

› Electronic Counters

Multifunction Counter

CTR48

- › Backlit LCD display (orange)
- › Maximum input frequency 40 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 (2 lines, 6 digits)



CTR48

Product selection						
Model	Type	Functions	Preset	Voltages	Output	Part Number
CTR48	Orange backlit LCD display	Preselection counter, Tachometer, Chronometer, Batch counters, Impulse counter	2	10 → 30 V $\overline{\text{---}}$	5 A changeover relay, 1 NO relay, 2 solid state	87621121

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 $\overline{\text{---}}$
Relative humidity at 40 ° (no condensation) according to EN 60068-2-30	93 %
Altitude	Up to 2 000 m
Certifications	UL - cULus - 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	Front side: IP65 / Connections: IP20
Front panel watertight seal	•
Temperature limits use (°C)	-20 → +65
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

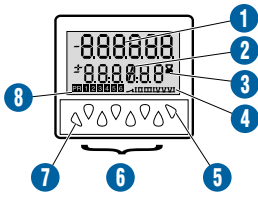
Crouzet's electronic impulse counters are reliable devices designed for measuring and recording electrical impulses in industrial applications. Crouzet's impulse counters use a combination of mechanical and electrical components to precisely count electrical pulses, offering a reliable solution for various 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 Electrical: automatic, voltage or solid state (NPN or PNP depending on programming)
Minimum pulse time	Impulse counter: < 15 ms Chronometer: 500 μ s
Option to protect against reset from front panel	•
Scale factor (each input pulse is multiplied by this figure)	00.0001 \rightarrow 99.9999
Scaling factor (each input impulse is divided by this value)	01.0000 \rightarrow 99.9999
Decimal point selectable for ease of reading	0 0.0 0.00 0.000 0.0000 0.00000
Programming and current value backed up via EEPROM memory	• Service life 10 years
Operating characteristics	
Functions	Preselection counter, Tachometer, Chronometer, Multi-totalizer, Batch counters, Totalizer
Number of presets	2
Display	LCD with orange backlighting
Height digits (mm)	9
Display details	999 999 \rightarrow 999 999
Input specifications	
Inputs	2 counter inputs 1 reset input, 1 gate input
Input modes	Dir: Directional AS: up/dn AA: up/up PP: phase PP2: phase 2 PP4: phase 4
Input type	Voltage or solid state
High level	8 V $\overline{\text{---}}$ \rightarrow 30 V $\overline{\text{---}}$
Low level	0 \rightarrow 2 V $\overline{\text{---}}$
Solid state output characteristics	
Maximum current (mA)	30
Max. voltage	10 \rightarrow 30 V $\overline{\text{---}}$
Relay output characteristics	
Changeover relay	•
NO contact	Yes
Maximum current (A)	5
Minimum current (mA)	10
Maximum voltage	30 V $\overline{\text{---}}$ / 250 V \sim
Min. voltage	5 V $\overline{\text{---}}$
Response time (ms)	< 13 ms
Mechanical life (operations)	20 x 10 ⁶
Number of operations to 5 A	5 x 10 ⁴
Output modes: maintained or pulsed	0.01 \rightarrow 99.99 s

Principles

Display and buttons

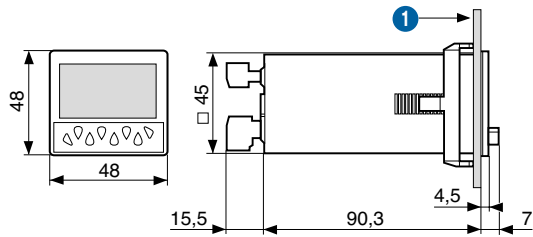


- 1 Current value
- 2 Selected value
- 3 Chronometer display
- 4 Active output indication
- 5 Prog/mode button
- 6 Preset control buttons
- 7 Button required for programming parameters
- 8 Shows which value is displayed

Dimensions (mm)

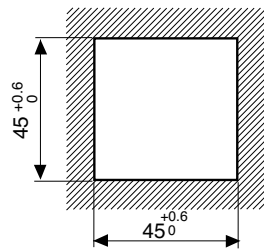
Panel Mounted

CTR48



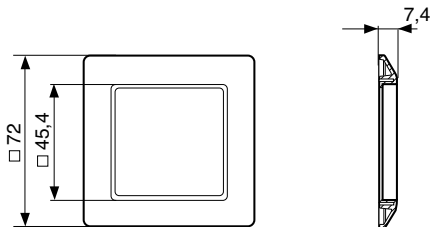
- 1 10.5 max

Panel Cut-out

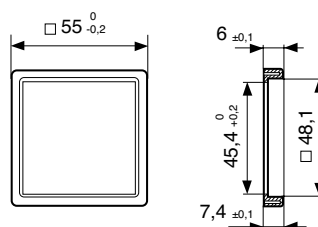


Accessories

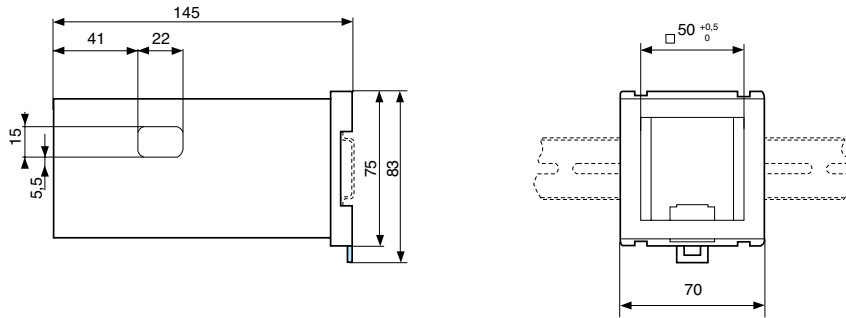
26546842 - Adaptor for 72 x 72 mm cut-out



26546846 - Adaptor for 55 x 55 mm cut-out



26546841 - DIN rail adaptor



Curves

Counter: dir
dir
 INP A

rS0	0	1	2	1	0	-1	-2
rSP2	P	P+1	P+2	P+1	P	P-1	P-2

Counter: AS
AS
 INP A

rS0	0	1	2	1	0	0	1
rSP2	P	P+1	P+2	P+1	P	P	P+1

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

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

Counter: AA
AA
 INP A

rS0	0	1	2	3	4	6	7
-----	---	---	---	---	---	---	---

Counter: PP
PP
 INP A

rS0	0	1	2	3	2	1	0
rSP2	P	P+1	P+2	P+3	P+2	P+1	P

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

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

Counter: PP2
PP2
 INP A

rS0	0	1	2	3	4	3	2
rSP2	P	P+1	P+2	P+3	P+4	P+3	P+2

Counter: PP4
PP4
 INP A

rS0	0	1	2	3	4	5	6	7	6	5	4	3
rSP2	P	P+1	P+2	P+3	P+4	P+5	P+6	P+7	P+6	P+5	P+4	P+3

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

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

Chronometer: Start tcCb
 INP B

GATE	off	on	off	
ADD	0	.....	T1	T1+T2
SUB	P	.....	P-T1	P-T1-T2

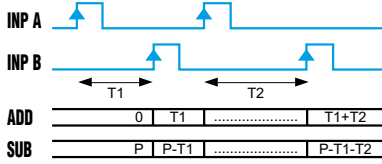
Chronometer: Start tcCbb
 INP B

ADD	0	.....	T1	T1+T2
SUB	P	.....	P-T1	P-T1-T2

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

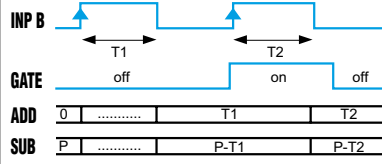
Inp A: No function / Inp B: On/Off Cumulative time counting / Add: Display 0 → Preset / Sub: Display Preset → 0

Chronometer: Start tcCAb



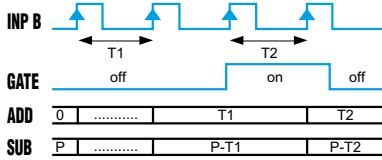
Inp A: On / Inp B: Off Cumulative time counting / Add: Display 0 → Preset / Sub: Display Preset → 0

Chronometer: Start tcSb



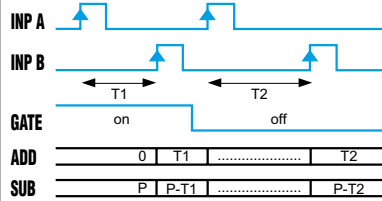
Inp A: No function / Inp B: On/Off Individual time counting while B is active, automatic reset before each new count / Add: Display 0 → Preset / Sub: Display Preset → 0

Chronometer: Start tcSbb



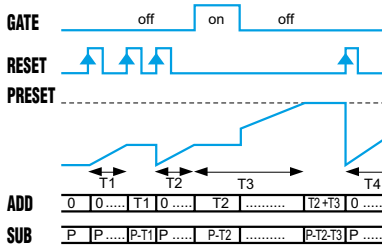
Inp A: No function / Inp B: On/Off Individual time counting, automatic reset before each new count / Add: Display 0 → Preset / Sub: Display Preset → 0

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

Chronometer: Start tcAuto



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

Tachometer: Start tA.A

INP A	0	F _{A0}	F _{A1}	F _{A2}	0	x
Display	0	0	F _{A0}	F _{A1}	F _{A2}	0

Inp A: Frequency input / Inp B: No function

Tachometer: Start tA.AA

INP A	0	F _{A0}	F _{A1}	F _{A2}	0	x
INP B	0	0	F _{B0}	F _{B1}	F _{B2}	x
Display	0	0	F _{A0}	F _{A0} +F _{B0}	F _{A1} +F _{B1}	F _{B2}

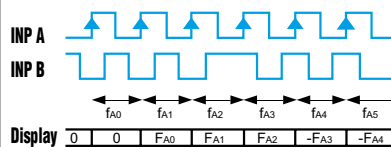
Inp A: Frequency input 1 / Inp B: Frequency input 2 Formula: A + B

Tachometer: Start tA.AS

INP A	0	F _{A0}	F _{A1}	F _{A2}	0	x
INP B	0	0	F _{B0}	F _{B1}	F _{B2}	x
Display	0	0	F _{A0}	F _{A0} -F _{B0}	F _{A1} -F _{B1}	-F _{B2}

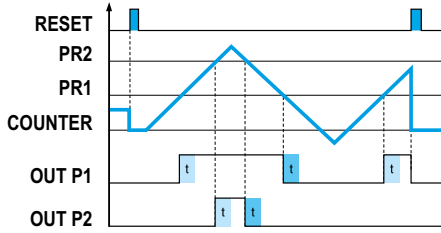
Inp A: Frequency input 1 / Inp B: Frequency input 2 Formula: A - B

Tachometer: Start tA.PP

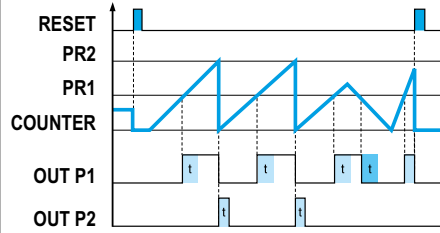


A 90 ° B Inp A: Frequency input / 1 Inp B: Reversal of direction

Output operation: OutoP rS0

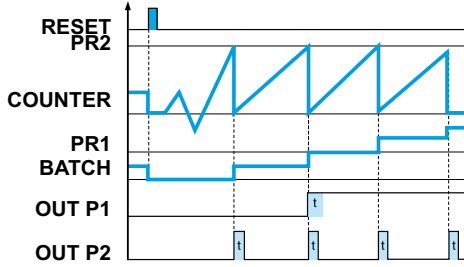


Output operation: OutoP rSA0

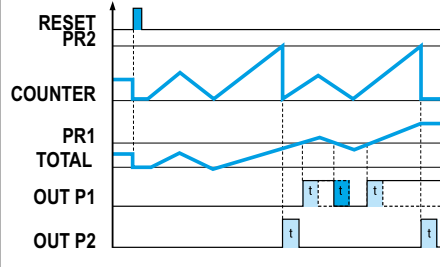


A 90 ° B Inp A: Frequency input / 1 Inp B: Reversal of direction

Output operation: OutoP bCrSA0

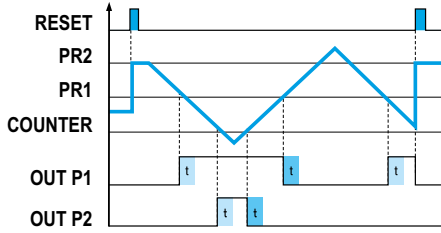


Output operation: OutoP tCrSA0

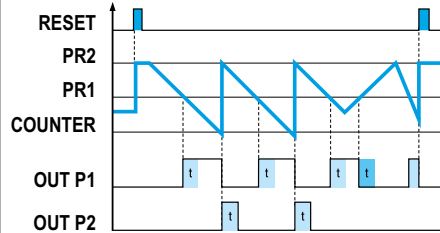


A 90 ° B Inp A: Frequency input / 1 Inp B: Reversal of direction

Output operation: OutoP rSP2

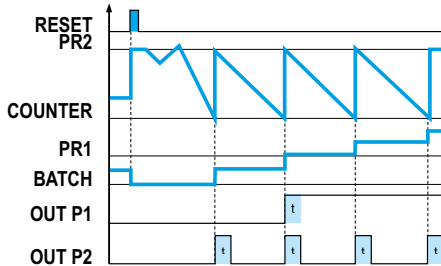


Output operation: OutoP rSAP2

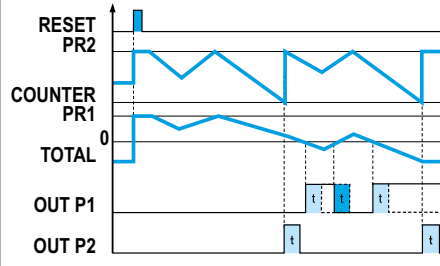


A 90 ° B Inp A: Frequency input / 1 Inp B: Reversal of direction

Output operation: OutoPbCrSA2

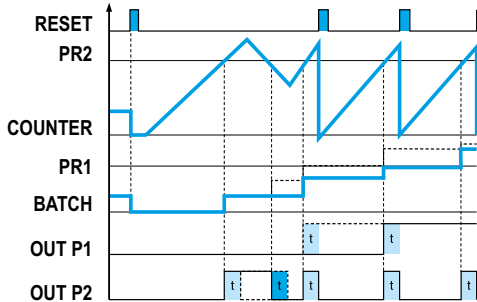


Output operation: OutoP tCrSA2

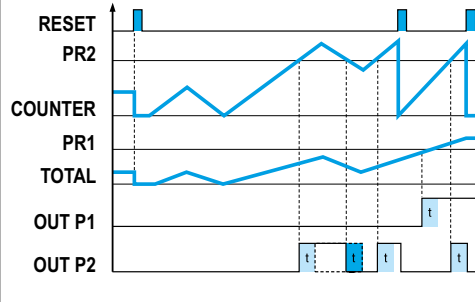


A 90 ° B Inp A: Frequency input / 1 Inp B: Reversal of direction

Output operation: OutoP bCrS0

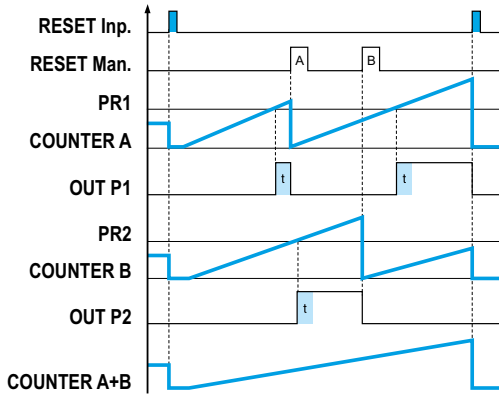


Output operation: OutoP tCrS0

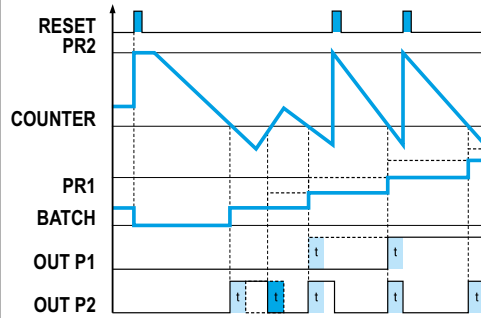


A 90 ° B Inp A: Frequency input / 1 Inp B: Reversal of direction

Output operation: OutoP MurS0 (AA)

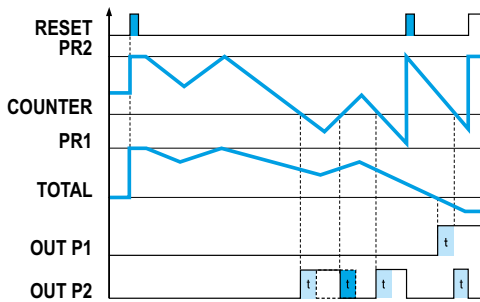


Output operation: OutoP bCrSP2

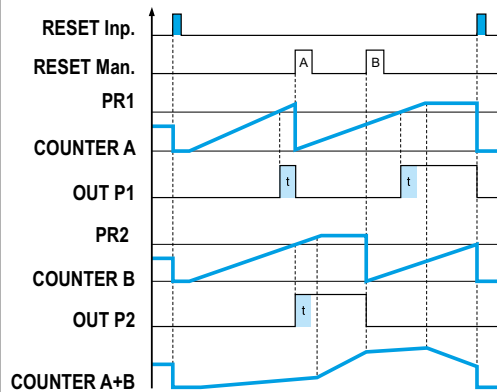


A 90 ° B Inp A: Frequency input / 1 Inp B: Reversal of direction

Output operation: OutoP tCrSP2



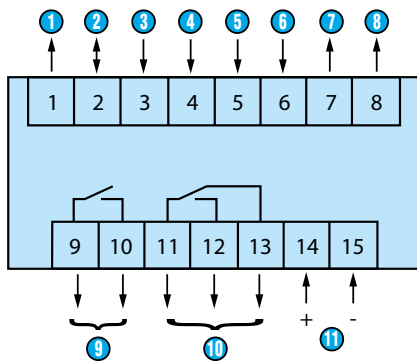
Output operation: OutoP MurS0 (AS)



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

Connections

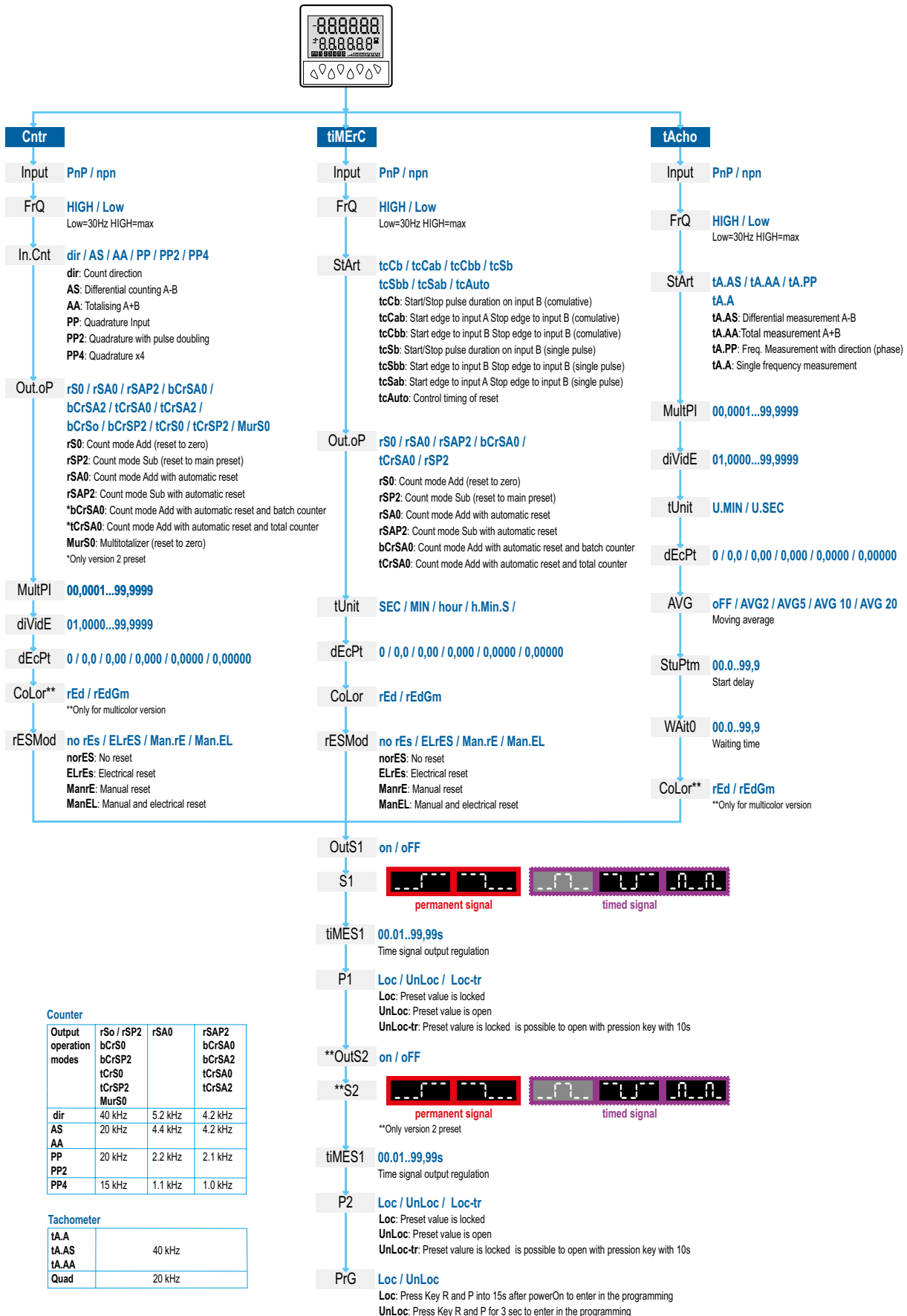
87621121 - Output: 5 A/250 V~ / DC: 10 → 30 V~



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

Applications

Programming diagram



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