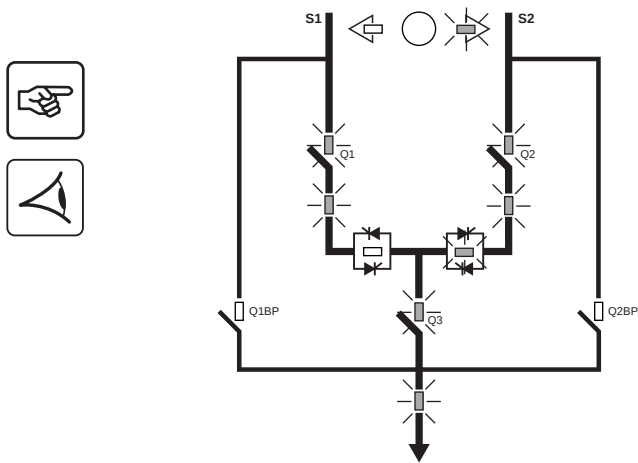
2 - Enter the password by following the instructions on the display.

3 - validate the password by pressing the grey function button (23) marked  on the screen.
LEDs (24) and (27) flash.
After the transfer, the green LED (27) goes on.

The load is supplied by Source 2.

? Transfer is authorised only if the two sources are within tolerances (voltage, frequency) and their phase displacement is within the set limits. If these two conditions are not met, the transfer order is stored in memory and executed when the voltages cross zero. If transfer does not take place within sixty seconds, the order is cancelled.

Manual transfer to an out-of-phase alternate source

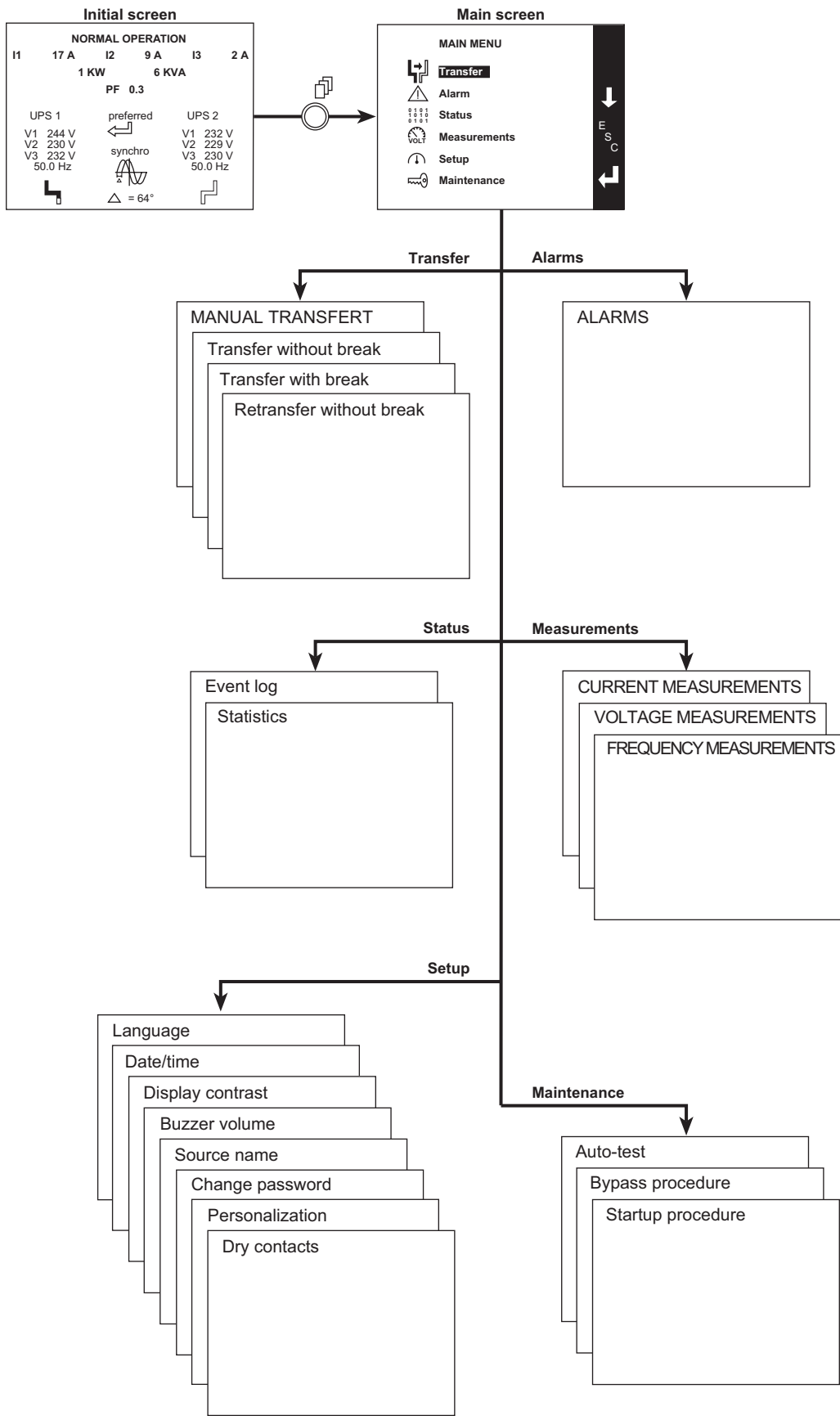


When the two sources are not in phase, it is possible to force manual transfer using the commands on the screen, after entering a password.

- 1 - Enter the password (see section 3.5, Customization).
- 2 - Follow the instructions provided on the screen.

3. Operation

3.4 Display screens

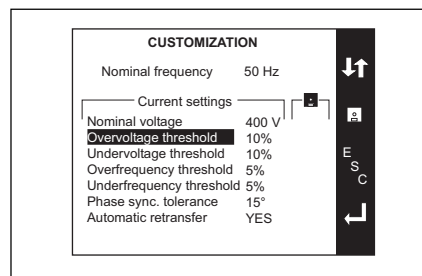
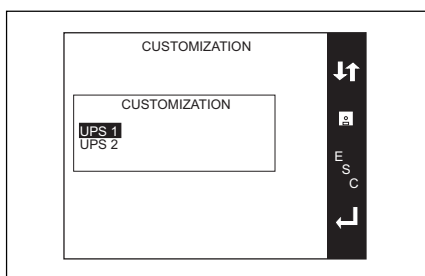
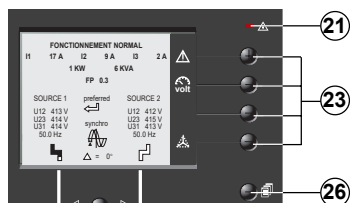


3.5 Upsilon STS customization

- 1 - Press the menu button (26).
- 2 - Select "Setup", then "Customization" using the function buttons (23) marked ↓ or ↑.
- 3 - Confirm the order by pressing the function button (23) marked ↵.
- 4 - Enter the password.

The password     is set in the factory.

Select "Setup", then "Password" to personalise the password.



From the screen menu :

- 1 - Select the source to be configured
- 2 - Change the parameter(s)
- 3 - Save the customization settings



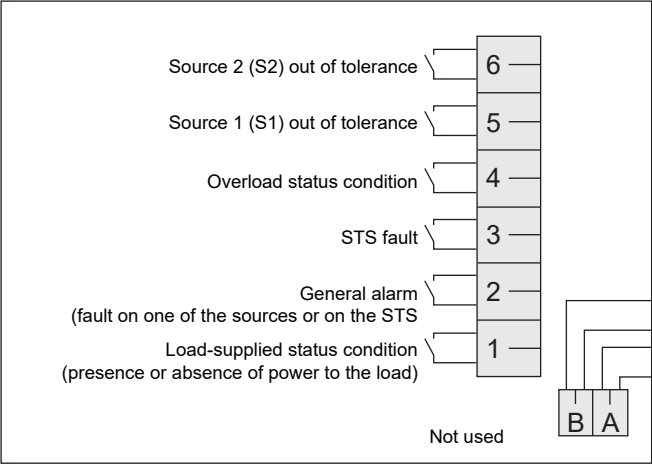
Source 1 and Source 2 parameters are independent.

	Factory setting	Customization	Source 1	Source 2
Nominal voltage	400 V	380/400/415 V	●	
Overvoltage threshold	Un+ 10%	+5% to +20%	●	●
Undervoltage threshold	Un -10%	-5% to -20%	●	●
Overfrequency threshold	Fn + 5%	+5% to +10%	●	●
Underfrequency threshold	Fn -5%	-5% to -10%	●	●
Phase sync. tolerance	15%	1 à 45° in 1° steps	●	
Automatic retransfer	Yes	Yes/No	●	

3. Operation

3.6 Customization of the relay communication card

Factory settings



? The output contacts are controlled directly by the STS. All changes of state of input contacts are transmitted to the STS.

All contacts* are **Normally Open (N.O.)** :

Contact	Output	Input
Open	Inactive state	Command inactive
closed	Active state	Command active

* External contacts for the inputs .

Input and output customization

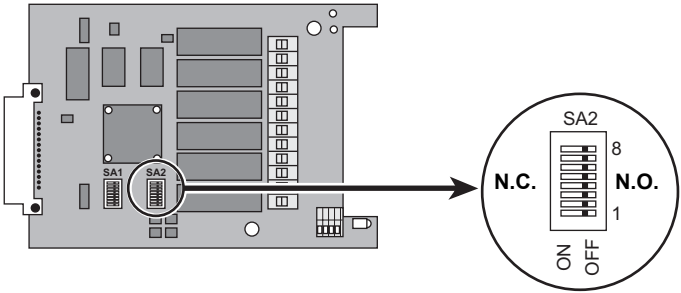
Outputs (contacts 1 to 6)

Status conditions available on each output contact
- No associated function - Equipment powered - Overload - General alarm - Device alarm - S1 (source 1) out of tolerance - S2 (source 2) out of tolerance - Phase hors tolérances - S1 active - S2 active - S1 priority - Transfer forbidden - Re-transfer authorized

Inputs (contacts A and B)

Commands available on each input contact
- No associated function - Fault acknowledgement - Selection S1 (source 1) - Selection S2 (source 2) - Automatic re-transfer forbidden - Automatic re-transfer authorized - Transfer forbidden - Transfer authorized

Contact configuration



The contacts can be individually configured for **Normally Closed (N.C.)** operation by placing micro-switches SA2 to **ON**.

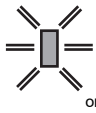
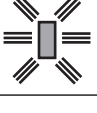
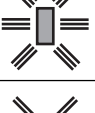
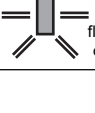
Micro - switch	Contact
8	B
7	A
6	6
5	5
4	4
3	3
2	2
1	1

If the micro-switch is OFF, the signal is **N.O.**, otherwise it is **N.C.**

4.1 Identification of anomalies

Only trained and authorized personnel may work on this product, in regard to the installation, use or maintenance operations.

STS indicator anomalies

General-alarm LED (21)	S1 (31) or S2 (32) LED	Static-switch LED (33) or (34)	Buzzer	System output LED (38)	Meaning
	-	-	Beeps	-	Internal STS fault.
		-	Beeps	-	Degraded source, load still supplied.
		-	Beeps	-	Source outside tolerances, no voltage. The load cannot be supplied by this source.
	-		Beeps	-	Static-switch fault.
	-	-	Beeps		Overload. ⁽¹⁾
-	-	-	Beeps		Load not supplied.
-	-	-	Beeps		Source state not measurable.

The meaning of all these anomalies are detailed on the display:
Select the alarm: the corresponding informations are displayed.

(1) The product is overloaded without any other consequence for the load.

Relay communication card indicator anomalies



If the communication card green indicator remains continuously off:

- Check the card is correctly inserted into its slot and its protective cover is correctly screwed-on.
- Check the STS is powered.
- Remove the card and re-insert it.



If the communication card green indicator remains continuously on:

- Remove the card and re-insert it.



If an alarm is incorrectly triggered:

- Check the signal's NO/NC configuration corresponds to your installation (micro-switches SA2, §3.6).
- Check the STS operating mode is correctly configured (micro-switches SA1, §2.5).



If the problem continues, contact our after-sales service (details available at www.apc.com).

4. Maintenance

4.2 Transfer to the manual bypass



Before any servicing, Upsilon STS must be de-energised by transferring to the bypass.



Switch Q3 is unlocked using a single key (K2) that must be inserted into the lock at the time of operation.

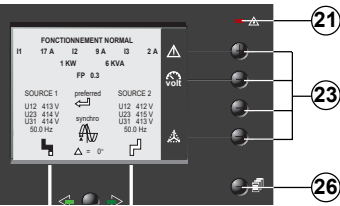
Switch Q1BP or Q2BP is unlocked using a single key (K1) that must be inserted into the lock at the time of operation.



In order to continue supplying the load , switch Q1BP or Q2BP must be closed (depending on the active source) before opening switch Q3.

The procedure for switching the manual by-pass is detailed in two places :

HMI



Press the menu key (26)

Go to the "Maintenance" menu and then to the "Bypass procedure" page using the function keys (23)

Follow the instructions on the display

In the device

The procedure for switching to manual by-pass is printed on the device.

5. Environment

This product has been designed to respect the environment

It does not contain CFCs or HCFCs.

It is manufactured on a production site certified ISO 14001.

UPS recycling at the end of service life

APC by Schneider Electric undertakes to recycle, by certified companies and in compliance with all applicable regulations, all products recovered at the end of their service life (contact your APC by Schneider Electric branch office).

Packing

Packing materials must be recycled in compliance with all applicable regulations.

6. Appendix

6.1 Technical data

Output currents and voltage

Rated output current:	30 A	60 A	100 A	160 A	250 A	400 A	630 A
Input and output voltage: ► Rated operating voltage: ► Maximum voltage: ► Minimum voltage: ► Rated frequency:	380 V / 400 V / 415 V 498 V (415 V +20%) 247 V (380 V -35%) 50 or 60 Hz (45 Hz minimum, 66 Hz maximum)						

Thermal characteristics

Heat losses ⁽¹⁾: ► at rated power: ► at 50% rated power:	195 W 150 W	295 W 195 W	430 W 260 W	615 W 350 W	920 W 495 W	1420 W 735 W	2150 W 1070 W
Required ventilation:	350 m³/h	350 m³/h	350 m³/h	1600 m³/h	1600 m³/h	2300 m³/h	2300 m³/h

(1) These characteristics are calculated for a voltage of 400 V and a power factor of 0.8.

Noise level

Noise in dB (ISO 3746):	55	55	55	59	59	59	59
--------------------------------	----	----	----	----	----	----	----

Cable sizes (phases and neutral)

Recommended size ⁽²⁾ in mm²							
copper conductors	10	16	25	50	95	185	2 x 150
aluminium conductors	16	25	35	70	150	2 x 120	4 x 95
Maximum size in mm²:	50	50	50	120	120	240	240
Max. number of cables per phase:⁽³⁾	2	2	2	2	2	4	4

(2) Cable cross-sections have been calculated according to allowable temperatures rises and take into account line voltage drops for a maximum length of 100 metres (AC circuit). For greater lengths, choose cross-sections that limit the voltage drop to 3% (AC circuit).

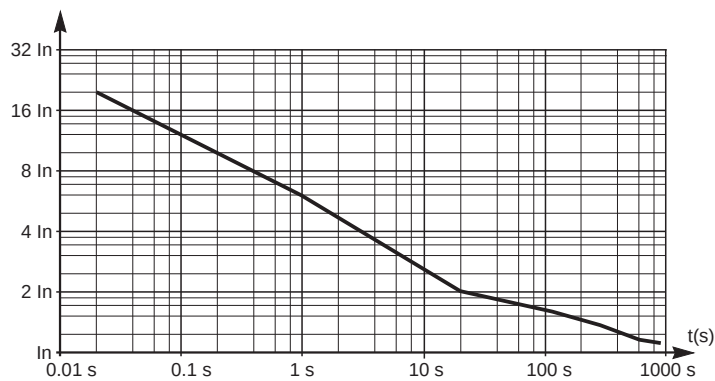
(3) NF C 15-100 authorizes a maximum of 4 cables per phase.

Recommended protection devices upstream of MGE™ Upsilon™ STS

Type of circuit breaker ⁽³⁾: ► TNS system: ► TNC system:	C60L 32A	NS100H 4P 4D NS100H 3P	NS160H 4P 4D NS160H 3P	NS250H 4P 4D NS250H 3P	NS400H 4P 4D NS400H 3P	NS630H 4P 4D NS630H 3P
Trip unit ⁽³⁾:	curve C	STR22SE	STR22SE	STR22SE	STR23SE	STR23SE
Thermal setting:	1,05 In	≤1 In	≤1 In	≤1 In	≤1 In	≤1 In
Magnetic setting:	10xIn	≤10xIn	≤10xIn	≤10xIn	≤10xIn	≤10xIn

(3) The products indicated are taken from the Schneider Electric Low Voltage catalogue (Merlin Gerin brand).

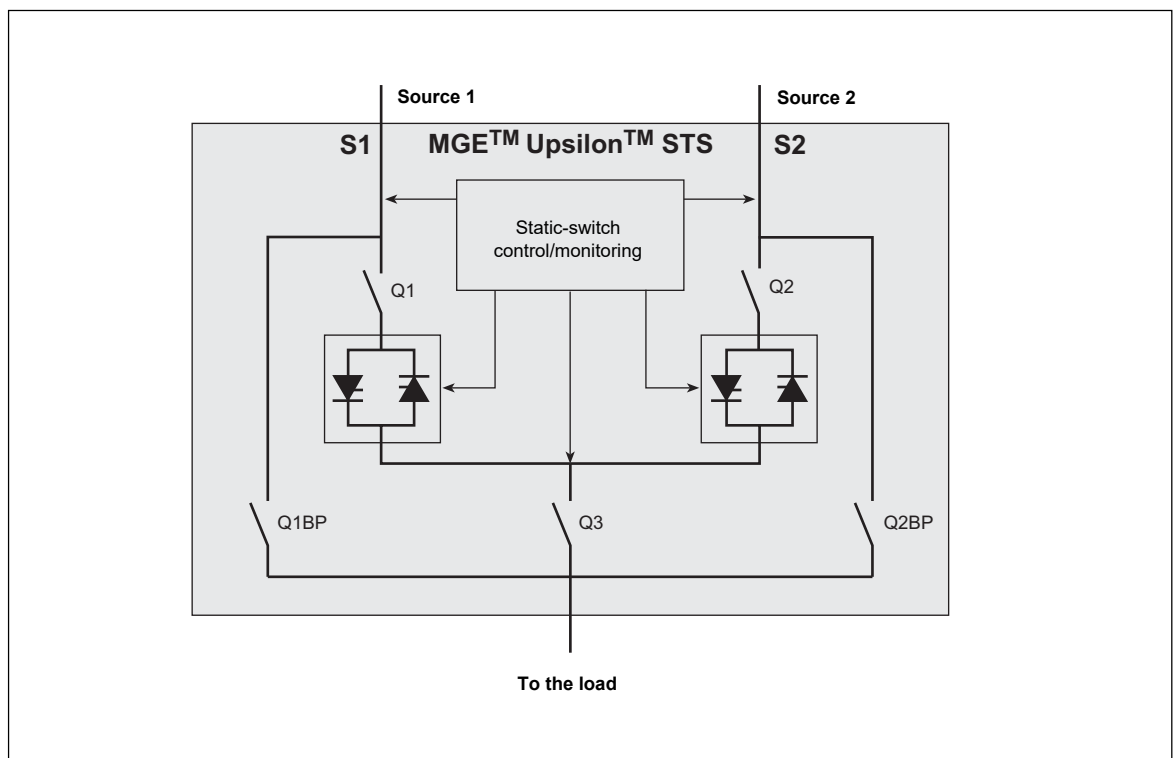
Permissible-overload curve



► During an overload, transfer between sources is disabled.

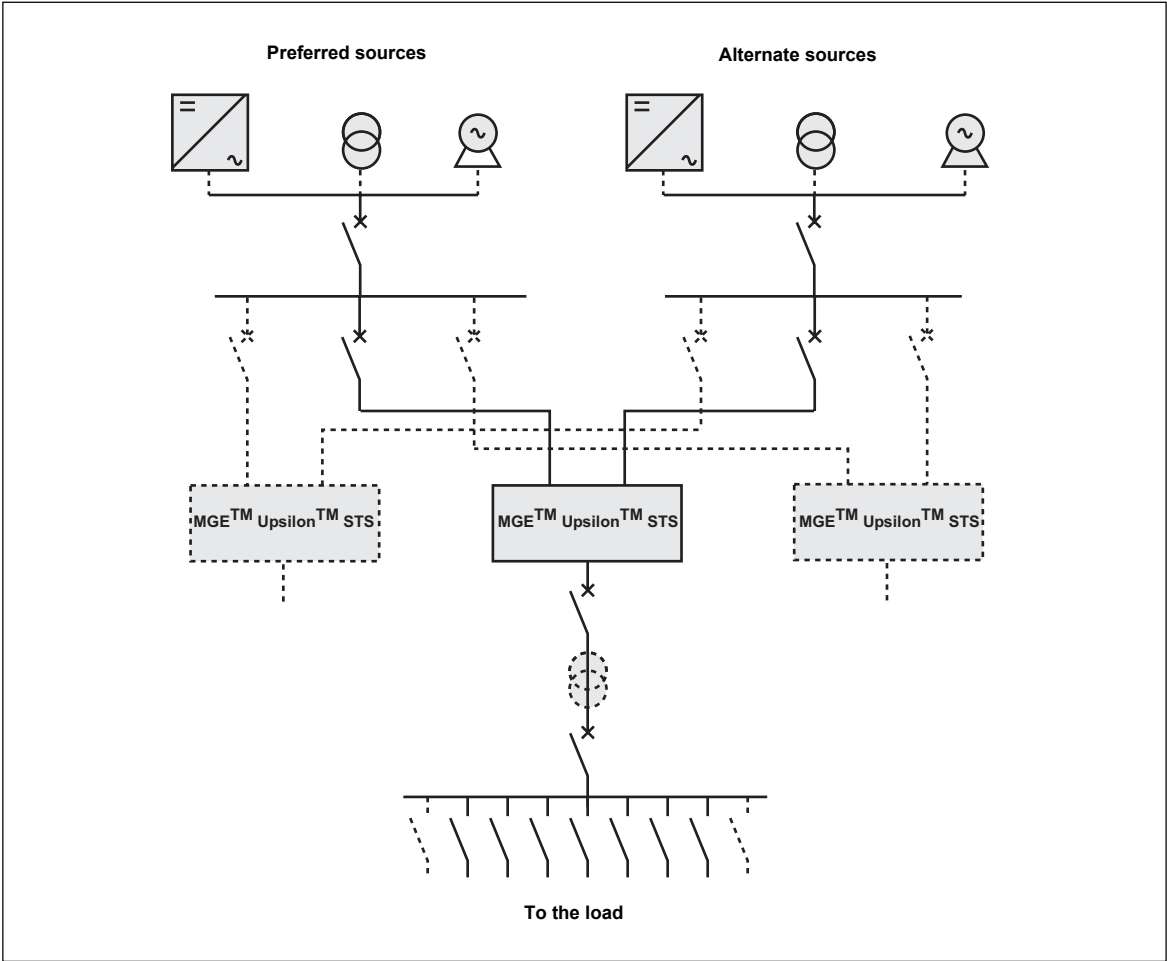
6.2 Simplified diagrams

Upsilon STS simplified diagram



6. Appendix

Simplified diagram of an installation



6.3 Glossary

Alternate source	Backup source that steps in if the preferred source fails.
JBUS communication card	Internal card implementing the JBus protocol on a serial link to supply the user with system information.
MGE SNMP/Web card communication card (optional)	Internal card providing user information via an Ethernet link using HTTP/HTTPS and SNMP(v1) protocols.
PowerServices Telpac via a communication card (optional)	Internal card providing information to the APC by Schneider Electric teleservice centre V.34 modem.
Load	Device(s) or system(s) connected the MGE™ Upsilon™ STS output.
Manual bypass	Q1BP and Q2BP switches, accessible to the user, that may be used to directly supply the load from Source S1 or S2. The bypass enables servicing on the equipment without interrupting the supply of power to the load.
Normal mode	Operating mode during which the load is supplied by the preferred source.
Preferred source	Source selected as the normal source of power.
Relay communication card	Internal card implementing contacts to supply the user with system information.
Static switch	Electronic switch ensuring instantaneous switching.

6.4 Index

A

Alarms	25
Anomalies	25

B

Buzzer	25
--------------	----

C

Cable sizes	28
Communication cards	
JBUS	10
MGE SNMP/Web card	10
PowerServices Telpac	
Relay	10
Connections	
Access	8
JBUS communication card	17
Power cables	12, 13, 14, 15, 16
Relay communication card	18
Through the top	16
Customization	23, 24

D

Dimensions	7
Display	22

F

Faults	25
Frequency	28

L

Layout of components	8
LEDs	9, 25
Links	
RS232	10
RS485	10
Losses	28

M

Man / machine interface	9
Manual bypass	26

O

Operating modes	20, 21
Overloads	28

R

Recommended protection	28
Recycling	27

S

Safety rules	3
Shutdown	19
Start-up	19

V

Ventilation	28
Voltages	28

W

Weight	7
--------------	---