



Read this document carefully before using this device. The guarantee will be expired by damaging of the device if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

ENDA EC762F UP/DOWN COUNTER

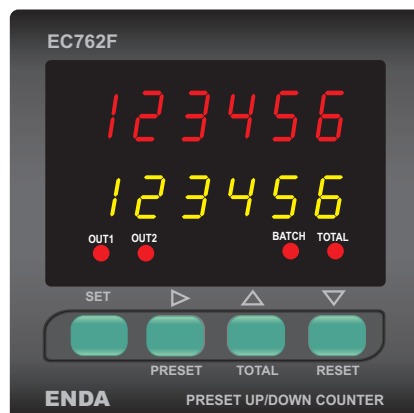
Thank you for choosing ENDA EC762F COUNTER.

- * 72x72mm sized.
- * 2x6 digits display.
- * Easy to use by front panel keypad.
- * Counting up and down with a 2 channel inputs having 90° phase shift.
- * Input frequency can be selectable.
- * Prescaler factor can be adjusted between 0.001 and 99.9999.
- * 6 digits Batch Counter.
- * 8 digits Total Counter.
- * Preset1 may depend on Preset2.
- * Decimal point can be adjusted between 1. and 5. digits.
- * Sensor type can be selected as PNP, NPN or Encoder.
- * Double set-points control is made by 2 relays outputs.
- * Output can be energized continuously or just for a time interval of 0.01 to 999.9 seconds.
- * Selectable functional reset input.
- * Input offset feature.
- * Parameter access protection on 3 levels.
- * Easy connection by removable screw terminal.
- * CE marked according to European Norms.

Order Code : EC762F-□□□□□□

1

Supply Voltage
230VAC...230V AC
24VAC.....24V AC
SM.....9-30V DC / 7-24V AC



RoHS
Compliant

TECHNICAL SPECIFICATIONS

ENVIRONMENTAL CONDITIONS	
Ambient/storage temperature	0 ... +50°C/-25 ... +70°C (with no icing)
Max. relative humidity	80% up to 31°C decreasing linearly 50% at 40°C.
Rated pollution degree	According to EN 60529 Front panel : IP65 Rear panel : IP20
Height	Max. 2000m
Do not use the device in locations subject to corrosive and flammable gases.	

ELECTRICAL CHARACTERISTICS	
Supply	230V AC +10% -20% or 24V AC ±10%, 50/60Hz or optional 9-30V DC / 7-24V AC ±10% SMPS module.
Power consumption	Max. 7VA
Wiring	2.5mm² screw-terminal connections
Date retention	EEPROM (Min. 10 years)
EMC	EN 61326-1: 1997, A1: 1998, A2: 2001 (Performance criterion B for the EMC standard)
Safety requirements	EN 61010-1: 2001 (pollution degree 2, overvoltage category II)

INPUTS	
Count inputs (CP1, CP2)	2 channels (Max. 7500Hz, 5V to 30V pulse)
Frequency (Hz)	25, 500, 1000, 2000, 5000, 7500Hz (selectable by programming)
Minimum On and Off times for pulses	20ms for f=25Hz 1ms for f=500Hz 500 s for f=1kHz 250 s for f=2kHz 100 s for f=5kHz 67 s for f=7.5kHz
Reset input	PNP: Positive reset (5V to 30V pulse with adjustable pulse time between 2ms and 50ms) NPN: GND terminal is connected to the RESET IN terminal.

OUTPUTS	
Control output (OUT1)	Relay : 250V AC, 2A (for resistive load), NO+NC Open collector output (S.S. OUT1): Max. 30V DC, 100mA.
Control output (OUT2)	Relay : 250V AC, 2A (for resistive load), NO+NC Open collector output (S.S. OUT2): Max. 30V DC, 100mA.
Auxiliary power supply	12V DC, Max. 50mA (without regulation)
Life expectancy for relays	Mechanical 30.000.000 operation; Electrical 300.000 operation.
Note : Relay and S.S.OUT outputs are in synchronization . When OUT1 relay is energized S.S. OUT1 transistor goes into saturation. Similarly, when OUT2 relay is energized S.S. OUT2 transistor goes into saturation.	

HOUSING	
Housing type	Suitable for flush-panel mounting according to DIN 43 700.
Dimensions	W72xH72xD97mm
Weight	Approx. 405g (after packing)
Enclosure material	Self extinguishing plastics



While cleaning the device, solvents (thinner, benzene, acid etc.) or corrosive materials must not be used.

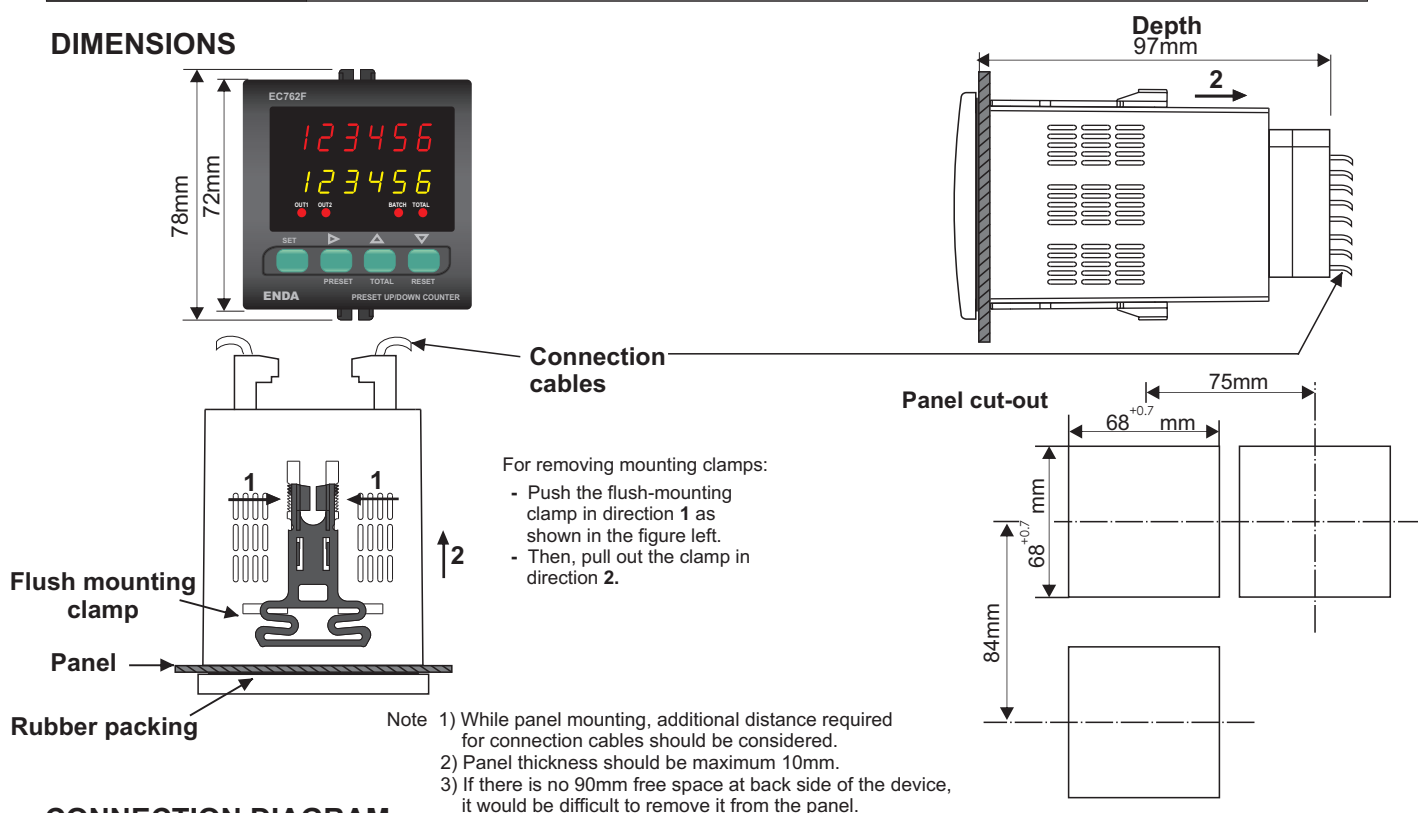
TERMS



- (1) The value of the parameter selected by $d, 5P_{CONF}$ parameter during run mode. Parameter name during programming mode.
- (2) The value of the parameter selected by $d, 5P_{CONF}$ parameter during run mode. Parameter value during programming mode.
- (3) State indicators shows the state of the counter.
- (4) To see the total result press this key in the run mode. Increment or parameter selection key during programming mode.
- (5) Reset key in the run mode. Decrement or parameter selection key during programming mode.
- (6) Used for selecting preset value in the run mode. Used for selecting OPt ions or parameter to be changed in the programming mode.
- (7) Used for selecting run or programming modes or for adjusting parameters.

(1) Digital display	6 digits, seven segment red LED
(2) Digital display	6 digits, seven segment yellow LED
Character height	Digital display (1) : 9.1mm
	Digital display (2) : 7.1mm
(3) State indicators	4 red LEDs
(4), (5), (6), (7) Keypad	Micro switch

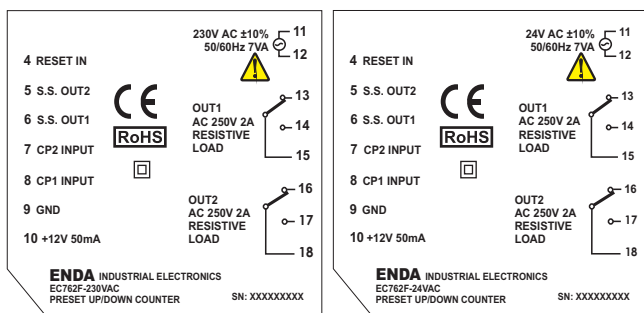
DIMENSIONS



CONNECTION DIAGRAM

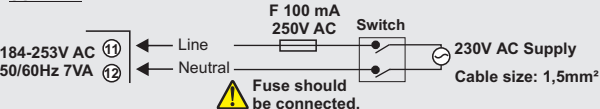


ENDA EC762F is intended for installation in control panels. Make sure that the device is used only for intended purpose. The shielding must be grounded on the instrument side. During an installation, all of the cables that are connected to the device must be free of energy. The device must be protected against inadmissible humidity, vibrations, severe soiling and make sure that the operation temperature is not exceeded. All input and output lines that are not connected to the supply network must be laid out as shielded and twisted cables. These cables should not be close to the power cables or components. The installation and electrical connections must be carried on by a qualified staff and must be according to the relevant locally applicable regulations.



NOTE :

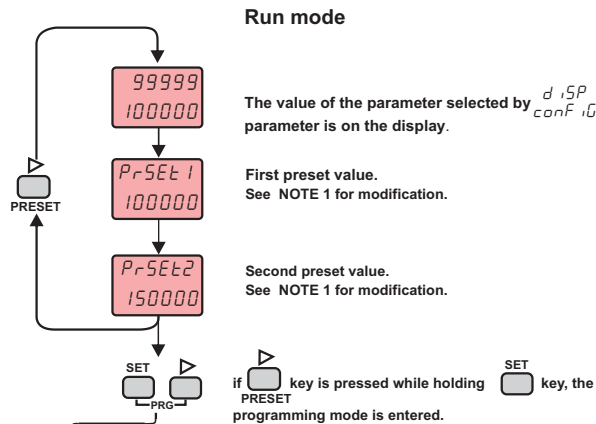
SUPPLY :



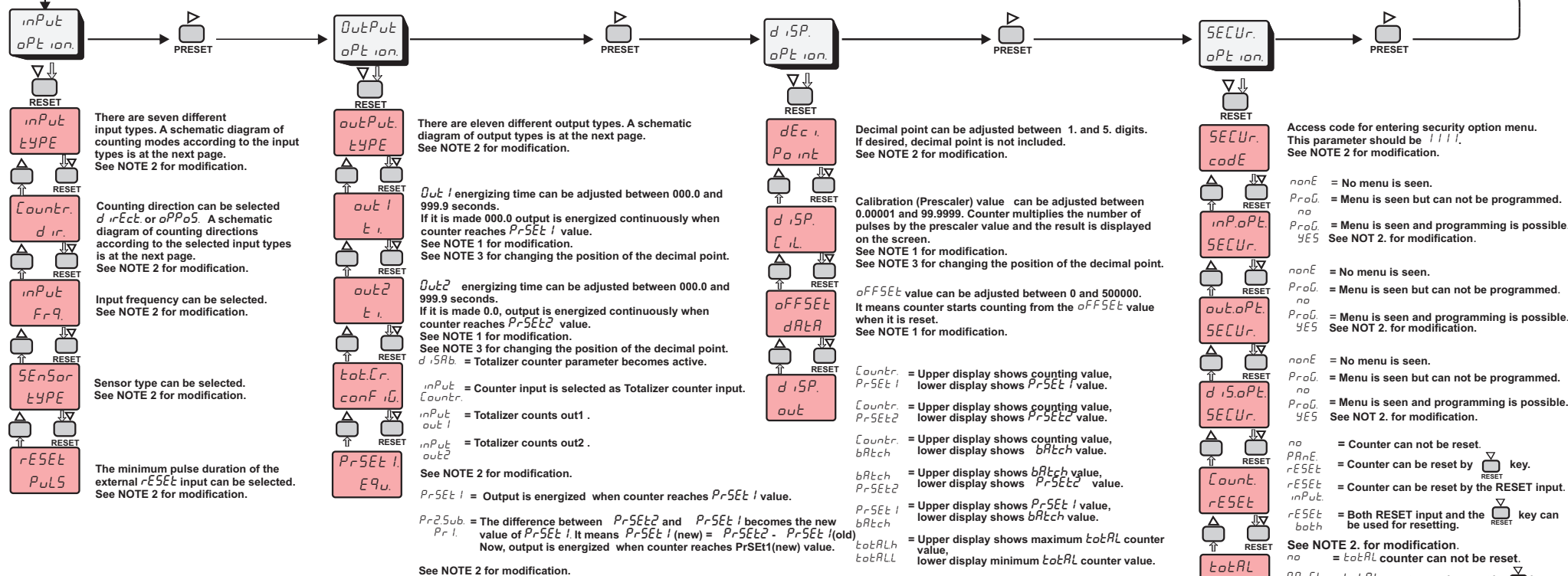
Holding screw 0.4-0.5Nm



Equipment is protected throughout by DOUBLE INSULATION.



PARAMETER TABLE																			
Input option	input type	CP1UP CP2dn	CP1UP CP2UP	CP1UP CP2Gt	CP1UP CP2ir	UP Ph.4	UP.dn Ph.1	UP.dn Ph.2											
	Counter.d ir	d irEct	oPPoS																
	input Frq.	25 Hertz	500 Hertz	1000 Hertz	2000 Hertz	5000 Hertz	7500 Hertz												
	Sensor type	nPn	PnP	Encod.															
Output option	rESEt Puls	0002 Second	0005 Second	0010 Second	0020 Second	0050 Second													
	output type	CONF IG 1	CONF IG 2	CONF IG 3	CONF IG 4	CONF IG 5	CONF IG 6	CONF IG 7	CONF IG 8	CONF IG 9	CONF IG 10	CONF IG bAtch							
	out 1 t.i.	0000	—	9999															
	out 2 t.i.	0000	—	9999															
Security option	totALr. CONF IG	d iSAb.	input Counter	input out 1	input out 2														
	PrSEt 1. Equ.	PrSEt 1.	PrSEt 2. Pr 1.																
	dEC i. Point	0	00	—	000000														
	d iSP. CAL	0.00001	—	999999															
Security option	oFFSEt dAtA	0	—	500000															
	d iSP. CONF IG	Counter. PrSEt 1	Counter. PrSEt 2	Counter. bAtch	PrSEt 1 bAtch	PrSEt 2 bAtch	totALr. totALL												
	SECUr. codE	1111																	
	inpOpE SECUr.	noNE	ProG. no	ProG. YES															
Security option	outOpE SECUr.	noNE	ProG. no	ProG. YES															
	d iSoP. SECUr.	noNE	ProG. no	ProG. YES															
	Count. rESEt	no	PARnEL rESEt	rESEt both															
	totALr. rESEt	no	PARnEL rESEt																
Security option	bAtch rESEt	no	PARnEL rESEt																
	rESEt	no	YES																
	dEFAUL SEt	no	YES																



PARAMETER MODIFICATION DIAGRAM

NOTE 1 Holding key the value of the selected parameter is seen on the display. While holding key, the value of the selected parameter can be changed by using keys. In order to reset all the digits, first press and hold key. And then, press both and keys together.

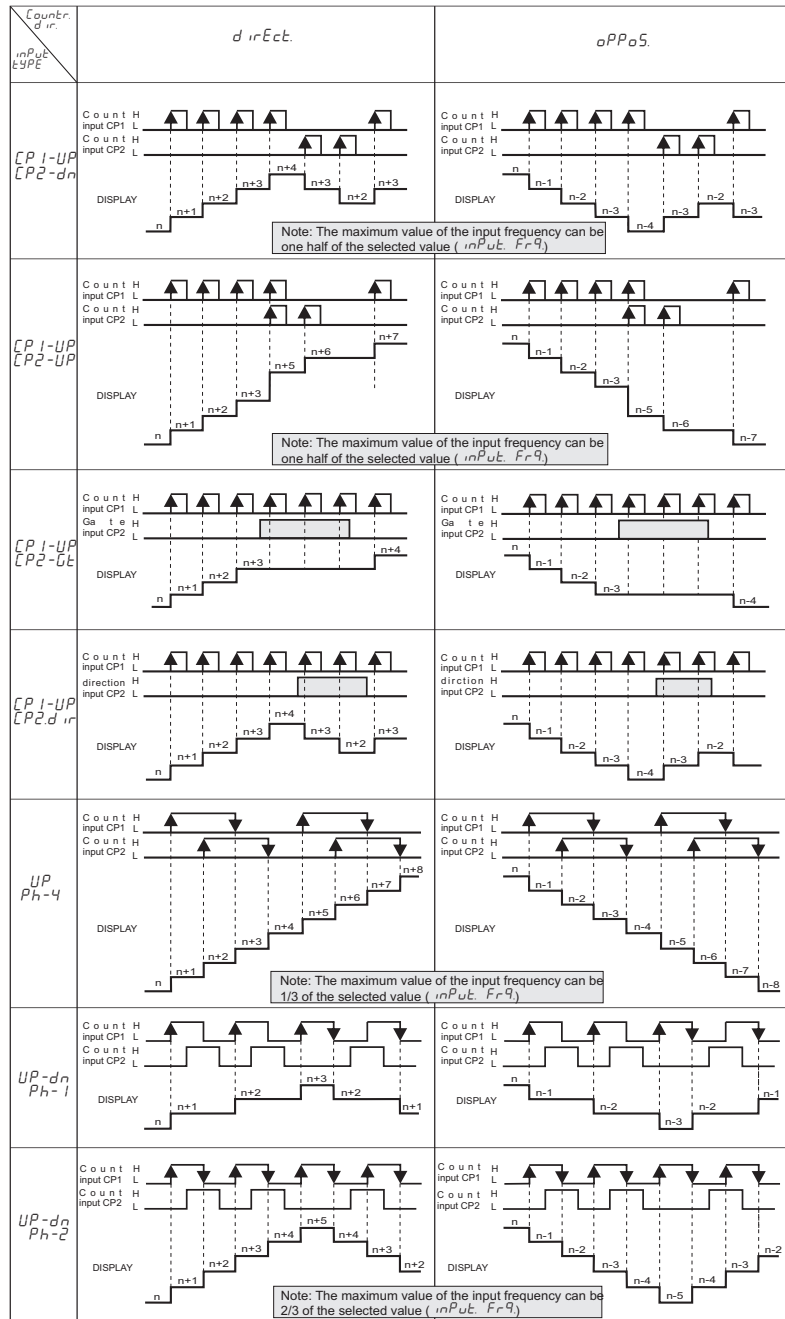


NOTE 2 To modify non-numerical parameters, hold key and use keys.

NOTE 3 To change the position of the decimal point press and hold both and keys for 0.6 sec.

See NOT 2 for modification.

INPUT TYPES



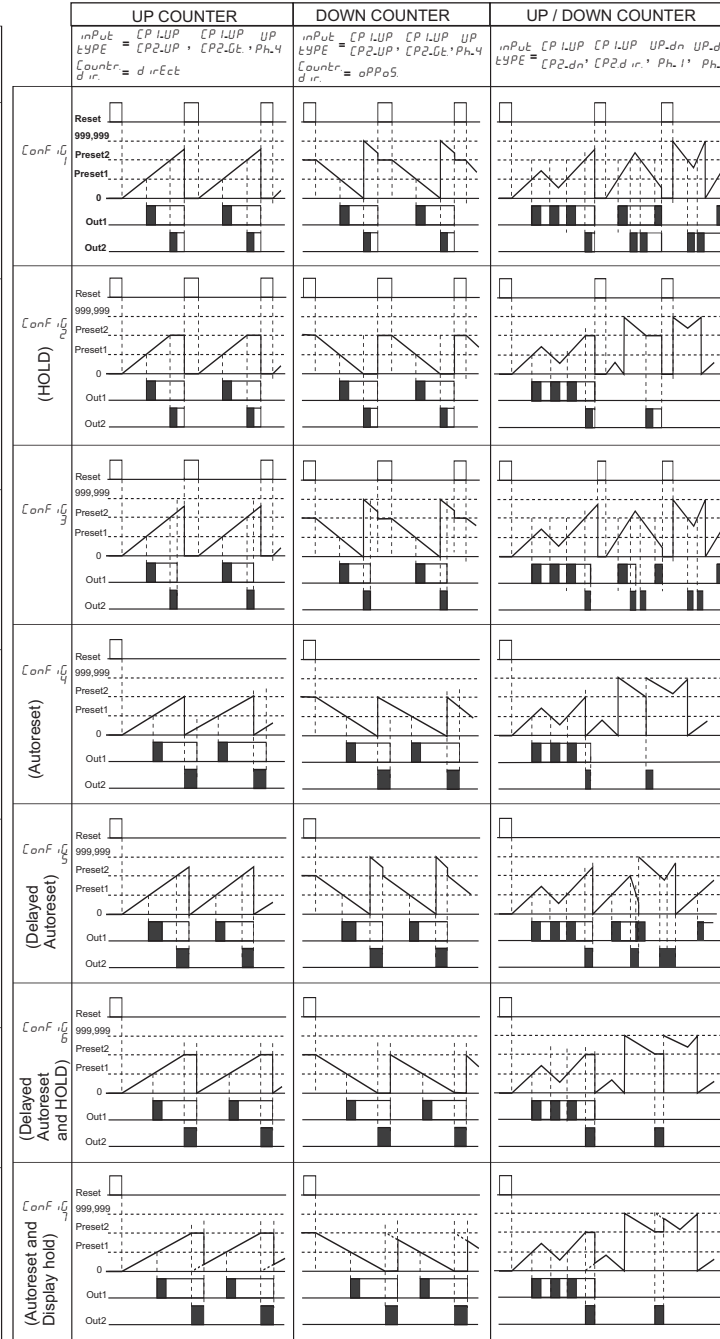
NOTE : 1) For PNP sensor, counter is triggered at the rising edge of the pulses. For NPN sensor counter is triggered at the falling edge of the pulses.

2) For NPN sensor, if you select inPulseType CP1, CP2, above diagram for Counter, direct replaces with Counter oPPoS.

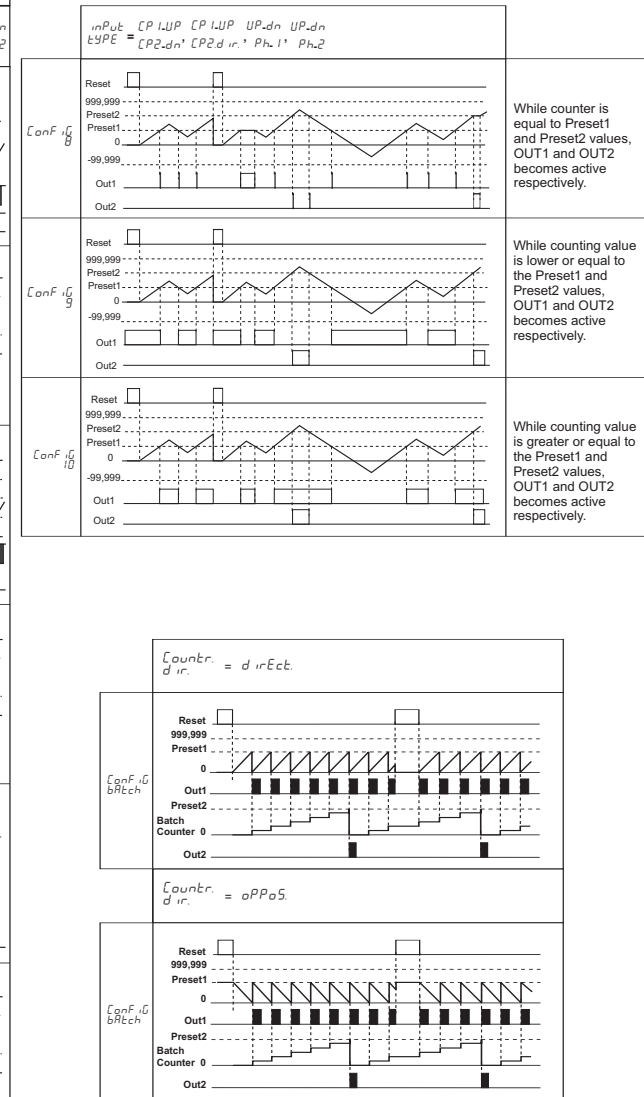


Input frequency should not exceed the values indicated above. Otherwise, counter value will be wrong.

OUTPUT TYPES



OUTPUT TYPES

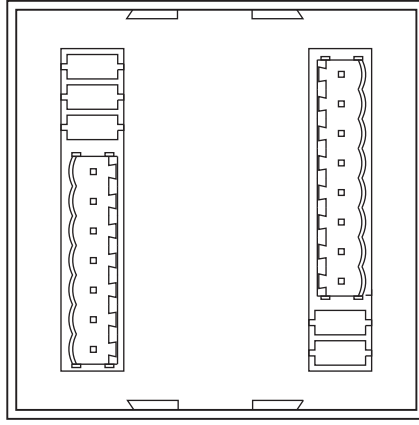


While Batch counter mode is selected, decimal point is not seen. Because, Preset2 and batch counting values are integer.

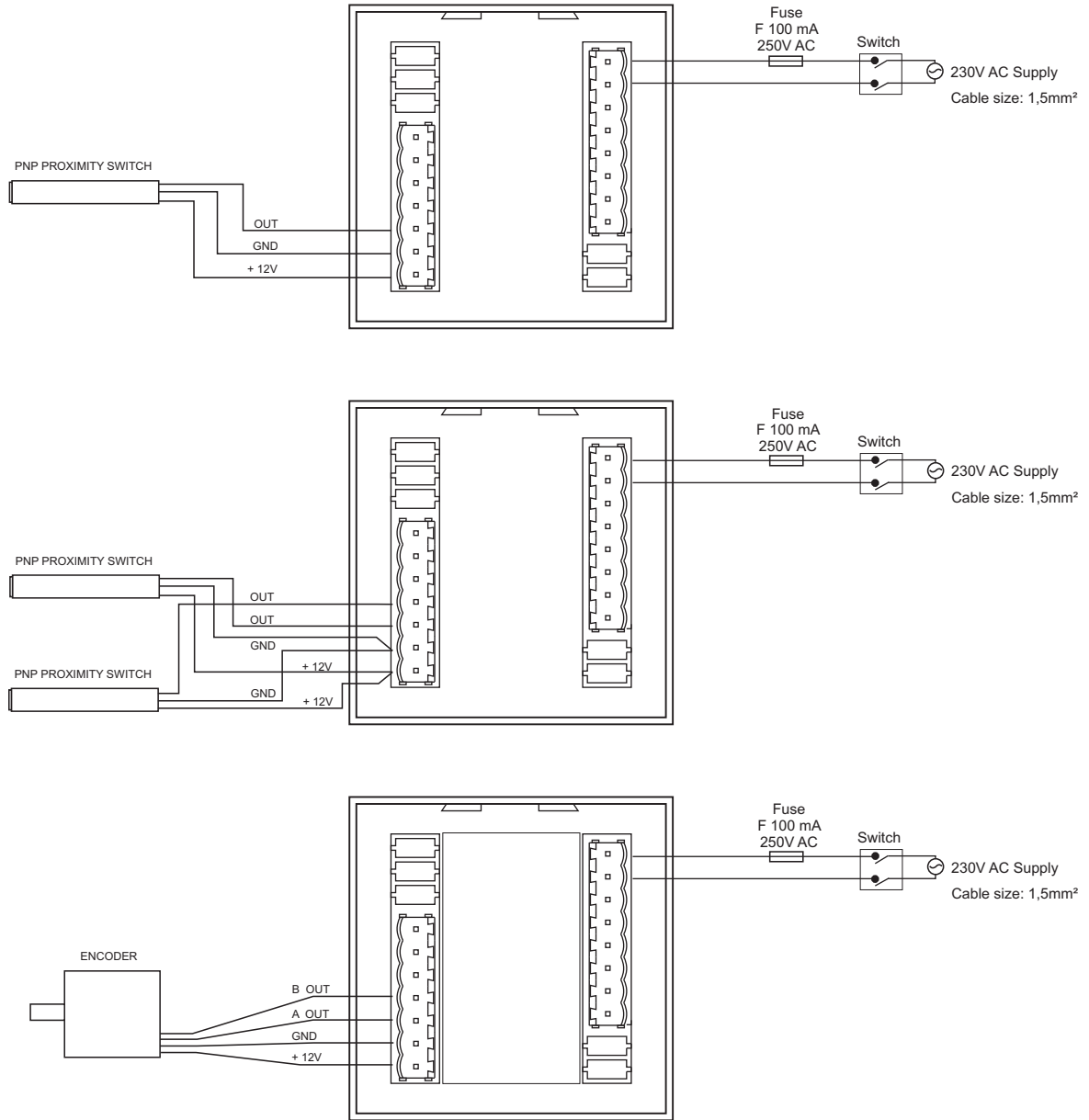
■ Adjusting $out1$ or $out2$ to a value between 0.01 and 999.9 seconds, a pulse output is obtained.

□ Adjusting $out1$ or $out2$ to 0.0, a continuous output is obtained.

TERMINAL CONNECTIONS



TYPICAL SENSOR CONNECTIONS



NOTE: NPN PROXIMITY SWITCH connection is the same as PNP PROXIMITY SWITCH connection.