COTEK

SR-1600 Plus MBS (Manual Bypass Switch) User's Manual

Telecom / Datacom

PURE SINE WAVE INVERTER

Legal Provisions

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1. Safety Instructions

1-1. General Safety Precautions

Warning! Before using the Inverter, read the safety instructions.

- Do not expose the inverter to rain, snow, spray or dust. To reduce the risk of fire hazard, do not cover or obstruct the ventilation openings and do not install the inverter in a zero-clearance compartment.
- To avoid the risk of fire and electric shock, make sure that the existing wiring is in good electrical condition, and the wire size is not undersized.
- This equipment contains components which can produce arcs or sparks. To prevent fire or explosion do not install in compartments containing batteries or flammable materials or in locations which require ignition protected equipment. This includes any space containing gasoline-powered machinery, fuel tanks, or joints, fittings, or other connection between components of the fuel system.
- Depending on the user scenario, the AC output of the inverter may require user installed breaker or fuse. In AC output hardwire application, AC socket will not be provided. The inverter incorporates standard AC short circuit protection.
- The following precautions should be taken when working on the inverter：

  Step 1　Remove watches, rings, or other metal objects

  Step 2　Use tools with insulated handles

  Step 3　Wear rubber gloves and boots

1-2. Other Safety Notes

- Upon receipt, examine the carton box for damage. Notify the carrier immediately, before opening, if damage is evident.
- Do not operate near water or in excessive humidity.
- The DC side connections should be firm and tight.
- Grounding：Reliable grounding should be maintained.
- Do not drop a metal tool on the battery. The resulting spark or short-circuit on the battery or on the other electrical part may cause an explosion.
- Install the inverter in a well-ventilated area. Do not block the front air vents, or the rear air exhausts of the unit.
- Wiring：Adequate input power must be supplied to the inverter for proper use; correct wiring sizes must be ensured.
- Mount the inverter such that the fan axis is horizontal.
- Do not operate the inverter close to combustible gas or open fire.
- Do not operate appliances that may feed power back into the inverter.
- Temperature：The inverter should be operated in an ambient temperature range of -25℃ to 40 ℃ otherwise the output efficiency may be affected. Air flow to the inverter must not be blocked.

Electrical	Specification	Model No.	
	Item	SR-3U63 MBS	SR-5U130 MBS
AC Input	Nominal Voltage	230VAC	
	Voltage Range (Full power rating)	150~265VAC ± 3%	
	Nominal Current	50A(63AMAX)	130A
	Frequency	50 / 60 Hz	
AC Output	Rating Power	50A(63A MAX)	130A
Transfer Performance	NORMAL to TRANSFER	0 second	
	TRANSFER to BY-PASS	0 second	
	BY-PASS to TRANSFER	0 second	
	TRANSFER to NORMAL	0 second	
Environment	Operating Temp.	-25°C ~ 40°C; refer to SR-1600 PLUS power de-rating curve	
	Storage Temp.	-40℃~70℃	
	Relative Humidity	95%, non-condensing	
Others	Dimension	484.6 x 304 x 133 mm (19.1 x 12.0 x 5.2 in)	484.6 x 304 x 222 mm (19.1 x 12.0 x 8.74 in)
	Weight (net)	5.88 kg (13.0 lbs)	11.4Kg (25.1 lbs)

2. Mechanical Drawings

Unit: mm [inch]

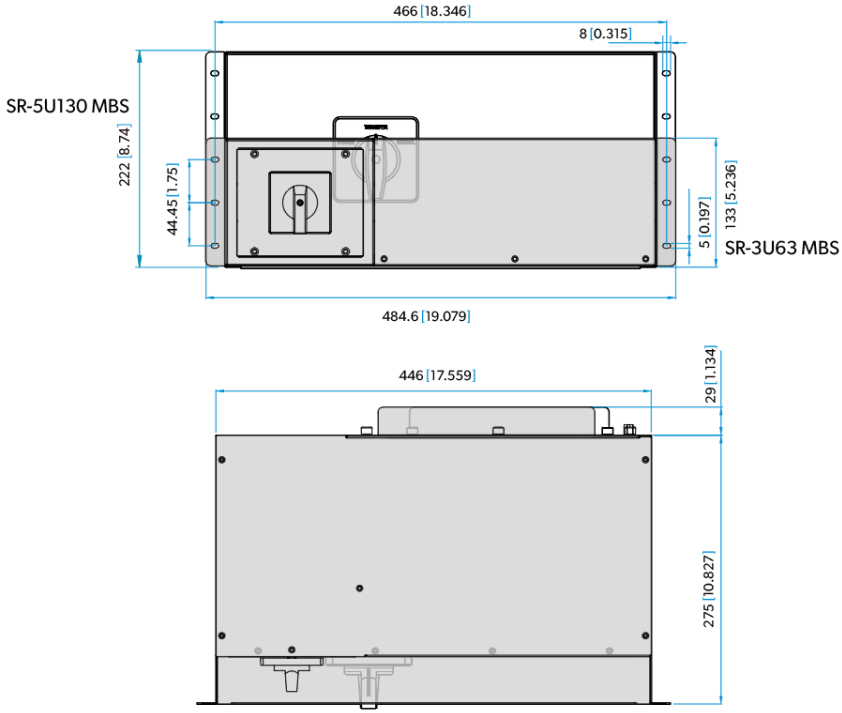
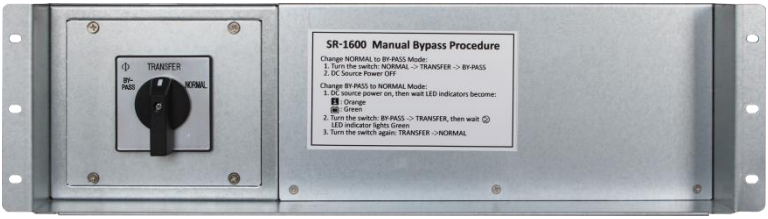


Figure 1. SR-1600 Plus MBS mechanical drawing

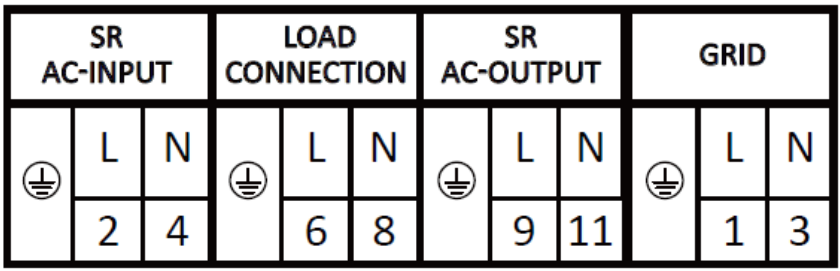
3. Introduction and Installation

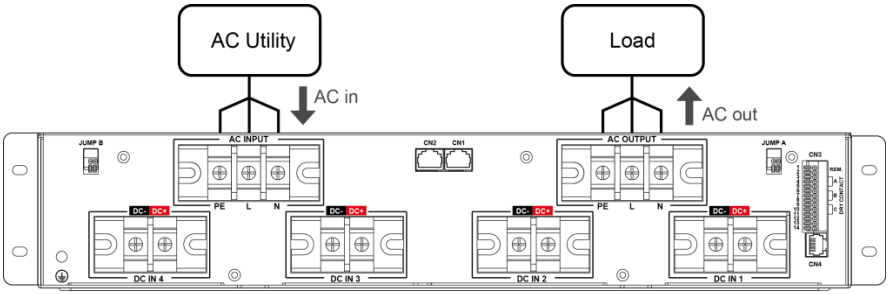
3-1. Introduction



NOTE: Please make sure the SR-1600 PLUS is in AC mode before operating with the MBS or it may cause damage to the SR-1600 Plus.

Description	Procedure & LED Status
Normal ➡ By-pass	1. Set operating mode to “AC mode” first ! 2. Keep AC input power always ON. 3. Wait until LED light Green, light Green or Orange. 4. Turn the switch : Normal ➡ Transfer ➡ Bypass 5. DC Source Power OFF. 6. Remove the module for Maintenance.
By-pass ➡ Normal	1. After maintenance, plug in all modules. 2. DC source Power ON, then must wait until LED indicators become : Orange, Green, Red Slow Blinking 3. Turn the switch: Bypass ➡ Transfer, then must wait until LED indicator & light Green 4. Then, turn the switch again : Transfer Normal ➡ Normal Change setting back to “DC mode” (if necessary)





Description			Function
1	SR AC-INPUT	GND	SR-1600 PLUS AC-INPUT PE
		L(2)	SR-1600 PLUS AC-INPUT LINE
		N(4)	SR-1600 PLUS AC-INPUT NEUTRAL
2	LOAD CONNECTION	GND	GROUND
		L (6)	LINE
		N(8)	NEUTRAL
3	GND L(9)	GND	SR-1600 PLUS AC-OUTPUT PE
		L(9)	SR-1600 PLUS AC-OUTPUT LINE
		N(11)	SR-1600 PLUS AC-OUTPUT NEUTRAL
4	GRID	GND	GRID GROUND
		L(1)	GRID LINE
		N(3)	GRID NEUTRAL

3-1-1 Input / Output Terminal

AC Input / Output Terminal ④⑦

SR AC-OUTPUT

SR-3U63 MBS provides the AC utility input terminal at the rear side, and user can connect the AC cable at SR-1600 RACK(AC IN) L / N / PE. The SR-1600 PLUS support the AC input side internal parallel connection.

LOAD CONNECTION

The AC output terminal at the rear side of the SR-3U63 MBS. User can connect the LOAD L / N / PE.

SR AC-INPUT

The AC output terminal at the rear side of the SR-3U63 MBS. User can connect the SR-1600 RACK(AC OUT) L / N / PE.

GRID

The AC output terminal at the rear side of the SR-3U63 MBS. User can connect the GRID(MAIN POWER) L / N / PE.

3-1-2 AC Cabling

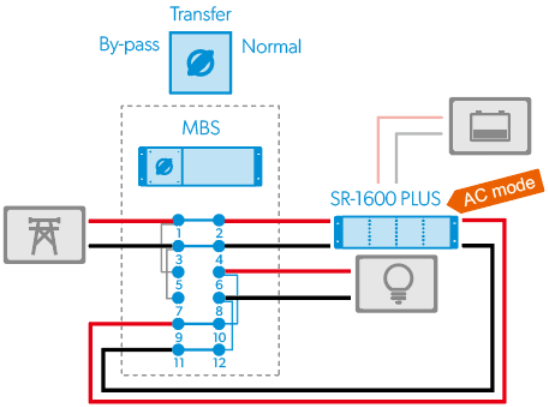
Interface		Wire Color	Wire AWG
SR AC-OUTPUT	Line (L)	Black	Breaker suggestion 200-240Vac：50A/Shelf/8AWG
	Neutral (N)	White	
LOAD CONNECTION	Line (L)	Black	
	Neutral (N)	White	
SR AC-INPUT	Line (L)	Black	
	Neutral (N)	White	
GRID	Line (L)	Black	
	Neutral (N)	White	
Ground		Green-Yellow	6 ~16AWG

Table 1. AC cabling definition

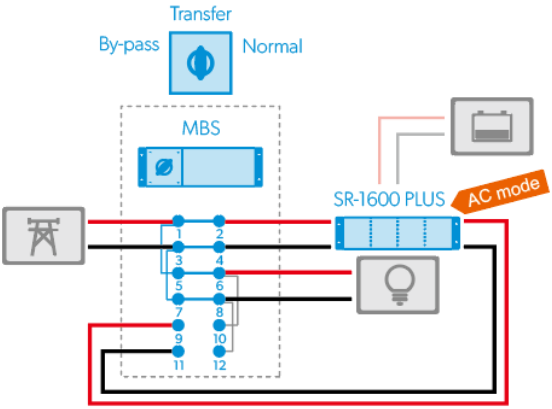
3-2. Installation

1	MBS - Maintenance Manual Bypass Switch (At “Normal” position)
2	Turn the switch : Normal ➡ Transfer
3	Turn the switch : Transfer ➡ By-pass
4	DC Source Power off
5	Remove the module
6	Plug in all the modules, after maintenance
7	DC source Power on , then wait LED indicators become to : : Green : Orange : Red Slow Blinking
8	Turn the switch By-pass ➡ Transfer, then wait & LED Indicator lights Green
9	Turn the stitch again: Transfer ➡ Normal (on AC mode)
10	In Case, You Want to Change to “DC mode”, then change Setting

1. MBS - Maintenance Manual Bypass Switch (At “Normal” position)

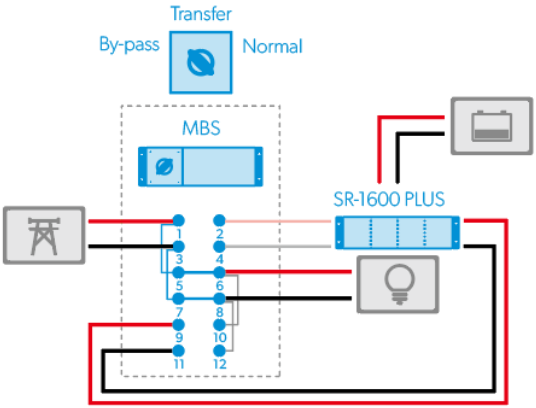


2. Turn the switch : Normal ➡ Transfer

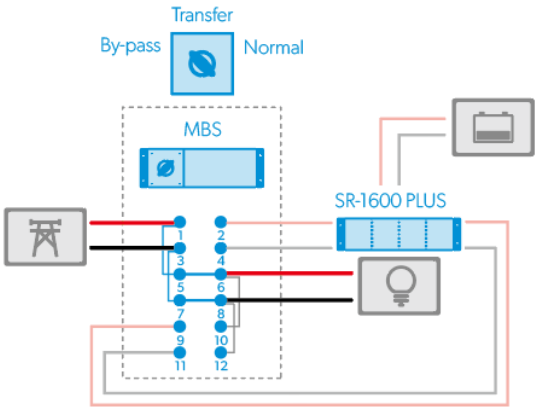


Note : MBS operating as“Make before Break” !

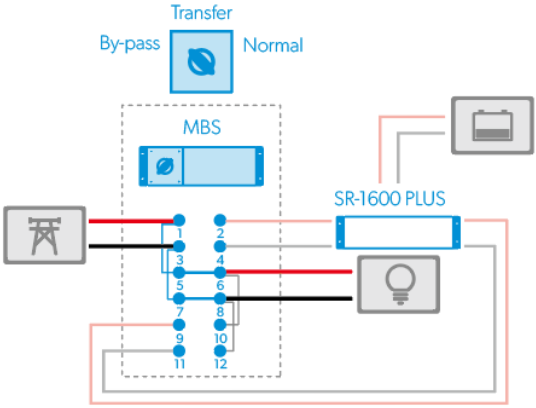
3. Turn the switch : Transfer ➡ Bypass



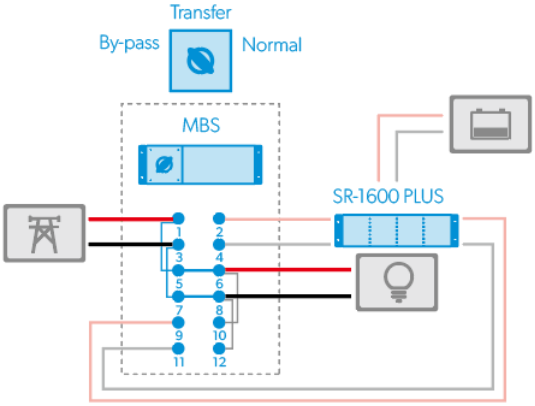
4. DC Source Power off



5. Remove the module

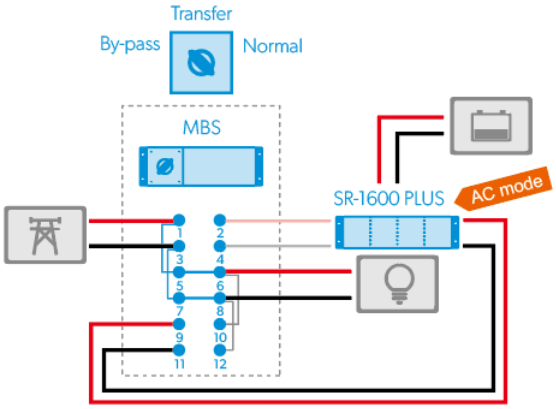


6. Plug in all the modules, after maintenance

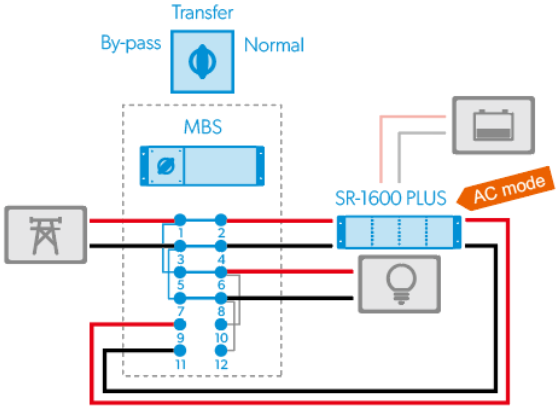


7. DC source Power on , then wait LED indicators become to :

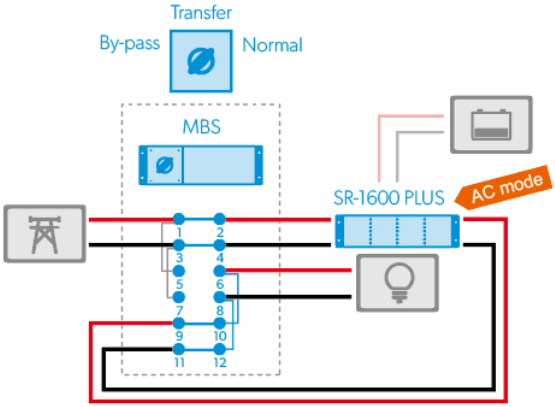
: Green : Orange : Red Slow Blinking



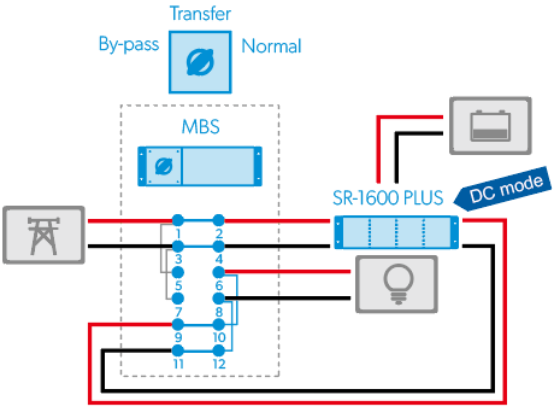
8. Turn the switch By-pass ➡ Transfer, then wait & LED Indicator lights Green



9. Turn the stitch again: Transfer ➡ Normal (on AC mode)



10. In Case, You Want to Change to “DC mode”, then change Setting



4. Warranty

Warning! Do not open or disassemble the Inverter. Attempting to do so may cause risk of electrical shock or fire.

We guarantee this product against defects in materials and workmanship for a period of 24 months from the date of purchase. In case you need to repair or replace any defective power inverters, please contact COTEK local distributor. This warranty will be considered void if the unit has been misused, altered, or accidentally damaged. COTEK is not liable for anything that occurs as a result of the user’s fault.

COTEK

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