



# velleman WSAA189 Battery Level Indicator User Manual

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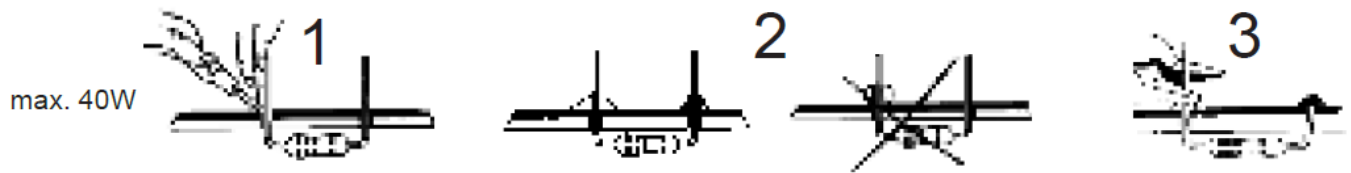
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## velleman WSAA189 Battery Level Indicator



## Soldering



## Resistor

R1, R2: 220  
(Red, Red, Brown)



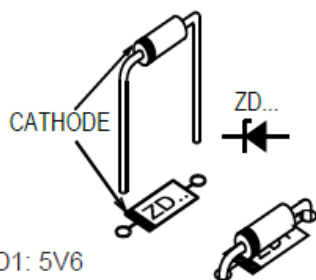
R3: 3K3  
(Orange, Orange, Red)

R4: 1K



(Brown, Black, Red)

## 2 Zenerdiode



◇ ZD1: 5V6

Watch the polarity !  
Attention à la polarité !

## 3 IC

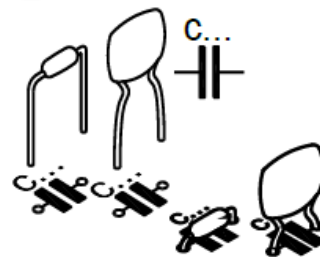


◇ IC1: VMK189 (programmed PIC 10F220-I/P)

Watch the position of the notch !

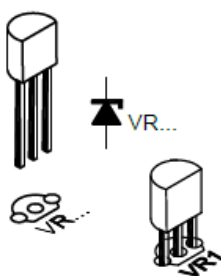
Attention à la position de l'encoche !

## 4 Ceramic capacitors



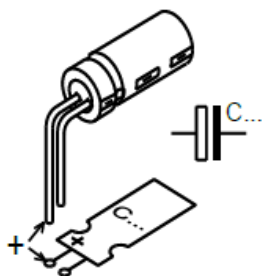
◇ C1, C2: 100nF (104)

## 5 Voltage regulator



◇ VR1: UA78L05

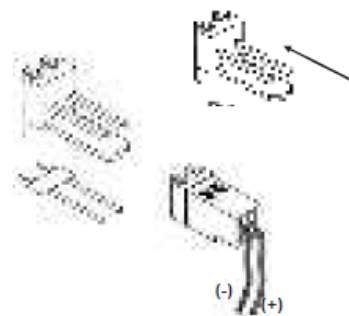
## 6 Electrolytic capacitors



◇ C3: 47μF

Watch the polarity !  
Attention à la polarité !

## 7 Board-to-wire

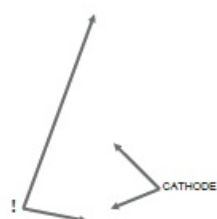


◇ SK1: battery

## 8 LED



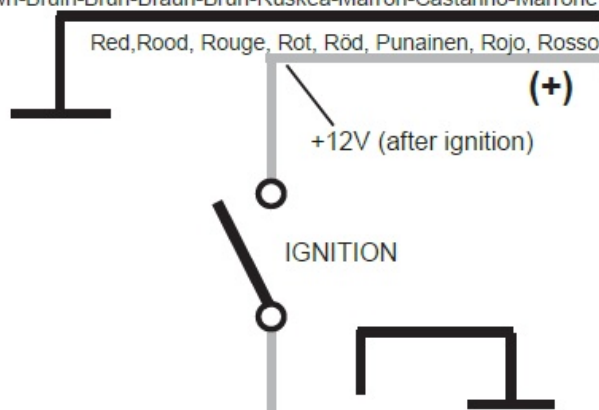
◇ LD1



Watch the polarity !  
Attention à la polarité !

## 9 Connection

Brown-Bruin-Brun-Braun-Ruskea-Marrón-Castanho-Marrone  
Red,Rood, Rouge, Rot, Röd, Punainen, Rojo, Rosso



12V



OFF



Green, Groen, Vert, Grün,  
Grön, Vihreä, Verde



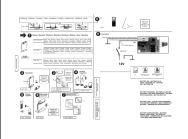
Red,Rood, Rouge, Rot, Röd,  
Punainen, Rojo, Encarnado,  
Rosso

BATTERY OK  
BATTERY CHARGING  
BATTERY LOW  
BATTERY OVERCHARGING

#### TO ALL RESIDENTS OF THE EUROPEAN UNION

Important environmental information about this product This symbol on this unit or the package, indicates that disposal of this unit after its lifecycle could harm the environment. Do not dispose the unit as unsorted municipal waste; it should be disposed by a specialized company for recycling. This unit should be returned to your distributor or to a local recycling service. Respect the local environmental rules. If any doubt contact your local authorities about waste disposal rules.

#### Documents / Resources

	<a href="#">velleman WSA189 Battery Level Indicator</a> [pdf] User Manual WSA189 Battery Level Indicator, WSA189, Battery Level Indicator, Level Indicator, Indicator
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