

MULTIGUARD MG311XXX Patient Nurse Call Annunciator

GENERAL

The **MULTIGUARD** MG311000 is a six zone Patient Nurse Call Annunciator. The enclosure has been designed in such a way that virtually any system size can be met by stacking units together.

The mark resistant decal covers a removable identification panel which can easily be created by a word processor or graphics package to enable a professional looking fascia to be achieved for each installation. Two example blanks are supplied with these instructions.

The MG311000 is designed to be used with the standard S/1663 Call Point to give CALL, EMERGENCY RECALL and LATE ATTENDANCE indications. A separate 12 volt dc power supply is required. An MG311100 is available for use as a small system with a maximum of six zone. It is not suitable for beyond 12 zones.

OPERATION.

When an alarm condition is detected an audible warning is given by the integral sounder, the relevant zone LED flashes and a global relay is energised to provide volt free DPCO contacts for signalling to other equipment. Pressing F1 silences the alarm condition, the global relay restores to normal and the LED becomes steady. Nursing staff would then respond to the call resetting the S1663 call point which in turn extinguishes the zone LED at the MULTIGUARD annunciator.

If a call is not attended to within a pre-determined period of time (adjustable at the individual S/1663 Call Point between 30 secs and 2 mins) then a LATE ATTENDANCE CALL is generated but with a more urgent pulsed audible warning. This process will continue until such time as the call is cancelled at the originating call point.

An EMERGENCY RECALL can be generated at any time at any S/1663 Call Point. Such a call produces a rapid flash zone LED and a rapid pulsed audible sounder. This call can be silenced at the MULTIGUARD annunciator and cancelled at the originating call point. Emergency Recall over-rides any other calls.

INPUTS

The MG311000 annunciator has 6 zone inputs and 4 function inputs. Each input has a high input impedance and will cope with high cable resistance. The inputs are configured for normally open and generate an alarm condition when a closed circuit is applied with respect to +ve or of course if a +ve voltage is applied with respect to the psu -ve.

It should be remembered that long cable runs can be susceptible to induction from other cables and electromagnetic noise. In general it is not necessary to use screened cable but care should be taken to avoid pick up from other circuits particularly mains power cables which may generate surges when switching.

The 10 inputs are allocated as follows:

Z1 - Z6 are zone inputs. These are non-latching and designed to accept the call output of the S/1663 Call Point.

F1 is connected to the SILENCE button and requires a momentary +ve applied to operate the silence function

F3 is the LATE ATTENDANCE input and accepts these signals from all the call points connected to this module.

F4 is the EMERGENCY RECALL input and accepts these signals from all the call points connected to this module.

F2 can be used to DISABLE the SILENCE function at the panel by connecting this terminal to +ve. If this mode is used then nursing staff would be forced to attend the originating call point in order to silence the integral sounder.

OUTPUTS

There are two outputs. One relay output which changes over whenever the sounder operates and restores whenever the SILENCE button is pressed. The contacts are volt free DPCO rated at 1A 30Vdc. A serial output is provided to transmit data to a remote repeater(s) and/or relay cards. Remote repeaters or relay cards can be added to an MG311000. Each repeater MG222000 will require 50ma max. Each relay card MG010000 will require 70ma max.

POWER SUPPLY REQUIREMENTS

The MG311000 is not fitted with a power supply. A PSU-12/1A5 12 volt 1.5A power supply is recommended together with a 6Ahr standby battery. This power supply is capable of supporting a system made up of a number of MG311000 Annunciators, MG222000 Repeaters, MG010000 Relay Cards, S/1663 Call Points and S/1636 Overdoor Lights.

Use the following information to determine the size of power supply you will need. The figures are given in milliamps. The quiescent current is the requirement without any alarm condition. The maximum current is the requirement which will never be exceeded by a particular item whatever its state eg. tripped, tripped but silenced etc...

Item	Description	Quiescent	Maximum
MG311000	6 Zone MULTIGUARD Annunciator	25ma	70ma
MG222000	6 Zone MULTIGUARD Repeater	0ma	50ma
MG010000	6 Zone Relay Card	0ma	65ma
S/1663	Call Point	2ma	10ma
S/1636	Overdoor Light	0ma	60ma

Thus a 30 zone system with one repeater, 30 call points and 30 overdoor lights would draw a quiescent current of

$(5 \times 25) + (5 \times 0) + (30 \times 2) + (30 \times 0) = 185\text{mA}$ and a maximum of $(5 \times 70) + (5 \times 50) + (30 \times 10) + (30 \times 60) = 2700\text{mA}$

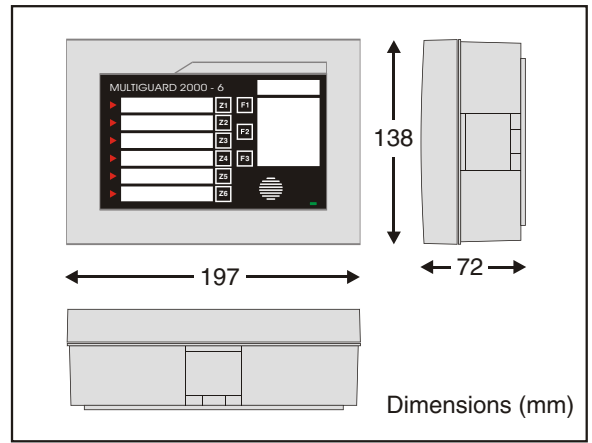
ie 2.7A which is clearly above the limit of a 1.5Apsu. However, it is unlikely that all zones would be tripped simultaneously even in the busiest establishments. A reasonable diversity factor would be 30% which results in a load of just over 800 Ma.

INSTALLATION INSTRUCTIONS

IT IS IMPORTANT THAT THE MULTIGUARD IS FIXED TO A FLAT SURFACE. IF THE BOX DISTORTS IT WILL BE DIFFICULT TO CLIP THE VARIOUS COMPONENTS TOGETHER TO FORM A SECURE HOUSING.

Multiple fixing holes are provided to suit the many different standard fixing centres of various mounting boxes. Choose the appropriate centres. If a flush rear box is not being used then you should choose the widest possible centres for the most stable fixing.

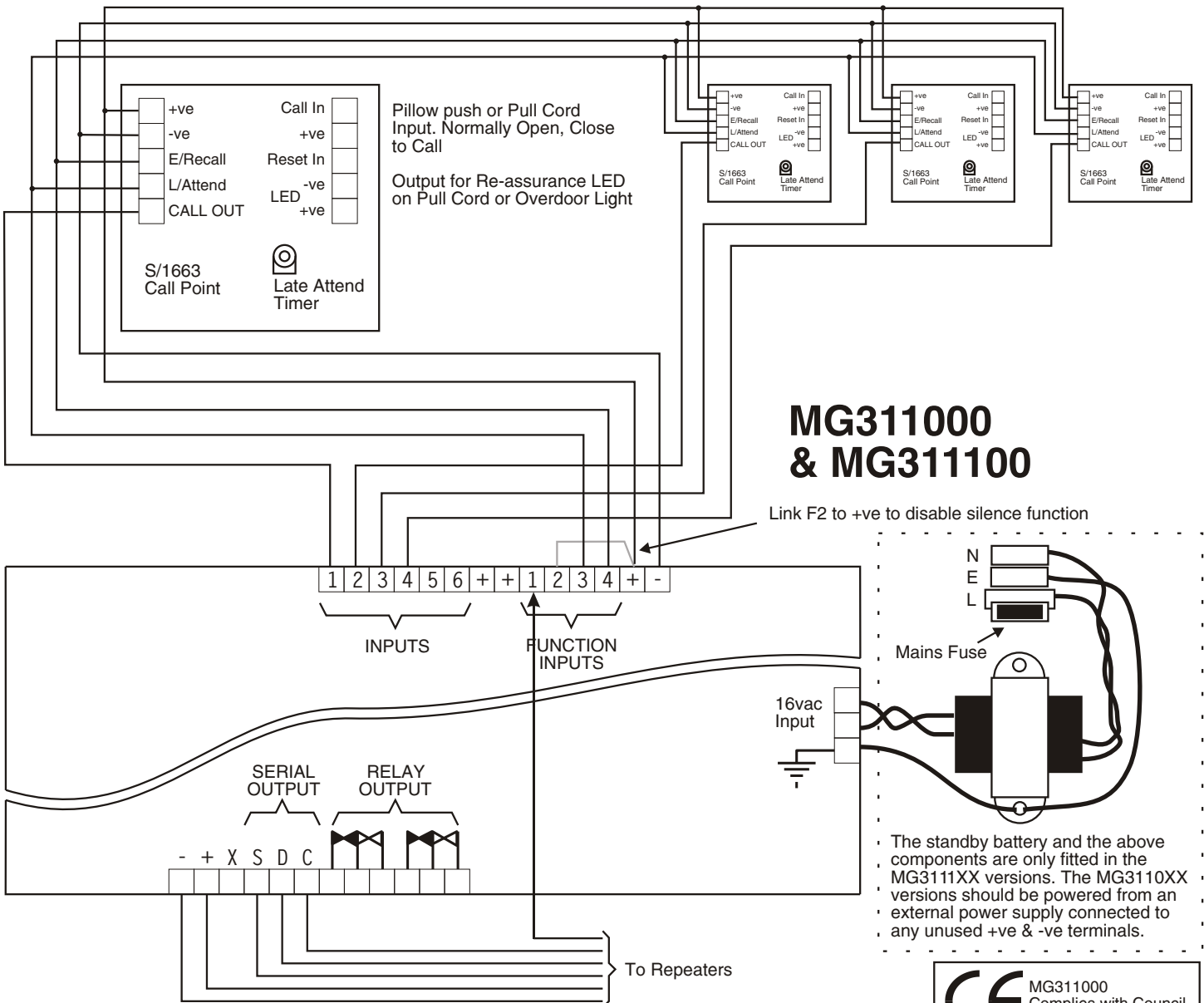
Cables may enter through the 20mm holes in the rear of the box or through the entry slots located on each side. Cables should be routed into the cable channel between the inner and outer walls of the box. These cables should only be cut to length when you are ready to terminate them on the PCB assembly. Be sure to leave enough length to allow the PCB assembly to be removed for access at a later stage.



Connection & Power Up sequence.

The MULTIGUARD has a short test or verification sequence on power up. You should verify that the unit as supplied is functioning normally before making any connections.

1. Apply 12 volts dc power ensuring the polarity is correct. The integral sander will beep rapidly. Press the SILENCE button F1. The LED's will flash twice and then extinguish.
2. Dress the cables into the cable channel, trim to length and terminate as appropriate. Any excess cable should be left in the side channels between the clip and the outer wall. This helps to prevent the clips deforming.
3. The system can now be tested and the decal and lid clipped into place.



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