# › Electronic Counters
## Multifunction Counter
## CTR48E

- Backlit LCD display (green)
- Maximum input frequency 5 k Hz
- Simple parameter setting, configuration using text menus
- Easy modification of presets
- Reset on panel or external with inhibition option
- Option of locking the keypad, completely or partially (preset, programming)
- IP 65 sealed panel
- Highly resistant to shocks and impacts
- Excellent visibility due to the large digit size (6 digits, height 9 mm)



*CTR48E*

**Product selection**

| Model | Type | Functions | Preset | Voltages | Output | Part Number |
|---|---|---|---|---|---|---|
| CTR48E | Green backlit LCD display | Counter, Preselection chronometer | 1 | 10 → 30 V⎓ | 3 A changeover relay | **87629111** |

**Accessories**

| Description | Part Number |
|---|---|
| Adaptor for 72 x 72 mm cut-out | **26546842** |
| Adaptor for 55 x 55 mm cut-out | **26546846** |
| DIN rail adaptor | **26546841** |

**General characteristics**

**Physical details and protection**

| | |
|---|---|
| Supply | 10 → 30 V⎓ |
| Relative humidity at 40 ° (no condensation) according to EN 60068-2-30 | 93% |
| Altitude | Up to 2 000 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 | Debrochable |
| Protection | Front side: IP65 / Connections: IP20 |
| Front panel watertight seal | ● |
| Temperature limits use (°C) | -10 →+50 |
| Temperature limits stored (°C) | -25 →+75 |
| Weight (g) | 150 |

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**Description:**

### Crouzet Impulse Counters, accurate and durable solutions for pulse measurement needs

Crouzet's electronic impulse counters are reliable devices designed for measuring and recording electrical impulses in industrial applications. Crouzet's impulse counters use a combination of mechanical and electrical components to precisely count electrical pulses, offering a reliable solution for various industrial control and monitoring tasks.

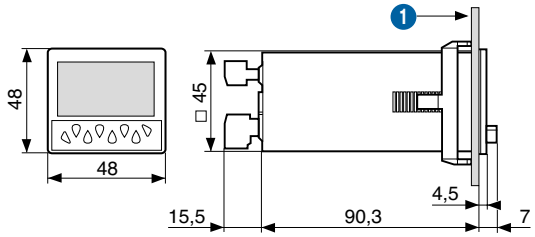
For more information about: please visit **www.crouzet.com**

| Specifications | |
|---|---|
| Reset to zero or to preset | On panel: if not locked during programming<br>Electrical: automatic, voltage or solid state (NPN or PNP depending on programming) |
| Minimum pulse time | Impulse counter: < 15 ms<br>Chronometer: 500 µs |
| 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<br>0.0<br>0.00<br>0.000<br>0.0000<br>0.00000 |
| | |
| Programming and current value backed up via EEPROM memory | ●<br>Service life 10 years |
| **Operating characteristics** | |
| Functions | Preselection counter, Chronometer |
| Number of presets | 1 |
| Display | LCD with green backlighting |
| Height digits (mm) | 9 |
| Display details | 999 999 →999 999 |
| **Input specifications** | |
| Inputs | 2 counter inputs<br>1 reset input, 1 locking input |
| Input modes | Dir: Directional<br>AS: up/dn<br>PP: phase |
| Input type | Voltage or solid state |
| High level | 3.5 → 30 V⎓ |
| Low level | 0 → 2 V⎓ |
| **Relay output characteristics** | |
| Changeover relay | ● |
| NO contact | No |
| Maximum current (A) | 3 |
| Minimum current (mA) | 30 |
| Maximum voltage | 30 V⎓ / 250 V∿ |
| Min. voltage | 5 V≂ |
| Response time (ms) | < 10 |
| Mechanical life (operations) | 20 x $10^6$ |
| Number of operations | 5 x $10^4$ |
| Output modes: maintained or pulsed | 0.01 →99.99 s |

## Dimensions (mm)

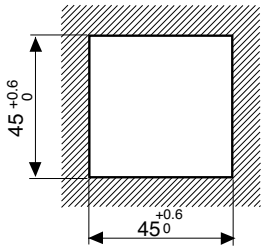
### Panel Mounted

**CTR48E**



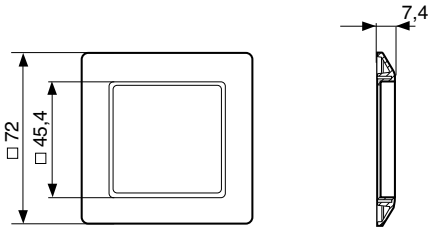

1 10.5 max

### Panel Cut-out

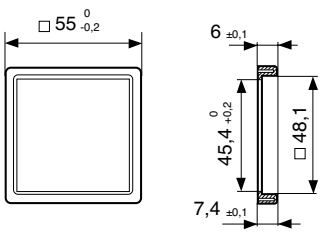



### Accessories

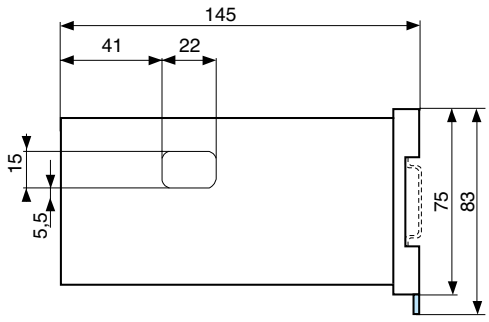
**26546842 - Adaptor for 72 x 72 mm cut-out**

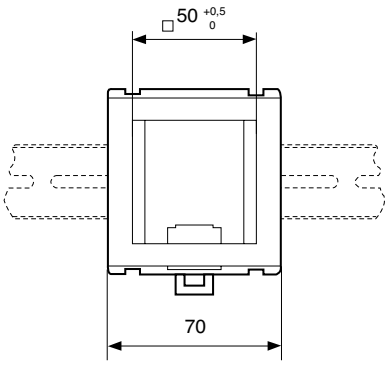



**26546846 - Adaptor for 55 x 55 mm cut-out**



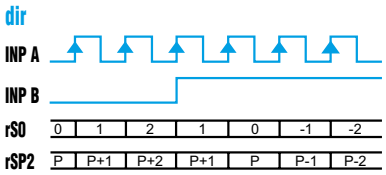

**26546841 - DIN rail adaptor**



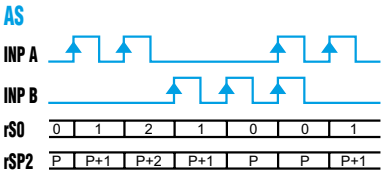
## Curves

### Counter: dir



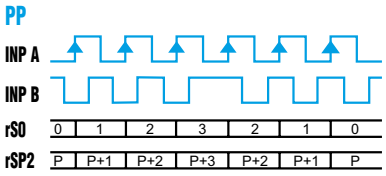

Inp A: counter input / Inp B: count direction / rS0: Display 0 →Preset / rSP2: Display Preset →0

### Counter: AS



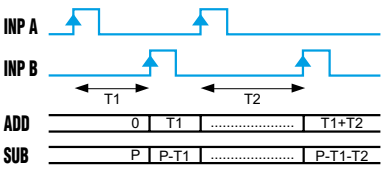

Inp A: Add. counter input 1 / Inp B: Sub. counter input 2 / rS0: Display 0 →Preset / rSP2: Display Preset →0

### Counter: PP



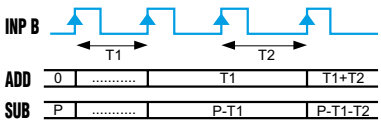

A 90 ° B Inp A: counter input counting on an edge / Inp B: reversal of direction / rS0: Display 0 →Preset / rSP2: Display Preset →0

### Chronometer: Start tcCAb



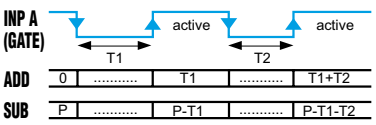

Inp A: On / Inp B: Off / Add: Display 0 →Preset / Sub: Display Preset →0

### Chronometer: Start tcCbb



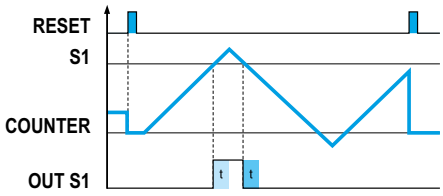

Inp A: No function / Inp B: On/Off RS0/RSP2 / Add: Display 0 →Preset / Sub: Display Preset →0

### Chronometer: Start FrErun



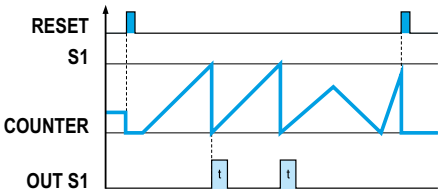

InpA: Gate Time measurement via InpA / InpB: No function

### Output operation 1: rS0

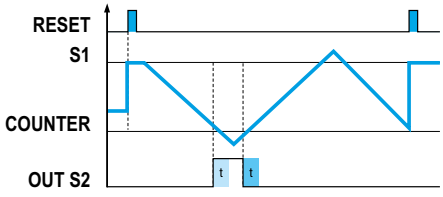



InpA: Gate Time measurement via InpA / InpB: No function

### Output operation 1: rSA0

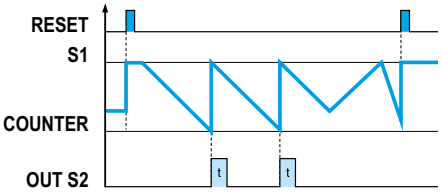



### Output operation 1: rSP2

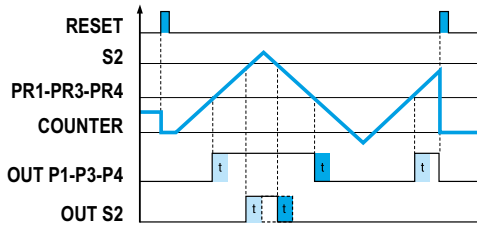



InpA: Gate Time measurement via InpA / InpB: No function

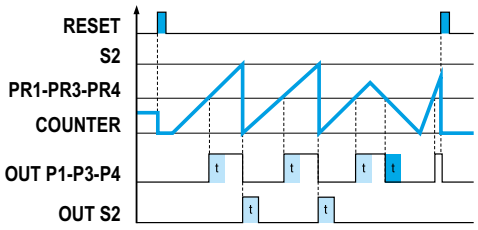
### Output operation 1: rSAP2



**Output operation 2: rS0**

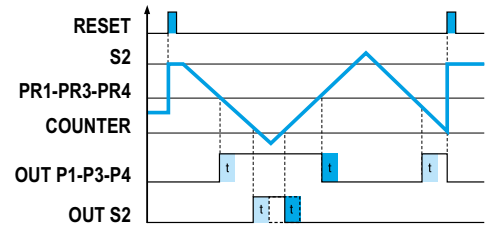



**Output operation 2: rSA0**

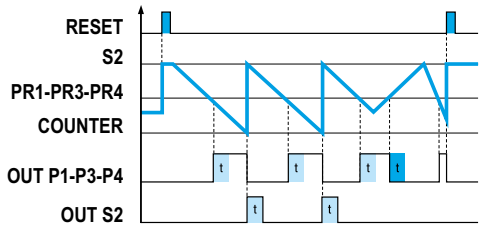



InpA: Gate Time measurement via InpA / InpB: No function

**Output operation 2: rSP2**



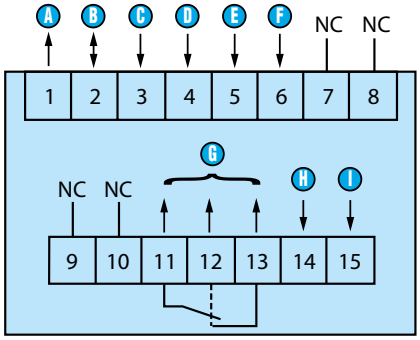

**Output operation 2: rSAP2**




InpA: Gate Time measurement via InpA / InpB: No function

## Connections

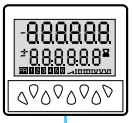
**87629111**




- A Sensor voltage supply (* UB interconnected)
- B GND (0 V⎓)
- C INP A (signal A input)
- D INP B (signal B input)
- E Reset (Reset input)
- F Lock (locking switch input)
- G 11-12-13: Output 1
- H 14-15: Supply
- I Power supply - GND

## Applications

### 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
- **MultPl** — 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
- **S1**



permanent signal — timed signal

- **tiMES1** — 00.01..99,99s
  Time signal output regulation
- ****S2**



permanent signal — timed signal

**Only version 2 preset

- **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 |

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