"ESA Control" Ltd

DIGITAL

PULSE COUNTERS

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Digital pulse counter

CD4-2

Features

The CD4-2 digital pulse counter is a compact microprocessor device that serves to count electrical pulses. The number of pulses received at its input is visualized on a four-digit display. Except counting the impulses, its main function of the counter is to switch the electric circuit, in which it is turned on when a set value "N" is reached. The pulse counter is widely used in automation of production, technological and other processes. The device is designed for installation in a dashboard (panel montage).

Type parameters		
Type	Supply voltage	Consumption
CD4-2 / 220V	220VAC ±10%	16mA (4W)
CD4-2 / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	85mA (2W)

Technical parameters

LED indication, 4 digits, red	h=14mm (height)
Counting range, N	1…9999 (pulses)
Inner divisor, d	1…99
Supply voltage, Us	220VAC / 12÷24V ac/dc
Output - Relay	4A / 220VAC (NO+NC)
Maximum counting frequency, Fmax	500 Hz (5 kHz option)
Operating temperature range, Tamb	-20º...+50º C
Degree of protection	IP40
Joining	Terminal
Sizes	95x49x113 mm

Energy-independent memory for programmable parameters.
Input counting - it is meant to operate with sensor type NPN (fig.1) or switch K1 (fig.2).
A constant voltage of 11÷23 Vdc (40mA) is provided to power the sensor.
Input for external nullity, "Reset" - switch K3 (fig.1, fig.2).
Input for external starting, "Start" - switch K2 (fig.1, fig.2).
ATTENTION: With the K2 switch permanently closed, the counter operates in cyclic mode.

Programmable parameters

Limit value of pulses, N	1 ÷ 9999	
Inner divisor, d	01 ÷ 99	
Maximum time between two impulses (00=infinity), t (sec)	00 ÷ 99	(99=9,9sec)
Active input frontier (high / low)	Hi / Lo	
Operating regime (increment / decrement)	Inc / dEc	
Breakup in the supply voltage Us :		
- after an interruption, the counting continues from the current data	Cont	
- after a break, the counting automatically starts from the beginning	Full	
- after an interruption, a stop mode of the current data is established	Ucc	
- after an interruption, the counter is reset	Goto	
Automatic starting, at first switching on of the supply	no / Auto	
Initial stated of output relay when starting (Status), St	⊓ / ⊔	

Schemes of connection

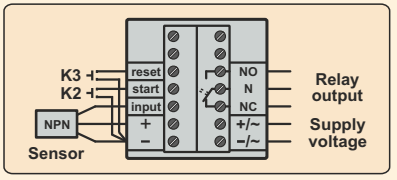


fig.1
Connecting NPN type sensor

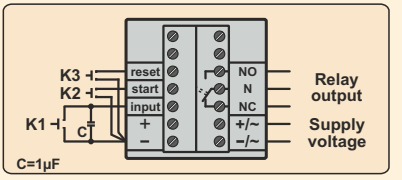


fig.2
Connecting a mechanical key "K1"

Digital pulse counter CD4-2L

Features

The CD4-2L digital pulse counter is a compact microprocessor device that serves to count electrical pulses. The number of pulses received at its input is visualized on a four-digit display. Except counting the impulses, its main function of the counter is to switch the electric circuit, in which it is turned on when a set value "N" is reached. The pulse counter is widely used in automation of production, technological and other processes. The device is designed for installation on the DIN-rail M35.

Type parameters		
Type	Supply voltage	Consumption
CD4-2L / 220V	220VAC ±10%	16mA (4W)
CD4-2L / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	85mA (2W)

Technical parameters

LED indication, 4 digits, red	h=14mm (height)
Counting range, N	1…9999 (pulses)
Inner divisor, d	1…99
Supply voltage, Us	220VAC / 12÷24V ac/dc
Output - Relay	4A / 220VAC (NO+NC)
Maximum counting frequency, Fmax	500 Hz (5 kHz option)
Operating temperature range, Tamb	-20º...+50º C
Degree of protection	IP40
Joining	Terminal
Sizes	86x70x58mm, DIN35-70

Energy-independent memory for programmable parameters.
Input counting - it is meant to operate with sensor type NPN (fig.1) or switch K1 (fig.2).
A constant voltage of 11÷23 Vdc (40mA) is provided to power the sensor.
Input for external nullity, "Reset" - switch K3 (fig.1, fig.2).
Input for external starting, "Start" - switch K2 (fig.1, fig.2).
ATTENTION: With the K2 switch permanently closed, the counter operates in cyclic mode.

Programmable parameters

Limit value of pulses, N	1 ÷ 9999
Inner divisor, d	01 ÷ 99
Maximum time between two impulses (00=infinity), t (sec)	00 ÷ 99 (99=9,9sec)
Active input frontier (high / low)	Hi / Lo
Operating regime (increment / decrement)	Inc / dEc
Breakup in the supply voltage Us :	
- after an interruption, the counting continues from the current data	Cont
- after a break, the counting automatically starts from the beginning	Full
- after an interruption, a stop mode of the current data is established	Ucc
- after an interruption, the counter is reset	Goto
Automatic starting, at first switching on of the supply	no / Auto
Initial stated of output relay when starting (Status), St	⊓ / ⊔

Schemes of connection

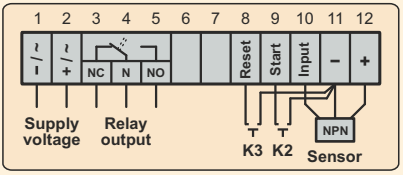


fig.1
Connecting NPN type sensor

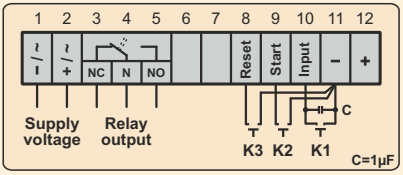


fig.2
Connecting a mechanical key "K1"

Digital pulse counter

CD6-2

Features

The CD6-2 digital pulse counter is a compact microprocessor device that serves to count electrical pulses. The number of pulses received at its input is visualized on a six-digit display. Except counting the impulses, its main function of the counter is to switch the electric circuit, in which it is turned on when a set value "N" is reached. The pulse counter is widely used in automation of production, technological and other processes. The device is designed for installation in a dashboard (panel montage).

Type parameters		
Type	Supply voltage	Consumption
CD6-2 / 220V	220VAC ±10%	16mA (4W)
CD6-2 / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	85mA (2W)

Technical parameters

LED indication, 6 digits, red / green	h=10mm (height)
Counting range, N	1…999999 (pulses)
Inner divisor, d	1…9999
Supply voltage, Us	220VAC / 12÷24V ac/dc
Output - Relay	4A / 220VAC (NO+NC)
Maximum counting frequency, Fmax	1 kHz (11 kHz option)
Operating temperature range, Tamb	-20º...+50º C
Degree of protection	IP40
Joining	Terminal
Sizes	95x49x113 mm

Energy-independent memory for programmable parameters.
Input counting - it is meant to operate with sensor type NPN (fig.1) or switch K1 (fig.2).
A constant voltage of 11÷23 Vdc (40mA) is provided to power the sensor.
Input for external nullity, "Reset" - switch K3 (fig.1, fig.2).
Input for external starting, "Start" - switch K2 (fig.1, fig.2).
ATTENTION: With the K2 switch permanently closed, the counter operates in cyclic mode.

Programmable parameters

Limit value of pulses, N	1 ÷ 999999
Inner divisor, d	1 ÷ 9999
Maximum time between two impulses (0.0=infinity), t (sec)	0.0 ÷ 999.9
Active input frontier (high / low), In	Hi / Lo
Operating regime (increment / decrement)	Inc / dEc
Breakup in the supply voltage Us :	
- after an interruption, the counting continues from the current data	Cont
- after a break, the counting automatically starts from the beginning	Full
- after an interruption, a stop mode of the current data is established	Ucc
- after an interruption, the counter is reset	Goto
Automatic starting, at first switching on of the supply	noAuto / Auto
Initial stated of output relay when starting (Status), St	⊓ / ⊔
When N is reached: is reset / the output is turned off, counting continues	End G / End C

Schemes of connection

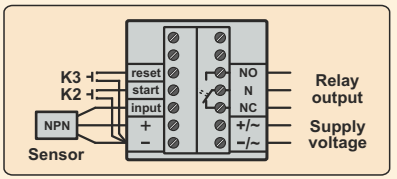


fig.1
Connecting NPN type sensor

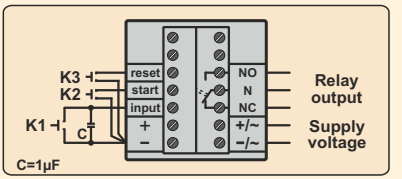


fig.2
Connecting a mechanical key "K1"

Digital pulse counter

CD6-3

Features

The CD6-3 digital pulse counter is a compact microprocessor device that serves to count electrical pulses. The number of pulses received at its input is visualized on a six-digit display. Except counting the impulses, its main function of the counter is to switch the electric circuit, in which it is turned on when a set value "N" is reached. The counter has a "Total" memory cell in which all counted pulses are accumulated and stored for a long period of time. The amount of accumulated pulses in the "Total" cell is displayed when the "Total" button is pressed. The pulse counter is widely used in automation of production, technological and other processes.

Type parameters		
Type	Supply voltage	Consumption
CD6-3 / 220V	220VAC ±10%	16mA (4W)
CD6-3 / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	85mA (2W)

Technical parameters

LED indication, 6 digits, red / green	h=10mm (height)
Counting range, N	1…999999 (pulses)
Inner divisor, d	1…9999
Supply voltage, Us	220VAC / 12÷24V ac/dc
Output - Relay	4A / 220VAC (NO+NC)
Maximum counting frequency, Fmax	1 kHz (11 kHz option)
Operating temperature range, Tamb	-20º...+50º C
Degree of protection	IP40
Joining	Terminal
Sizes	95x49x113 mm

Energy-independent memory for programmable parameters.
Input counting - it is meant to operate with sensor type NPN (fig.1) or switch K1 (fig.2).
A constant voltage of 11÷23 Vdc (40mA) is provided to power the sensor.
Input for external nullity of the memory “Total” - switch K3 (fig.1, fig.2).
Input for external starting, "Start" - switch K2 (fig.1, fig.2).
ATTENTION: With the K2 switch permanently closed, the counter operates in cyclic mode.

Programmable parameters

Limit value of pulses, N	1 ÷ 999999
Inner divisor, d	1 ÷ 9999
Maximum time between two impulses (0.0=infinity), t (sec)	0.0 ÷ 999.9
Active input frontier (high / low), In	Hi / Lo
Operating regime (increment / decrement)	Inc / dEc
Breakup in the supply voltage Us :	
- after an interruption, the counting continues from the current data	Cont
- after a break, the counting automatically starts from the beginning	Full
- after an interruption, a stop mode of the current data is established	Ucc
- after an interruption, the counter is reset	Goto
Automatic starting, at first switching on of the supply	noAuto / Auto
Initial stated of output relay when starting (Status), St	⊓ / ⊔

Schemes of connection

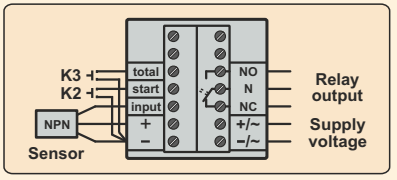


fig.1
Connecting NPN type sensor

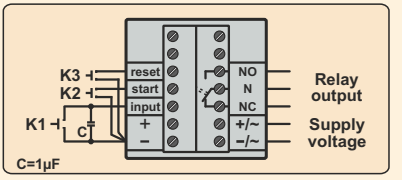


fig.2
Connecting a mechanical key "K1"

Digital pulse counter

CD6-4

Features

The CD6-4 digital pulse counter is a compact microprocessor device that serves to count electrical pulses. The number of pulses received at its input is visualized on a six-digit display. The counter has two output relays. Two limit values of the pulses N1 and N2 can be set. When N1 is reached, Relay-1 is switched, and when N2 is reached, Relay-2 is switched. For the counter to operate correctly, N1 must be less than or equal to N2. The pulse counter is widely used in automation of production, technological and other processes. The device is designed for installation in a dashboard (panel montage).

Type parameters		
Type	Supply voltage	Consumption
CD6-4 / 220V	220VAC ±10%	16mA (4W)
CD6-4 / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	125mA (3W)

Technical parameters

LED indication, 6 digits, red / green	h=10mm (height)
Counting range, N	1…999999 (pulses)
Inner divisor, d	1…9999
Supply voltage, Us	220VAC / 12÷24V ac/dc
Outputs: Relay-1 (N1), Relay-2 (N2)	4A/220VAC, 2x(NO+NC)
Maximum counting frequency, Fmax	1 kHz (11 kHz option)
Operating temperature range, Tamb	-20º...+50º C
Degree of protection	IP40
Joining	Terminal
Sizes	95x49x113 mm

Energy-independent memory for programmable parameters.
Input counting - it is meant to operate with sensor type NPN (fig.1) or switch K1 (fig.2).
A constant voltage of 11÷23 Vdc (40mA) is provided to power the sensor.
Input for external nullity, "Reset" - switch K3 (fig.1, fig.2).
Input for external starting, "Start" - switch K2 (fig.1, fig.2).
ATTENTION: With the K2 switch permanently closed, the counter operates in cyclic mode.

Programmable parameters

Limit value of pulses, N1	1 ÷ 999999
Limit value of pulses, N2	1 ÷ 999999
Inner divisor, d	1 ÷ 9999
Maximum time between two impulses (0.0=infinity), t (sec)	0.0 ÷ 999.9
Active input frontier (high / low), In	Hi / Lo
Operating regime (increment / decrement)	Inc / dEc
Breakup in the supply voltage Us :	
- after an interruption, the counting continues from the current data	Cont
- after a break, the counting automatically starts from the beginning	Full
- after an interruption, a stop mode of the current data is established	Ucc
- after an interruption, the counter is reset	Goto
Automatic starting, at first switching on of the supply	noAuto / Auto
Initial stated of output relay when starting (Status), St	⌐¬ / ⌐_¬
When N2 is reached: is reset / the output is turned off, counting continues	End G / End C

Schemes of connection

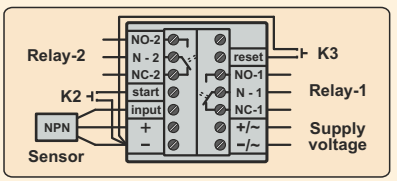


fig.1
Connecting NPN type sensor

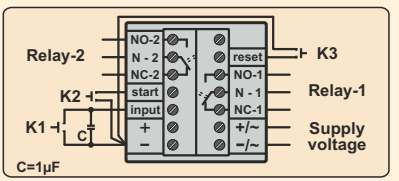


fig.2
Connecting a mechanical key "K1"

Digital pulse counter — CD6-5R

Features

The CD6-5R reversible digital pulse counter is a compact microprocessor device that serves to sum and subtract electrical impulses. It is designed to operate in combination with an encoder or a sensor with two phase-shifted outputs type "NPN". The counter visualizes only positive numbers. Except counting the impulses, its main function of the counter is to switch the electric circuit, in which it is turned on when a set value "N" is reached. The pulse counter is widely used in automation of production, technological and other processes. The device is designed for installation in a dashboard (panel montage).

Type parameters		
Type	Supply voltage	Consumption
CD6-5R / 220V	220VAC ±10%	16mA (4W)
CD6-5R / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	85mA (2W)

Technical parameters

LED indication, 6 digits, red / green	h=10mm (height)
Counting range, N	1…999999 (pulses)
Inner divisor, d	1…9999
Supply voltage, Us	220VAC / 12÷24V ac/dc
Output - Relay	4A / 220VAC (NO+NC)
Maximum counting frequency, Fmax	11 kHz
Operating temperature range, Tamb	-20º...+50º C
Degree of protection	IP40
Joining	Terminal
Sizes	95x49x113 mm

Energy-independent memory for programmable parameters.
Counting inputs "A" and "B" - designed to operate with encoder type NPN (fig.1, fig.2).
A constant voltage of 11÷23 Vdc (40mA) is provided to power the encoder.
Input for external nullity, "Reset" - switch K3 (fig.1, fig.2).
Input for external starting, "Start" - switch K2 (fig.1, fig.2).
ATTENTION: With the K2 switch permanently closed, the counter operates in cyclic mode.

Programmable parameters

Limit value of pulses, N	1 ÷ 999999
Inner divisor, d	1 ÷ 9999
Maximum time between two impulses (0.0=infinity), t (sec)	0.0 ÷ 999.9
Active input frontier (high / low), In	Hi / Lo
Breakup in the supply voltage Us :	
- after an interruption, the counting continues from the current data	Cont
- after a break, the counting automatically starts from the beginning	Full
- after an interruption, a stop mode of the current data is established	Ucc
- after an interruption, the counter is reset	Goto
Automatic starting, at first switching on of the supply	noAuto / Auto
Initial stated of output relay when starting (Status), St	⊓ / ⊔
When N is reached: is reset / the output is turned off, counting continues	End G / End C

Schemes of connection

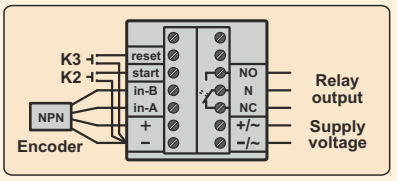


fig.1
Connecting NPN type encoder with two dephased outputs

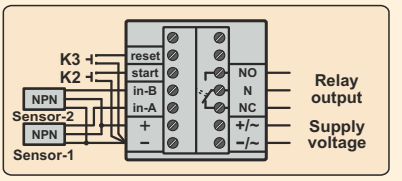


fig.2
Connecting two NPN type sensors

Digital pulse counter

CD6-6R

Features

The CD6-6R reversible digital pulse counter is a compact microprocessor device that serves to sum and subtract electrical impulses. It is designed to operate in combination with an encoder or a sensor with two phase-shifted outputs type "NPN". The counter visualizes both positive and negative numbers. The display is reset by pressing the "Reset" button. The pulse counter is widely used in automation of production, technological and other processes. The device is designed for installation in a dashboard (panel montage).

Type parameters		
Type	Supply voltage	Consumption
CD6-6R / 220V	220VAC ±10%	16mA (4W)
CD6-6R / 12-24V	11 ÷ 31 VDC 11 ÷ 27 VAC	85mA (2W)

Technical parameters

LED indication, 6 digits, red / green	h=10mm (height)
Counting range, N	-99999…999999
Supply voltage, Us	220VAC / 12÷24V ac/dc
Maximum counting frequency, Fmax	11KHz
Operating temperature range, Tamb	-20...+50°C
Degree of protection	IP40
Joining	Terminal
Sizes	95x49x113 mm

Energy-independent memory for current data.
In the event of a power failure, the counter retains its current data.
Counting inputs "A" and "B" - designed to operate with encoder type NPN (fig.1, fig.2).
A constant voltage of 11÷23 Vdc (40mA) is provided to power the encoder.
Input for external nullity, "Reset" - switch K3 (fig.1, fig.2).

Schemes of connection

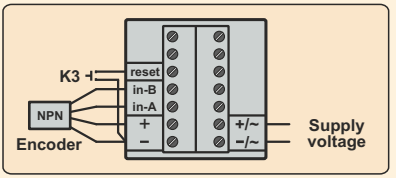


fig.1

Connecting NPN type encoder with two dephased outputs

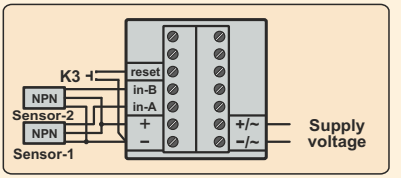
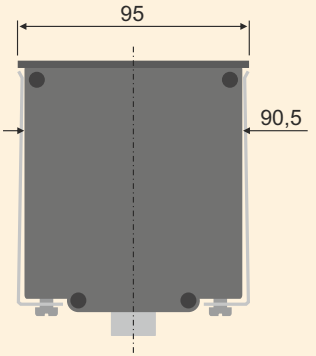
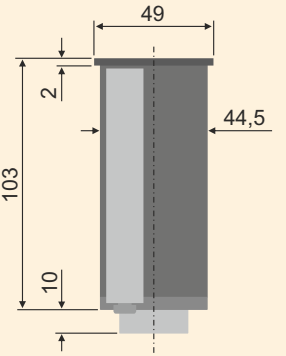
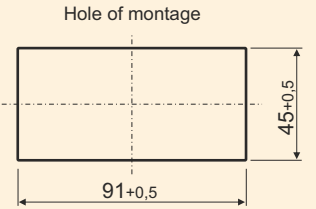


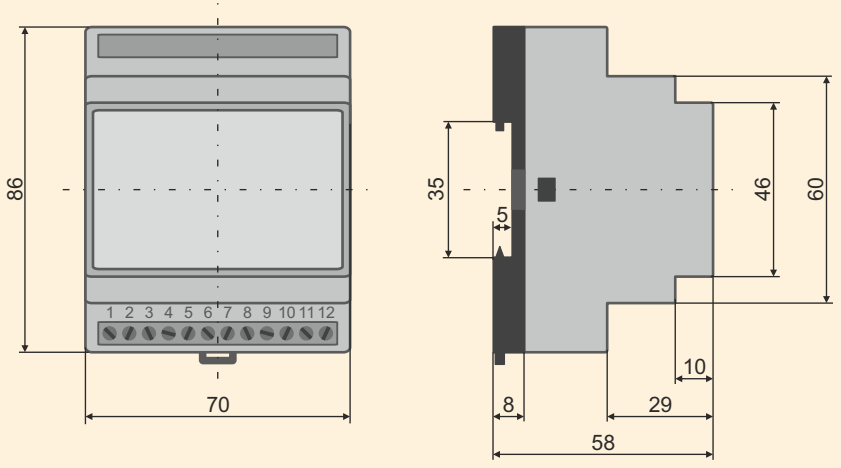
fig.2

Connecting two NPN type sensors


95
90,5


49
2
44,5
103
10


Hole of montage
45+0,5
91+0,5


86
1 2 3 4 5 6 7 8 9 10 11 12
70
35
5
46
60
10
8
29
58