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Operating Instructions

Digital plug-in display
Type: DA 06

DA 06	Product No.: 31278
DA 06-Ex	Product No.: 31279

☞ Read instructions before using device!

☞ Observe all safety information!

☞ Keep instructions for future use!

Version: 05.2007
ID No.: 854.001.0340

Contents

1 About this manual

This instruction manual is part of the product.

- ▶ Read this manual before using the product.
- ▶ Keep this manual during the entire service life of the product and always have it readily available for reference.
- ▶ Always hand this manual over to future owners or users of the product.

1.1 Precautions

WARNING TERM Type and source of the danger is shown here.

- ▶ Precautions to take in order to avoid the danger are shown here.

There are three different levels of warnings:

Warning term	Meaning
DANGER	Immediately imminent danger! Failure to observe the information will result in death or serious injuries.
WARNING	Possibly imminent danger! Failure to observe the information may result in death or serious injuries.
CAUTION	Dangerous situation! Failure to observe the information may result in minor or serious injuries as well as damage to property.

1.2 Explanation of notes, symbols and typeface

Symbol	Meaning
☑	Prerequisite for an activity
▶	Activity consisting of a single step
1.	Activity consisting of several steps
↳	Result of an activity
•	Bulleted list
`Text`	Indication on a display
Highlighting	Highlighting

2 Safety

2.1 Intended use

The digital plug-in display DA 06 may only be used for displaying measured values received from a transducer with a connector system according to DIN 43650, 2-wire system.

Any use other than the use explicitly permitted in this instruction manual in not permitted.

2.2 Predictable incorrect application

The digital plug-in display DA 06, product number: 31278, must never be used in the following cases:

- Hazardous areas (ex)

2.3 Safe handling

The digital plug-in display DA 06 represents state-of-the-art technology and is made according to the pertinent safety regulations. Each device is subjected to a function and safety test prior to shipping.

▶ Operate the digital plug-in display DA 06 only when it is in perfect condition. Always observe the operating instructions, all pertinent local and national directives and guidelines as well as the applicable safety regulations and directives concerning the prevention of accidents.

The digital plug-in display DA 06 is not a safety device.

2.4 Staff qualification

The product may only be mounted, commissioned, operated, maintained, shut down and disposed of by qualified, specially trained staff.

Electrical work may only be performed by trained electricians qualified in accordance with the local and national directives such as VDE.

2.5 Modifications to the product

Changes or modifications made to the product by unauthorised persons may lead to incorrect readings and are prohibited for safety reasons.

2.6 Usage of spare parts and accessories

Usage of unsuitable spare parts and accessories may cause damage to the product.

Use only genuine AFRISO-EURO-INDEX GmbH spare parts and accessories (refer to chapter 13, page 25).

2.7 Liability information

AFRISO-EURO-INDEX GmbH shall not be liable for direct or consequential damage resulting from failure to observe the technical instructions, guidelines and recommendations. The manufacturer and the sales company shall not be liable for costs or damages incurred by the user or by third parties in the usage or application of this device, in particular in case of improper use of the device, misuse or malfunction of the connection, malfunction of the device or of connected devices. The manufacturer or the sales company shall not be liable for damages resulting from any use other than the use explicitly permitted in this instruction manual.

AFRISO-EURO-INDEX GmbH shall not be liable for misprints.

3 Product description

The digital plug-in display DA 06 can be used with all transducers which meet the following requirements:

- Output signal of transducer 4-20 mA/2-wire
- Connector system according to DIN 43650

The digital plug-in display DA 06 is mounted between the connector and the cable socket and is immediately ready for operation. As the unit is supplied via the 4-20 mA loop, it does not require a separate supply.

The unit is programmed by means on two keys at the front side. The following parameters can be set: scaling, decimal point, dampening, switching point and delay. In addition, the device features a memory for min. and max. values. Out of range values can be displayed as messages (both ends of the range).

The integrated diagnostics system continuously monitors all functions of the display. The housing can be turned by 300°, the display by 330°.

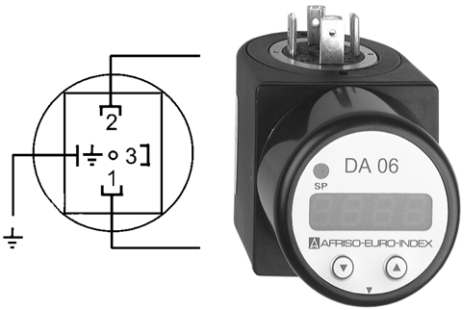


Fig. 1: View

3.1 Scope of delivery

- Plug-in display DA 06
- Fastening screw M 3 x 87
- Profile seal
- Sheet with self-adhesive unit labels
- Operating instructions

3.2 Application examples

Fig. 2: With RTS pipe temperature sensor (0/150 °C)

Fig. 3: With DMU 01 pressure transducer (-1/0 to 0/400 bar)

4 Specifications

Table 1: Specifications

Parameter	Value
General	
Dimensions (W x H x D)	47 x 47 x 68 mm
Housing material	Plastic, PA 6.6/polycarbonate
Measuring range	-1999 to 9999 digits (min. and max. values user defined)
Display	4-digit, 7 mm high, red LED display, display housing can be turned by 330°

Parameter	Value
Accuracy	0.1 % +/- 1 digit
Adjustable parameters	Scaling, decimal point, dampening, switching point, delay
Min./max. value memory	Allows to display the minimum and maximum values recorded during operation.
Protection	IP 65 (EN 60529)
Electrical connection	Adapter for plug as per DIN 43650
Input signal	4-20 mA, 2-wire
Switching output	1 open collector (PNP), max. 125 mA (with Ex protection max. 70 mA, 4.7 mH) On/off delay: 0-100 s Temperature influence: 0.1 %/10 K
CE-conformity	DIN EN 61326
Options	Ex protection II (1) 2 G EEx ia IIC T4 (zone 0/1) Observe the safety data/approval certificate, refer to chapter 18.1, page 26.
Operating temperature range	
Ambient	Electronics: 0 °C to +60 °C
Storage	-30 °C to +80 °C

Dimensions

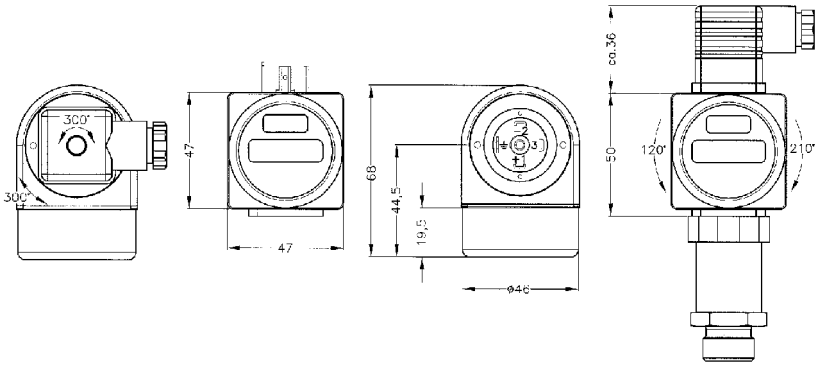


Fig. 4: Dimensions DA 06

5 Mounting and commissioning

Please note that DA 06 display is an electronic high-precision measuring device. Handle the device with care to avoid damages to the plastic surface and the housing parts.

The display and the plastic housing feature a rotation limiter. Do not try to rotate the display or the housing beyond the angle indicated by the limiter, never apply force.

5.1 Mounting procedure

Fig. 5: Mounting

1. Carefully remove the plug-in display from the package.
2. Loosen the cable socket from the transducer and pull it off.
3. Plug the plug-in display onto the transducer. Make sure the profile seal mounted at the bottom of the device is in position.
4. Remove the fastening screw from the cable socket.
5. Check the seal at the cable socket: A small profile seal will not meet the IP 65 requirements, i.e. the appropriate protection will not be given! Use the profile seal shipped with the unit or an equivalent seal.
6. Mount the cable socket with the pre-mounted seal onto the plug-in display.
7. Place the stainless steel M 3 x 87 screw shipped with the unit through the cable socket and the plug-in display and hand-screw it to the transducer with a screwdriver.
   Note: the screw length was determined for a Hirschmann type GDM 3009 cable socket. If you use a different cable socket,

5.2 Electrical connection

☑ Device is disconnected from mains and cannot be switched on.

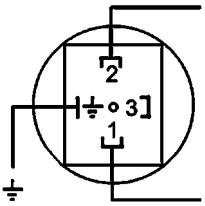


Fig. 6: Electrical connection

5.3 Voltage drop

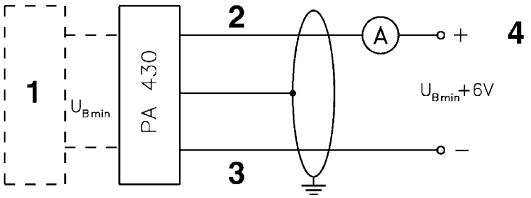
The voltage drop caused by the electronic system of the plug-in display amounts to **approx. 6 V DC**. You must take this into account when designing the supply of your system. The voltage supply limit values are calculated in the following way:

Minimum operating voltage: $U_{Bmin} = U_{min.transducer} + 6\ V$

Maximum operating voltage: $U_{Bmax} = U_{max.\ transducer} + 6\ V$

5.4 Connection without switching point

	Plug pin numbers DIN 43650
Supply +	1
Supply -	2
Earth	Earth contact

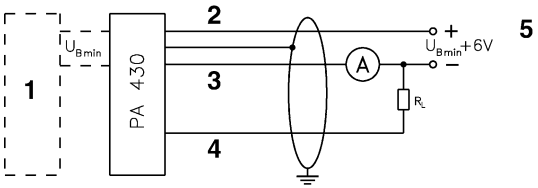


1 Transducer
2 Supply +
3 Supply -
4 DA 06-Ex: Max. 28 VDC

Fig. 7: Connection without switching point

5.5 Connection with switching point

	Plug pin numbers DIN 43650
Supply +	1
Supply -	2
Switching point	3
Earth	Earth contact



1 Transducer
2 Supply +
3 Supply -
4 Switching point
5 DA 06-Ex: Max. 28 VDC

Fig. 8: Connection with switching point

6 Operation

6.1 General information

Operation via two keys at the front side.

Fig. 9: Front-view

- Simple operation
- Easy-to-understand, loop menu system
- Permanent storage of settings
- Password protection prevents unauthorised access
- Indication by means of 4-digit, 7 mm high 7-segment display
- Housing and display can be turned for different mounting positions

Unit labelling

Self-adhesive unit labels shipped with the device are used for labelling.

Indication of switching function

The green "SP" LED lights up when the switching point is reached and the switching output is active.

Indication of measured value/set-up menu

The measured value as well as the set-up menu are displayed on the 4-digit 7-segment display.

6.2 Function keys

The device is operated by means of a foil keypad with two keys.

Key “▲”: Next item in the menu system or increase displayed value.

Key “▼”: Previous item in the menu system or decrease displayed value.

When you hold down the keys for more than 5 seconds, the counting speed is increased.

Both “▲” and “▼”: Switches from display mode to configuration mode; saves the set value; returns to display mode.

Menu system

Refer to fig. 10, page 16.

The menu system provides a "loop", which means that you can reach the desired set-up function both by advancing to the next items and by going back to the previous items.

Changes to the parameters (switching point, hysteresis, etc.) do not become effective until you return to display mode (indication of values).

6.3 Zero correction

oF S

Setting the display to zero in case of a deviation of the transducer offset.

During the lifetime of a transducer, the offset, which is set to a nominal value of 4.000 mA, may drift. In such a case, the plug-in display will display a signal value different from the set initial measuring range value. The software of the plug-in display provides a function which can correct this phenomenon.

Key/indication/activity	Activity
„▲“	Select the **PAof** menu.
„▲“ + „▼“	Press both keys simultaneously.
„▲“ 247	Set the number 247 in order to select the special function.
„▲“ + „▼“	Press both keys simultaneously again.
oF S	The display shows “**oF S**”.
Create reference	Now you have to set the transducer to the start value of its measuring range by means of a reference.
„▲“ + „▼“	By pressing the two keys simultaneously one more time, you can save the current transducer signal as the offset. From now on, the display will show the set start value of the measuring range (zero point) even though the sensor signal has shifted in the offset.

Attention: Please note that the output signal is not affected by this modification. Along with this offset, the full scale value is also offset.

6.4 Full scale value correction

Correcting the display in case of a deviation of the full scale value of the transducer.

During the lifetime of a transducer, the full scale value, which is set, for example, to a nominal value of 20.00 mA, may shift. In such a case, the plug-in display will display a signal value different from the set full scale measuring range value. The software of the plug-in display provides a function which can correct this phenomenon.

Key/indication/activity	Activity
„▲“	Select the **PAof** menu.
„▲“ + „▼“	Press both keys simultaneously.
„▲“ 238	Set the number 238 in order to select the special function.
„▲“ + „▼“	Press both keys simultaneously again.
FS S	The display shows “**FS S**”.
Create reference	Now you have to set the transducer to the full scale value of its measuring range by means of a reference.
„▲“ + „▼“	By pressing the two keys simultaneously one more time, you can save the current transducer signal as the full scale value. From now on, the display will show the set full scale value of the measuring range (end point) even though the sensor signal has shifted in the full scale signal.

Attention: Please note that the output signal is not affected by this modification.

6.5 Factory defaults (Load Defaults)

The software of the plug-in display provides a function that allows you to reset the device to the factory defaults. This lets you undo changes you may have made to the zero point or full scale value.

Key/indication/activity	Activity
„▲“	Select the **PAof** menu.
„▲“ + „▼“	Press both keys simultaneously.
„▲“ 729	Set the number 729 in order to select the special function.
„▲“ + „▼“	Press both keys simultaneously again.
LoAd	The display shows “**LoAd**”.
„▲“ + „▼“	By pressing the two keys simultaneously one more time, you reset the device to the factory defaults.

Password limitations

A number of codes are used to activate the special functions for zero correction, full scale correction, loading the factory defaults and changing the passwords.

Attention: The following **codes must not be used as passwords** as they are reserved for activating the special functions listed above: **238, 247, 729 and 835**.

6.6 Menu

The device is operated by means of a foil keypad with two keys.

Key “▲”: Next item in the menu system or increase value displayed.

Key “▼”: Previous item in the menu system or decrease value displayed.

When you hold down the keys for more than 5 seconds, the counting speed is increased.

Both “▲” and “▼”: Switches from display mode to configuration mode; saves the set value; returns to display mode.

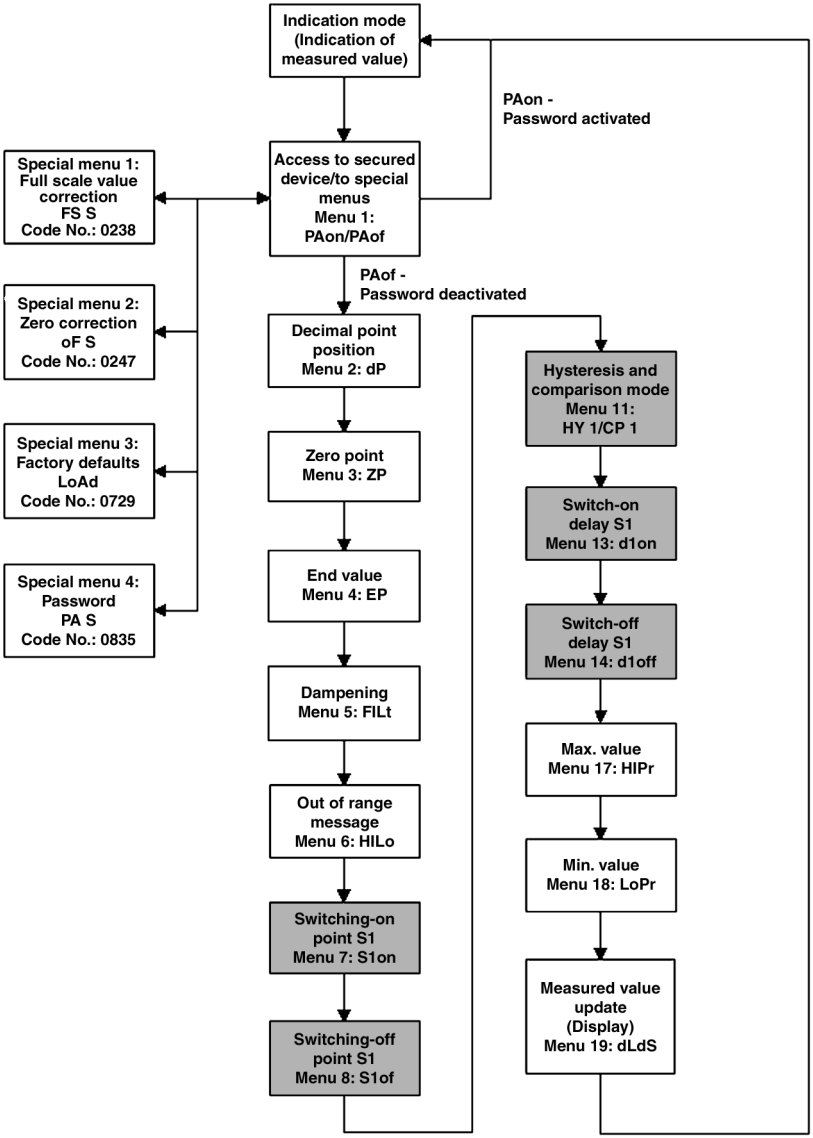


Fig. 10: Menu system

The menu numbers result from the menu system of devices with 2 switching points. As to service this menu numbers are the same for devices with 1 switching points. The grey coloured menus are not available for devices with 0 switching points.

6.7 Access to secured device

Deactivating the password protection

Key/indication/activity	Activity
„▲“ **PAon** „▲“ + „▼“	If the password protection is active **PAon** and you press the two keys, the device will prompt you to enter the password (unlocking code) before you can make changes via the menu system.
„▲“ 5 „▲“ + „▼“	The factory default for the password is the number 5. Use the keys to set this number
„▲“ + „▼“	Confirm by pressing the two keys simultaneously.

↳ This deactivates the password protection **PAof**.

6.8 Password protection for device

Activating the password protection

Key/indication/activity	Activity
„▲“ **PAoF** „▲“ + „▼“	If the password protection is inactive **PAof** and you press the two keys simultaneously, you can enter a code to be used for password protection.
„▲“ 5 „▲“ + „▼“	The factory default for the password is the number 5. Use the keys to set the code.
„▲“ + „▼“	Confirm by pressing the two keys simultaneously.

↳ This activates the password protection **PAon**.

Changing the password

Key/indication/activity	Activity
„▲“ **PAoF** „▲“ + „▼“	If you want to change the password, press the two keys simultaneously when the **PAof** menu is active.

Key/indication/activity	Activity
„▲“ 835 „▲“ + „▼“	Then set the number 835 with the keys to activate the password function.
„▲“ + „▼“ **SEtP** „▲“ + „▼“ „▲“ **Zahl wählen** „▲“ + „▼“	Press both keys simultaneously again. Now set the desired code to be used as the password (range from 0…9999).
„▲“ + „▼“	Confirm by pressing the two keys simultaneously.

↳ This sets the new password.

Proceed as described in the section on the menu PAon to activate the password protection.

Make a note of the new password.

The following **codes must not be used as passwords** as they are reserved for activating the special functions: **238, 247, 729 and 835**.

7 Scaling the display

7.1 Decimal point position

Select the menu item **dP** with the “▲” key.

Press both keys simultaneously. Now you can set the position of the decimal point with the “▲” or “▼” keys. Confirm by pressing the two keys simultaneously. The new settings are active.

7.2 Zero point

Select the menu item **ZP** with the “▲” key.

Press both keys simultaneously. Now you can set the zero point. The set value is displayed when the electrical output signal of the transducer is 4 mA (zero point). Confirm by pressing the two keys simultaneously. The new settings are active.

7.3 End value

Select the menu item **EP** with the “▲” key.

Press both keys simultaneously. Now you can set the end point. The set value is displayed when the electrical output signal of the transducer is 20 mA (end point). Confirm by pressing the two keys simultaneously. The new settings are active.

7.4 Dampening (filter)

Select the menu item **FILt** with the "▲" key.

After confirming "FILt" by pushing both buttons, the time constant for a simulated low-pass filter can be set. This function allows getting a constant display value although the measuring values changes very often. The permissible range reaches from 0.3 till 30 seconds. To complete the setting push both buttons simultaneously.

7.5 Activating the out of range message

Select the menu item **HILo** with the "▲" key.

Press both keys simultaneously. Now you can activate the out of range message for High or Low values. You can only select the states "ON" or "OFF". Confirm by pressing the two keys simultaneously. The new settings are active.

ON: If the range is exceeded by more than 1.5 %, the display shows **H I** (high value) or **Lo** (low value). Examples: 3.7 mA displays **Lo**, 20.3 mA displays **H I**.

OFF: The display also indicates values that are out of range. Examples: 3.7 mA displays **-0.30**, 20.3 mA displays **16.30**.

7.6 Measured value update (Display)

After confirming "**dLdS**" by pushing both buttons, the measured value update in the display can be set. The time can be set in which cycles the update in the display should occur. The permissible range reaches from 0.0 till 10 seconds. To complete the setting push both buttons simultaneously.

8 Switching output

8.1 Switching-on point

Select the menu item **S Ion** with the "▲" key.

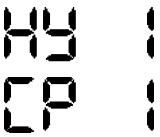
Press both keys simultaneously. Now you can set the value that activates the switching output. Confirm by pressing the two keys simultaneously. The new settings are active.

8.2 Switching-off point

Select the menu item **S Iof** with the "▲"key.

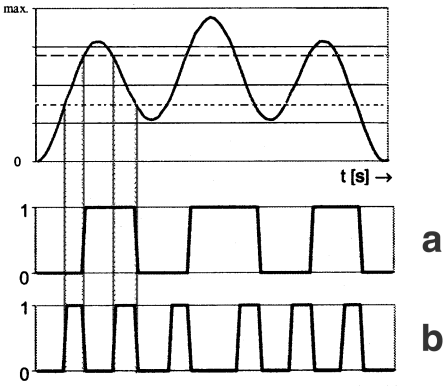
Press both keys simultaneously. Now you can set the value that deactivates the switching output. Confirm by pressing the two keys simultaneously. The new settings are active.

8.3 Hysteresis and comparison mode



Select the menu item **HY I** with the "▲" key.

Press both keys simultaneously. Now you can switch between hysteresis mode (**HYon**) and comparison mode (**HYof**) for the switching output. The illustration below explains the difference between the two modes. Confirm by pressing the two keys simultaneously. The new settings are active.



a Hysteresis mode

b Comparison mode

Fig. 11: Hysteresis and comparison mode

Application examples

Hysteresis mode/HYon/HY I: Pump control, heating

Comparison mode/HYoF/CP I: Min./max. alarm, range monitoring

8.4 Switch-on delay

Select the menu item **d Ion** with the "▲" key.

Press both keys simultaneously. Now you can set the delay value for switching on after the switching point has been reached. The range is 0 to 100 seconds. Confirm by pressing the two keys simultaneously. The new settings are active.

8.5 Switch-off delay

Select the menu item **d Iof** with the "▲" key.

Press both keys simultaneously. Now you can set the delay value for switching off after the switching point has been reached. The range is 0 to 100 seconds. Confirm by pressing the two keys simultaneously. The new settings are active.

9 Max./min. value memory

9.1 Displaying/clearing the max. value

Select the menu item **H IPr** with the "▲" key.

Press both keys simultaneously. The device now displays the maximum value measured so far. **If you press the two keys simultaneously once again within 1 second, the stored value is cleared.** Please note that the value is lost in case of a power failure (voltage supply via current loop).

9.2 Displaying/clearing the min. value

Select the menu item **LoPr** with the "▲" key.

Press both keys simultaneously. The device now displays the minimum value measured so far. **If you press the two keys simultaneously once again within 1 second, the stored value is cleared.** Please note that the value is lost in case of a power failure (voltage supply via current loop).

10 Example pressure measurement

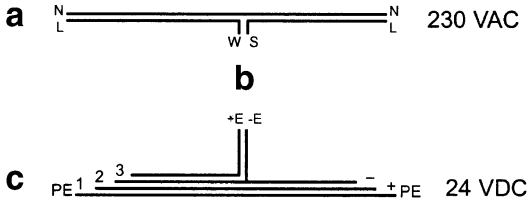
10.1 Arrangement

The pressure in a system is to be measured within the range of 0-16 bar and displayed locally. If the measured value drops by more than 1.5 % below the low range value, the message Lo is displayed (e.g. at 3.7 mA). If the measured value exceeds the high range value by more than 1.5 %, the message H I is displayed (e.g. at 20.3 mA). In addition, a switching contact is to activate an alarm lamp with a horn in case the pressure exceeds 12 bar. When the pressure drops below 10 bar, the alarm lamp with the horn is switched off again. In order to prevent the alarm lamp with the horn from being switched in case of short-term pressure changes, a delay of 10 seconds is to be set for switching on and off. The auxiliary relay used amplifies the open collector output of the DA 06 device and turns it into a voltage-free changeover output.

The complete measuring point

Sensor	Pressure transducer DMU 01 Measuring range: 0-16 bar Signal output: 4-20 mA	Product no.: 31121

Display device	Digital plug-in display DA 06 Measuring range: 4-20 mA Indication: 00,00-16,00 bar Switching point (on): 12 bar Switching point (off): 10 bar Switching delay (on): 10 seconds Switching delay (off): 10 seconds	Product no.: 31278
Relay	Coupling relay KR 100 ST Coil voltage: 24 VDC (18-50 VDC) Output: Voltage-free changeover, 250 VAC/DC, 8 A	Product no.: 53700
Alarm unit	Alarm lamp with horn	Product no.: 61020



a Alarm unit:
> 12 bar On
< 10 bar Off
Delay of 10 sec.

b Relay

c Sensor + Display device:
0-16 bar, 4-20 mA

Fig. 12: The complete measuring point

Please refer to the current AFRISO catalogue or to www.afriso.de for additional AFRSIO sensors.

10.2 Programming/Example

Menu	Keys to be pressed	Activity
	„▲“	PAoF
dP Decimalpoint	„▲“	dP
	„▲“ + „▼“	Decimal point menu
	--.--	Set decimal point with „▲“ or „▼“
	„▲“ + „▼“	Save decimal point position
ZP Zero point	„▲“	ZP
	„▲“ + „▼“	Zero point menu

Menu	Keys to be pressed	Activity
	0.00	Set zero point with „▲“ or „▼“
	„▲“ + „▼“	Save zero point
EP End point	„▲“	EP
	„▲“ + „▼“	End point menu
	16.00	Set end point with „▲“ or „▼“
	„▲“ + „▼“	Save end point
F ILt Filter	„▲“	F ILt
	„▲“ + „▼“	Filter menu
	1.0	Set filter with „▲“ or „▼“
	„▲“ + „▼“	Save filter
H ILO Out of range message	„▲“	H ILO
	„▲“ + „▼“	Out of range message menu
	on	Set out of range message with „▲“ or „▼“
	„▲“ + „▼“	Save out of range message
S Ion Switching point (on)	„▲“	S Ion
	„▲“ + „▼“	Switching point (on) menu
	12.00	Set switching point (on) with „▲“ or „▼“
	„▲“ + „▼“	Save switching point (on)
S IoF Switching point (off)	„▲“	S IoF
	„▲“ + „▼“	Switching point (off) menu
	10.00	Set switching point (off) with „▲“ or „▼“
	„▲“ + „▼“	Save switching point (off)
HY I Hys-teresis	„▲“	HY I
	„▲“ + „▼“	Hysteresis menu
	HYon	Set hysteresis mode with „▲“ or „▼“
	„▲“ + „▼“	Save hysteresis mode
d Ion	„▲“	d Ion

Menu	Keys to be pressed	Activity
Delay switching on	„▲“ + „▼“	Delay switching on menu
	10.0	Set delay for switching on with „▲“ or „▼“
	„▲“ + „▼“	Save delay for switching on
d IoF Delay switching off	„▲“	d IoF
	„▲“ + „▼“	Delay switching off menu
	10.0	Set delay for switching off with „▲“ or „▼“
	„▲“ + „▼“	Save delay for switching off
	„▲“	Display maximum value
	„▲“	Display minimum value
	„▲“	Back to indication of measured value

↳ The digital plug-in display DA 06 is now programmed.

11 Maintenance

During regular operation, the plug-in display is maintenance-free.

The digial plug-in display DA 06 may only be repaired by the manufacturer.

12 Shutting down and disposal

1. Switch off mains voltage.
2. Dismount the device (see chapter 5, page 9, reverse sequence of steps).

3. To protect the environment, this device must **not** be disposed of together with the normal household waste. Dispose of the device according to the local conditions and directives.

This device consists of materials that can be reused by recycling firms. The electronic inserts can be easily separated and the device consists of recyclable materials.

If you do not have the opportunity to dispose of the used device in accordance with environmental regulations, please contact us for possibilities to dispose of it or to return it.

13 Spare parts and accessories

Product	Product No.
Suitable relay: Coupling relay KR 100 ST	53700
Alarm device: Alarm lamp with horn	61020

14 Warranty

The warranty of AFRISO-EURO-INDEX GmbH for this product is 24 months after the date of purchase. This warranty shall be good in all countries in which this device is sold by AFRISO-EURO-INDEX GmbH or its authorised dealers.

15 Copyright

16 Customer satisfaction

Customer satisfaction is our prime objective. Please get in touch with us if you have any questions, suggestions or problems concerning your AFRISO product.

17 Addresses

The addresses of our worldwide representations and offices can be found on the Internet at www.afriso.de.

18 Appendix

18.1 Approval documents

(1) **EG-Baumusterprüfbescheinigung**

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen - **Richtlinie 94/9/EG**

(3) EG Baumusterprüfbescheinigungsnummer

TÜV 02 ATEX 1947

(4) Gerät: Anzeige- und Schaltgerät Typ DA 06-Ex bzw. DMU...DA 06-Ex

(5) Hersteller: Afriso Euro-Index GmbH

(6) Anschrift: D-74363 Güglingen, Lindenstraße 20

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Baumusterprüfbescheinigung festgelegt.

(8) Die TÜV NORD CERT GmbH & Co. KG, TÜV CERT-Zertifizierungsstelle, bescheinigt als benannte Stelle Nr. 0032 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht Nr. 02 YEX 550061-1 festgelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN 50014:1997 **EN 50020:1994**

(10) Falls das Zeichen "X" hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

(12) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

II (1) 2 G EEx ia IIC T4

TÜV NORD CERT GmbH & Co. KG
TÜV CERT-Zertifizierungsstelle
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Hannover, 06.11.2002

Der Leiter

TÜV NORD CERT

(13) **ANLAGE**

(14) **EG-Baumusterprüfbescheinigung Nr. TÜV 02 ATEX 1947**

(15) Beschreibung des Gerätes

Das Anzeige- und Schaltgerät Typ DA 06-Ex bzw. DMU...DA 06-Ex wird in 4...20 mA Stromkreise eingeschleift und dient zur Druckanzeige innerhalb explosionsgefährdeter Bereiche, die Betriebsmittel der Kategorie 2 bzw. 3 erfordern. Die 4...20 mA Stromschleife darf auch zu Kategorie 1 bescheinigten Messumformern geführt werden.

Die höchstzulässige Umgebungstemperatur beträgt 70°C.

Elektrische Daten

Signal- und Versorgungsstromkreis (Stecker, Kabel oder Einzellitzen)	in Zündschutzart Eigensicherheit EEx ia IIC nur zum Anschluss an bescheinigte eigensichere Stromkreise Die wirksame innere Kapazität und Induktivität sind vernachlässigbar klein.	
Schaltausgänge (optional) (Stecker, Kabel oder Einzellitzen)	in Zündschutzart Eigensicherheit EEx ia IIC nur zum Anschluss an bescheinigte eigensichere Stromkreise höchstzulässige äußere Gesamtkapazität höchstzulässige äußere Gesamtinduktivität	80 nF 4,7 mH

Die Höchstwerte für den Signal- und Versorgungsstromkreis und die optionalen Schaltausgänge betragen :

U_i = 28 V
ΣI_i = 93 mA
ΣP_i = 660 mW

(16) Prüfungsunterlagen sind im Prüfbericht Nr. 02 YEX 550061-1 aufgelistet.

(17) Besondere Bedingung
keine

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen

keine zusätzlichen

TÜV NORD CERT GMBH & CO. KG

TÜV NORD CERT

Am TÜV 1
30519 Hannover

Prüfbericht

Prüflabor
Explosionsgeschützte Betriebsmittel und
Überwachungseinrichtungen

Prüfbericht Nr. 02 YEX 550061-1

Auftraggeber:	Afriso Euro-Index GmbH D-74363 Güglingen, Lindenstraße 20
Prüfgegenstand:	Anzeige- und Schaltgerät Typ DA 06-Ex bzw. DMU...DA 06-Ex
Beurteilungs-grundlagen:	EN 50 014/1997 Allgemeine Bestimmungen EN 50 020/1994 Eigensicherheit "i"
Auftragsnummer:	8000550061-1
Bearbeiter:	H. Richter
Eingang des Prüfgegenstands.	nicht erforderlich
Prüfdatum:	KW 45 in 2002

Dieser Bericht umfasst 3 Seiten

BA 06 03.02

1. Beschreibung des Prüfgegenstandes:

Das Anzeige- und Schaltgerät Typ DA 06-Ex bzw. DMU...DA 06-Ex wird in 4...20 mA Stromkreise eingeschleift und dient zur Druckanzeige innerhalb explosionsgefährdeter Bereiche, die Betriebsmittel der Kategorie 2 bzw. 3 erfordern. Die 4...20 mA Stromschleife darf auch zu Kategorie 1 bescheinigten Messumformern geführt werden.

Die höchstzulässige Umgebungstemperatur beträgt 70°C.

Elektrische Daten

Signal- und Versorgungsstromkreis (Stecker, Kabel oder Einzellitzen)	in Zündschutzart Eigensicherheit EEx ia IIC nur zum Anschluss an bescheinigte eigensichere Stromkreise Die wirksame innere Kapazität und Induktivität sind vernachlässigbar klein.
Schaltausgänge (optional) (Stecker, Kabel oder Einzellitzen)	in Zündschutzart Eigensicherheit EEx ia IIC nur zum Anschluss an bescheinigte eigensichere Stromkreise höchstzulässige äußere Gesamtkapazität 80 nF höchstzulässige äußere Gesamtinduktivität 4,7 mH

Die Höchstwerte für den Signal- und Versorgungsstromkreis und die optionalen Schaltausgänge betragen :

U_i = 28 V
ΣI_i = 93 mA
ΣP_i = 660 mW

2. Kennzeichnung des Prüfgegenstandes:

Ex II (1) 2 G EEx ia IIC T4

3. Erläuterungen zu den Beurteilungsgrundlagen:

keine Besonderheiten

4. Eingereichte Prüfungsunterlagen: alle von April 2002

Beschreibung (4 Blatt)
Zeichnung mit Stückliste Nr. 85.610.000
85.600.000
85.605.000
ST.690.210
ST.690.211
Zeichnung Nr. 85.030.010
85.200.000
85.160.000
85.040.000

BA 06 03.02

EG – Konformitätserklärung
EC-Declaration of Conformity

Formblatt
FB 27 - 03

Name und Anschrift des Herstellers: AFRISO-EURO-INDEX GMBH, Lindenstr. 20, 74363 Güglingen
Manufacturer

Erzeugnis: Digitale Aufsteckanzeige
Product

Typenbezeichnung: DA 06, DA 06-Ex
Type

Betriebsdaten: 4...20mA, 2-Leiter
El. data

Das bezeichnete Erzeugnis stimmt mit den Vorschriften folgender Europäischer Richtlinien überein:
The above mentioned product meets the requirements of the following european directives

Elektromagnetische Verträglichkeit (89/336/EWG und 92/31/EWG)
EC directive electromagetic compatibility

- EN 61326 (1997)
- EN 61326/A1 (1998)
- EN 61326/A2 (2001)
- EN 61326/A3 (2003)

Explosionsschutz- Richtlinie (94/9/EG)
ATEX directive

DIN EN 50014 (1997)
DIN EN 50020 (1994)

Unterzeichner: Dr. Aldinger, Geschäftsführer Technik

AFRISO - EURO-INDEX
Gesellschaft für Sicherungseinrichtungen mbH
D - 74363 Güglingen

22.3.06
Datum

Unterschrift

Version: 1 / Index: 2	AFRISO-EURO-INDEX GMBH	D-74363 GÜGLINGEN	Seite: 1 von 1

	85.970.000
	DM.900.200
	DM.900.300
	EL.400.002
Stückliste (2 Blatt)	EL.401.001
Zeichnung Nr.	EL.400.004
	EL.400.005
	EL.400.102
Stückliste	EL.400.101
Zeichnung Nr.	EL.400.104
	EL.400.105

Typenschild Layout

Protokoll Haftfähigkeitsprüfung

Bedienungsanleitungen (PA 430, DS 200 und DS 430)

5. Hinweise für Errichtung und Betrieb:

Bedienungsanleitung beachten

6. Prüfergebnis:

Die einzelnen Prüfschritte sind im vertraulichen Prüfprotokoll 02 YEX 550061-1 dokumentiert.

Die Zertifizierung wird empfohlen.

Der Leitende des Prüflabors: Dipl.-Ing. Karl-Heinz Schwedt

Der Sachverständige: Dipl.-Ing. H. Richter