



## DHB-102

DHB-102, Instrumentation numérique : Compteur d'impulsions, fréquence et temps

Code: M22021. DESCATALOGADO

- > N° relais: 1
- > Mesure: imp., Hz.
- > Parameters: Impulsions, fréquence, vitesse circulaire, périodes, temps, encoder
- > Montage: Panneau

### La description

Panel mounted digital devices designed to display on-screen the value of a electrical variable measured or proportional value of a process signal, depending on the model. Essential for regulation purposes, programming the analogue output available in some models, and for control purposes, if the relay outputs are used as alarms.

DHB units are fully programmable and the following can be programmed: scale, transformation ratios, alarm setpoints to activate relays, communications, colour of the numbers displayed on screen, etc. Depending on the model, you can measure the electrical parameters of a single-phase installation such as voltage, current, frequency, power,  $\cos \varphi$ , etc., the direct voltage or current of an installation, impulses, frequency, circular speed, periods, time, temperature and also other voltage and current process variables. AC models calculate the true root mean square measure (TRMS).

The models include the following common features:

- IP 65 front panel
- High measurement accuracy
- Programmable measurement input
- Delay and latching alarms
- 24 Vdc output for supply external transducers (DHB 1xx and DHB 4xx models)
- Galvanic insulation between external circuits
- Adjustment of non-linear equations with 21 straight points (2 in the DHB 3xx model).
- Change in colour of the display depending on the value shown.
- Maximum and minimum values
- Clock with current time
- Self-configurable decimal point
- Compatible with Power Studio (model with communications)
- Installation on 96 x 48 mm panel

### Application

These digital instruments have multiple applications. Thanks to their very bright 5-digit and 3-colour screen, you can simply view a numerical value and an alarm or prealarm status of a measured variable. Depending on the model selected, displayed on-screen are the electrical parameters of a single-phase installation as a power analyzer (voltage, current, power, frequency, etc.).

Other models allow to visualize the value of an analogue signal, show impulses received through an input, temperature, time, circular speed and many other variables that depends on the device and the configuration. The indicators also let you operate any external element, using the panel unit outputs as alarms depending on the value of a variable or as a transducer of the measured variable to an analogue signal, which is subsequently sent to another unit, such as a PLC.

Apart from displaying the values, units with communications also allow you to send data via the RS-485 communication bus for software or PLC integration.



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### Spécifications

#### Alimentation en courant alternatif

|                          |                |
|--------------------------|----------------|
| Catégorie d'installation | CAT III 300V   |
| Consommation             | 1,2...9 VA     |
| Fréquence                | 40...400 Hz    |
| Tension nominale         | 85...253 Vc.a. |

#### Alimentation en courant continu

|                          |               |
|--------------------------|---------------|
| Catégorie d'installation | CAT III 300 V |
| Consommation             | 1,2...6 W     |
| Tension nominale         | 85...253 Vcc  |

#### Caractéristiques mécaniques

|                                   |                               |
|-----------------------------------|-------------------------------|
| Taille (mm) larg. x haut. x prof. | 96 x 48 x 93 (mm)             |
| Boîtier                           | Plastique V0 auto-extinguible |
| Poids (kg)                        | 0,23                          |

#### Caractéristiques environnementales

|                                       |                                |
|---------------------------------------|--------------------------------|
| Degré de protection                   | IP 65 (avant), IP 10 (arrière) |
| Humidité relative (sans condensation) | 25...95 %                      |
| Température de stockage               | -33...+70 °C                   |
| Température de travail                | -25...+55 °C                   |

#### Règlementation

|                                            |                                                    |
|--------------------------------------------|----------------------------------------------------|
| Sécurité électrique, Altitude maximale (m) | 2000                                               |
| Règlementation                             | UNE EN 61000-6-2, UNE EN 61000-6-4, UNE EN 61010-1 |

#### Interface utilisateur

|                  |                             |
|------------------|-----------------------------|
| LED              | 7                           |
| Clavier          | 4 clés                      |
| Type d'affichage | 7 segments (5 chiffres) LED |

#### Sorties analogiques

|                                             |                        |
|---------------------------------------------|------------------------|
| Mode courant, plage nominale                | 0...20 mA or 4...20 mA |
| Mode courant: résistance de charge minimale | $\leq 500\Omega$       |
| Mode tension, résistance de charge minimale | $\geq 500\Omega$       |
| Mode tension: plage de sortie nominale      | 0...10 Vcc             |

#### Sorties de relais numériques

|                 |       |
|-----------------|-------|
| Courant maximum | 0,5 A |
|-----------------|-------|



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|                                       |                                          |
|---------------------------------------|------------------------------------------|
| Tension maximale des contacts ouverts | 250 Vca                                  |
| Durée de vie électrique               | 1x10 <sup>5</sup> ciclos (250 Vc.a./5 A) |
| Durée de vie mécanique                | 1x10 <sup>6</sup> cycles                 |
| Puissance de commutation maximale     | 1500 W o 1250 VA                         |

### Précision de mesure

|                     |                                                 |
|---------------------|-------------------------------------------------|
| Mesure de fréquence | 0,01                                            |
| Nombre d'impulsions | ± 1 impulso (IN1/IN2)                           |
| Durée               | <10 s : 0,0001...11 s / >10 s : 0,0001...3600 s |
| Vitesse de rotation | 0,05...99999 rpm                                |

### Plages d'indications

|                                 |                                                    |
|---------------------------------|----------------------------------------------------|
| Compteur d'heures de travail    | 0 ... 99999 h                                      |
| Codeur                          | -19999 ... 99999                                   |
| Fréquence                       | <10 kHz : 0,05...99999 Hz / >10 kHz : 1...99999 Hz |
| Heure actuelle                  | 00:00 ... 23:59                                    |
| Compteur d'impulsions IN1 / IN2 | -19999...99999                                     |
| Durée                           | <10 s (0,0001 ... 11s) / >10 s (0,0001 ... 3600s)  |
| Compteur de vitesse de rotation | 0,05...99999 rpm                                   |

### Sortie collecteur ouvert

|         |                  |
|---------|------------------|
| Type    | NPN              |
| Tension | 30 Vc.c. / 30 mA |

### Sortie de l'alimentation du transducteur externe

|                   |                  |
|-------------------|------------------|
| Tension / Courant | 24 Vc.c. / 30 mA |
|-------------------|------------------|

### Signal d'entrée

|         |                |
|---------|----------------|
| Tension | 5 ... 36 Vc.c. |
|---------|----------------|

### Types d'entrées

|                                                     |                                  |
|-----------------------------------------------------|----------------------------------|
| Codeur (fréquence maximale)                         | 10 kHz                           |
| Fréquence                                           | <10 kHz : 100 kHz / >10kHz: 1MHz |
| Fréquence maximale de la période                    | 100 kHz                          |
| Fréquence maximale du nombre d'impulsions IN1 / IN2 | 10 kHz / 8 kHz                   |
| Fréquence maximale de la vitesse de rotation        | 100 kHz                          |

### DHB

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| CODE    | TYPE      | N° relais | Mesure                                                        | Parameters                                                          | Communications | Sortie analogique           |
|---------|-----------|-----------|---------------------------------------------------------------|---------------------------------------------------------------------|----------------|-----------------------------|
| M22021. | DHB-102 1 |           | imp., Hz.                                                     | Impulsions, fréquence, vitesse circulaire, périodes, temps, encoder |                |                             |
| M22022. | DHB-124 3 |           | imp., Hz.                                                     | Impulsions, fréquence, vitesse circulaire, périodes, temps, encoder | RS-485         | 1 (0/4...20 mA)  1(0...10V) |
| M22023. | DHB-2022  |           | ± 100...500 Vcc ± 1/5 Acc                                     | Voltmètre ou ampèremètre ± 100...500 Vcc ± 1/5 Acc                  |                |                             |
| M22024. | DHB-224 4 |           | ± 100...500 Vcc ± 1/5 Acc                                     | Voltmètre ou ampèremètre ± 100...500 Vcc ± 1/5 Acc                  | RS-485         | 1                           |
| M22025. | DHB-3022  |           | ± 100/400 Vca ± 1/5 Aca                                       | Analyseur monophasé                                                 |                |                             |
| M22026. | DHB-324 4 |           | ± 100/400 Vca ± 1/5 Aca                                       | Analyseur monophasé                                                 | RS-485         | 1 (0/4...20 mA)  1(0...10V) |
| M22027. | DHB-4022  |           | Pt100/500/1000 Thermocouple J,K,N,E,R,S, ±20 mA, ±10 V, 60 mV | Signaux de processus / Résistance / Température                     |                |                             |
| M22028. | DHB-424 4 |           | Pt100/500/1000 Thermocouple J,K,N,E,R,S, ±20 mA, ±10 V, 60 mV | Signaux de processus / Résistance / Température                     | RS-485         | 1 (0/4...20 mA)  1(0...10V) |



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### Dimensions

