

IsoBar™

ControlModul

Operating Instructions

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1. Introduction and technical specifications

Introduction

The following types of ISOBAR pumps are delivered as standard with an ISOBAR Control Module.

IB 3-100

IB 4-75

IB 5-88

IB 6-95

The ISOBAR Control Module replacing the version with adjustment knobs has been equipped with a considerable number of built-in functions.

Specifications

Keyboard: 3 keys: “-”, “*” and “+”.

Display: 3 green, seven segment LED with point symbol.

Input: Night operation option with 10 V DC signal (module terminal 3).

Input: Earth (module terminal 5).

Output: Low current signal relay that breaks in case of pump failure (module terminals 6 and 7). Max. 125 V AC / 30 W.

Limited ISOCOM serial channel for twin pump operation together with a master module.

EEPROM memory for all set parameters.

Operating modes

ISOBAR operation - pressure loss compensated, constant pressure regulation.

Manual operation - the pump is running with an adjustable fixed frequency (speed).

Night operation - when the input is supplied with 10 V DC, the pump is running with a fixed frequency (speed). The frequency is adjustable in the range of 0 - 50 Hz.

2. General description of display and keyboard

Display

The display consists of three numeric characters indicating the pump setting. Each character consists of seven segments.

Included is also a point symbol indicating the selected pump function or setting. It is **NOT a decimal point**.

Keys

The keyboard includes the following 3 keys:

- “-”-key: to decrease the value of a parameter
- “+”-key: to increase the value of a parameter
- “*”-key: to select a function or parameter. Acts like an ENTER key.

3. Adjustment of ISOBAR operation.

In ISOBAR mode, you can adjust the reference pressure level (in %) required for pump regulation. As the pump is pressure loss compensated, the adjusted pressure is specified at a flow equal to zero.

The setting is in % (0 to 100 %) of the total pump performance.

For example, if the pump has a maximum differential pressure of 1 bar, and the value is set to 25 %, the minimum pressure will be 0.25 bar when the pressure is measured at a flow equal to zero.

Adjustment procedure

- If the green point symbol is flashing, then press the "*" -key. The point becomes stable.
- Press the "-" - key until the green point is situated in the display utmost to the left.
- Press the "*" - key to initiate the adjustment - the point symbol starts to flash at short intervals.
- Adjust the value to the desired value by means of the "+" and "-" -keys. The value can be adjusted in the range of 0 – 100 %.
- Press the "*" -key to accept the value – the point symbol stops flashing.

After approx. 10 seconds the pump will be updated and begin operation with the new setting.

(Aut) appears on the display to indicate that the pump is running in ISOBAR mode (AUTomatic).

4. Adjustment of MANUAL operation

In MANUAL mode, you can adjust a fixed frequency for pump operation.

The setting is in Hz (0 to 50 Hz).

Adjustment procedure

- If the green point symbol is flashing, then press the "*" -key. The point becomes stable.
- Press the "-" - key or the "+" -key until the green point is situated in the middle.
- Press the "*" - key to initiate the adjustment - the point symbol starts to flash at short intervals.
- Adjust the value to the desired value by means of the "+" and "-" -keys. The value can be adjusted in the range of 0 - 50 Hz.
- Press the "*" -key to accept the value – the point symbol stops flashing.

After approx. 10 seconds the pump will be updated and begin operation with the new setting.

(FrE) appears on the display to indicate that the pump is running in MANUAL mode (FREquency drift).

5. Adjustment of NIGHT operation

In NIGHT mode, you can adjust a fixed frequency for pump operation when the input (terminal 3) is supplied with 10 V DC.

The setting is in Hz (0 to 50 Hz).

Adjustment procedure

- If the green point symbol is flashing, then press the "*" -key. The point becomes stable.
- Press the "-" key or the "+" -key until the green point is situated in the display utmost to the right.
- Press the "*" - key to initiate the adjustment - the point symbol starts to flash at short intervals.
- Adjust the value to the desired value by means of the "+" and "-" -keys. The value can be adjusted in the range of 0 - 50 Hz.
- Press the "*" -key to accept the value – the point symbol stops flashing.

The pump can now be activated to operate with the selected frequency by supplying 10 V DC signal to terminal 3.

When the 10 V DC is supplied, the pump will stop operation in ISOBAR or MANUAL mode and solely operate at the NIGHT frequency. This will continue as long as 10 V DC is supplied to terminal 3.

(ngt) appears on the display to indicate that the pump is running in NIGHT mode (night setback).

As soon as the signal is removed, the pump will convert to the previous mode.

6. Error situations

If an error should occur in the pump, the pump will stop operation and an error code will be displayed.

The error code will be displayed as “E xx”, where xx represents the error number.

Ordinary operation of the pump cannot occur in this state. Switching off/on the voltage to the pump will reset the system.

If the error persists after resetting, please call an authorised service technician.

Error codes:

E01	Undervoltage
E02	Overvoltage
E03	Motor short-circuit
E04	Internal power supply error
E05	Motor overload
E06	Overheated electronics
E07	Memory error
E08	Overheated motor
E09	Program error

7. Questions and answers

- Q. Why does the display act like it is deactivated for periods of half a second while it is displaying a half character?
- A. The control module is communicating with the frequency converter, and this communication has a higher priority than updating the display.
- Q. Is it possible to use the ISOCOM PC interface to control the control module?
- A. No - the control module only has a built-in, slave pump function for the master module.
- Q. Is it possible to regulate the pump with an external transmitter?
- A. No - the control module is not equipped with an analogue input.
- Q. Is it possible to stop the pump from a SRO system?
- A. Yes – set the NIGHT frequency to 0 Hz and stop the pump via the 10 V DC input.
- Q. Can the pump send error messages to a SRO system?
- A. Yes – terminals 6 and 7 of the control module have a break function in case of error.
- Q. What happens if a power failure occurs?
- A. The pump will stop. When the power supply is re-established, the pump will start in the same operational mode and with the same setting as it had before the power failure.

8. External connections

