

Supplementary sheet part 2/2 to operating manual for

DMU 14...EX



Only use in conjunction with the Operating Manual BA_DMU 14...EX part 1/2
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Operation

Display and operating module

- Explosion hazard when device is opened in an explosive atmosphere
- Do not open or configure the device while an explosion hazard exists!

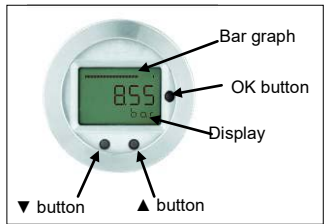


Fig. 4: Control panel

A bar graph is shown in the display, which indicates the applied pressure as a percentage of the measuring range. The display of the measured value and the configuration of the individual parameters is performed through the menu, via the display. The individual functions can be set by means of three buttons arranged under the cover. On XMP-series devices with die-cast aluminum housing, the buttons can be accessed from above. To do this, slide the metal plate (upper side of device) backwards after releasing the right screw. The three buttons are assigned from the left: ▼, OK, ▲.

The menu system is self-contained. You can scroll through the individual settings menus both forwards and backwards. All settings are permanently stored in a Flash-EPROM and are therefore available even after a disconnection from the supply voltage.

During configuration, ensure that moisture cannot enter the device. Fouling of the seals and sealing surfaces can lead to a reduced degree of protection and therefore to device failure or irreparable damage. The housing cover must be immediately screwed back on by hand following configuration.

Menu list

See supplementary sheet (Supplementary sheet / Menu system structure).

- **▲ button:** with this button you can move forwards in the menu system or increase the indicated value; additionally, the control (operator) mode (starting with menu item 1) can be accessed by pressing the button.
- **▼ button:** with this button you can move backwards in the menu system or reduce the indicated value; additionally, the control (operator) mode (starting with menu item 5) can be accessed by pressing the button.
- **OK button:** this button is for confirming the menu items and the set values

Configuration procedure:

- Select the desired menu item using the ▲ or ▼ button
- Activate the selected menu item by pressing the OK button
- Set the desired value or select a default value by pressing the ▲ or ▼ button
- Store or acknowledge an adjusted or default value and exit a menu item by pressing the OK button

If a parameter can be configured by means of a numerical value, each position can be edited individually. This means that, after activating a menu item of this type (e.g. "2.3.1 OFFSET") by pressing the OK button, the first digit of the currently set value begins to flash. Now set the desired digit with the ▼ or ▲ button and confirm with the OK button. The following digit will then begin to flash, and can be set as described. In menus "2.3.1 OFFSET" and "2.3.2 FINALVAL", the decimal point then begins to flash, and you can change its position with the ▼ or ▲ button. Confirm the position with the OK button; the whole value is then saved, assuming it is a permitted value. If not, an error message will appear in the display (e.g. Error 03) and the value is not saved.

If you want to set a negative value, you must configure the first digit with the ▼ button.

1 DISPLAY	Display parameter
1.1 P_{max}	Maximum pressure display (high pressure) The maximum pressure that occurred during the measurement is shown on the display.
1.2 P_{min}	Minimum pressure display (low pressure) The minimum pressure that occurred during the measurement is shown on the display.
1.3 T_{max}	Maximum temperature display (high temperature) The maximum temperature that occurred during the measurement is shown on the display.
1.4 T_{min}	Minimum temperature display (low temperature) The minimum temperature that occurred during the measurement is shown on the display.
1.5 CLEAR	Delete the values 1.1-1.4 (P _{max} , P _{min} , T _{max} , T _{min})
1.6 INFO	Configuration of the display Assignment of the settable digits "1": 1st line: measured pressure 2nd set pressure unit "2": 1st line: Output signal 2nd line: mA "3": 1st line: measured temperature 2nd line: °C "4": 1st line: measured pressure 2nd line: Change between pressure unit / output signal in mA "5": 1st line: measured pressure 2nd line: Change between pressure unit / temperature in °C "6": 1st line: measured pressure 2nd line: Change between pressure unit / output signal in mA / temperature in °C
2 CALIB	Configuration of measuring range, display and output signal
2.1 ZERO	Zeroing the display The message "CONFIRM" appears on the display when selecting the subsidiary menu item with the OK button. By holding the OK button pressed for at least 2 seconds the zeroing is performed, and the message "CONFIRM" disappears from the display.
2.2 CAL REF	Adjusts the analogue output with pressure reference
2.2.1 OFFSET	Adjusts the starting value for the output signal After the reference pressure has been applied and accepted, selecting the subsidiary menu item with the OK button causes the message "CONFIRM" to appear on the display. By holding the OK button pressed for at least 2 seconds the applied pressure is specified as the starting value for the output signal (4 mA), and the message "CONFIRM" disappears from the display. The displayed value remains unchanged.
2.2.2 FINALVAL	Adjusts the end value for the output signal After the reference pressure has been applied and accepted, selecting the subsidiary menu item with the OK button causes the message "CONFIRM" to appear on the display. By holding the OK button pressed for at least 2 seconds the applied pressure is specified as the end value for the output signal (20 mA), and the message "CONFIRM" disappears from the display. The displayed value remains unchanged.
2.3 ADJUST	Sets the measuring range and the zero point
2.3.1 OFFSET	Sets the starting value of the measuring range The ▲ and ▼ buttons allow you to define a starting value for the measuring range. The permitted input range is between 0 ... 90% of the original measuring range (turn down max. 1:10). 4 mA is output when the value that has been entered is reached.
2.3.2 FINALVAL	Sets the end value of the measuring range The ▲ and ▼ buttons allow you to define an end value for the measuring range. The permitted input range is between 10 ... 100% of the original measuring range (turn down max. 1:10). 20 mA is output when the value that has been entered is reached.
2.3.3 Z-CORR	Zero-point correction of the display and output signal The message "CONFIRM" appears on the display when selecting the subsidiary menu item with the OK button. By holding the OK button pressed for at least 2 seconds the applied pressure is specified as the starting value for the output signal (4 mA), and the display is zeroed. The message "CONFIRM" disappears from the display.
2.4 TRIM	Trimming the display and output signal
2.4.1 OFFSET	Trimming the zero point The message "CONFIRM" appears on the display when selecting the subsidiary menu item with the OK button. By holding the OK button pressed for at least 2 seconds the applied pressure is specified as the starting value for the measuring range and the output signal (4 mA). The message "CONFIRM" disappears from the display.
2.4.2 FINALVAL	Trimming the end value The message "CONFIRM" appears on the display when selecting the subsidiary menu item with the OK button. By holding the OK button pressed for at least 2 seconds the applied pressure is specified as the end value for the measuring range and the output signal (20 mA). The message "CONFIRM" disappears from the display.
2.4.3 SAVE	Saves the settings The message "CONFIRM" appears on the display when selecting the subsidiary menu item with the OK button. By holding the OK button pressed for at least 2 seconds the settings are saved, and the message "CONFIRM" disappears from the display. Both of the functions (2.4.1 and 2.4.2) must have been carried out in order to save.
3 SIGNAL	Signal parameters
3.1 FUNKTION	Function selection "LINEAR" (linear function) "2SQR" $y = \sqrt{x}$ "2SQR3POW" $y = \sqrt{x^3}$ cut off 2 % "2SQR5POW" $y = \sqrt{x^5}$
3.2 DENSITY	Input of the density settable range: 100 ... 9999 kg/m ³ Conversion is only applicable to the units [mFH], [cmFH] and [mmFH].
3.3 DAMP	Configuration of the damping settable range: 0 ... 100 s
3.4 SIMULAT	Simulation of the output signal settable range: 3.7 ... 22 mA
4 SETTINGS	Basic settings
4.1 DISPLAY	Configuration of the display unit
4.1.1 UNIT P	Configuration of the unit for pressure Units: bar, mbar, g/cm ² , kg/cm ² , Pa, kPa, Torr, atm, mmWS (mm H2O), mmHg, PSI, mFH*, cmFH*, mmFH* The conversion of all pressure-related parameters is performed automatically. *Input of the density is required, (see 3.2)
4.1.2 UNIT T	Configuration of the unit for temperature Units: °C and °F
4.2 HART-ID	HART-ID (only to be set with HART® devices in multi-drop mode) Set the desired ID no. (between "0" and "15"), and confirm this with the OK button. It is only necessary to configure this number if you want to operate the device in multi-drop mode (connection of a number of HART® devices). If the ID no. is set to "0", the multi-drop mode is deactivated, and the measurement transducer operates in analog mode.
4.3 USER-L	Configuration of the user's security level For security reasons it is necessary to enter the password before configuring the security level. Confirm this with the OK button. The password is factory-set to "0000". Security levels: "0": the whole menu system is enabled "1": the following menu items are enabled: 1 Display, 3 Signal, 4.3 USER-L "2": the following menu items are enabled: 1 Display, 4.3 USER-L
4.4 PASSW	Configuration of the password For security reasons it is necessary to enter the previous password before configuration. Confirm this with the OK button. The password is factory-set to "0000". Then set the new password, and confirm this with the OK button. If you have forgotten your password, you can request the master password, which is fixed at manufacture, from BD SENSORS.
4.5 LANGUAGE	Selection of DE or EN as the user language
5 SERVICE	Service
5.1 FACTORY	Reset to factory settings
5.2 ERR CURR	Definition of the current settable values: 21.6 mA or 3.8 mA The selected error current is output in response to a malfunction in the electronics.
5.3 TYPE	Display of the device type
5.4 SER-NO	Display of the set serial number
5.5 VERS	Display of the program version

Structure of the menu system

