

## Up counters/Down - 48 x 48 - CTR48 Multicoloured LCD display (green-red) Part number 87621225



- Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer
- Maximum input frequency 40 k Hz
- Simple parameter setting, configuration using text menus
- Easy modification of presets
- Scaling factor
- 5 A changeover relay and solid state output
- Removable connectors
- Backlit LCD display (orange) : 2 lines, 6 digits or multicoloured display (green-red)
- 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                                        |
|----------|---------------------------------------|------------------------------------------------------------------------------------------|--------|-------------|-----------------------------------------------|
| 87621225 | Multicoloured LCD display (green-red) | Counter, Tachometer, Chronometer, Multi-totalizer, Batch counter, Preselection totalizer | 2      | 90 →260 VAC | 1 changeover relay, 1 NO relay, 2 solid state |

### Specifications

#### Physical details and protection

|                                     |                                                                     |
|-------------------------------------|---------------------------------------------------------------------|
| Supply                              | 10 →30 VDC / 24 V AC / 90 →260 VAC                                  |
| Relative humidity (no condensation) | EN 60068-2-30 40/93 % RLF                                           |
| Altitude                            | 0 < 2000 m                                                          |
| Certifications                      | UL - cULus (pending) - 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       | Removable                                                           |
| Protection                          | Conforming to standard EN 60529 IP65 for panel/IP20 for connections |
| Front panel watertight seal         | ■                                                                   |
| Temperature limits use (°C)         | -20 →+65                                                            |
| Temperature limits stored (°C)      | -25 →+75                                                            |
| Weight (g)                          | 150 DC version<br>250 AC version                                    |

#### General characteristics

|                                                              |                                                                                                                                     |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                                                                                    |
| Scaling factor (each input impulse is divided by this value) | 01,0000 →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                                                                                      |
| Sensor supply version AC                                     | 24 VDC -20/+15 % 50 mA                                                                                                              |
| Programming and current value backed up via EEPROM memory    | ■<br>Service life 10 years                                                                                                          |

#### Operating characteristics

|                    |                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------|
| Functions          | Preselection counter, Tachometer, Chronometer, Multi-totalizer, Batch counters, Totalizer |
| Number of presets  | 1 or 2                                                                                    |
| Display            | LCD with orange backlighting/Multicoloured LCD (green-red)                                |
| Height digits (mm) | LCD 9                                                                                     |
| Display details    | - 999 999 →999 999                                                                        |

#### Inputs specifications

|             |                                                                                               |
|-------------|-----------------------------------------------------------------------------------------------|
| Inputs      | 2 counter inputs<br>1 reset input, 1 gate input                                               |
| Input modes | Dir : Directional<br>AS : up/dn<br>AA : up/up<br>PP : phase<br>PP2 : phase 2<br>PP4 : phase 4 |
| Input type  | Voltage or solid state                                                                        |
| High level  | 8 VDC→30 VDC                                                                                  |
| Low level   | 0 →2 VDC                                                                                      |

|                                     |                                                   |
|-------------------------------------|---------------------------------------------------|
| Solid state output characteristics  |                                                   |
| Maximum current                     | 30 mA                                             |
| Max. voltage                        | 10 →30 VDC for the DC version<br>24 VDC -20/+15 % |
| Relay output characteristics        |                                                   |
| Changeover relay                    | •                                                 |
| NO contact                          | Depending on version                              |
| Maximum current                     | 5 A                                               |
| Minimum current                     | 10 mA                                             |
| Maximum voltage                     | 30 VDC / 250 VAC                                  |
| Min. voltage                        | 5 VAC/DC                                          |
| Response time                       | < 13 ms                                           |
| Mechanical life (operations)        | 20 x 10 <sup>6</sup>                              |
| Number of operations to 5 A         | 5 x 10 <sup>4</sup>                               |
| Output modes : maintained or pulsed | 0.01 →99.99 s                                     |

| 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 |

Principles

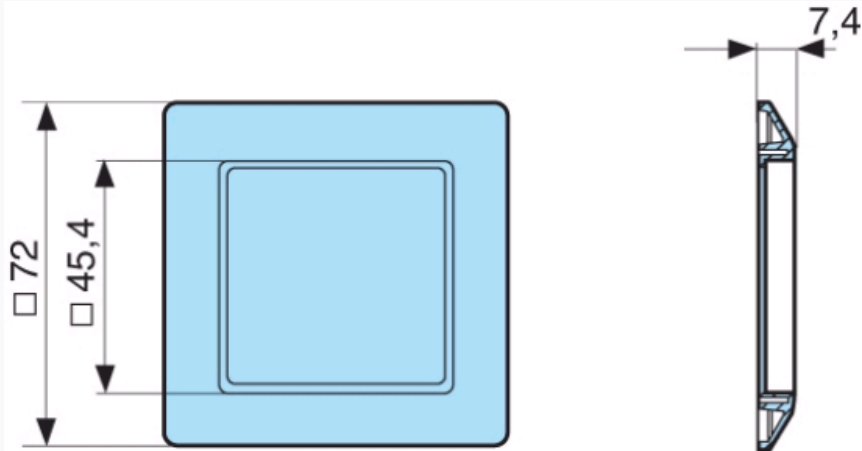
| N° | Legend                                     |
|----|--------------------------------------------|
| 1  | Current value                              |
| 2  | Selected value                             |
| 3  | Chronometer display                        |
| 4  | Active output indication                   |
| 5  | Shows which value is displayed             |
| 6  | Prog/mode button                           |
| 7  | Preset control buttons                     |
| 8  | Button required for programming parameters |

Dimensions (mm)

| N° | Legend    |
|----|-----------|
| 1  | 10.5 max. |

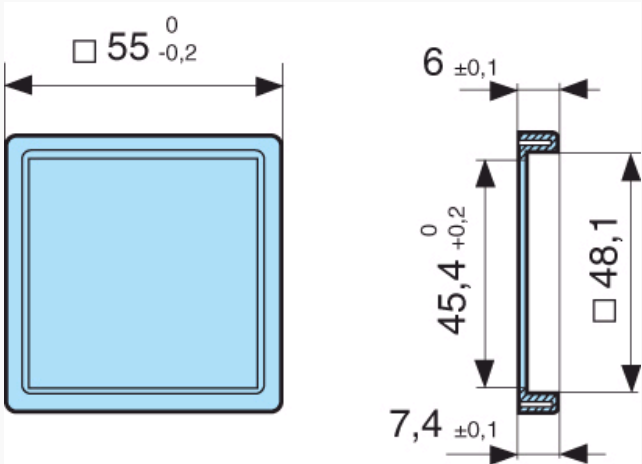
Dimensions (mm)

26546842 - Adaptor for 72 x 72 mm cut-out



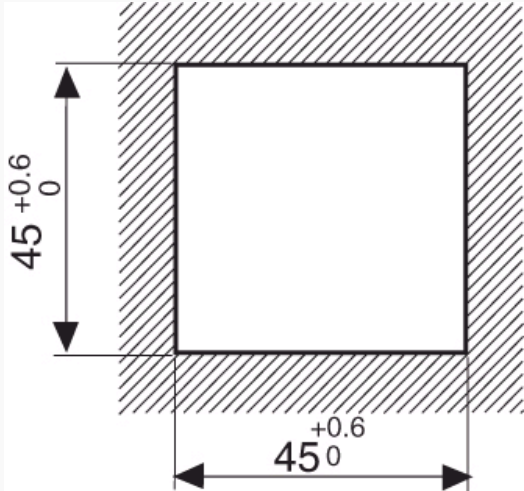
Dimensions (mm)

26546846 - Adaptor for 55 x 55 mm cut-out



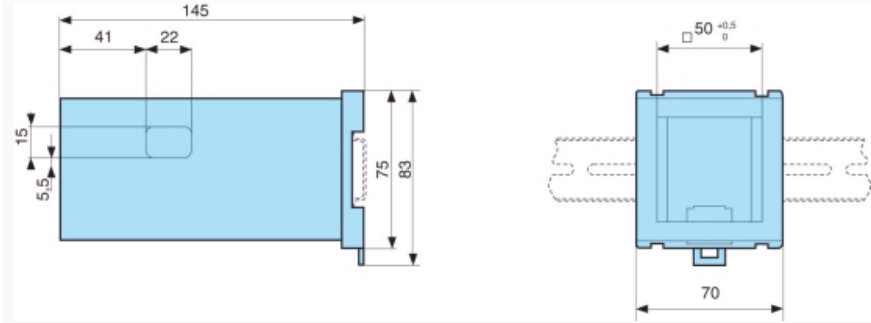
Dimensions (mm)

Panel cut-out



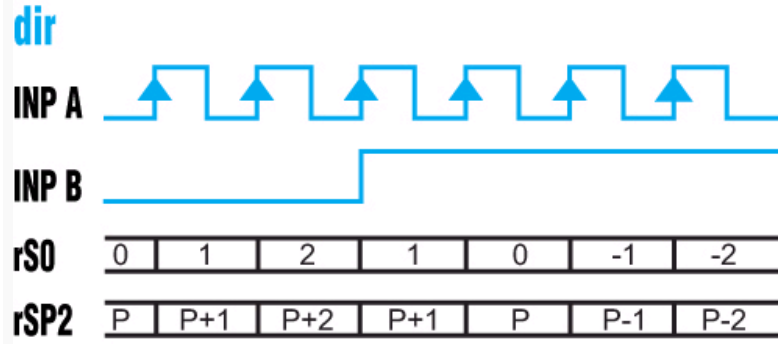
Dimensions (mm)

26546841 - DIN rail adaptor



Curves

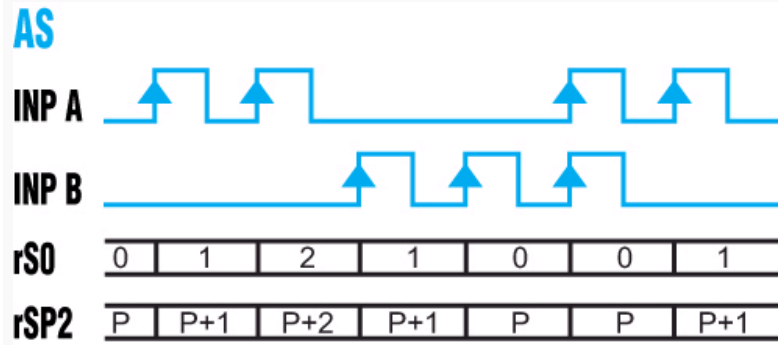
Counter : dir



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

Curves

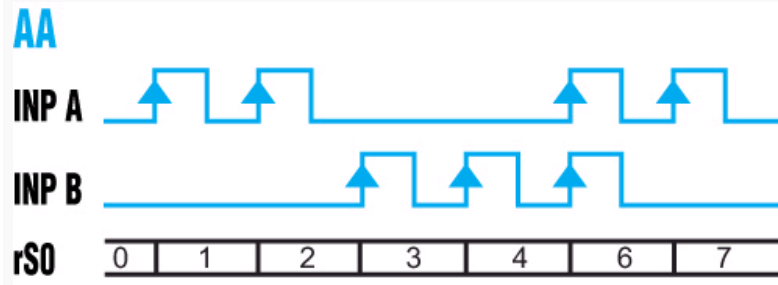
Counter : AS



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

Curves

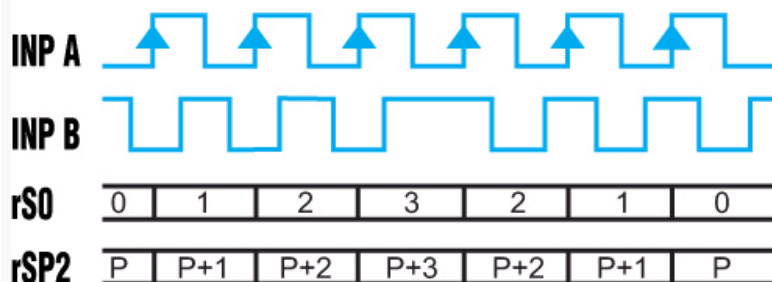
Counter : AA



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

Curves

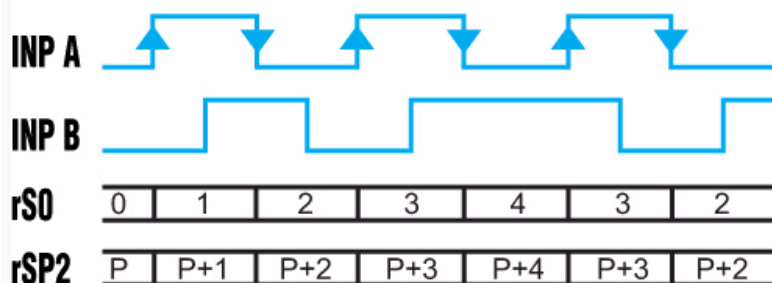
Counter : PP

**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

**Curves**

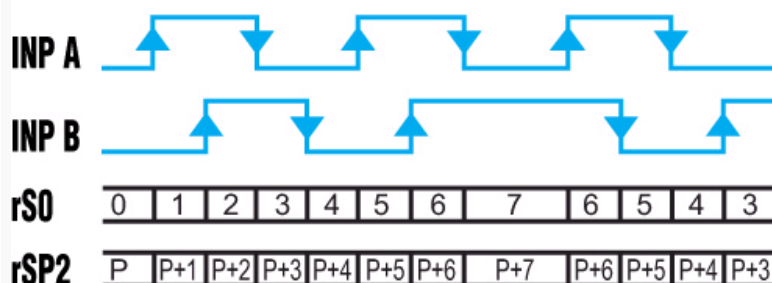
Counter : PP2

**PP2**

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

**Curves**

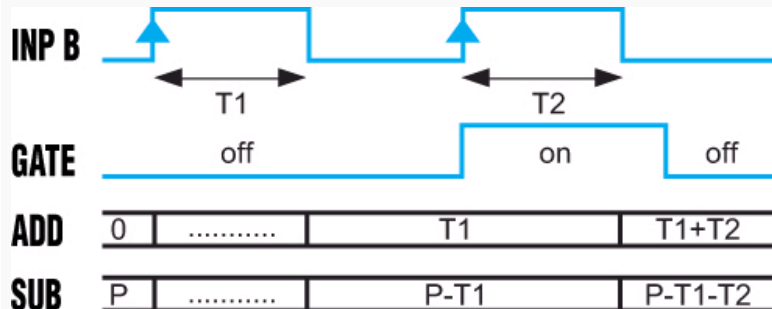
Counter : PP4

**PP4**

A 90° B Inp A : Counter input Counting on a rising edge and on a falling edge Inp B : Counter input Counting on a rising edge and on a falling edge, reversal of direction rS0 : Display 0 →Preset rSP2 : Display Preset →0

**Curves**

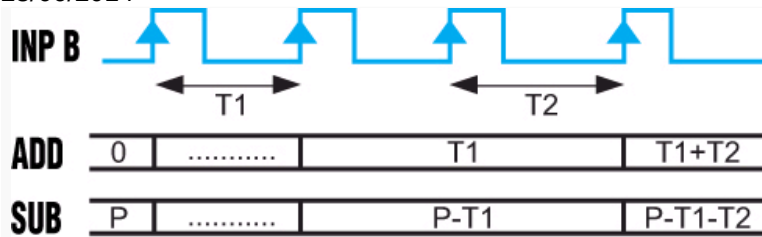
Chronometer : Start tcCb



Inp A : No function Inp B : On/Off Cumulative time counting while B is active Add : Display 0 →Preset Sub : Display Preset →0

**Curves**

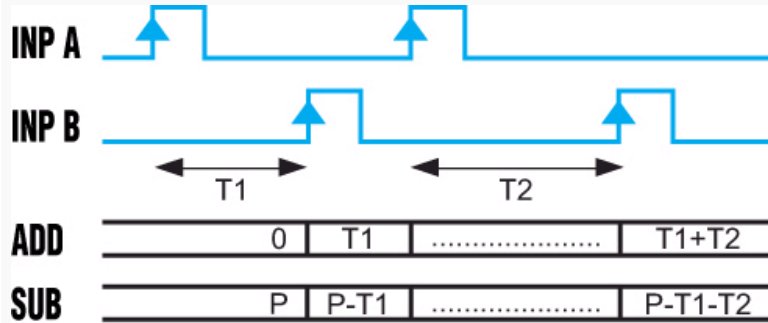
Chronometer : Start tcCbb



Inp A : No function Inp B : On/Off Cumulative time counting Add : Display 0 →Preset Sub : Display Preset →0

#### Curves

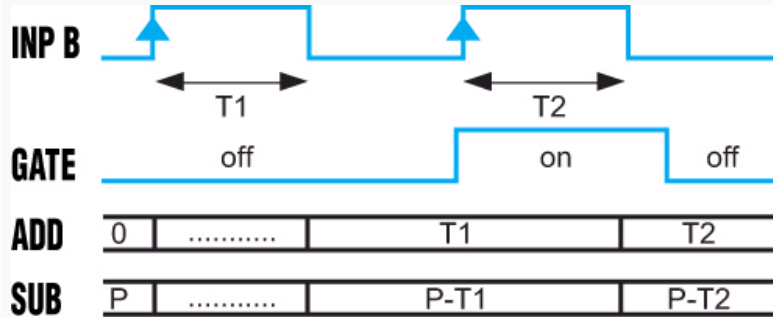
Chronometer : Start tcCAb



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

#### Curves

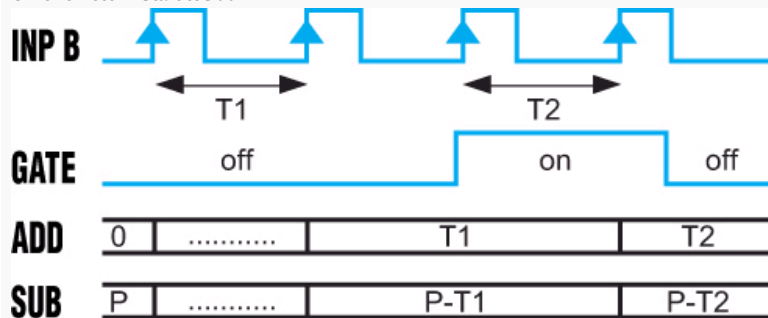
Chronometer : Start tcSb



Inp A : No function Inp B : On/Off Individual time counting, automatic reset before each new count Add : Display 0 →Preset Sub : Display Preset →0

#### Curves

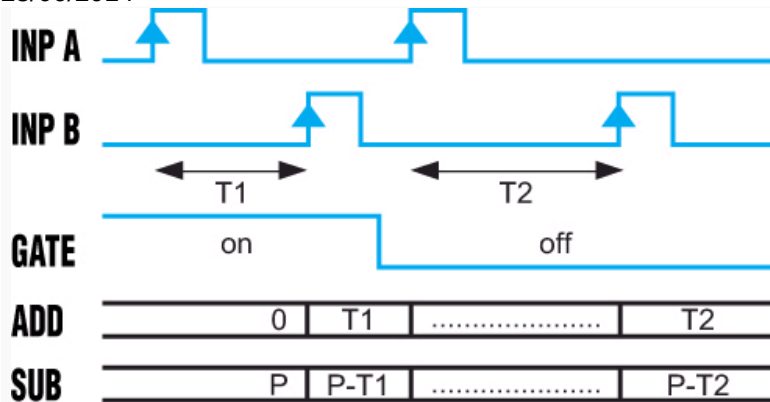
Chronometer : Start tcSbb



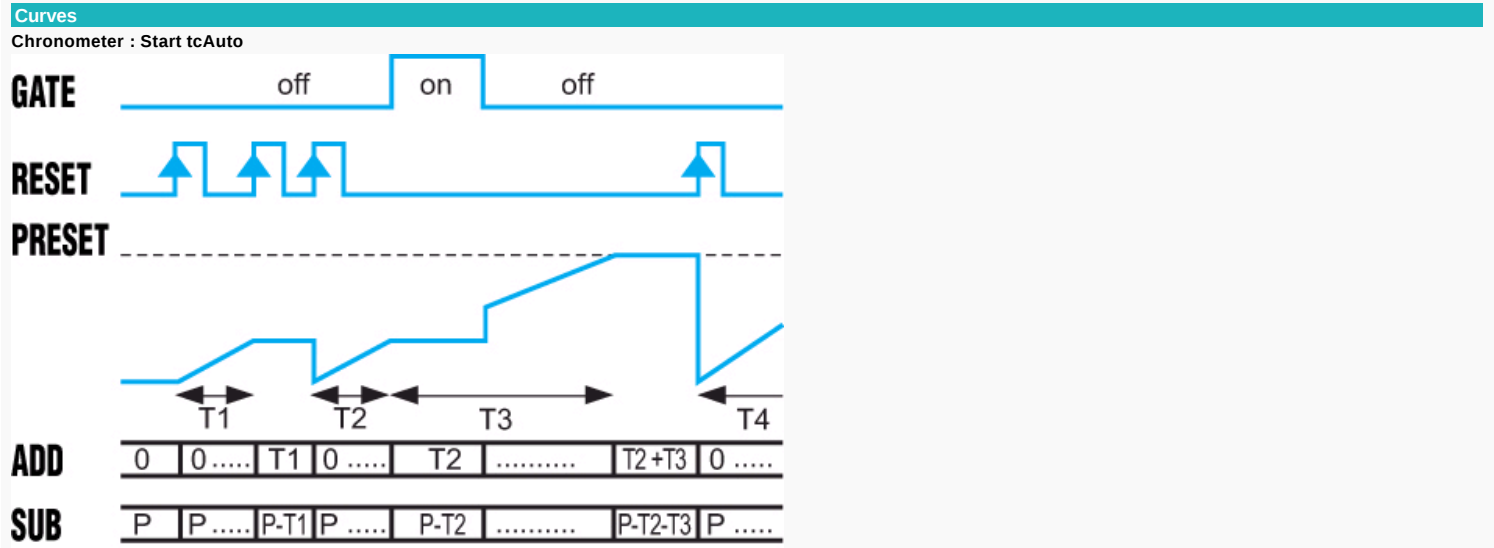
Inp A : No function Inp B : On/Off Individual time counting, automatic reset before each new count Add : Display 0 →Preset Sub : Display Preset →0

#### Curves

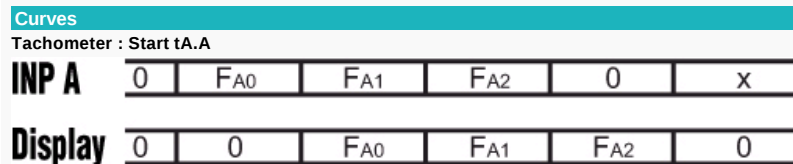
Chronometer : Start tcSAb



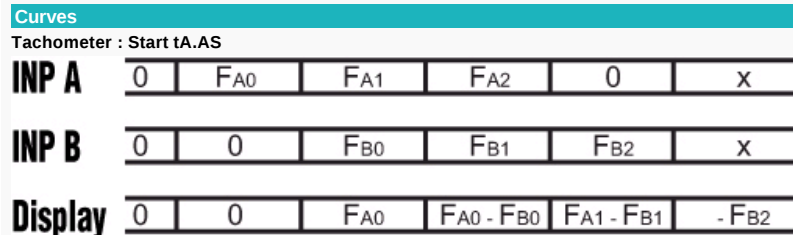
Inp A : On Inp B : Off Individual time counting, automatic reset before each new count Add : Display 0 →Preset Sub : Display Preset →0



Inp A : No function Inp B : No function Time counting command via Reset (manual or electrical) Add : Display 0 →Preset Sub : Display Preset →0 The Gate input has a display memory function



Inp A : Frequency input Inp B : No function



Inp A : Frequency input 1 Inp B : Frequency input 2 Formula : A - B

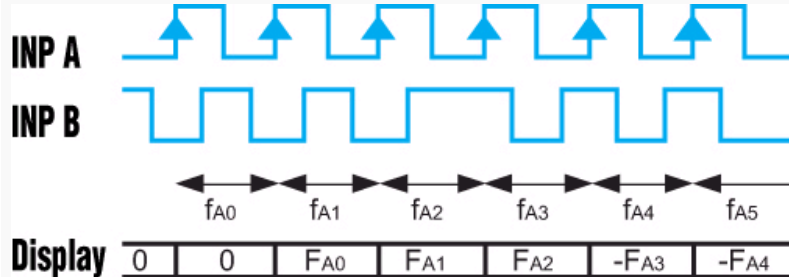


|                |   |          |          |                   |                   |          |
|----------------|---|----------|----------|-------------------|-------------------|----------|
| <b>INP A</b>   | 0 | $F_{A0}$ | $F_{A1}$ | $F_{A2}$          | 0                 | x        |
| <b>INP B</b>   | 0 | 0        | $F_{B0}$ | $F_{B1}$          | $F_{B2}$          | x        |
| <b>Display</b> | 0 | 0        | $F_{A0}$ | $F_{A0} + F_{B0}$ | $F_{A1} + F_{B1}$ | $F_{B2}$ |

Inp A : Frequency input 1 Inp B : Frequency input 2 Formula :  $A + B$

#### Curves

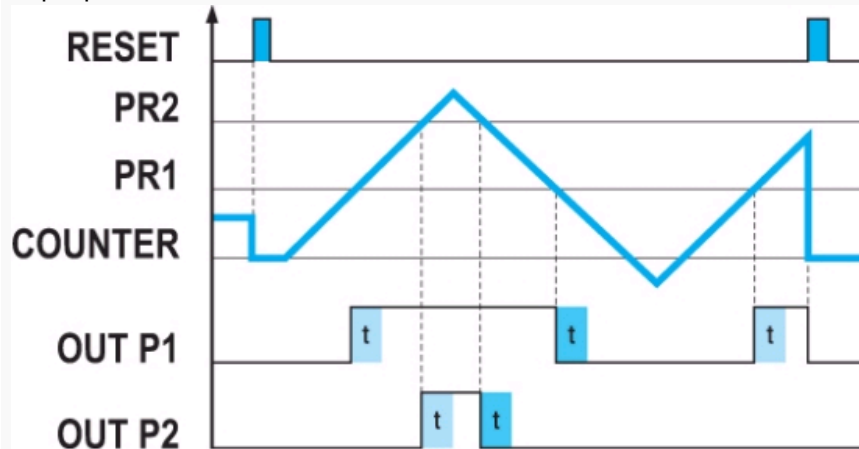
Tachometer : Start tA.PP



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

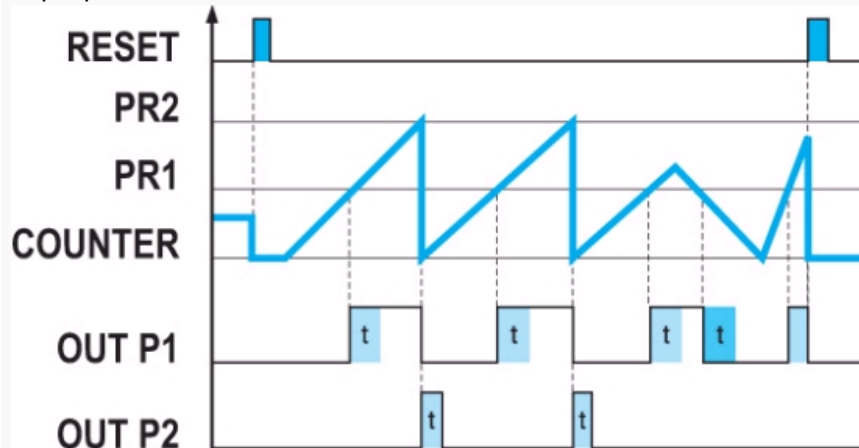
Output operation : OutoP rS0



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

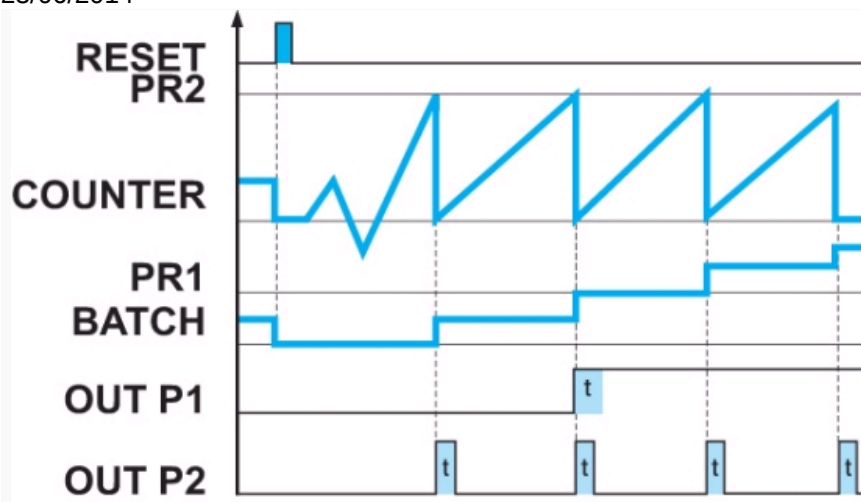
Output operation : OutoP rSA0



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

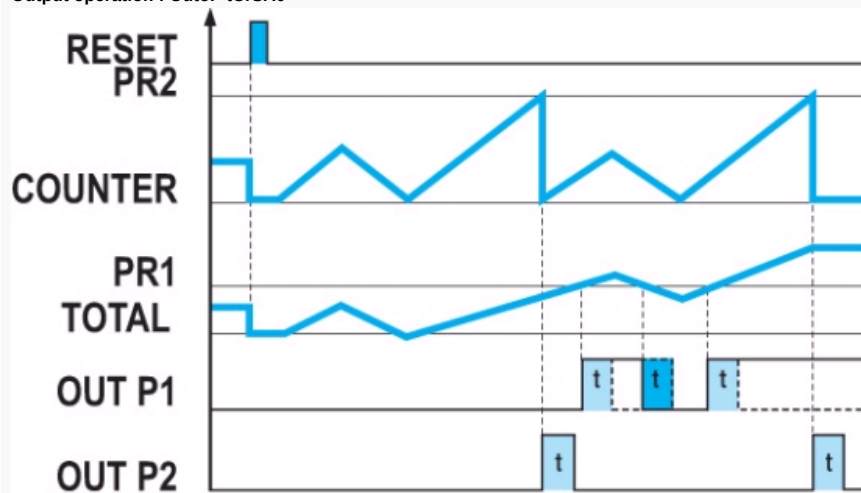
Output operation : OutoP bCrSA0



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

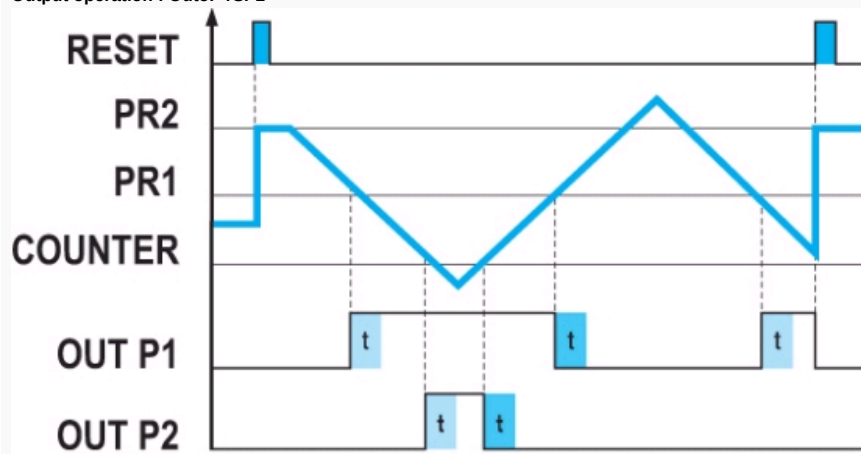
Output operation : OutoP tCrSA0



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

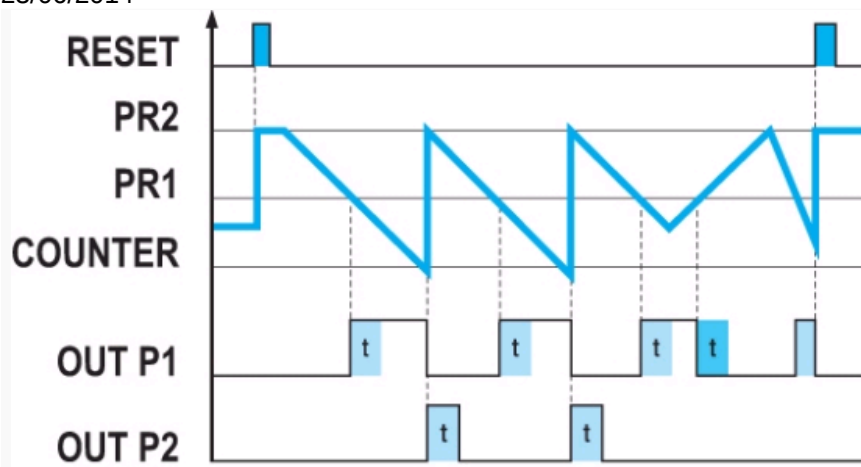
Output operation : OutoP rSP2



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

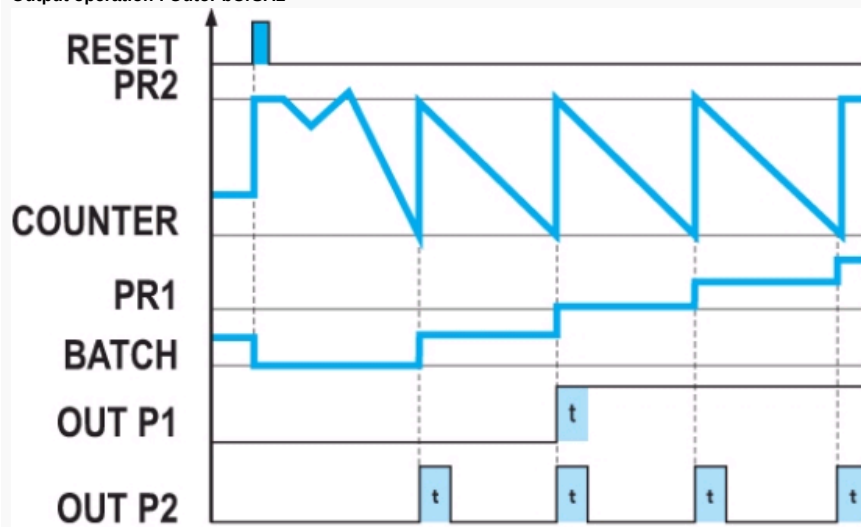
Output operation : OutoP rSAP2



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

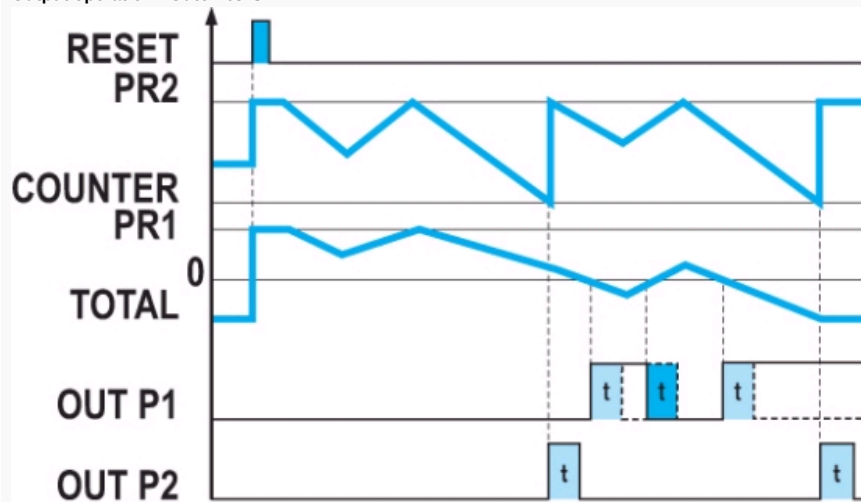
Output operation : OutPbCrSA2



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

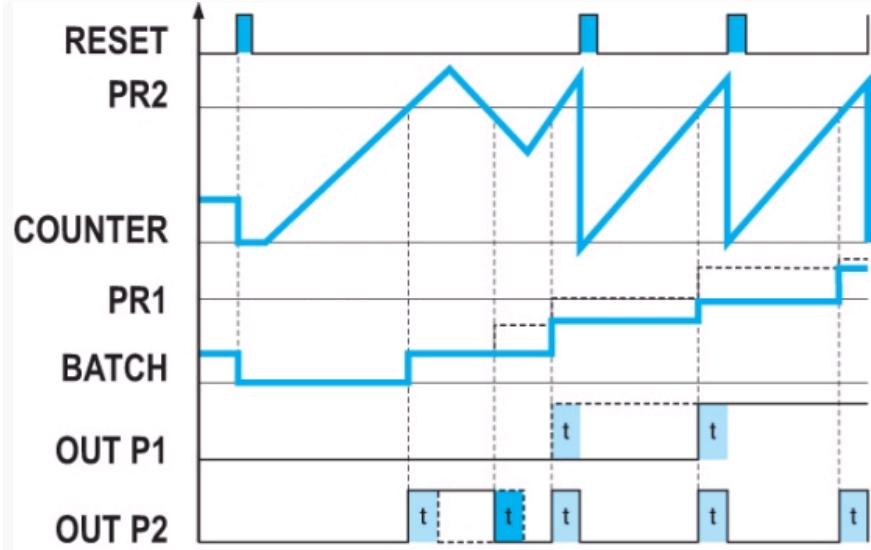
Output operation : OutP tCrSA2



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

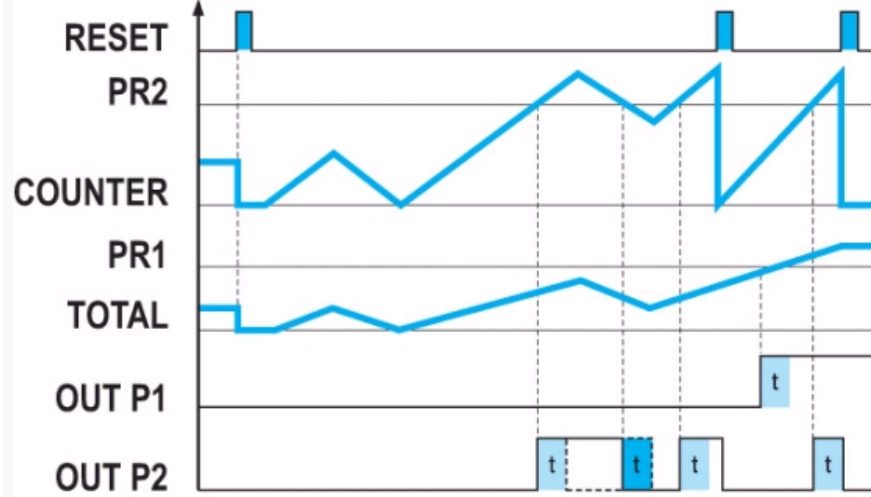
Output operation : OutP bCrS0



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

Curves

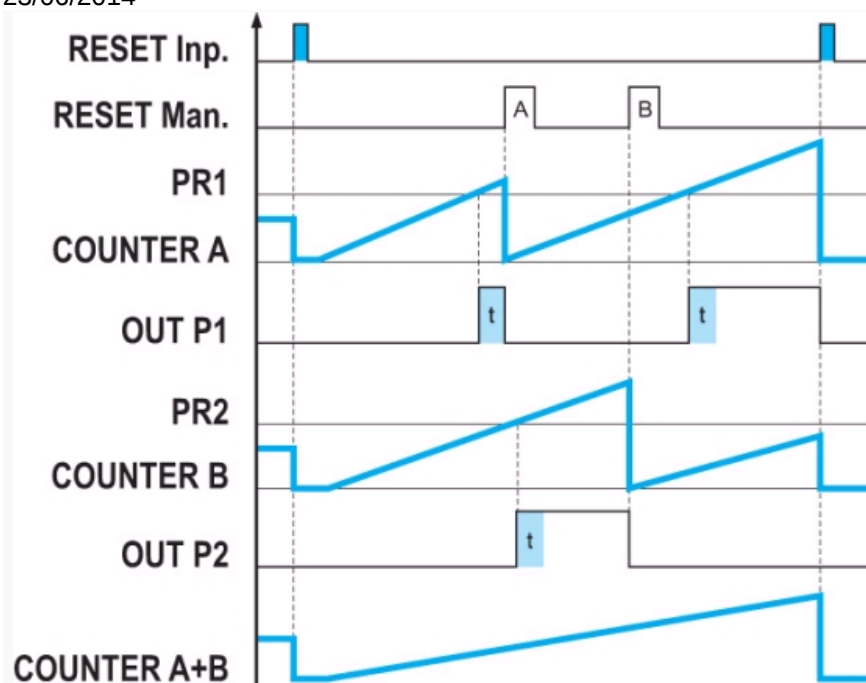
Output operation : OutoP tCrS0



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

Curves

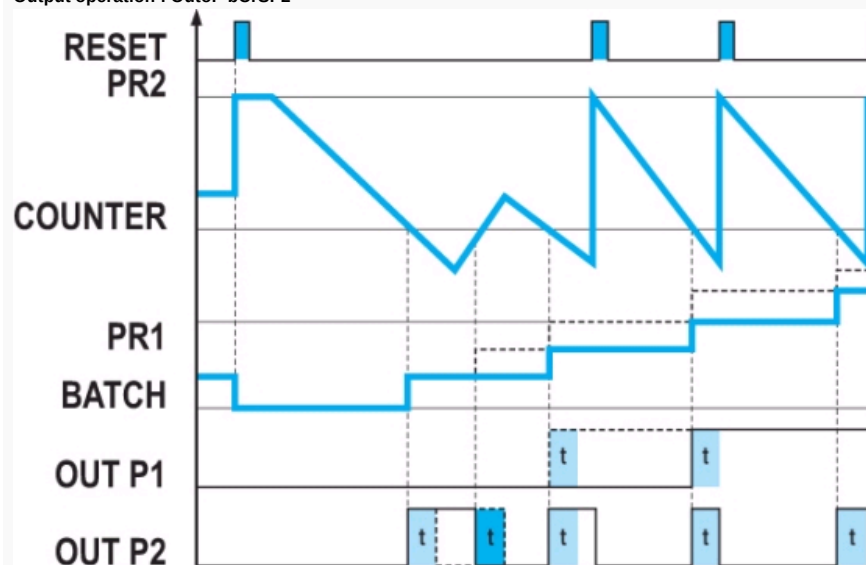
Output operation : OutoP MurS0 (AA)



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

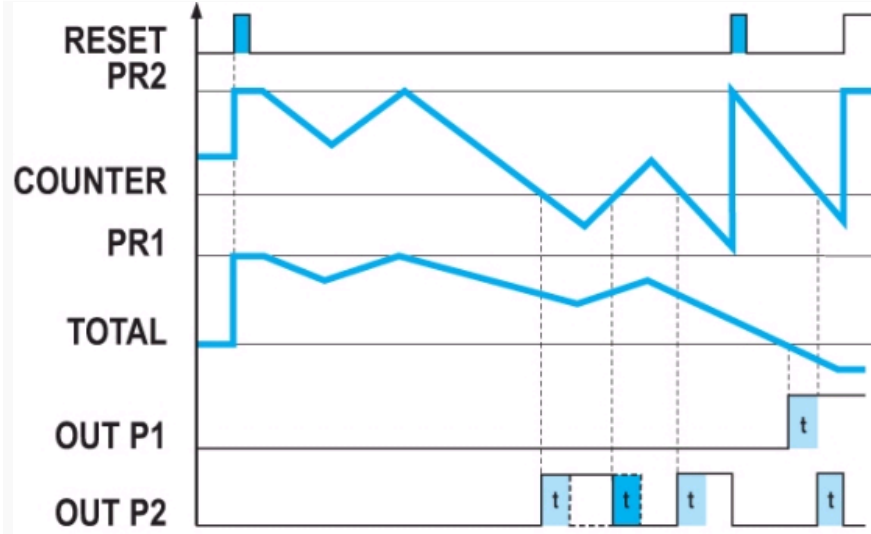
Output operation : OutoP bCrSP2



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

#### Curves

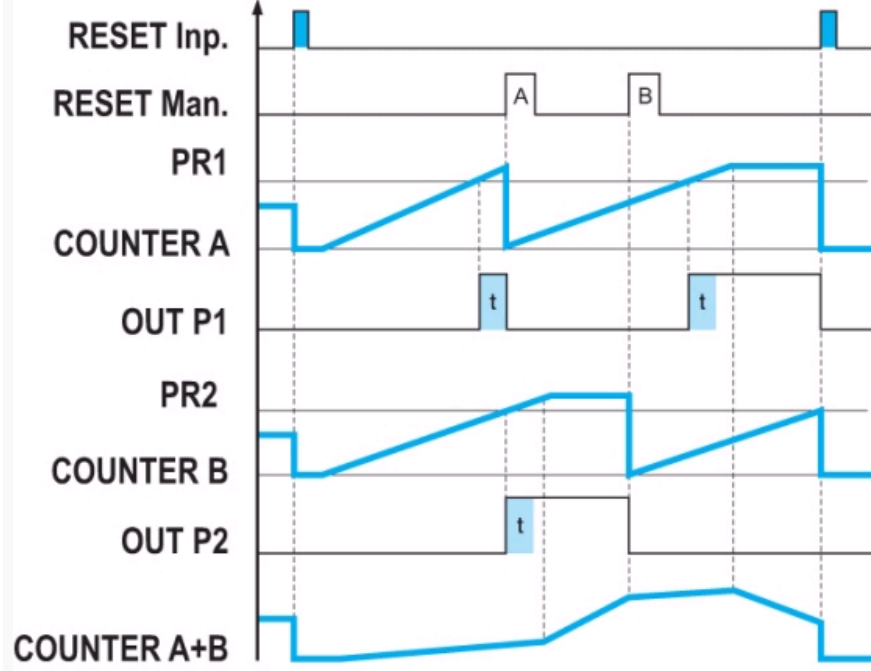
Output operation : OutoP tCrSP2



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

Curves

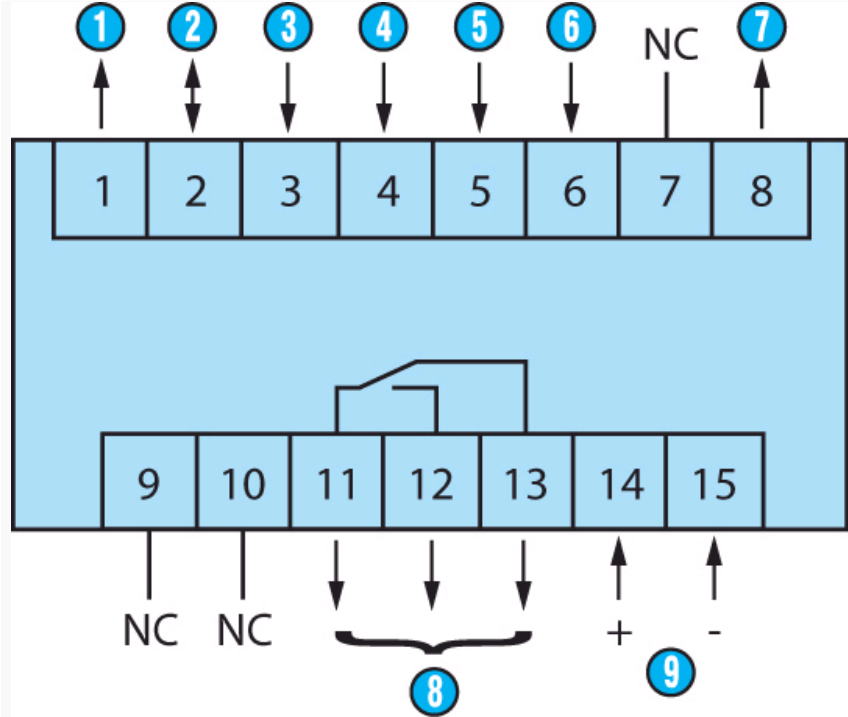
Output operation : OutoP MurS0 (AS)



A 90° B Inp A : Frequency input 1 Inp B : Reversal of direction

Connections

87621111 / 211

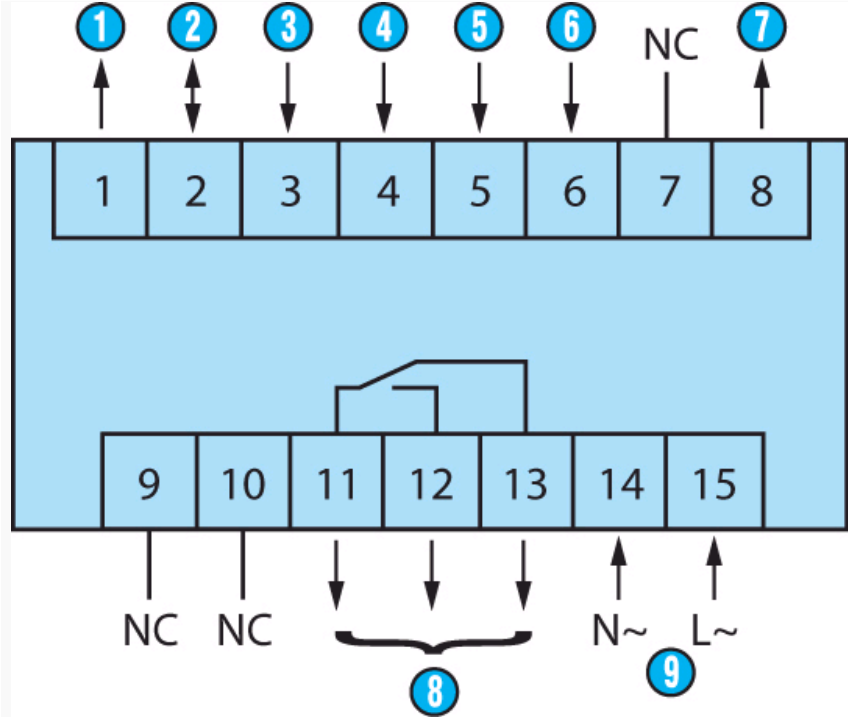


Output : 5 A/250 VAC/AC : 24 VAC

| N° | Legend                                      |
|----|---------------------------------------------|
| 1  | Sensor voltage supply (* UB interconnected) |
| 2  | GND (0 VDC)                                 |
| 3  | INP A (signal A input)                      |
| 4  | INP B (signal B input)                      |
| 5  | Reset (Reset input)                         |
| 6  | Gate input                                  |
| 7  | Output 1 - 10-30 VDC/30 mA                  |
| 8  | 11-12-13 : Output 1                         |
| 9  | 14-15 : Supply                              |

Connections

87621112 / 212

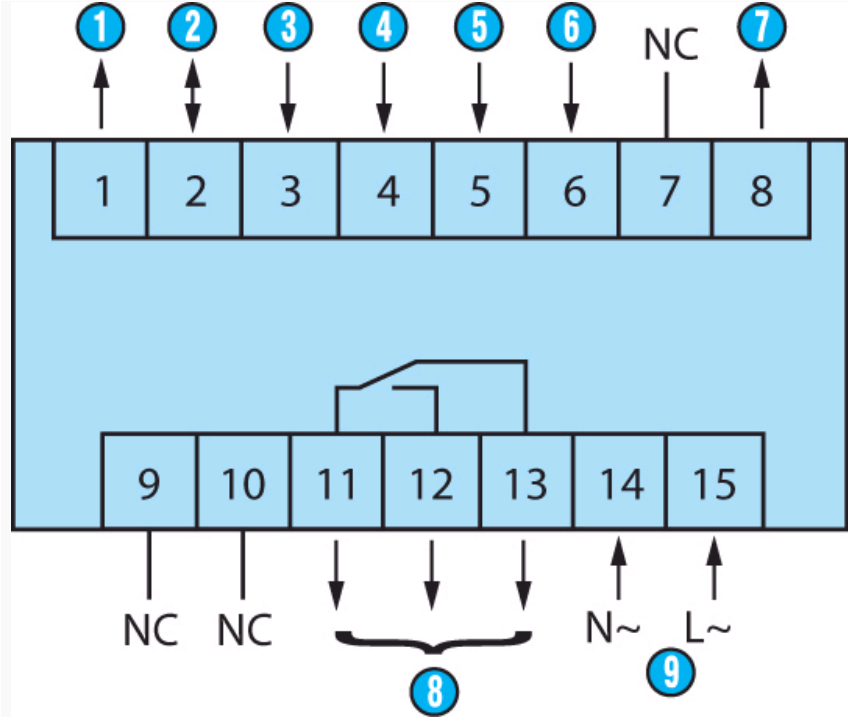


Output : 5 A/250 VAC/AC : 90 260 VDC

| N° | Legend                  |
|----|-------------------------|
| 1  | Sensor voltage supply   |
| 2  | GND (0 VDC)             |
| 3  | INP A (signal A input)  |
| 4  | INP B (signal B input)  |
| 5  | Reset (Reset input)     |
| 6  | Gate input              |
| 7  | Output 1 - 24 VDC/30 mA |
| 8  | 11-12-13 : Output 1     |
| 9  | 14-15 : Supply          |

Connections

87621115 / 215

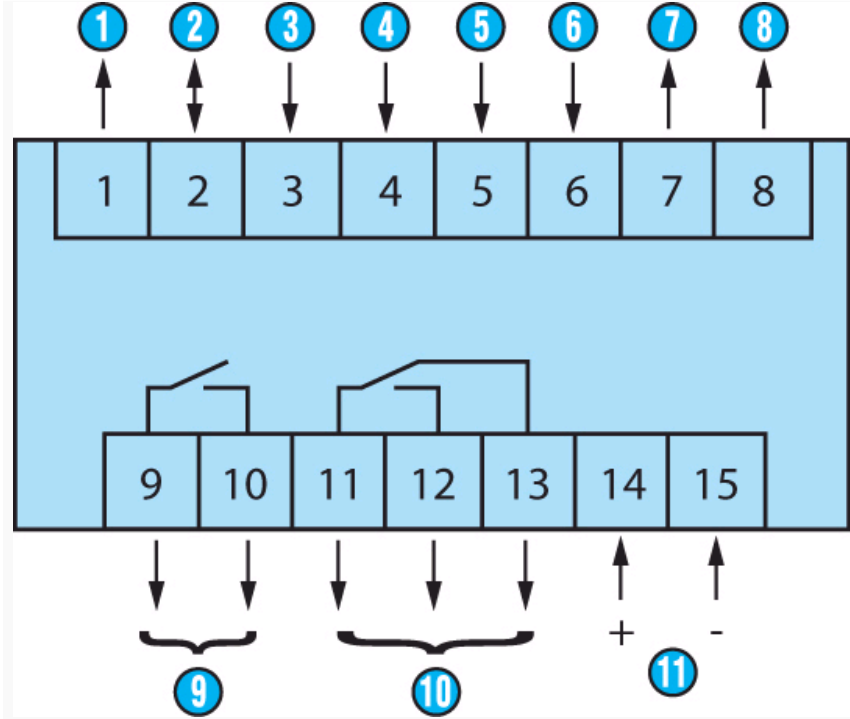


Output : 5 A/250 VAC/AC : 24 VAC

| N° | Legend                  |
|----|-------------------------|
| 1  | Sensor voltage supply   |
| 2  | GND (0 VDC)             |
| 3  | INP A (signal A input)  |
| 4  | INP B (signal B input)  |
| 5  | Reset (Reset input)     |
| 6  | Gate input              |
| 7  | Output 1 - 24 VDC/30 mA |
| 8  | 11-12-13 : Output 1     |
| 9  | 14-15 : Supply          |

Connections

87621121 / 221

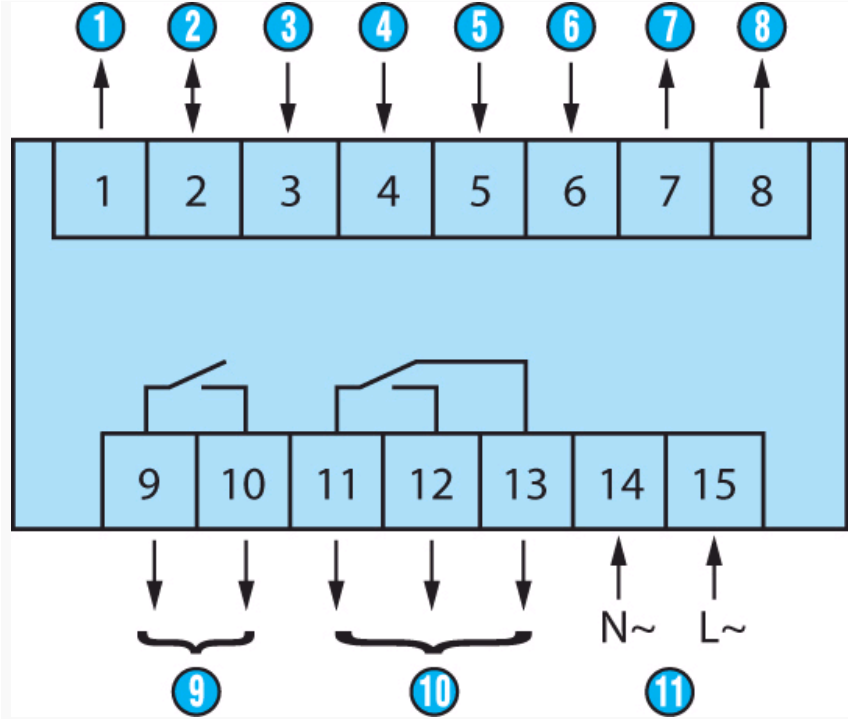


Output : 5 A/250 VAC/DC : 10 30 VDC

| N° | Legend                                      |
|----|---------------------------------------------|
| 1  | Sensor voltage supply (* UB interconnected) |
| 2  | GND (0 VDC)                                 |
| 3  | INP A (signal A input)                      |
| 4  | INP B (signal B input)                      |
| 5  | Reset (Reset input)                         |
| 6  | Gate input                                  |
| 7  | Output 1 : 10-30 VDC/30 mA                  |
| 8  | Output 2 : 10-30 VDC/30 mA                  |
| 9  | 9-10 : Output 1                             |
| 10 | 11-12-13 : Output 2                         |
| 11 | 14-15 : Supply                              |

Connections

87621122 / 222

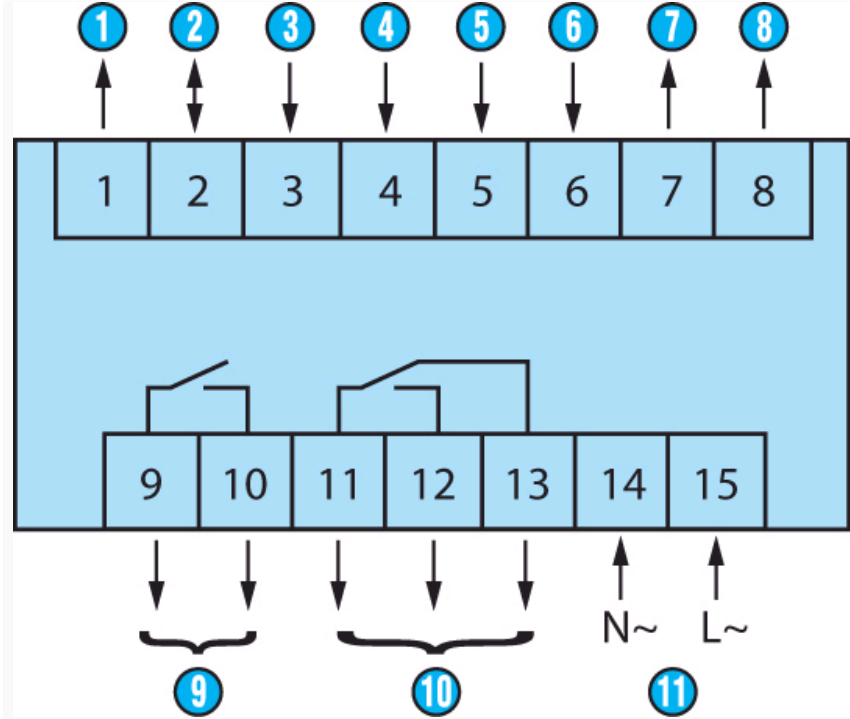


Output : 5 A/250 VAC/AC : 90 260 DC

| N° | Legend                  |
|----|-------------------------|
| 1  | Sensor voltage supply   |
| 2  | GND (0 VDC)             |
| 3  | INP A (signal A input)  |
| 4  | INP B (signal B input)  |
| 5  | Reset (Reset input)     |
| 6  | Gate input              |
| 7  | Output 1 : 24 VDC/30 mA |
| 8  | Output 2 : 24 VDC/30 mA |
| 9  | 9-10 : Output 1         |
| 10 | 11-12-13 : Output 2     |
| 11 | 14-15 : Supply          |

Connections

87621125 / 225

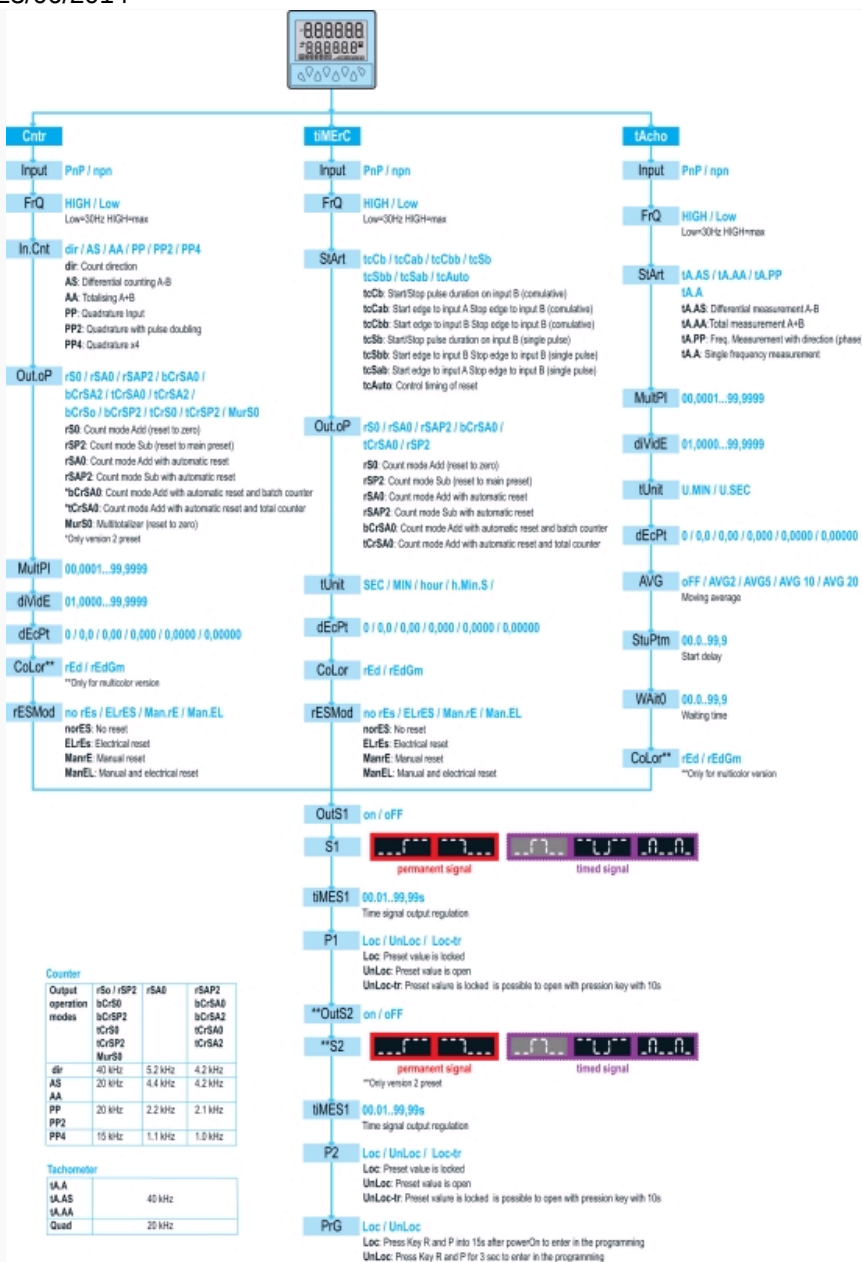


Output : 5 A/250 VAC/AC : 90 260 VDC

| N° | Legend                  |
|----|-------------------------|
| 1  | Sensor voltage supply   |
| 2  | GND (0 VDC)             |
| 3  | INP A (signal A input)  |
| 4  | INP B (signal B input)  |
| 5  | Reset (Reset input)     |
| 6  | Gate input              |
| 7  | Output 1 : 24 VDC/30 mA |
| 8  | Output 2 : 24 VDC/30 mA |
| 9  | 9-10 : Output 1         |
| 10 | 11-12-13 : Output 2     |
| 11 | 14-15 : Supply          |

Applications

Programming diagram



# AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit [www.ameya360.com](http://www.ameya360.com)

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd  
Minhang District, Shanghai , China

➤ Sales :

Direct     +86 (21) 6401-6692  
  
Email       amall@ameya360.com  
  
QQ         800077892  
  
Skype      ameyasales1 ameyasales2

➤ Customer Service :

Email       service@ameya360.com

➤ Partnership :

Tel         +86 (21) 64016692-8333  
  
Email      mkt@ameya360.com