Digital impulse counter DCP 01

❑ **6 digits, up to 1400Hz**

INPUT SIGNAL

Active voltage input 24 VDC

Impulse signal	0 – 1400 Hz *typical value*

Pasive non-voltage input

Impulse signal	0 – 1400 Hz *typical value*

OPTIONAL ACCESSORIES

2 releays outputs

relay output L1, L2	230 VAC @ 5A
	Independent. set

Isolated analogue output

CURRENT	0 – 20 mA DC
	4 – 20 mA DC
due wirrings	active / passive
VOLTAGE	0 – 10 V DC

TECHNICAL DATA

DISPLAY	Range : 999 999 , red LED 14.2mm
POWER SUPPLY	24 V AC/DC : -15% / +20%
CONSUPTION	3,2 W – impulse counter with exc.pwr.supply
	+ 0,7 W – relay ouptut (two relays 230 VAC, 5A)
	+ 0,7 W – analogue output
Exc.power supply	24V DC @ 30mA
INPUT RESIST.	12 kΩ
INPUT LOGICAL LEVEL	**Logical 0** : 0 – 5 VDC
	Logical 1 : 11 – 30 VDC
MULTIPLICATION	Up to 199 digits per one impulse
DIVISION	Up to 199 impulses per one digit
VALID pulse duration	From 0.0 ms to 999.9 ms
OUTPUT RES.	analogue output : 14 bits
ANALO.OUTPUT	max. 21mA or 10,5 VDC
TEMP.COEFFIC.	0,005 % from full range / °C
ISOLATION STRENGTH	510 V eff / 1min.: input / output ; power supply / input, output
ANALO.OUTPUT	max. 21mA or 10,5 VDC
OUTPUT IMPEDANCE	0 – 10 V DC : more than 5 kΩ
	0/4 – 20 mA : less than 600 Ω
MAX. OUTPUT OVERLOAD	current : unlimited (*short-circuit resistant*)
	voltage : unlimited (*short-circuit resistant*)
RELAY OUTPUT	2 switching contacts (limits) : 230 VAC, 5A
LIMIT L1, L2	Adjustable in full scale
L1,L2 time hyster.	Adjustable from 0.0 sec to 299.9 sec
L1,L2 log.function	Direct or indirect – set by user
PANEL CUT-OUT	91 x 44 mm (width x heigth)
DIMMENSIONS	96 x 48 x 85 mm (W x H x D)
ENCLOSURE	IP40
WIRRING CONNECTION	terminal strip *max. conductor cross-section is 2,5mm*
WEIGHT	270 g – with all optionals (2limits,Exc.supply,AO)
STABILISATION	5 minutes
OPERATING TEMPERATURE	- 10 °C / +50 °C
OPERATION	continuos
SITE ALTITUDE	max. 2000 metres above the sea level
RECOMMENDED PRODUCT USAGE	**designed exclusively for industrial or professional use.**
EMC resistivity due standarts	ČSN EN 61000-4-2,3,4,5,6,8
	ČSN EN 55081-1
EMC immunity influence	max. +/- 0,1% from full signal with unshielded wires

INTRODUCTION

Digital impulse counter **DCP 01** works with logical signal in voltage levels 0 – 5 VDC log. 0 a 11 - 30 VDC log.1. Counter count UP or DOWN, when counted value reaches 999 999, overload counter is incremented and counter starts with 0 . Counted value could be reseted from main panel (or menu) or by external RESET signal

FUNCTION*

❑ **IMPULSE COUNTING** in UP or DOWN mode
❑ **DISPLAYING** counted value
❑ **STORING** up to 9999 **counted value overflows**
❑ **SETTINGS STORED** in **EEPROM** memory
❑ **SAVE** counted value & counted value overflow(s) if **power is lost**
❑ **EXCITATION POWER SUPPLY**
❑ **RESET** counted value & counted value overflow(s)
  ▪ Internal : from MENU or main display
  ▪ External : logical signal on terminal strip
❑ **PRESETED** value for DOWN counting mode
❑ **INPUT IMPULSE SIGNAL** type selection
  ▪ Reaction on descending edge
  ▪ Reaction on rising edge
❑ **VALID INPUT** signal **pulse duration** settings
❑ **MULTIPLICATION or DIVISION** selection for input impulse signal
❑ **TWO RELAYS** for limit output
  ▪ Time hysteresis for each relay
  ▪ Direct or indirect function of each relay
❑ **ANALOGUE OUTPUT**
  ▪ User set the range for output (0 digits = 4 mA , 2000 dig = 20 mA)
  ▪ 0 – 20 mA , 4 – 20 mA and 0 – 10 V DC
❑ **DISPLAY BRIGHTNESS** selection in two levels

DESCRIPTION

Digital impulse counter DCP01 counts input impulse signal right after signal is connected to the terminal strip. If counted value reach 999999, counter automatically starts counting from zero (respecting the remainder in case of multiplication function) and increase counted value overflow. Counted value could be RESETed by user from main display, system menu or by external signal.

▪ **If power is lost DCP01 automatically saves counted value & counted value overflow(s) into EEPROM before shutdown.**

Device is controlled by **four buttons** located on front panel . All settings are **stored** in **EEPROM memory.** Digital process indicator is built into industrial standart box, which is intended to panel mounting into switch board. Terminal strip is located on the rear side of device. Red display is default, on customer request is green display possible.

*) available functions may vary due to device configuration

NOTICE
o power supply is <u>galvanically separated</u> from
  ▪ input signal
  ▪ output signal
  ▪ excitation power supply
o input signal is <u>galvanically separated</u> from output signal
o device can be operated on both AC or DC power supply, without any consideration about polarity when DC is used.
o Safety requirements for electrical devices :
  ▪ due ČSN EN 61010-1 + A2

ORDER CODE

DCP 01 - . . .

A B C

A	Pwr. supply	1 – 24 VAC / VDC , -15 to +20 %
B	Relays outputs	0 – without relays outputs
		1 – 2 relays outputs
C	Analogue output	0 – without analogue output
		1 – with analogue output

ORDER EXAMPLE

DCP 01 – 110
- Power supply 24 VAC / VDC
- 2 relays outputs
- without analogue output

INPUT SIGNALS WIRRINGS for DCP 01

INTERNAL POWER CONTACTS INPUT

EXTERNAL POWER CONTACTS INPUT

PNP SENSOR WIRING EXAMPLE

Čidlo s PNP výstupem

DCP 01 TERMINAL STRIP

TERMINALSTRIP

LEGEND:
- □ strip **1** — **common "-" COM input (DI)**
- □ strip **2** — digital input (DI)
- □ strip **3** — external RESET on term.strip (against COM) (non-voltage contact)
- □ strip **4** — excitation pwr.supply for non-voltage input (24 VDC ,30 mA stabilized)
- □ strips **5 - 10** — relays output
  - ▪ 5, 6, 7 — relay Re1 (limit L1)
  - ▪ 8,9,10 — relay Re2 (limit L2)
- □ strips **14 i , 15 i, 14 u, 15 u** — analogue output (AO)
- □ strips **I, II** — **power supply**

BACK PANEL VIEW

FRONT PANEL VIEW

OUTPUT SIGNALS WIRRINGS for DCP 01

CURRENT OUTPUT

VOLTAGE OUTPUT

current active
- ▪ 0/4 – 20 mA
  DCP 01 generates current

current passive
- ▪ 4 – 20 mA
  DCP 01 is current hole

voltage active
- ▪ 0 – 10 V DC
  DCP 01 generates voltage