

# Electronic multifunction counters with preselection

## → Up counters/Down counters - 48 x 48 - CTR48E "Essential"

- Counter, Preselection chronometer
- Maximum input frequency 5 k Hz
- Simple parameter setting, configuration using text menus
- Easy modification of presets
- Multiplication factor
- 3 A changeover relay
- Backlit LCD display (green) : 6 digits, height 9 mm
- IP 65 sealed panel
- Option of locking the keypad, completely or partially (preset, programming)
- Accessories for 72 x 72 or 55 x 55 cut-out, DIN rail adaptor



### Part numbers

Type	Functions	Preset	Voltages	Output	Code
Green backlit LCD display	Counter, Preselection chronometer	1	10 → 30 V $\overline{\text{---}}$	1 relay	87629111
	Counter, Preselection chronometer	1	115 V $\sim$	1 relay	87629113
	Counter, Preselection chronometer	1	230 V $\sim$	1 relay	87629114
	Counter, Preselection chronometer	2	10 → 30 V $\overline{\text{---}}$	1 changeover relay, 1 NO relay	87629121
	Counter, Preselection chronometer	2	115 V $\sim$	1 changeover relay, 1 NO relay	87629123
	Counter, Preselection chronometer	2	230 V $\sim$	1 changeover relay, 1 NO relay	87629124

### Accessories

Description	Code
Adaptor for 72 x 72 mm cut-out	26546842
Adaptor for 55 x 55 mm cut-out	26546846
DIN rail adaptor	26546841

### General characteristics

Environmental characteristics	
Supply	11 → 30 V $\overline{\text{---}}$ / 115 V $\sim$ / 230 V $\sim$
Relative humidity (no condensation)	EN 60068-2-30 40/93% RLF
Altitude	0 < 2000 m
Certifications	CE
Vibration resistance in 3 axes	10-55 Hz/1 min/XYZ EN 60068-2-6: 30 min. in each direction
Connection by screw terminals	Débrochable
Protection	Conforming to standard EN 60529 IP65 for panel/IP20 for connections
Front panel watertight seal	✓
Temperature limits use (°C)	-10 → +50
Temperature limits stored (°C)	-25 → +75
Weight (g)	150 $\overline{\text{---}}$ version 250 $\sim$ version
General characteristics	
Reset to zero or to preset	On panel: if not locked during programming Electrical: automatic, voltage or solid state (NPN or PNP depending on programming)
Minimum pulse time	Impulse counter: < 15 ms Chronometer: 500 $\mu$ s
Option to protect against reset from front panel	✓
Scale factor (each input pulse is multiplied by this figure)	00.0001 → 99.9999
Decimal point selectable for ease of reading	0 0.0 0.00 0.000 0.0000 0.00000
Sensor supply version $\sim$	-40/+15% 50 mA 230 V $\sim$ -40/+15% 40 mA 115 V $\sim$
Programming and current value backed up via EEPROM memory	✓
	Service life 10 years

### Operating characteristics

Functions	Preselection counter, Chronometer
Number of presets	1 or 2
Display	LCD with green backlighting
Height digits (mm)	LCD 9
Display details	- 999 999 → 999 999

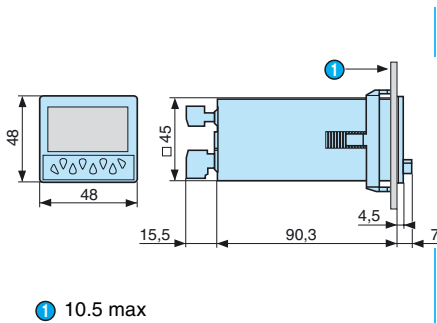
### Input characteristics

Inputs	2 counter inputs 1 reset input, 1 locking input
Input modes	Dir: Directional AS: up/dn PP: phase
Input type	Voltage or solid state
High level	3.5 → 30 V $\overline{\text{---}}$
Low level	0 → 2 V $\overline{\text{---}}$

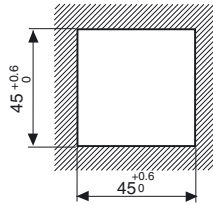
### Relay output characteristics

Changeover relay	✓
NO contact	Depending on version
Maximum current	3 A
Minimum current	30 mA
Maximum voltage	30 V $\overline{\text{---}}$ / 250 V $\sim$
Min. voltage	5 V $\sim$
Response time	< 10 ms
Mechanical life (operations)	20 x 10 <sup>6</sup>
Number of operations	1 x 10 <sup>5</sup>
Output modes: maintained or pulsed	0.01 → 99.99 s

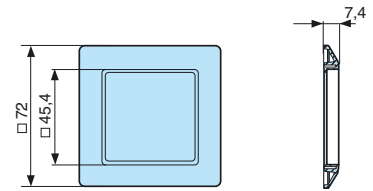
### Dimensions (mm)



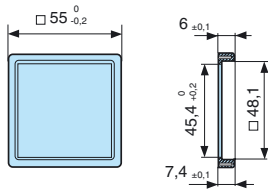
#### Panel cut-out



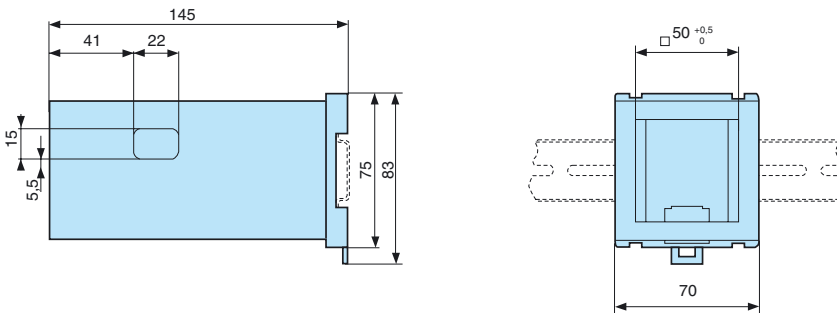
#### 26546842 - Adaptor for 72 x 72 mm cut-out



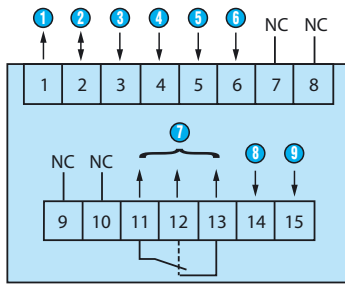
#### 26546846 - Adaptor for 55 x 55 mm cut-out



#### 26546841 - DIN rail adaptor

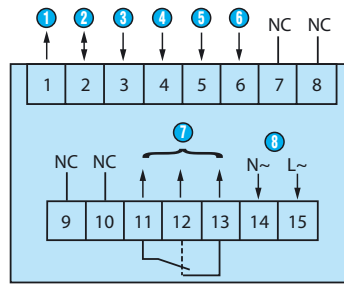


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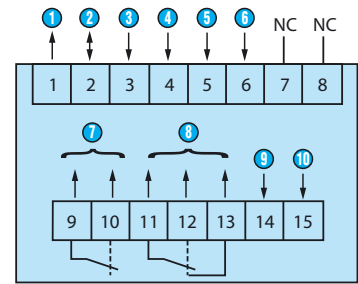
- ① Sensor voltage supply (\* UB interconnected)
- ② GND (0 V<sub>---</sub>)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Lock (locking switch input)
- ⑦ 11-12-13: Output 1
- ⑧ 14-15: Supply
- ⑨ Power supply - GND

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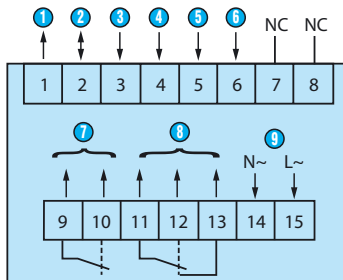
- ① Sensor voltage supply
- ② GND (0 V<sub>---</sub>)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Lock (locking switch input)
- ⑦ 11-12-13: Output 1
- ⑧ 14-15: Supply

87629121



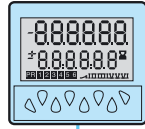
- ① Sensor voltage supply (\* UB interconnected)
- ② GND (0 V<sub>---</sub>)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Lock (locking switch input)
- ⑦ 9-10: Output 1
- ⑧ 11-12-13: Output 2
- ⑨ 14-15: Supply
- ⑩ Power supply - GND

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- ① Sensor voltage supply
- ② GND (0 V<sub>---</sub>)
- ③ INP A (signal A input)
- ④ INP B (signal B input)
- ⑤ Reset (Reset input)
- ⑥ Lock (locking switch input)
- ⑦ 9-10: Output 1
- ⑧ 11-12-13: Output 2
- ⑨ 14-15: Supply

Programming diagram



**Cntr**

Input PnP / npn

FrQ HIGH / Low  
Low=30Hz HIGH=max

In.Cnt dir / AS / PP  
dir: Count direction  
AS: Differential counting A-B  
PP: Quadrature Input

Loc ProG / PrESEt / PrgPrE  
ProG: Programming us locked  
PrESEt: Preset value us locked  
PrgPrE: Preset and programming us locked  
(The activation is with the electrical input LOCK)  
(the choice is valid for P1 and P2 in the case of version to two pres.)

Out.oP rS0 / rSA0 / rSAP2 / rSP2  
rS0: Count mode Add (reset to zero)  
rSP2: Count mode Sub (reset to main preset)  
rSA0: Count mode Add with automatic reset  
rSAP2: Count mode Sub with automatic reset

MultiPI 00,0001...99,9999

dEcPt 0 / 0,0 / 0,00 / 0,000 / 0,0000 / 0,00000

rESMod no rEs / ELrES / Man.rE / Man.EL  
norEs: No reset  
ELrEs: Electrical reset  
ManrE: Manual reset  
ManEL: Manual and electrical reset

**tiMErC**

Input PnP / npn

FrQ HIGH / Low  
Low=30Hz HIGH=max

StArt tcCab / tcCbb / FrErUn  
FrErUn: Gate Mode (INPA)  
tcCab: Start edge to input A Stop edge to input B (cumulative)  
tcCbb: Start edge to input B Stop edge to input B (cumulative)

Loc ProG / PrESEt / PrgPrE  
ProG: Programming us locked  
PrESEt: Preset value us locked  
PrgPrE: Preset and programming us locked  
(The activation is with the electrical input LOCK)  
(the choice is valid for P1 and P2 in the case of version to two pres.)

Out.oP rS0 / rSA0 / rSAP2 / rSP2  
rS0: Count mode Add (reset to zero)  
rSP2: Count mode Sub (reset to main preset)  
rSA0: Count mode Add with automatic reset  
rSAP2: Count mode Sub with automatic reset

tUnit SEC / MIN / hour / h.Min.S /

dEcPt 0 / 0,0 / 0,00 / 0,000 / 0,0000 / 0,00000

rESMod no rEs / ELrES / Man.rE / Man.EL  
norEs: No reset  
ELrEs: Electrical reset  
ManrE: Manual reset  
ManEL: Manual and electrical reset



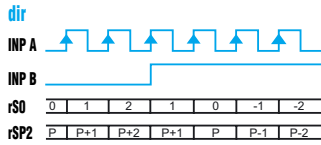
tiMES1 00.01..99,99s  
Time signal output regulation



tiMES1 00.01..99,99s  
Time signal output regulation

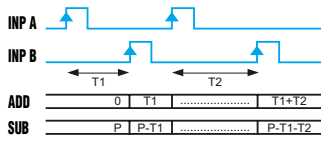
	Low : 1.0 V High : 4.0 V		Low : 3.0 V High : 30.0 V	
	rS0 rSP2	rSA0 rSAP2	rS0 rSP2	rSA0 rSAP2
dir	15 kHz	1.5 kHz	5 kHz	1.2 kHz
AS	10 kHz	1.5 kHz	5 kHz	1.2 kHz
PP	10 kHz	0.7 kHz	2.4 kHz	0.5 kHz

Counter: dir



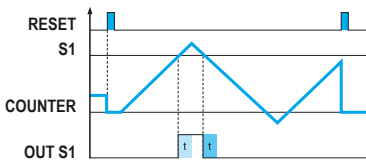
A 90° B  
 Inp A: Counter input  
 Counting on an edge  
 Inp B: Reversal of direction  
 rS0: Display 0 → Preset  
 rSP2: Display Preset → 0

Chronometer: Start tcCAb

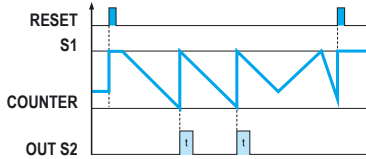


Inp A: On  
 Inp B: Off  
 Add: Display 0 → Preset  
 Sub: Display Preset → 0

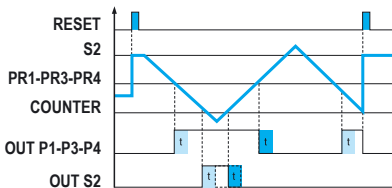
Output operation 1: rS0



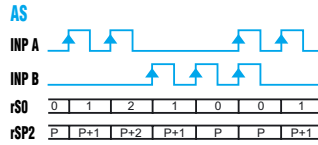
Output operation 1: rSAP2



Output operation 2: rSP2

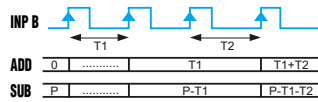


Counter: AS



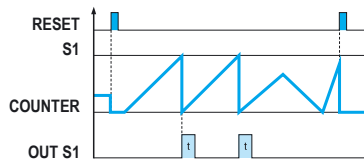
Inp A: Add. counter input 1  
 Inp B: Sub. counter input 2  
 rS0: Display 0 → Preset  
 rSP2: Display Preset → 0

Chronometer: Start tcCbb

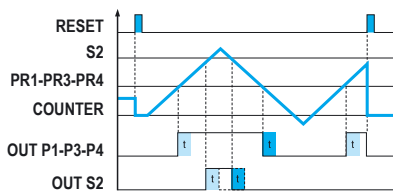


Inp A: No function  
 Inp B: On/Off  
 RS0/RSP2  
 Add: Display 0 → Preset  
 Sub: Display Preset → 0

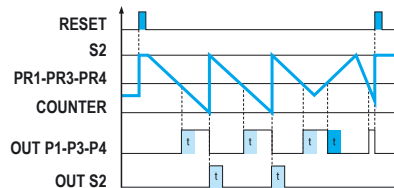
Output operation 1: rSA0



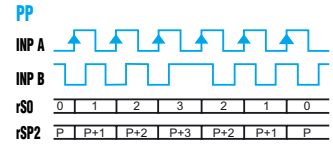
Output operation 2: rS0



Output operation 2: rSAP2

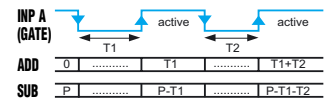


Counter: PP



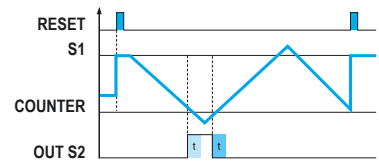
A 90° B  
 Inp A: Counter input  
 Counting on an edge  
 Inp B: Reversal of direction  
 rS0: Display 0 → Preset  
 rSP2: Display Preset → 0

Chronometer: Start FrErun

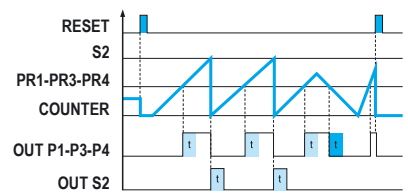


InpA: Gate  
 Time measurement via InpA  
 InpB: No function

Output operation 1: rSP2



Output operation 2: rSA0



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