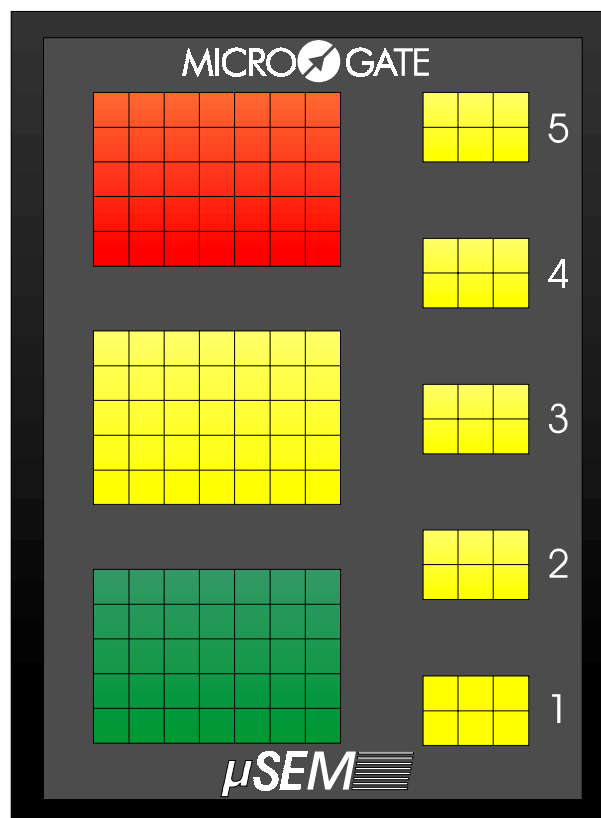


MICRO GATE

μSEM

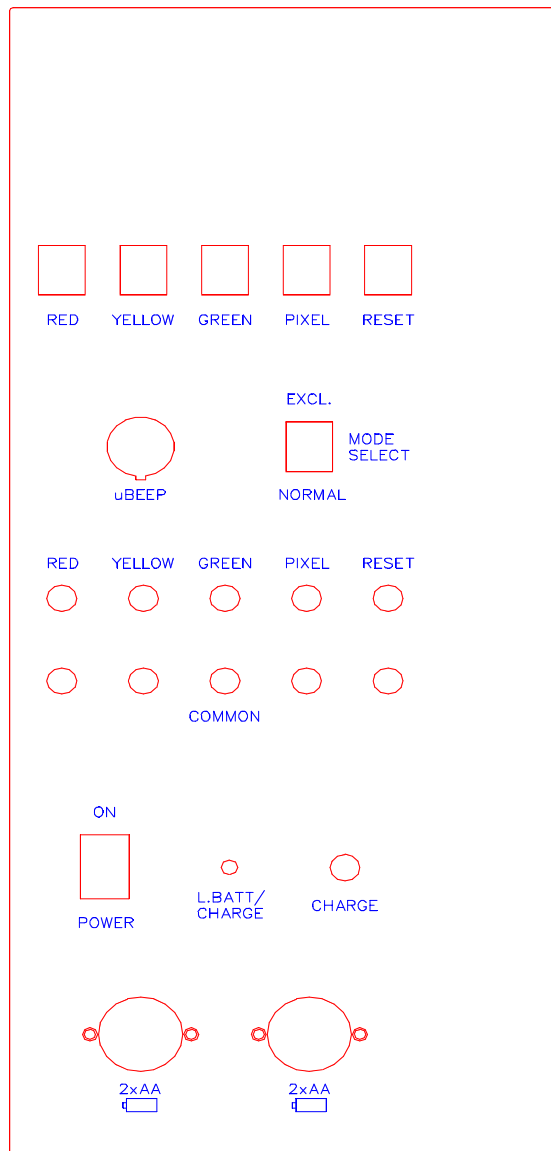
USER MANUAL



Index

Connections and side panel buttons	3
Description	4
Manual functioning	4
'Normal' mode	4
'Exclusive' mode	4
Functioning with command via cable	5
Connection to Microgate μ BEEP start beeper	5
Power source and battery recharge	5
Power supply with storage batteries or built-in batteries	5
External power source	5
Recharging of storage batteries	6
Indicator signals L.Batt./Charge	6
Mounting device	6

Connections and side panel buttons



Description

The start signal lights are contained in a strong light container measuring 35x25x15 cm (h x l x p).

The red-green-yellow indicators and the five indicators for countdown have been created by using combinations of electromagnetic pixels in the three colors. This solution makes possible excellent visibility, also in conditions of strong background light, rapid switching on/off times and very low consumption: power consumption is normally almost zero, and power is only really consumed during pixel switching.

The size of the indicators (7.5 x 9 cm) permits excellent visibility up to and over distances of 100 meters.

Command of the device can be effected either manually or by means of input via cable.

Manual functioning

Three colored buttons are used to switch on/off the three main indicators (red-green-yellow). If the indicator is off, it can be switched on by pressing the corresponding button. If it is on, this action will switch it off.

The small auxiliary signal lights for countdown are operated by a single button. If everything is switched off, the first time it is pressed, it 'loads' the counter, turning on the five indicators simultaneously. Subsequently, pressing on the button will turn off the pixels one after the other in succession.

A reset key can be used to switch off all the segments (main and countdown).

Two functioning modes are available. These may be selected by means of the relative switch.

'Normal' mode

In '*simultaneous*' mode, a single indicator can be activated or deactivated independently of the status of the others.

'Exclusive' mode

In '*exclusive*' mode, when the switch for a switched-off indicator is pressed, the latter comes on and the other indicators are automatically switched off. The only exception is the operation of the pixels for countdown, which can be activated together with the yellow light.

Functioning with command via cable

There are 5 lines of command:

- red light
- yellow light
- green light
- auxiliary countdown lights
- reset

All the signals are logic (0-5V), referred to a single common mass.

For connection there are 6 'banana' jacks (4 mm) and a 6 pole multipolar Amphenol socket (compatible with DIN 45500).

In the case of the main signal lights, the signal status corresponds to that of the indicator (1=5V \Rightarrow light on, 0=0V \Rightarrow light off).

The auxiliary signal lights for countdown are operated by the transition of status (rising edge, from 0 to 1) of the relative input. As with manual functioning, the sequence all lights on – 4 on – 3 on etc. is repeated automatically.

The reset signal switches off all the lights (main and auxiliary) when transition is from 0 to 1.

Connection to the Microgate μ BEEP start beeper

The μ SEM signal light unit has been designed for direct connection to the μ BEEP start beeper.

Simply connect the multipolar μ BEEP socket to the multipolar socket on the μ BEEP beeper (ref. 14 in the μ BEEP user manual), using the relative multipolar cable (the cable is connected internally one to one).

Important: for correct functioning the **MODE** selector on μ SEM must be set to 'Exclusive' mode.

Power source and battery recharge

Power supply with storage batteries or built-in batteries

Normally μ SEM is powered by the rechargeable storage batteries which are supplied with it. When fully charged, they guarantee autonomous use for at least 5000 complete start sequences (equivalent to about 28 hours of continuous functioning).

The storage batteries can be replaced with four normal AA alkaline batteries. To do this, with a screwdriver or coin unscrew the battery holder situated in the lower part of the side panel in an anti-clockwise direction

If the batteries are low, this is signaled by the blinking red **L.Batt./Charge** led.

External power source

The signal lights can also be powered by any external continuous current source, with a tension between 8 and 13V. The power source should be connected to the **Charge** power socket situated on the side panel. The polarity of the power source is not important.

Recharging of storage batteries

μ SEM is fitted with an 'intelligent' recharge circuit for the storage batteries, which are first discharged and subsequently recharged completely automatically. In this way the 'memory' effect, which reduces the working life of the storage batteries, is avoided.

The charging of the storage batteries takes place only when the device is switched off. (When the device is switched on, if the external power source is connected, a charge 'maintenance' procedure is activated).

To start the recharging of the storage batteries, you must:

- switch off the device
- then, connect to the **Charge** power supply socket on the side panel. The discharge phase of the storage batteries is signaled when the **L.Batt./Charge** red led is continuously on. During recharging, the led is green and blinks. At the end of recharging, the led is green and continuous

It is also possible to skip the discharge phase when recharging the storage batteries. This procedure should normally be avoided, but it can be useful if the storage batteries need charging and there is not enough time to carry out the whole discharge-recharge cycle.

To immediately activate recharging:

- switch off the device
- press the **Green** button and keep it pressed down
- connect to the **Charge** power supply socket on the side panel
- release the green button

After about a second recharging of the storage batteries will begin.

Indicator signals L.Batt./Charge

Indicator Status	Meaning
Off	Battery power source, batteries charged
Blinking red	Batteries discharged
Continuous red	Battery discharge phase in progress
Blinking green	Battery recharge phase in progress
Continuous green	Charging of batteries correctly completed

Mounting device

On the bottom of the device there is a threaded hole with photographic thread (1/4 " W), for mounting on a stand. Two hinges on the back of the device make it possible to hang the signal light unit on a wall.