velleman MODULES VM107 Display Up Down Counter Plus Subtraction Hours Min Sec Clock Instruction Manual

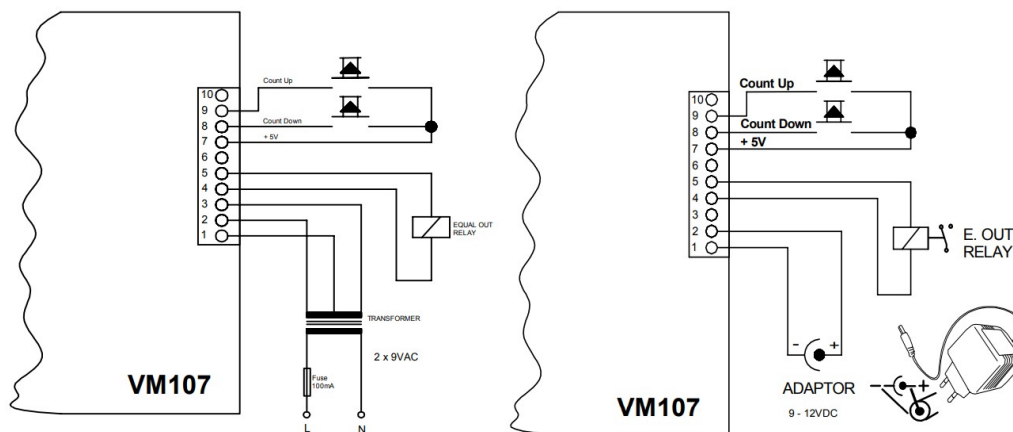**COUNTER MODULE**
VM107

Contents

CONNECTION

⚠ **IMPORTANT !**

Make sure the input voltage matches. Mind the polarity!
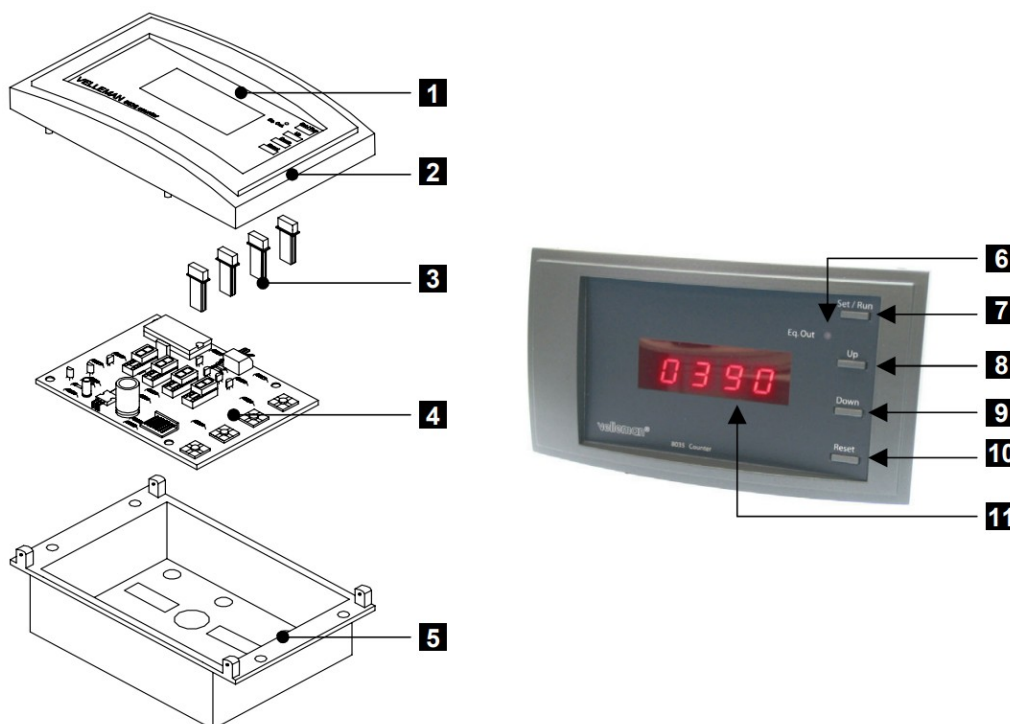
1. Front panel

2. Top cover

3. Buttons

4. PCB

5. Housing

6. Equal output indication

7. Push button for preset value

8. 'UP' button

9. 'DOWN' button

10. 'Reset' button

11. Counter display

Thank you for buying this module! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

SPECIFICATIONS & FEATURES

Features

✅ Comes in handy for people counting, part counting, score keeping, …

✅ Counts up or down.

✅ Count input through on-board pushbuttons or by external pulses.

✅ Display modes : normal or time (hh:mm and mm:ss).

✅ An internal oscillator allows time measurement.

✅ Programmable pre-set value with equal output.

✅ Self diagnostic at power up.

*Modifications and typographical errors reserved.

Specifications

- Counter input voltage: ……….. 3 – 12Vdc (normal dry contact possible)

- EQUAL output: …………………………………………… 5Vdc / max. 50mA

- Max. counting speed: ……. 200/sec. (2/sec. with long debounce delay)

- Max. count: …………………………….. 4 digits (9999 / 23h59m / 59m59s)

- Power supply: ……………………………….. 9 – 12Vdc or 2 x 9Vac / 300mA

- Power consumption: ………………………………………….. 150mA max.

- Dimensions: ………………………… 165 x 90 x 35mm (6,5″ x 3.5″ x 1,4″)

Operation

When all connections are made, the four LED displays will light up and the module type will appear "107" after which following messages appear :

r x. x x	Version number
T E S T	Self-test is working
G O O D	Internal parts are working correctly

If an irregularity is found during the self-test, an error code will appear, when GOOD appears then the unit is ready for use.

Error code	Description
Err. 2	Error in the keyboard section.
Err. 3	The switches are in the wrong position. 'DIP SWITCH'
Err. 4	Input A and B are at the same time active
Err. 5	Input A is active during self-test or input A is possibly malfunctioning.
Err. 6	Input B is active during self-test or input B is possibly malfunctioning.

☞ The errors 5 & 6 can appears when during the self-test counter pulses are received, this can be reset by pressing SW4 briefly.
Counting pulses can be applied to the unit in two different ways :

1. + 3V to 12V pulses with respect to ground.
2. Use the + 5V connection for push buttons or relay contacts when there is no power supply from an external source.

☞ Press "Reset" button briefly to reset the readout. "0000".

- Press the "UP" button to increase the actual value with one.
- Press the "DOWN" button to decreases the actual value with one.

Setting the Pre-set value:
It is possible to set a number which will continuously be compared with the content of the counter. If both are equal, then the output (Equal OUT) is activated.

- Press Set/Run (set briefly appears).
- Press Up or Down to set the value.
- Press Set/Run to store the value (Run appears).

Counter settings :
The counter can be used for decade or modulo 60 (clock) counting, an internal oscillator can be provided for use in modulo 60-mode.

☞ When changing the position of one of the switches, the current counter value and the pre-set value will be erased.

1. COUNTER SETTINGS		
FUNCTION	**DIP SWITCH**	
	OFF	ON
Decade counter	1	
Modulo 60 : hh:mm (23.59)	2	1
Modulo 60 : mm:ss. (59.59)		1 & 2
2. DEBOUNCE SETTING		
Normal debounce	3	
Long debounce		3
3. INPUT SETTING		
External pulses	4	
Internal oscillator		4

Important environmental information

SAFETY INSTRUCTIONS

- All repairs should be executed by qualified technicians.
- Avoid the installation of the module in locations with standing or running water or excessive humidity. Indoor use only !
- Handle the module gently and carefully. Dropping it can damage the circuit board.
- Never exceed the protection limit values indicated in the specifications.
- As safety requirement vary, please check with your local authorities.
- Facilitate the operation of the device by familiarising yourself with its adjustments and indications.
- Velleman modules are not suitable for use or as part of life support systems, or systems that might create hazardous situations of kind.

COUNTER MODULE

Modifications and typographical errors reserved – © Velleman nv – HVM107G – 2004 – ED1 (rev.2)

Documents / Resources

	velleman MODULES VM107 Display Up Down Counter Plus Subtraction Hours Min Sec Clock [pdf] Instruction Manual VM107, VM107G 2.pub, VVMM101708, VM107 Display Up Down Counter Plus Subtraction Hours Min Sec Clock, Display Up Down Counter Plus Subtraction Hours Min Sec Clock, Down Counter Plus Subtraction Hours Min Sec Clock, Counter Plus Subtraction Hours Min Sec Clock, Subtraction Hours Min Sec Clock, Hours Min Sec Clock, Clock

References

- Ⓥ **Velleman â€" Wholesaler and developer of electronics**

Manuals+,