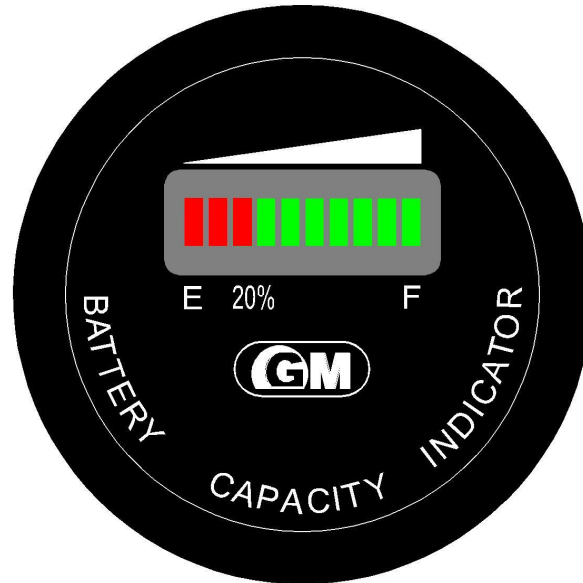


# GM ELECTRIC TECHNICAL MANUAL

## BATTERY STATUS INDICATOR ISRP

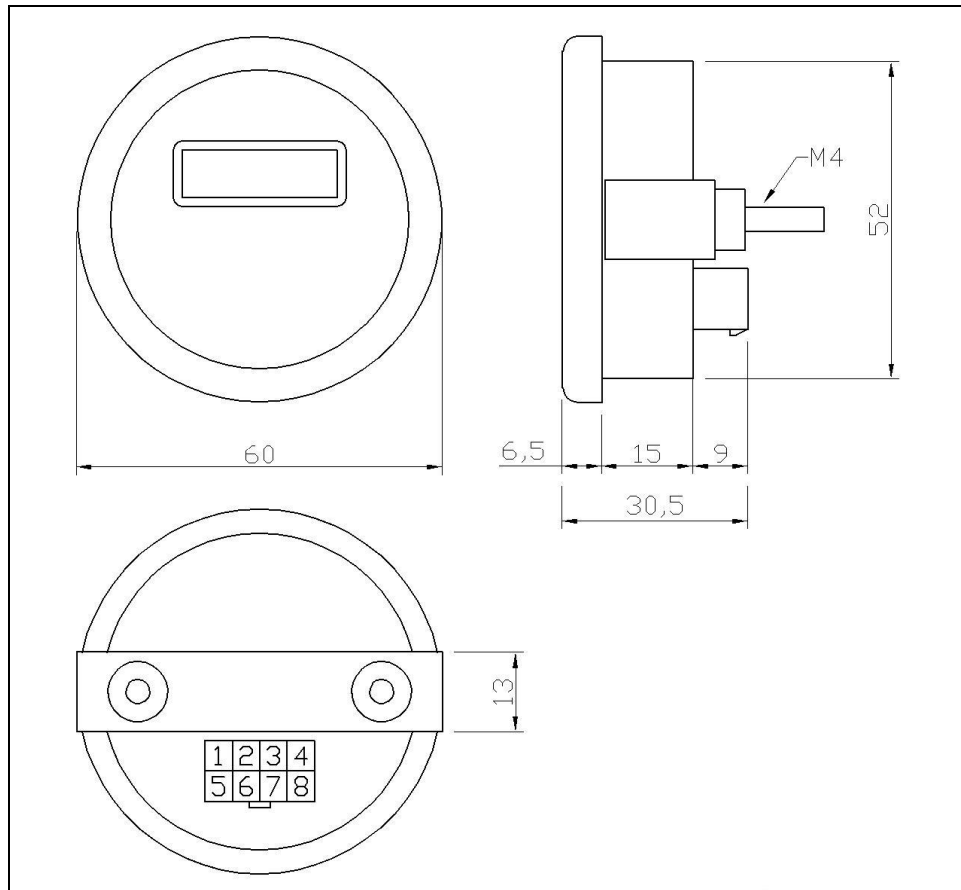


### MAIN CHARACTERISTICS:

- Supply voltage range from 24V to 80V
- Adjustable timing of the voltage measurement with dedicated input pin
- Adjustable final value of discharged battery (Volt per cell) with dedicated input pin
- Auxiliary N.C. contact on cut-out relay (max 2A)
- Black ABS case
- Front side with IP66 protection
- Working temperature range from -20 °C to +60 °C
- Mounting hole with unificated measure Ø 52mm

**NOTICE:** The device is designed to work properly with a supply voltage value inside the indicated range, if voltage is out of range, it may be that the counter appears to work correctly, but in this case right functioning is not ensured. Supply voltage that exceed the maximum value can seriously, and permanently, damage the device.

## DIMENSIONS AND PIN CONNECTOR:



## CONNECTOR:

PIN	DESCRIPTION
1	LED to LED time setting Not connected = 3 minutes Connect to + battery = 1 minute
2	N.O. relay contact
3	N.C. relay contact
4	Common relay
5	Negative power supply (- Battery)
6	Set threshold voltage for discharged battery indication Not connected = 1,73 V cell. (Lead_acid battery) Connect to + battery = 1,85V cell. (GEL battery)
7	Positive power supply (+ Battery)
8	80V input setting (positive). Connctc this pin to the positive of the battery to set the device to work <b>only</b> with 80V battery. Anyway also pin 7 has to be connected to the positive.

## INDICATOR FUNCTIONING:

The accurate indication of the status-charge of the battery is obtained with a ten led bar (7 green and 3 red). When the battery is fully charged the first green led on the right is lit up. Then, while the battery is becoming more and more discharged, the led that is turned on will switch off, and the following one on the left will turn on.

When the battery will be fully discharged the two red leds on the left will be flashing alternatively. In this condition the cut-out relay will commutate and its contact can be used to prevent a damage of the battery in case of further use.

The real condition of the charge of the battery is permanently memorized.

The indicator analyses continuously the voltage of the battery every time that the connection "key" is activated. If the "key input" is not connected the indicator is in pause and the voltage of the battery is ignored.

The nominal voltage of the battery is automatically selected by the indicator at the startup time, except for the 80V battery for which is present a dedicated pin for set the 80V working voltage.

The charge-status of the battery is memorized also when the power supply is disconnected for long time.

The memory of the indicator can memorize also the partial discharge happened between one led and another.

The reset condition of the indicator (condition of fully charged battery) are:

- " the voltage per cell" of the battery is higher than the reset level (about 2.08V) when the indicator is connected to the battery. The first green led lights (full).
- "the voltage per cell" of the battery, in any moment, becomes higher than a threshold level, typical value 2,35 V.

## WARRANTY:

GM ELECTRIC grants the product for 12 months after the shipping date. The warranty is valid only if all the rules described in this manual have been respected.

The warranty is limited to the duty to repair or replace without costs all the faulty parts found during the validity of the warranty period. All costs linked to travelling expenses to the customers are excluded.

Reparation/replacement of the faulty parts will be done in the shortest possible time in compliance with the engagements of the building farm and without any obligation to any kind of indemnity and/or compensation for direct or indirect damages.

Warranty will not be recognised on products that show some kind of tempering or external applications that have been done on them.

The beginning of warranty period will start from the date of the shipping documents.

**GM Electric**  
**Via Il Strada 21**  
**I-30030 Fossò (VE)**  
**Tel. 041-5170090**  
**Fax 041-466846**

## **COMPLIANT STATEMENT**

The device here described compliant to the following rules and european normative.

### **EUROPEAN RULES:**

Low voltage:  
European : 2006/95/CEE

ELECTROMAGNETIC COMPATIBILITY  
European: 2004/108/CEE

### **REFERENCE EUROPEAN NORMATIVE:**

#### **LOW VOLTAGE:**

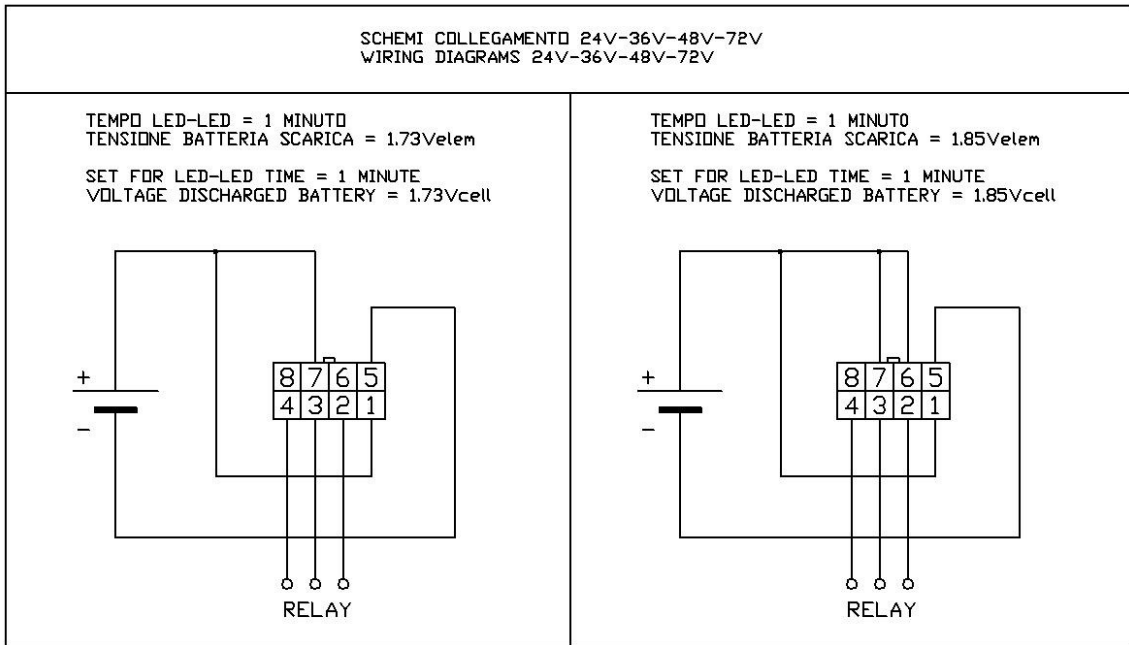
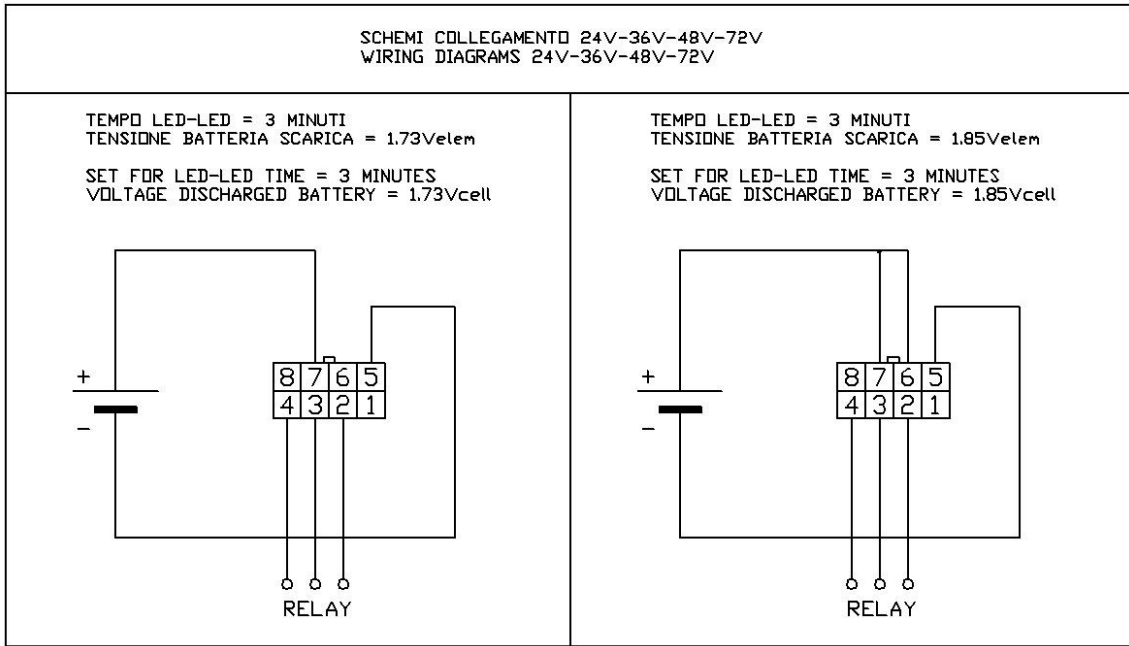
EN50178  
EN60204  
EN60335-1  
EN60335-2-29

#### **ELECTROMAGNETIC COMPATIBILITY:**

EN55011  
EN61000-4-2  
EN61000-4-3  
EN61000-4-4  
EN61000-4-5  
EN61000-4-6  
EN61000-4-11

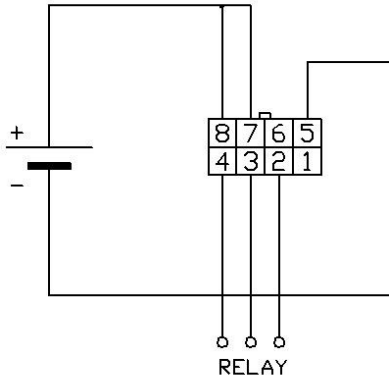
**It is hereby stated that this product is eligible for CE marking.**

# WIRING DIAGRAMS:

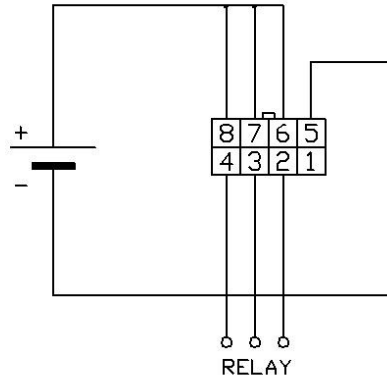


SCHEMI COLLEGAMENTO 80V  
WIRING DIAGRAMS 80V

TEMPO LED-LED = 3 MINUTI  
TENSIONE BATTERIA SCARICA = 1.73Vcell  
SET FOR LED-LED TIME = 3 MINUTES  
VOLTAGE DISCHARGED BATTERY = 1.73Vcell

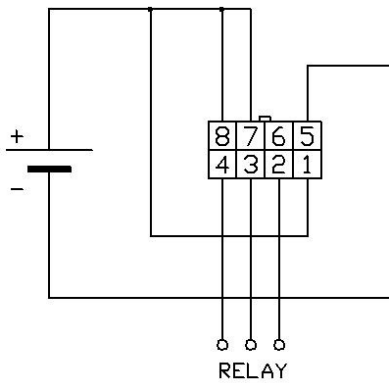


TEMPO LED-LED = 3 MINUTI  
TENSIONE BATTERIA SCARICA = 1.85Vcell  
SET FOR LED-LED TIME = 3 MINUTES  
VOLTAGE DISCHARGED BATTERY = 1.85Vcell



SCHEMI COLLEGAMENTO 80V  
WIRING DIAGRAMS 80V

TEMPO LED-LED = 1 MINUTO  
TENSIONE BATTERIA SCARICA = 1.73Vcell  
SET FOR LED-LED TIME = 1 MINUTE  
VOLTAGE DISCHARGED BATTERY = 1.73Vcell



TEMPO LED-LED = 1 MINUTO  
TENSIONE BATTERIA SCARICA = 1.85Vcell  
SET FOR LED-LED TIME = 1 MINUTE  
VOLTAGE DISCHARGED BATTERY = 1.85Vcell

