

# AR4

## SWITCHING POWER PROFESSIONAL AMPLIFIER



**EN** OWNER'S MANUAL

Important Safety Instructions



**CAUTION**

RISK OF ELECTRIC SHOCK  
DO NOT OPEN




TO REDUCE THE RISK OF ELECTRIC SHOCK PLEASE DO NOT REMOVE THE COVER OR THE BACK PANEL OF THIS EQUIPMENT.  
THERE ARE NO PARTS NEEDED BY USER INSIDE THE EQUIPMENT. FOR SERVICE, PLEASE CONTACT QUALIFIED SERVICE CENTERS.


**WARNING**

To reduce the risk of electric shock and fire, do not expose this equipment to moisture or rain.




Dispose of this product should not be placed in municipal waste and should be separate collection.

 This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages in the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

 This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.

 Protective Ground Terminal


 AC mains (Alternating Current)

 Hazardous Live Terminal

ON: Denotes the product is turned on.


OFF: Denotes the product is turned off.

**CAUTION**  
Describes precautions that should be observed to prevent damage to the product.

1. Read this Manual carefully before operation.
2. Keep this Manual in a safe place.
3. Be aware of all warnings reported with this symbol. 
4. Keep this Equipment away from water and moisture.
5. Clean it only with dry cloth. Do not use solvent or other chemicals.
6. Do not damp or cover any cooling opening. Install the equipment only in accordance with the Manufacturer's instructions.
7. Power Cords are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet, seek advice from a qualified electrician. Protect the power cord and plug from any physical stress to avoid risk of electric shock. Do not place heavy objects on the power. This could cause electric shock or fire.
8. Unplug this equipment when unused for long periods of time or during a storm.
9. Refer all service to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.
10. To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder.

Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

11. Move this Equipment only with a cart, stand, tripod, or bracket, specified by the manufacturer, or sold with the Equipment.  
When a cart is used, use caution when moving the cart/equipment combination to avoid possible injury from tip-over.




12. Permanent hearing loss may be caused by exposure to extremely high noise levels.  
The US. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible exposure to noise level.  
These are shown in the following chart:

Hours x day	SPL	Example
8	90	Small gig
6	92	Train
4	95	Subway train
3	97	High level desktop monitors
2	100	Classic music concert
1.5	102	
1	105	
0.5	110	
0.25 or less	115	Rock Concert

According to OSHA, an exposure to high SPL in excess of these limits may result in the loss of heat. To avoid the potential damage of heat, it is recommended that Personnel exposed to equipment capable of generating high SPL use hearing protection while such equipment is under operation.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



**CAUTION:** To reduce the risk of electric shock, do not connect the loudspeaker to a power outlet while the grille is removed.

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## Introduction

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The **AR4** switching power professional Amplifier is designed for professional use on stage. The high-quality components and the carefully designed circuits ensure excellent audio performance and an extremely linear frequency response. In fact, the switching technology offers, together with an increased efficiency and a better control of heat dissipation than conventional power supply systems, a drastic reduction of dimensions and weight, for easier transportation and installation.

This Amplifier guarantees total reliability and a trouble-free use even in the most demanding conditions. We believe the **AR4** will provide a perfect performance, what you get is unprecedented performance at an incredibly attractive price.

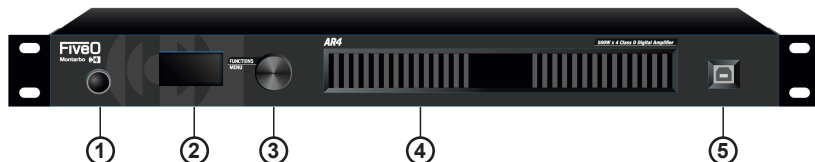
## Features

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- High current switching power allowing high power output with low noise and low distortion
- Substantial protection circuitry like thermal, short circuit, power on/off muting and Therefore protection
- Built-in limiter
- Balanced XLR-TRS combo input jack
- Speakon output connectors
- Built in high-performance DSP
- Up data with USB and adjust measure with a PC soft
- Easy to operate by OLED and Encoder

## Control Element

### FRONT PANEL



#### ① Power Switch

It switches ON/OFF the unit main power.

#### ② OLED Display

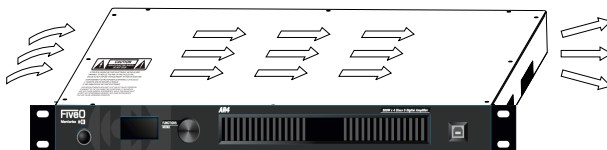
OLED is used to operate with the encoder.

#### ③ Encoder

The encoder is used to control the parameters of amplifier.

#### ④ Air Intake Vents

AR4 employ a variable speed internal cooling fan to intake the air through front grill to keep it running cool even under extreme operating conditions. Please keep these vents clear and free from obstruction at all times to insure proper cooling.



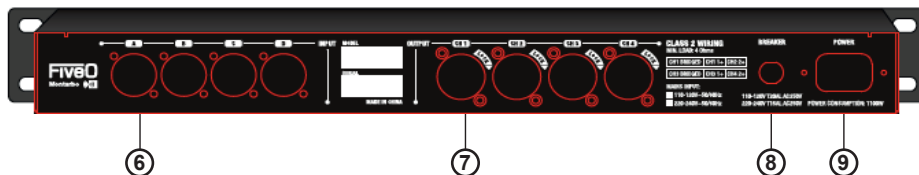
Air flow in AR4 amplifiers: Cool air is drawn into the left of the amplifier by the cooling fan. Warm air exits the right of the amplifier.

### USB

#### ⑤ Using for updata new program and adjust measures of the amplifier with a PC soft.

## Control Element

### REAR PANEL



#### ⑥ XLR Input

This XLR jack will accept XLR Input balanced low impedance line level source by means of a three-pin XLR plug. The wiring for the plug is as follows: Pin1(Sleeve)=Ground, Pin2(TIP)=Signal+, Pin3(Ring)=Signal-.

#### ⑥ Speakon Output

Connect the amplifier to your speaker using these speaker jacks.

#### ⑥ BREAKER

The breaker will break when the amplifier cost too much power or the amplifier is broken.

#### ⑥ AC POWER

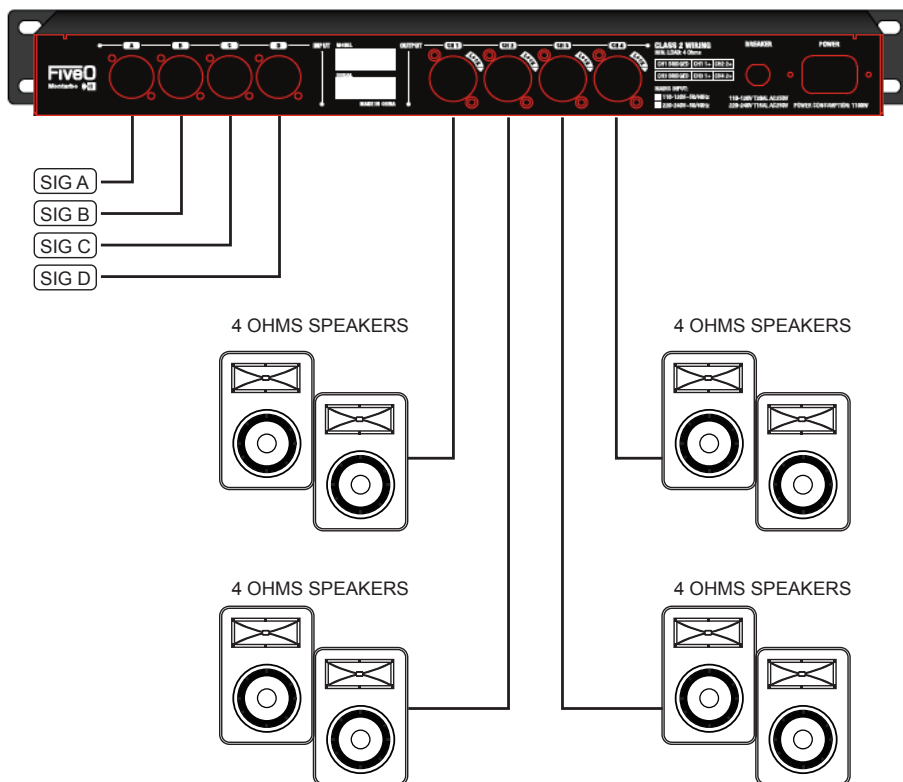
Use it to connect your AR4 to the supplied AC cord.

## Applications

### Stereo Operation

AR4 can be used in the stereo mode as two separate 1000 watt units, each capable of driving loads down to 4 ohms. Each channel operates independently and has its own input connectors, sensitivity level controls, automatic limiter, fault protection circuitry, power amp, and speaker outputs.

The default settings of the mode is stereo mode. This approach provides a more accurate reproduction of the live performance.



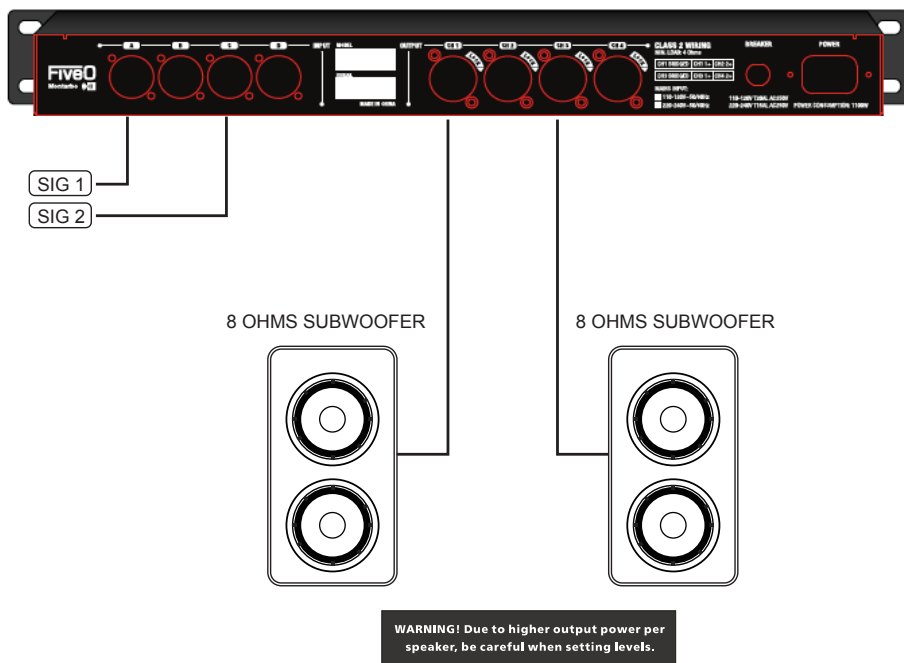
## Applications

### Mono Bridge Operation

The two internal power amplifiers (CH1 and CH2 or CH3 and CH4) can be bridged together to form a single, higher powered amp.

This is especially useful when using the amplifier to power a subwoofer. In the mono mode, the amplifier uses the channel A or C input jacks and sensitivity control(channel B and D's are disabled). When operation in this mode, each channel is independently protected. The minimum speaker load impedance must be 8 ohms.

Please set the amplifier as follow: Link CH1 and CH2 ,or CH3 and CH4, Set the phase of the CH2 or CH4 to 180°

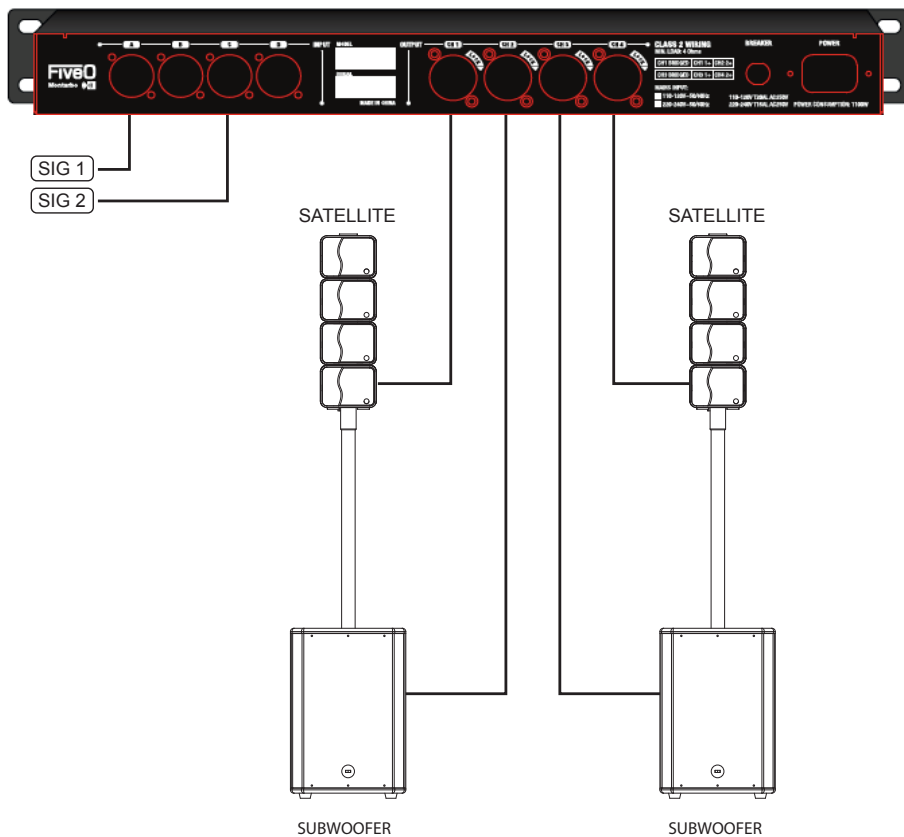




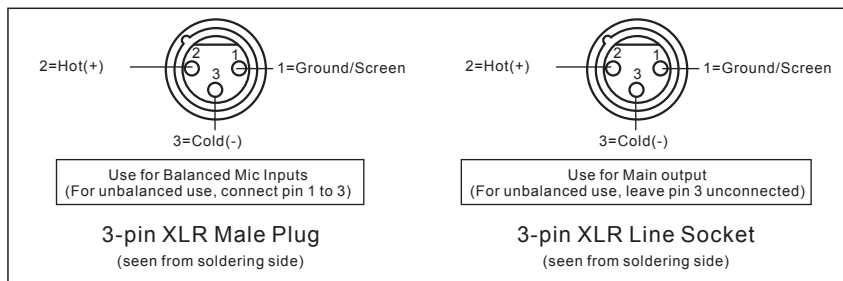
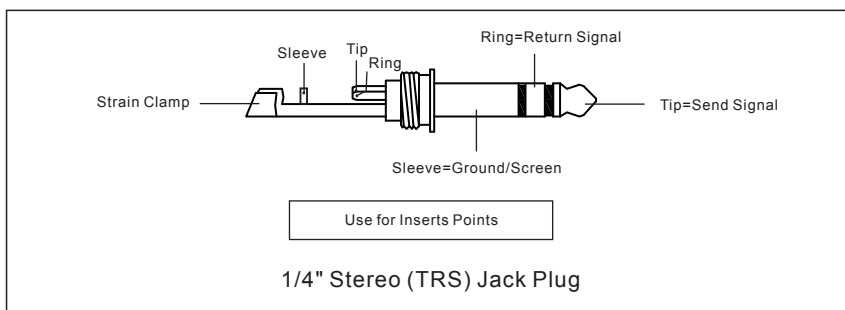
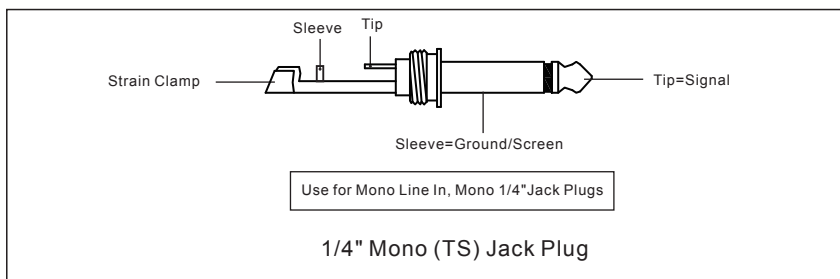
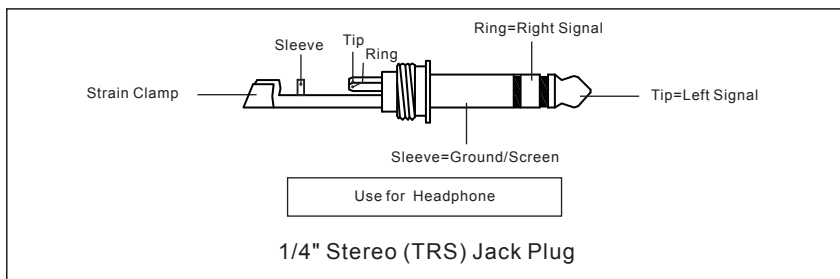
## Applications

### Composing with Q3 System

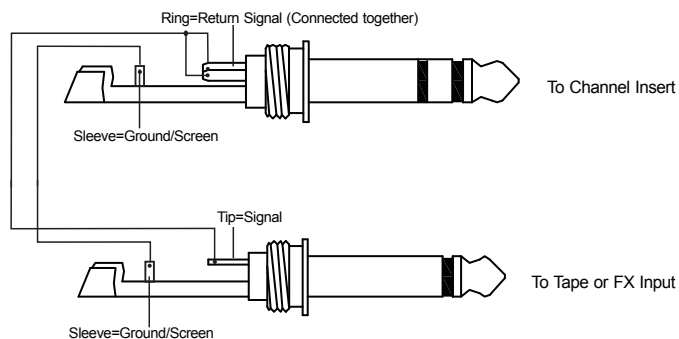
Please load the satellite's preset of the amplifier first.



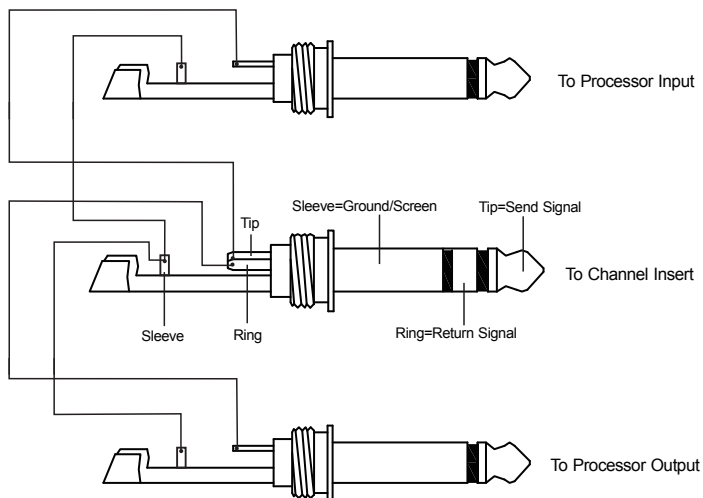
## Wiring Connections



## Wiring Connections

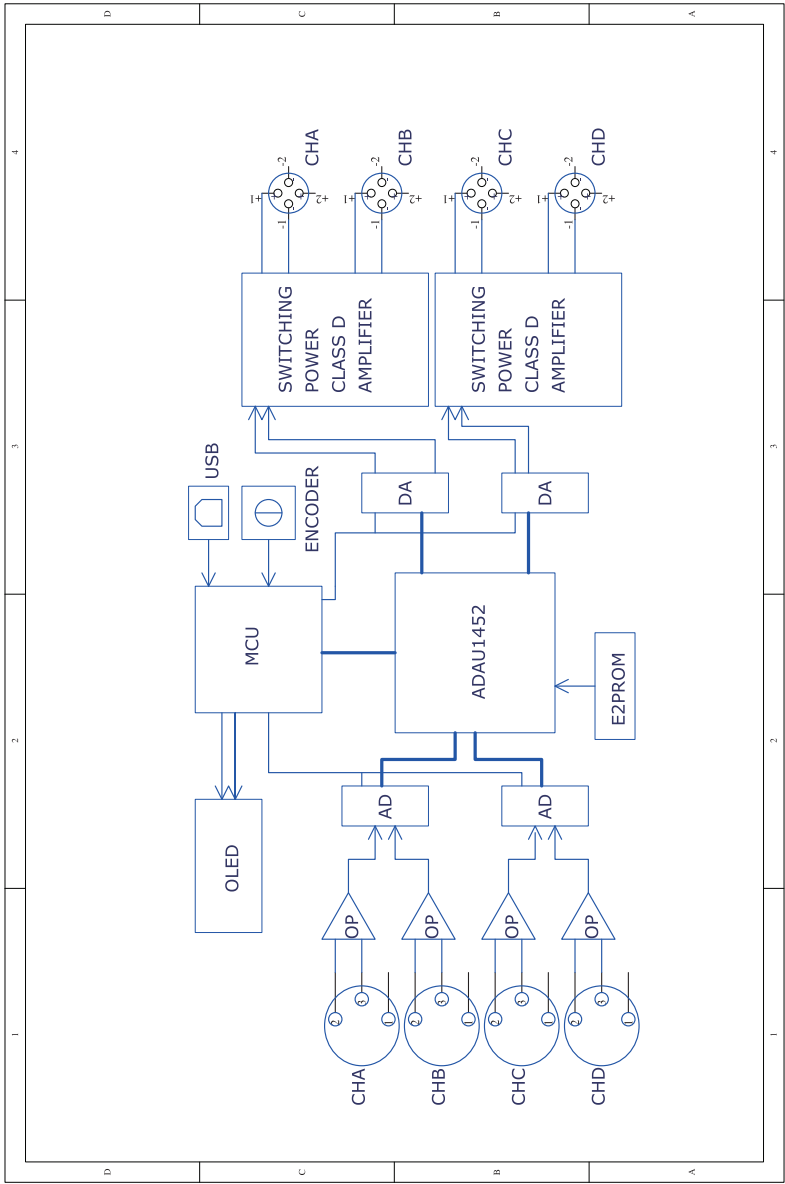


**'Tapped' Connection Direct Output Lead**  
(Enables the Insert to be used as a Direct Output while maintaining the channel signal flow)



**Y-Stereo lead for insert Connection**  
(To be used when the processor does not employ a single jack connection for the In/Out Connections)

Block Diagram



## Technical Specifications

Power Specifications(tolerance +/-5%)	AR4	
Stereo Mode (Both Channels Drive)	4 ohms(RMS)	500W x 4
	8 ohms(RMS)	250W x 4
Bridge Mono Mode	8 ohms(RMS)	1000W x 2

Electrical Specification	
Input Sensitivity (Limit Off)	0.9-1.1V(0+/-1dBv)
Input Impedance	20k ohms balanced or 10k Ohms unbalanced
Frequency Response (at 10dB Rated Output Power 8 ohms)	20Hz ~ 20KHz(+0/-1dB)
Voltage Gain	34+/-0.5dB
THD+N (Ref.1K 1/8 Rated Power, A-Weighted)	<0.15%
S/N rate (Ref. Rated Power, A-Weighted)	>95dB
Crosstalk (Below Rated Power)	>50dB
Damping Factor(1K 8 ohms)	>180
Power/Output Circuitry	Switching Power Class D

General Specifications	
Protections	Full short circuit, open circuit, thermal, ultrasonic, and RF protection stable into reactive or mismatched loads, turn ON/OFF, muting, tried crowbar.
Controls	Encoder
Indicators	OLED Display
Connectors	INPUT : Active balanced XLR
	OUTPUT: Speak-on jacks
Power Supply	110V-120V or 220V-240V AC 50/60 Hz $\pm$ 10%
Dimensions	483mm(W) x 460mm(D) x 44mm(H)
Weight	8.0kg

**EN** *The information contained in this manual have been carefully drawn up and checked. However no responsibility will be assumed for any incorrectness. This manual cannot cover all the possible contingencies which may arise during the product installation and use. Should further information be desired, please contact us or our local distributor. Elettronica Montarbo srl can not be considered responsible for damages which may be caused to people and things when using this product. Specifications and features are subject to change without prior notice.*