

Digital Bridge Amplifier

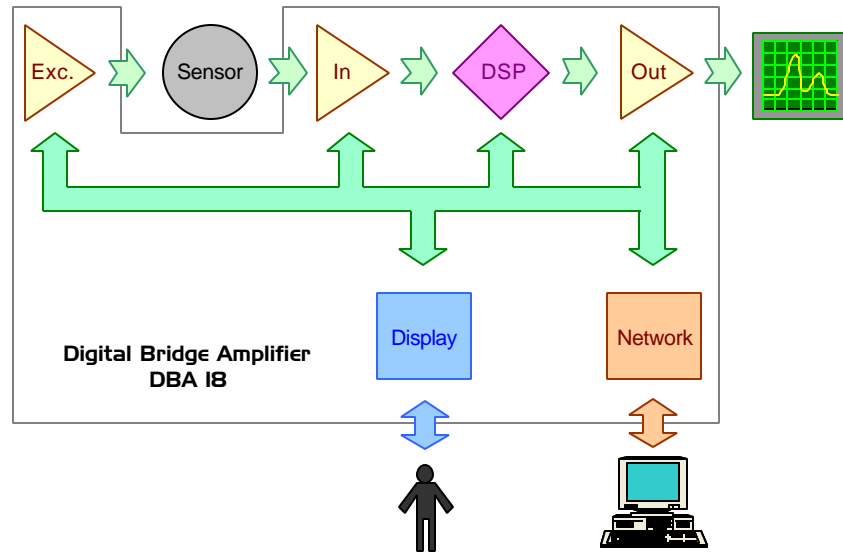
DBA 18



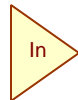
The **DBA18** is a compact **digital** bridge amplifier with **unique properties**:

- 1 The user interface has neither knobs nor switches, instead a LCD and Touch screen is used. For GXP and security reasons access of user, owner and administrator is software controllable.
- 2 Although the numbers of settings are numerous, ease of use for the operator is kept at the maximum. One screen for the follow up on his process with readings in units (e.g. grams, mmHg,...), one screen for calibrating the unit itself and one screen for calibrating the connected PC or PLC.
- 3 8 Independent channels build in a box only using half a 19" rack. Each channel supports both full-bridge and half-bridge sensors excited with DC or AC or act as a straightforward amplifier.
- 4 State of the art DSP and electronic technology results in excellent specifications. Converters of 24 bit at the input and 16 bit at the output assure both accuracy and a large dynamic range. Maximum bandwidth is 1kHz. Software controllable filters for e.g. 50/60Hz have attenuation's only possible with DSP technology.
- 5 The unit has an ethernet connection and supports TCP/IP, telnet, FTP and SNMP. You can even use your internet browser to check the settings. Can maintenance and support be made simpler?

How does the DBA18 work?



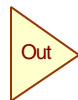
The function of 'Excitation' is to supply the bridge sensor with power. Different types of sensors need different types of power. Both DC and AC are available in wide ranges.



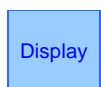
The function of 'Input' is to convert the sensor output into digital numbers. To ensure accuracy and a wide dynamic range a 24 bit analog to digital converter is used. Not all sensors have the same sensitivity. To get the most out each the gain of the input amplifier is software tunable.



The function of 'DSP' is to perform all calculations on the measured data. This includes: recalculate to real life units, recalculated to the calibration setpoints, low pass filtering, 50/60Hz notch filtering, ...



The function of 'Output' is to convert the recalculated numbers back into analog signals. These analog output are compatible with PC's PLC's as well as paper recorders. To assure accuracy a 16 bit digital to analog converter is used.



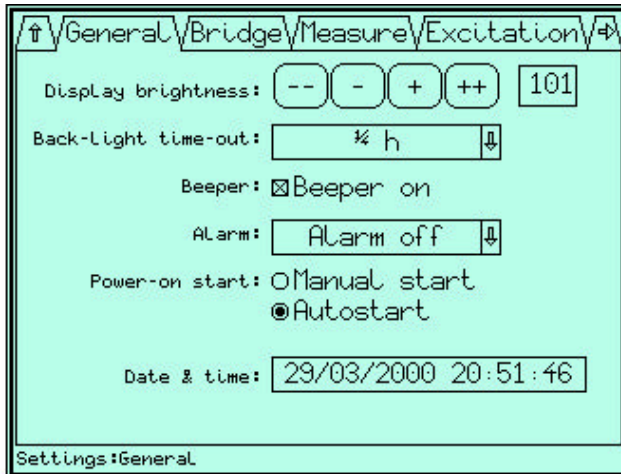
The function of the 'Display' is to be a Graphical User Interface. It shows the operator the measured data in real time. It enables the operator to calibrate the DBA18 itself as well as the connected recording device. It is the interface to do all the settings of the already mentioned functions.



The function of 'Network' is to enable remote reading, setting and maintaining the DBA18. A serial RS232 connection is available but also an ethernet connection with complete TCP/IP support. With your internet browser it is even possible to view all settings.

How do you use the DBA18?

Step 1 : Set up the box



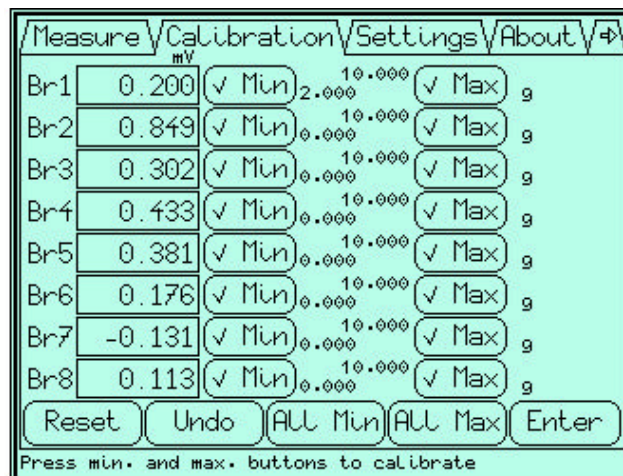
Using the DBA18 is made simple: navigating the menu's with tab's, choosing from lists with pull-down menu's and an alfanumerical key-board for entering data.

All this right under your finger tip because of the tough screen.

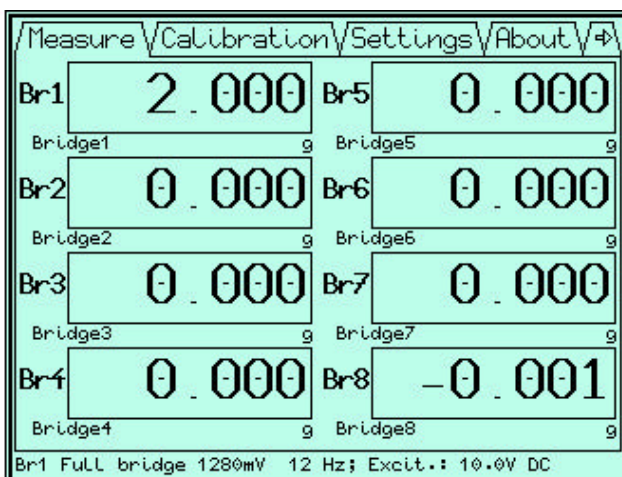
Step 2 : Calibrate the unit

Setup a low value at the sensor, press the Min button. Setup a high value at the sensor, press the Max button.

Calibrating the unit is done.



Step 3: use the unit



The measured value's are displayed real time. In the units of your choice. With logical names of your choice. The back light ensures that it's readable from a long distance.

Technical specifications

EMC & SAFETY

- EMC Compliance proven: (according CISPR22 en EN50082-1).
- Safety Compliance proven: (according IEC 1010-1 + amendments).

GENERAL

- Number of channels: 8 independent channels.
- Bridge input modes: bridge, half bridge, differential amplifier.
- Bridge excitation: fully differential, 0 to 15 V DC or 0 to 10Vrms, 500 to 10000 Hz
- Bridge analogue output: 8 outputs with configurable range.
- Bridge digital output: Via a TCP/IP socket over Ethernet.
- Digital remote control: 48 digital I/O lines
- Full control by means of a touch LCD, a serial port and/or an Ethernet telnet session.
- Network supervision support with a built in SNMP agent (Simple Network Management Protocol).

ELECTRICAL DATA

Power Supply

- Insulation class: class : I
- Mains: 85 to 260 V AC, 45 to 65 Hz, 1A (85V) to 0.5 A (260V)
- Max power consumption: 50 W
- Connector type: IEC

Analogue Input

- Absolute maximum input voltage: + or – 12 V DC versus ground, + or – 24 V DC differential
- Absolute maximum input current: + or – 50 mA, Max 2 A for 10 ms
- Input voltage range: ± 20 , ± 40 , ± 80 , ± 160 , ± 320 , ± 640 , ± 1280 mV or ± 10 V
- Input impedance: 1G Ohm typical
- Bandwidth: Selectable from 4 to 1000 Hz

Analogue Outputs

- Max output voltage: -10 to +10 V, software limitable to a lower value
- Max output current: -10 to +10 mA, the short circuit current is about 20mA
- Output impedance: 0.001 Ohm typical

Digital Inputs

- Max input voltage: 5V (10mA)

Digital Outputs (open collector)

- Max output voltage: 25 V
- Max output current: 500 mA/output, 1.5A total current for the 16 outputs

Excitation voltages

- Excitation voltage: 0 to 15 V DC or 0 to 10 Vrms AC
- Excitation frequency: DC, 0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 7.5, 10 or 15 kHz AC
- Maximum excitation current: 25mA
- Short circuit current: 30 to 60 mA

MECHANICAL DATA

Dimensions (without plugs)

- Height: 3U (128.4mm)
- Width: 42U (213.4mm) or ½ 19" subrack
- Depth: 23.7 mm
- Weight: 2 Kg

ENVIRONMENTAL

Operational

- Ambient temperature: +10 to +40 °C
- Internal Temperature: +20 to 50 °C
- Humidity: max. 95% relative humidity, non condensing

Storage

- Temperature: -20 to + 50 °C
- Humidity: max. 95% relative humidity, non condensing

Distributor

LOGO

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