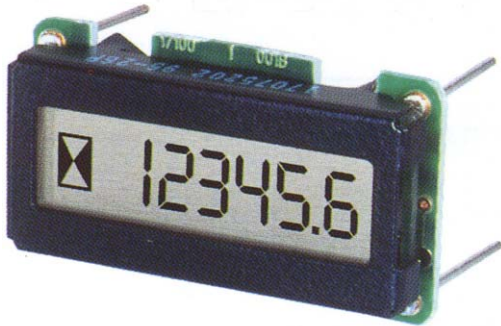


NON-VOLATILE COUNTER

Event and Operating Hour Counter



*Serie EA 1070-5
Abmessungen: 33x18mm*



*Serie EA 1070-7
Abmessungen: 38,6x25,4mm*

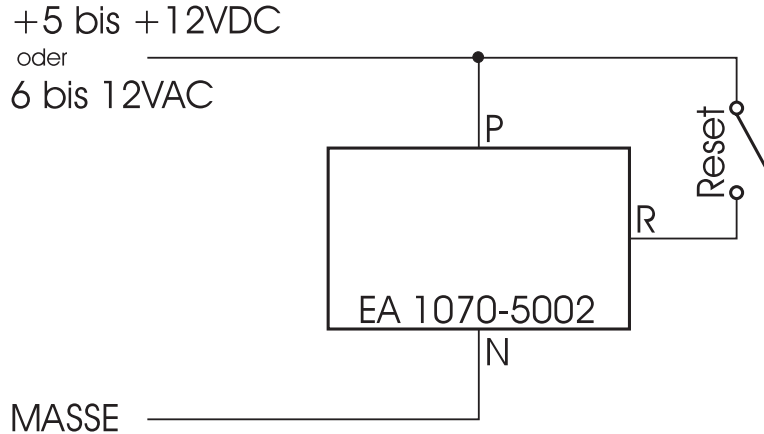
FEATURES

- * 6-DIGIT LCD DISPLAY, DIGIT HEIGHT 5mm or 7mm
- * **LED BACKLIGHT** FOR MODULES WITH 7mm HEIGHT OPTIONALLY
- * DATA STORAGE VIA EEPROM MEANS THERE IS **NO BATTERY NECESSARY**
- * LEADING ZERO SUPPRESSION
- * FOR PCB MOUNTING (EVEN GOOD FOR WAVE SOLDERING)
- * OPERATING TEMPERATURE RANGE **-40°C TO +85°C**
- * STORAGE TEMPERATURE RANGE **-50°C TO +90°C**
- * SHOCK RESISTANT UP TO 55g AT 9-13ms (½SIN) - SAEJ1378
AND 20g AT 10-80 Hz - SAEJ1378
- * VARIOUS VERSIONS FOR ALL APPLICATIONS (e.g. SUPPLY VOLTAGE DC 5V OR **DIRECTLY 230V-AC**)

POSSIBLE APPLICATIONS

- * SERVICE INTERVAL MONITORING OF MEDICAL DEVICES, COPY MACHINE, FILTER SYSTEMS
- * CONTROL OF THE OPERATING LIFE OF RENTED EQUIPMENT, CONSTRUCTION MACHINERY, AGRICULTURAL VEHICLES
- * SETTLEMENTS IN THE SERVICE SECTOR
- * POWER-FAIL SAFE COUNTING OF PRODUCED UNITS OVER BREAKS (AFTER WORK, WEEKEND)

EA 1070: COUNTER FOR OPERATING HOURS NON-VOLATILE UP TO 25 YEARS



- * Display capacity: 99.999,9 hours (= 11.4 years)
- * 6 digit LCD display
- * Digit height 5mm (EA 1070-5) or 7mm (EA 1070-7)
- * LED backlight for 7mm version possible
- * Version w./o. start input: response time is about 5s
Counter is running 5 seconds after power-on
- * Version with separate input to start
Time counting runs as long as signal input stays H
- * Character is flashing every 4 sec. while counting
- * Set to zero: H-level for more than 0.3 sec. at Reset pin
- * Current consumption about 0.5mA @ 5VDC (w./o. backlight)

ORDERING CODES FOR OPERATING HOUR COUNTER:

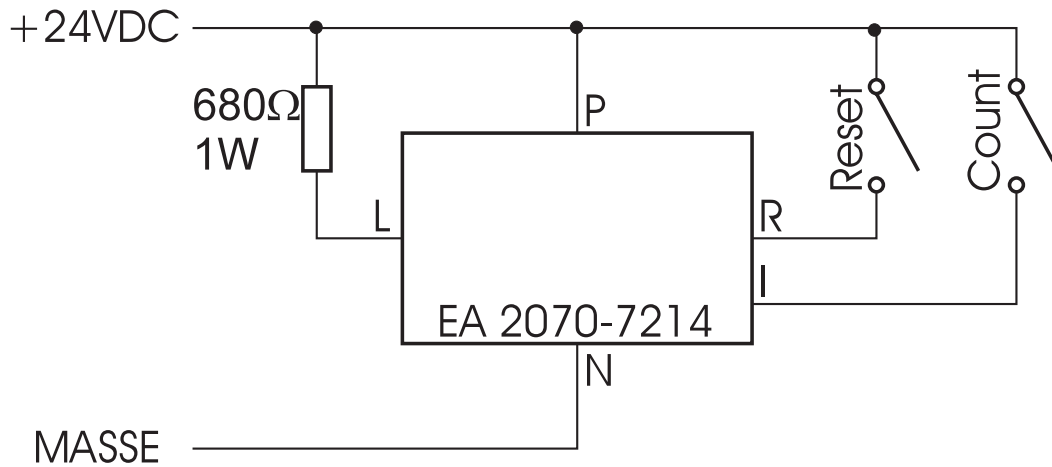
5mm Digit height, with start/stop function, 5-12VDC/6-12VAC, resetable **EA 1070-5202**
7mm Digit height, with start/stop function, 12-48VDC, resetable, backlighted **EA 1070-7114**

More versions are available on request. Ordering code definition is like that: EA 1070-5xyz and EA 1070-7xyz

x	y	z
0 DC/AC, no start/stop	0 5 to 12VDC / 6 to 12VAC	0 not resetable
1 DC only, with start/stop	1 12 to 48VDC / 20 to 80VAC	2 resetable
2 DC/AC, with start/stop	2 48 to 150VDC / 100 to 230VAC	4 resetable, backlighted
		5 not resetable, backlighted

Please note: The optional backlight is available for EA 1070-7xyz and EA 2070-7xyz only!
AC operation from 48 to 440Hz

EA 2070: UNVERGESSLICHE IMPULSZÄHLER



- * Display capacity: up to 999999
- * 6 digit LCD display
- * Digit height 5mm (EA 2070-5) or 7mm (EA 2070-7)
- * LED backlight for 7mm version possible
- * Counting on H/L edge
- * Counter is running 5 sec. after power-on
- * max. frequency
Version "DC only": typ. 500Hz / duty cycle 1:1
Version "DC/AC": typ. 1Hz / duty cycle 1:1
- * With all versions "divider 1:10" every 10th. edge will be counted
(all signals between the 1/10th. are kept stored even while power-off)
- * Reset: H-level at Reset (min. 0.3 sec.)
- * Current consumption about 0.5mA @ 5VDC (w./o. backlight)
- * Data storage via EEPROM min. 25 years

ORDERING CODES FOR COUNTER:

5mm digit height, 500 Hz, 12 to 48VDC, resetable

EA 2070-5112

7mm digit height, 500Hz, 12 to 48VDC, resetable, backlighted

EA 2070-7114

More versions are available on request. Ordering code definition is like that: EA 2070-5xyz and EA 2070-7xyz

x	y	z
1 DC only, with start/stop	0 5 to 12VDC / 6 to 12VAC	0 not resetable, w./o. backlight
2 DC/AC, with start/stop	1 12 to 48VDC / 20 to 80VAC	2 resetable, w./o. backlight
3 DC only, with start/stop / 1:10 divider	2 48 to 150VDC / 100 to 230VAC	4 resetable, with backlight
4 DC/AC, with start/stop / 1:10 divider		5 not resetable, with backlight

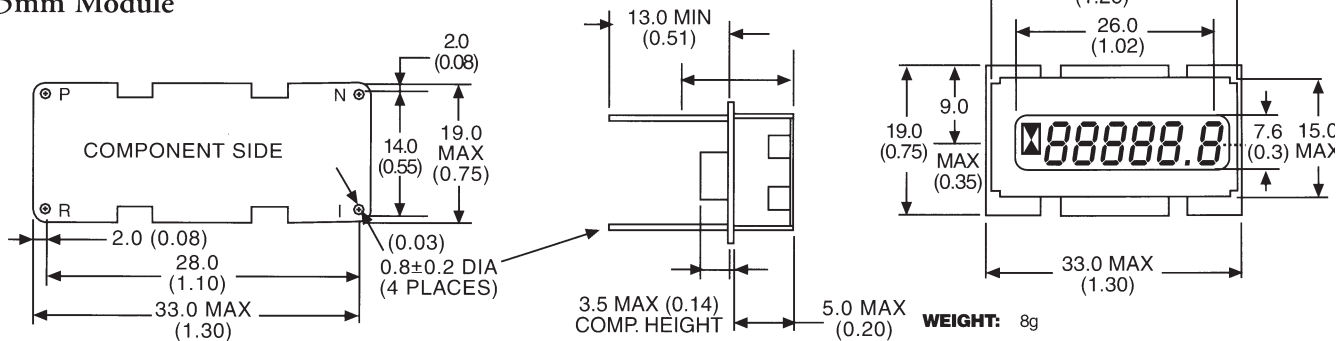
Please note: The optional backlight is available for EA 1070-7xyz and EA 2070-7xyz only!

EA 1070 / 2070

DIMENSION

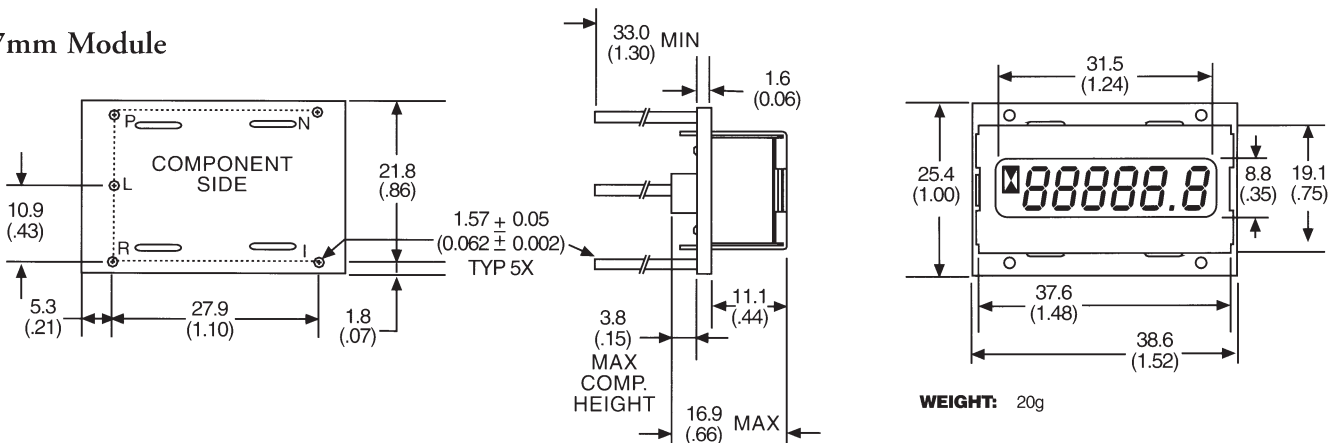
Module with 5mm Digit height EA 1070-5 and EA 2070-5

5mm Module



Module with 7mm Digit height EA 1070-7 and EA 2070-7

7mm Module



PINOUT

for all modules with 5mm and 7mm digit height

- P: V_{DD} / Positive voltage
- N: GND / Ground
- I: Input for signal ¹
- R: Reset ¹
- L: Backlight

¹) open input I and R are inactive
H-level from $0.8 \cdot V_{DD}$ up to V_{DD} .
Voltage greater than V_{DD} are not allowed
and may destroy the counter immediately



BACKLIGHT

The backlight on the module is designed for 12VDC / 15mA supply. Typically, the lighting is used on modules with 12-48VDC coverage. At voltages below 12V, the illumination remains too dark, at higher voltages, a lot of power dissipation is converted in the external series resistor. The backlight is only available for the modules with 7mm digit height. If the supply voltage is higher, an external series resistor must be connected in series with pin L. When dimensioning, you should consider the power loss depending on your operating temperature. Typical value for 24V DC supply voltage is 680Ω @ 1W.