

# DX020

## Tachometer and Frequency Counter



- Mini housing 48 x 24 mm (1.890 x 0.945")
- Bright LED display 6 decades/ 8mm (0.315")
- Add- on frame for 50 x 25 mm (1.969 x 0.984")
- 10 – 30 Vdc power supply
- 60 kHz of counting frequency with 24 Vdc power input
- Selectable filter for mechanical inputs
- Adjustable multiplier and divider
- Protection class IP65 on front
- Easy to set up by menu support

## Operating Instructions



## Safety Instructions

- This manual is an essential part of the unit and contains important hints about function, correct handling and commissioning. Non-observance can result in damage to the unit or the machine or even in injury to persons using the equipment!
- The unit must only be installed, connected and activated by a qualified electrician
- It is a must to observe all general and also all country-specific and application-specific safety standards
- When this unit is used with applications where failure or maloperation could cause damage to a machine or hazard to the operating staff, it is indispensable to meet effective precautions in order to avoid such consequences
- Regarding installation, wiring, environmental conditions, screening of cables and earthing, you must follow the general standards of industrial automation industry
- - Errors and omissions excepted –

Version:	Description:
DX02001b/K/hk/Jan02	Valid for models until August, 2006
DX02002a/K/hk/Dec06	60 kHz, divider, brochure A5 format
DX02002b/hk/Aug07	Modification of temperature range

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# 1. Operation of the front keys

To enter the setup mode, keep both front keys down while you switch power on.

You can also enter the setup mode when the unit is already powered on, by keeping both front keys down at the same time for approx. 5 seconds.

The display will then show



Prog

As soon as you release the keys, the display starts to alternate between the actual parameter text and the associated setting, in a cycle of two seconds.

Press the key on the right to increment the actual set value to next.

For numeric entries, use the left key to select the decade and the right key to scroll the value.

To continue to the next parameter, keep the left key down while you press the right key.

When you have reached the item „Endprog“, you get the choice

- „Yes“: this will store your entries to the unit and switch to normal operation.
- „No“: this will start the menu again and your previous data will not be stored.

## 2. Operational parameters

Please enter all of the subsequent parameters, like shown in section 1.

### 2.1. Input polarity

<b>InPoL</b>	InPol	
<b>nPn</b>	nPn	NPN: The count input must switch to "0"
<b>PnP</b>	PnP	PNP: The count input must switch to "+". Namur: Set to NPN. See section 3.

### 2.2. Input filter

<b>FILtEr</b>	Filter	
<b>oFF</b>	oFF	Filter off: maximum input frequency 60 kHz
<b>on</b>	On	Filter on: maximum input frequency 30 Hz

### 2.3. Scaling factors

<b>FActor</b>	Factor	
<b>00000  </b>	00.0001	Multiplies the input frequency with the factor setting.
<b>999999</b>	99.9999	Range 0.0001 to 99.9999. Setting "0" will not be accepted.
<b>dIvIso</b>	Divider	
<b>00000  </b>	00.0001	Divides the input frequency by the divider setting.
<b>999999</b>	99.9999	Setting range 0.0001 to 99.9999. Setting "0" will not be accepted.

### 2.4. Decimal point

<b>dP</b>	dP	
<b>0</b>	0	Adjustable between no decimal position and max. 3 decimal positions. This setting does not affect the numeric value of the frequency display.
<b>0000</b>	0.000	

## 2.5. Display mode

<b>diSPm</b>	diSPm		
<b>SEc -1</b>	Sec -1		The unit displays the frequency as number of impulses per second (Hz). (With factor setting 1.0000)
<b>Min -1</b>	Min -1		The unit displays the frequency as number of impulses per minute. (With factor setting 1.0000).

## 2.6. Maximum waiting time

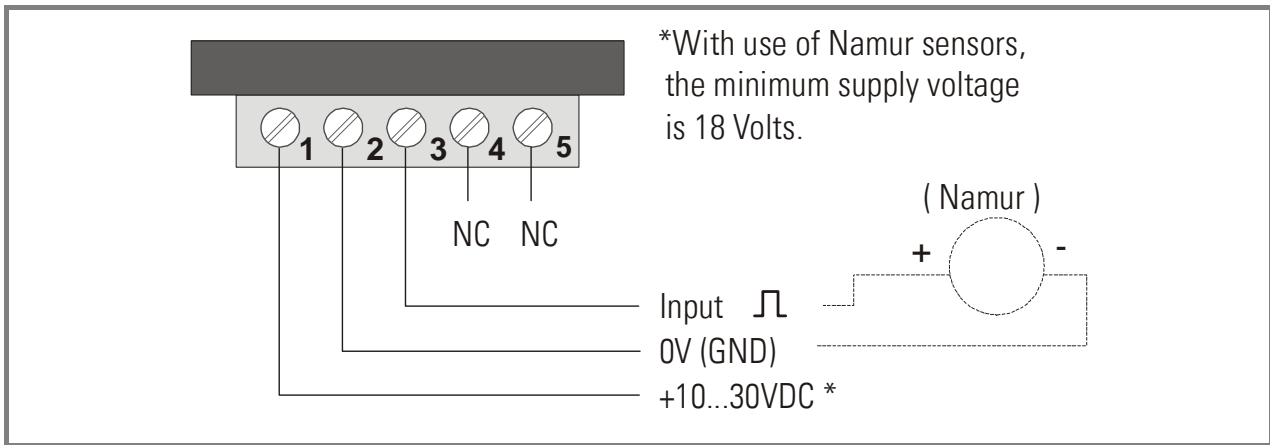
<b>WAit0</b>	WAit0		
<b>01.1</b>	01.1		This setting specifies the maximum waiting time from one input impulse to the next, before the display sets to zero. Range 1.1 sec to 99.9 sec
<b>99.9</b>	99.9		

## 2.7. End of program

<b>EndPro</b>	EndPro		
<b>no</b>	No		Select "No" to return to the beginning of the menu for verification of settings.
<b>YES</b>	YES		Select "Yes" to store data and exit the menu.

### 3. Terminal Assignment

(also printed to the top of the unit)



### 4. Delivery includes

- Panel mounting clip
- Bezel for screw mount with panel cut out 50 x 25mm
- Bezel for clip mount with panel cut out 50 x 25mm
- Sealing

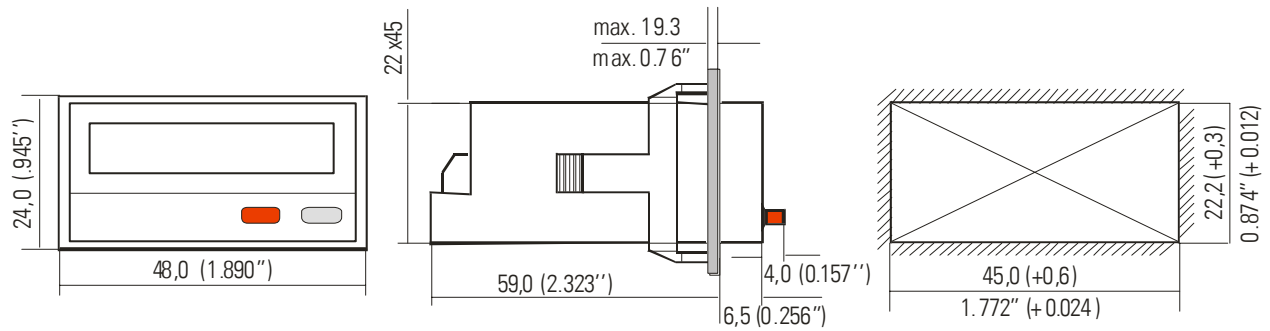
## 5. Specifications

Power supply	:	10...30 Vdc, max. 50mA
Display	:	6 decades / 8mm (0.315")
Input	:	NPN / PNP / Namur, Ri = 10 kOhms
Counting frequency	:	with 12 volts power input: 20 kHz with 24 volts power input: 60 kHz with the filter switched on: 30 Hz)
Switching levels of input (typical)	:	Low = 0V.....0.2 x UB High = 0.8 x UB...30V
Impulse shape	:	any (Schmitt Trigger)
Data retention	:	10 <sup>6</sup> cycles / 10 years
Max. Error	:	< 0.1 %
Operating temperature	:	-20°... + 55° C (-4 ... +131° F)
Storage temperature	:	-25°... + 70° C (-13 ... +158° F)
Weight	:	50g
Protection Class (front)	:	IP 65
Conformity and Standards	:	EMC 89/336/EEC: EN 61000-6-2 EN 61000-6-3 LV73/23/EEC: EN 61010-1

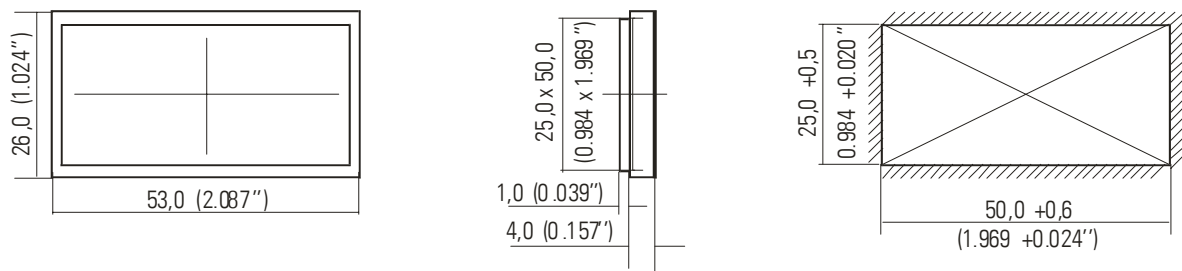


## 6. Dimensions

### 6.1. Mounting without use of add-on frames



### 6.2. Bezel 50 x 25 mm (1.969 x 0.984") for clip mounting



### 6.3. Bezel 50 x 25 mm (1.969 x 0.984") for screw mounting

