

Electronic counters without preselection

→ Hour counters without preselection - LCD 24 x 48 - CTR24

- Display: 8 digits LCD, 8 mm height
- Built-in module for voltage inputs 10 → 260 V~ (2224-2324)
- 4 timing ranges: 99.999.99 hrs - 99.999.59 hrs - 999.999.9 s - 9.999 hrs 59 min 59 s
- Powered by a lithium battery, service life 8 years
- Reset on panel or external with inhibition option
- Backlit model (2323-2333-2324)
- Accessories for 50 x 25 mm cut-out



Part numbers

Type	Type	Functions	Code
CTR24 non-backlit model	2223	Hour counter, solid state input PNP	87622161
	2233	Hour counter, solid state input NPN	87622162
	2224	Hour counter, voltage input	87622170
CTR24 model with orange backlighting	2323	Hour counter, solid state input PNP	87622181
	2333	Hour counter, solid state input NPN	87622182
	2324	Hour counter, voltage input	87622190

Accessories

Description	Code
Adaptor for 50 x 25 mm cut-out - Fixed with screws	26546843
Adaptor for 50 x 25 mm cut-out - Fixed with clips	26546844
DIN rail adaptor	26546840
Clip-fixing kit (supplied with the product)	26546848

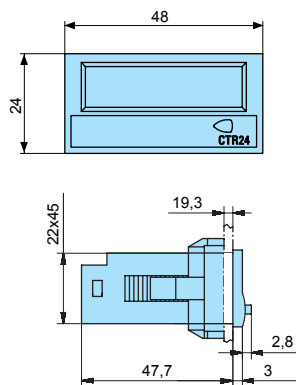
General characteristics

Environmental characteristics	
Consumption	Backlighting: 24 V~ ± 20% 50 mA
Connection by 8 screw terminals at rear of casing	✓
Connection capacity	1.5 mm ²
Fixed using bracket	✓
Degree of protection front face	IP 65
Temperature limits use (°C)	-10 → +60
Temperature limits stored (°C)	-20 → +70
Breakdown voltage	According to EN 610110-1: 2000 V / 50 Hz / 1 min.
Conformity to standards	EN 61000-6-2 - EN 55011 class B
Altitude	2000 m
Certifications	UL - cULus (pending) - CE
Weight (g)	50
Operating characteristics	
Function	Hour counter
Display	8-digit LCD
Height digits (mm)	8
Time ranges	0 → 99 999.99 h 0 → 99 999.59 h 0 → 9 999 999.9 s 0 → 9 999 h 59 min 59 s
Time base: Crystal controlled (Accuracy ± 100)	✓
Input 2223-2323	
One start/stop input by volt-free contact or NPN/PNP open-collector transistor (terminals 2-6)	✓
Low level	0 → 0.7 V~
High level	4 → 30 V~ PNP
Min time closed	> 100 ms
Input impedance	100 kΩ PNP
Input 2233-2333	
One start/stop input by volt-free contact or NPN/PNP open-collector transistor (terminals 2-6)	✓
Low level	0 → 0.7 V~
High level	3 → 30 V~
Minimum time closed	> 100 ms
Input impedance	1 MΩ

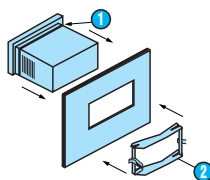
Reset - External 2223-2323 & 2233-2333	
Volt-free contact or open collector (terminals 3-6)	✓
Minimum time closed	50 ms
Input 2224-2324	
One start/stop input Two voltage levels (terminals 3-6)	✓
Voltage - Terminals 1-2	10 → 260 V \sim
Input impedance	160 K Ω
Minimum pulse time \square	100 ms
Minimum pulse time \sim	100 ms
Low level	0 → 2 V \sim
High level	10 → 260 V \sim
Reset - External 2224-2324	
Voltage - Terminals 2-3	✓
Minimum pulse time	16 ms
Low level	0 → 2 V \sim
High level	10 → 260 V \sim
Reset to zero - Panel	
Reset via	Inhibited: Terminals 4-6 not connected Active: Terminals 4-6 connected
Supply	
1 lithium battery - Life (years)	8

Dimensions (mm)

CTR24

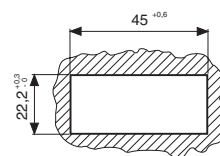


Fixing strip with clip-on yoke

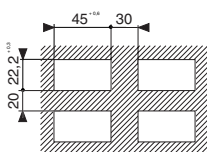


- ① Seal
- ② Fixing yoke

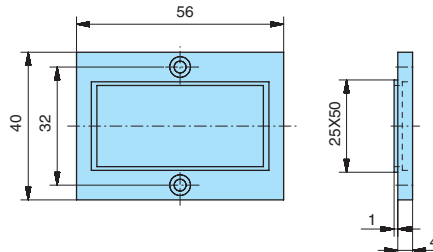
Panel cut-out



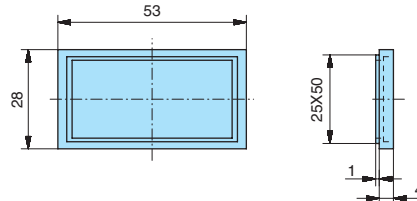
4 appliances



26546843 - Adaptor for 50 x 25 mm cut-out - Fixed with screws

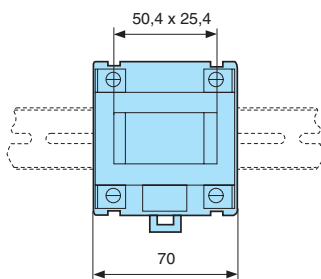
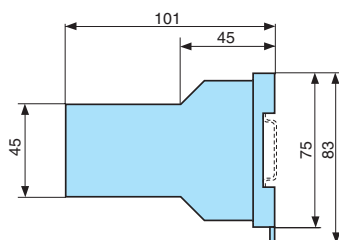


26546844 - Adaptor for 50 x 25 mm cut-out - Fixed with clips



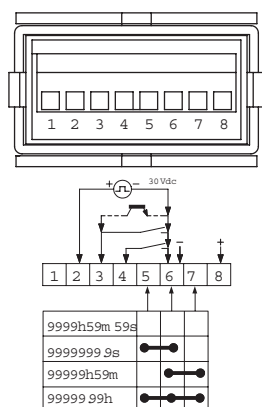
Accessory supplied with the counter

26546840 - DIN rail adaptor



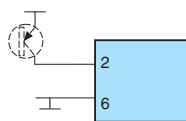
Connections

2223-2323



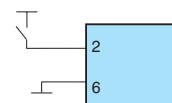
- ① NC
- ② Start/Stop input
- ③ Reset input 100 ms
- ④ Enable panel reset
- ⑤ Mode 1 (Time selection)
- ⑥ 0 V common/ (BL- only 23xx)
- ⑦ Mode 2 (Time selection)
- ⑧ Backlighting option + 24 V--- (only 2323)

2223-2323



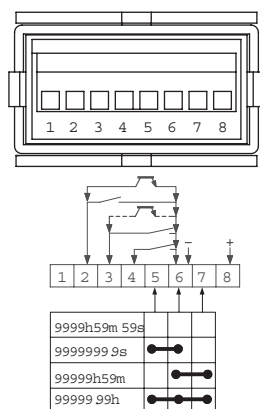
Start/Stop input
Transistor PNP

2223-2323



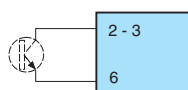
Start/Stop input PNP

2233-2333



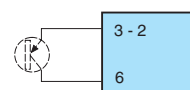
- ① NC
- ② Start/Stop input
- ③ Reset input 100 ms
- ④ Enable panel reset
- ⑤ Mode 1 (Time selection)
- ⑥ 0 V common/ (BL- only 23xx)
- ⑦ Mode 2 (Time selection)
- ⑧ Backlighting option + (only 2333)

2233-2333



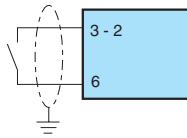
Start/Stop or reset input NPN - Transistor

2233-2333



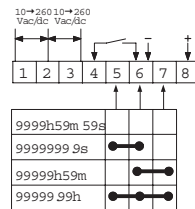
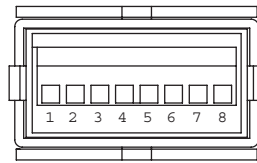
Start/Stop or reset input PNP - Transistor

2233-2333



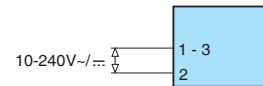
Start/Stop or reset input NPN - Transistor

2234-2324



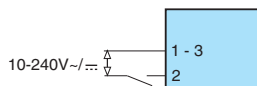
- ① Start/Stop input
- ② AC/DC common
- ③ Reset input
- ④ Enable panel reset
- ⑤ Mode 1 (Time selection)
- ⑥ 0 V common/ (BL- only 23xx)
- ⑦ Mode 2 (Time selection)
- ⑧ Backlighting option + 24 V \cdots (only 2324)

2234-2324



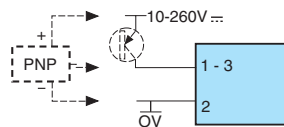
Start/Stop or reset input - Voltage

2234-2324



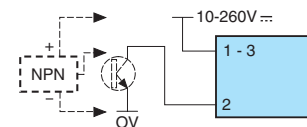
Start/Stop or reset input - Contact supplied with power

2234-2324



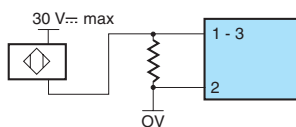
Start/Stop or reset input PNP Transistor or 3-wire PNP proximity sensor for leakage current detector < 1 mA

2234-2324



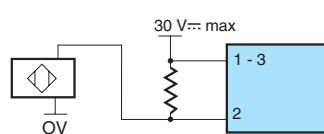
Start/Stop or reset input NPN Transistor or 3-wire NPN proximity sensor for leakage current detector < 1 mA

2234-2324



Start/Stop or reset input: 2-wire proximity sensor R=470 Ω /2 W for 2-wire leakage current detector \leq 1 mA

2234-2324



Start/Stop or reset input: 2-wire proximity sensor R=470 Ω /2 W for 2-wire leakage current detector \leq 1 mA