DIGITAL FREQUENCY MONITOR DFP 01

❑ 0,8 – 200 Hz (0,01Hz) | 0 – 5000 Hz (1Hz) **❑ analogue output**

INPUT SIGNAL	
frequency measuring	**0 – 5000 Hz** ***(res. 1 Hz)***
period measuring	**0,8 – 200 Hz** ***(res. 0,01 Hz)***

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**

INTRODUCTION

Digital frequency monitor DFP 01 measures frequency with logic levels 0 – 5 VDC for logic 0 and 11 – 30 VDC for logic one. DFP01 monitor can measure frequency with precision 0.01Hz in range 0.8Hz to 200Hz. For higher frequencies is resolution 1Hz up to maximal measured frequency 5000Hz.

FUNCTION*

- ❑ **DISPLAYING measured physical value**
  - Direct frequency measure in range 0 – 5000 Hz (res.1Hz)
  - In range 0,8 – 200 Hz measuring period T with resolution 0.01Hz
- ❑ **SCALE SETTINGS** by user in full range
- ❑ **EXCITATION POWER SUPPLY**
- ❑ **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 signal
  - 0 – 20 mA , 4 – 20 mA and 0 – 10 V DC

DESCRIPTION

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.

TECHNICAL DATA	
DISPLAY	+/- 29 999 , red LED 14.2mm
POWER SUPPLY	24 V AC/DC : -15% / +20%
CONSUPTION	3,2 W – monitor 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
FREQUENCY RANGE	0,8 Hz – 200 Hz (resolution 0,01 Hz)
	0 – 5000 Hz (resolution 1 Hz)
MEAS.ACCURACCY	0,25% from full range
TEMP.COEFFIC.	0,01 % from full range / °C
OUTPUT RES.	analogue output : 14 bits
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)*
ISOLATION STRENGTH	510 V eff / 1min.: input / output ; power supply / input, output
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	- 20 °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

NOTICE

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

Boleslavova 989/4 , 709 00, Ostrava 9
Czech Republic

tel/fax 596 627 097, mob. 602 800 007
mercos@mercos.cz , www.mercos.cz

ORDER CODE

DFP 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

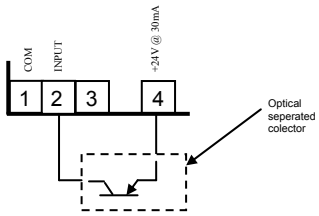
ORDER EXAMPLE

DFP 01 – 110

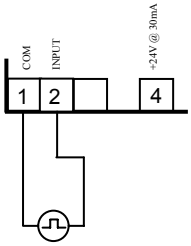
- Power supply 24 VAC / VDC
- 2 relays outputs
- without analogue output

INPUT SIGNALS WIRRINGS for DFP 01

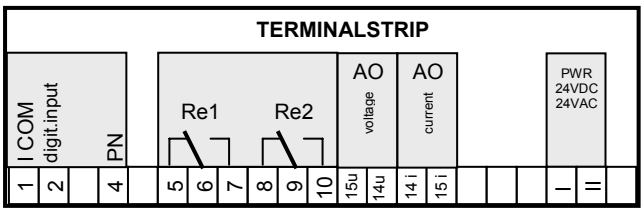
NON-VOLTAGE INPUT



VOLTAGE INPUT



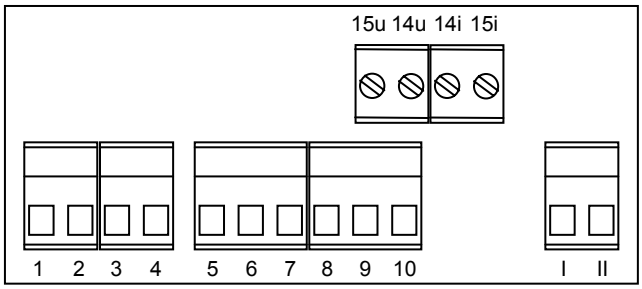
DFP 01 TERMINAL STRIP



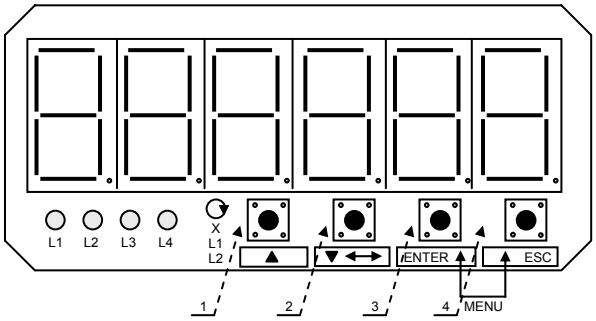
LEGEND:

- ☐ strip **1** — **common** "-" COM input (DI)
- ☐ strip **2** — digital input (DI)
- ☐ 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



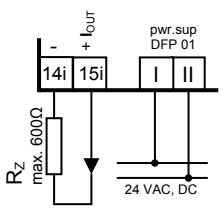
OUTPUT SIGNALS WIRRINGS for DFP 01

CURRENT OUTPUT

current active

- 0/4 – 20 mA

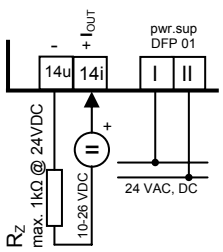
DFP 01 generates current



current passive

- 4 – 20 mA

DFP 01 is current hole

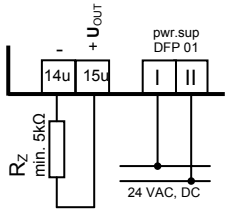


VOLTAGE OUTPUT

voltage active

- 0 – 10 V DC

DFP 01 generates voltage



Boleslavova 989/4 , 709 00, Ostrava 9
Czech Republic

tel/fax 596 627 097, mob. 602 800 007
mercos@mercos.cz , www.mercos.cz