



Industrial Batching System, Counter and Flow Indicator for Panel Mounting



measuring
•
monitoring
•
analysing



- Frequency measuring 34 kHz
- 2 independent counters,
1 sum/difference/remote indication,
1 tachometer
- User scaling
- Min/Max memory
- Scalable pulse output
- Protection IP 65
- Simple button programming



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KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ +49(0)6192 299-0
Fax +49(0)6192 23398
E-Mail: info.de@kobold.com
Internet: www.kobold.com

Model:
DAG-AXI



Description

The industrial indicator DAG-AXI can be used as a very flexible and accurate laboratory device. However, it was designed with rugged plastic housing and high protection IP 65 for rough industrial applications. The globally used, proven electronics designed for durability undergo a 3-day quality test under full load after assembly. The device is programmed quickly and safely from a PC or with the 5 keys. The operator can record and easily alter all parameters at once with the convenient user interface. Devices may also be upgraded with the pluggable options.

The device is fitted with the following functions as standard:

- 2 independent counters, 1 dependent counter and 1 tachometer / flow indicator
- 2 pulse inputs, multiple evaluation, fourfold phase discriminator
- 3 programmable user inputs
- User scaling
- 10-step linearization
- Min/max memory, scalable pulse output
- Jet-proof and dust-proof from the front (IP 65)
- Simple button programming

Besides the standard functions the device can also be fitted with the following options:

- Limit values: 2 changeover contacts, 4 N/O contacts, 4 NPN-OC transistor outputs or 4 PNP-OC transistor outputs
- Analogue output: 0/4-20 mA and 0-10 V_{DC}
- Interface: RS232, RS485, DeviceNET or Profibus-DP



Technical Details

- Display: 6-digit, 14 mm high, red LED display
- Counters: max. +999.999 or -99.999 (static), max. ±99.999.999 (2 alternate displays) (OF 99) (999999)/(OF-99)(999999)
- Tachometer: max. 99.999; accuracy: 0.01 % period measurement
- Input: NPN-, PNP sensors, CMOS, TTL, floating contacts, Namur, permanent magnet sensors (DIP switch settings)
- Measurement input: 0.01 Hz to max. cut-off frequency (max. 34 kHz, see table for limitation)
- Pulse output: scalable 0.0001 to 1.0000; NPN-O.C. max. 100 mA, 30 V_{DC}
- MIN-/MAX value: display: L12345 or H12345
- Sensor supply: 12 V_{DC}, ± 10%, max. 100 mA
- Power supply: 85-250 V_{AC}, 18 VA or 11-36 V_{DC}, 14 W 24 V_{AC} (± 10%), 15 VA
- Max. temperature: 0...+50 °C operating temperature (0...+45 °C with all options) -40...+60 °C storage temperature
- Dimensions: 96x48x104 mm (WxHxD)
- Cut-out dimensions: 92x45 mm
- Housing: plastic, IP 65 from the front
- Mounting: mounting frame with retaining screws
- Connection: fixed terminal block
- Weight: approximately 300 g (without pluggable options)

Order Details (Example: DAG-AXI 0 0 0 0)

Model	Description	Supply	Limit values	Output	Interface
DAG-AXI	2 frequency inputs 6-digit, 14 mm high LED-display, 3 counters, 1 tachometer, pulse output, MIN/MAX-memory	0=85-250 V _{AC} 1=11-36 V _{DC} , 24 V _{AC}	0= without 2= 2 changeover contacts 4= 4 N/O contacts 8= 4 Transistor outputs NPN 9= 4 Transistor outputs PNP	0= without 4= 0(4)-20 mA, 0-10 V	0= without 7= RS 232 8= RS 485 9= DeviceNET 5= Profibus-DP



Output cards

The device can be very easily upgraded with different output cards. Each device can be equipped with a maximum of one limit value card, one analogue output card and one interface card. Installation can be carried out very easily by the user.

- **2 x relay changeover contacts**
5 A at 120/230 V_{AC} or 28 V_{DC} (resistive load),
at 120 V_{AC} (80 VA inductive load)
- **4 x N/O contact relays**
3 A at 250 V_{AC} or 30 V_{DC} (resistive load),
at 120 V_{AC} (80 VA inductive load)
Service life relay:100000 cycles
(full load, service life increases at negligible load)
- **4 x NPN-OC-transistors**
max. 100 mA, V_{max} 30 V
- **4 x PNP-OC-transistors:**
max. 100 mA, V_{max} 30 V

Analogue output card

Output signal selectable: 0-20 mA; 4-20 mA; 0-10 V_{DC}
scaling in program menu

Offset adjustment

Accuracy: 0.17 % (10-28°C)
0.4 % (0-50°C)

Load: max. 500 Ω

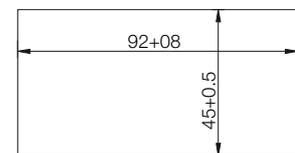
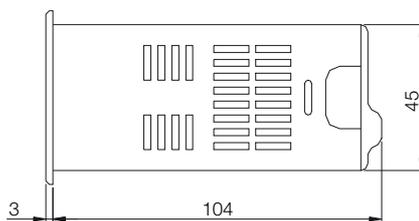
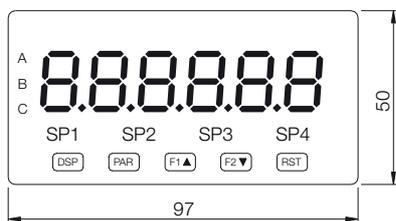
Interface card

- RS 232 Half-duplex, programmable
- RS 485 Multipoint, programmable
- Device Net, programmable
- Profibus-DP, programmable

Operation

The convenient user interface displaying all relevant data, the indicators and the unit enable fast operation. The device is operated with 5 front-panel buttons. The displays and entries that are to be enabled or remain disabled after the programming inhibit has been activated are defined during programming. The setpoint values that can be altered with the F1 and F2 buttons are shown individually with the PAR button. The function keys F1 and F2 can each be assigned two functions. To activate the second function press the button for 3 seconds.

Dimensions



Cut-out dimensions

Cut-off frequencies

1 counter, A or B or 1 tachometer

4 outputs	N	N	N	N	J	J	J	J
Pulse output	N	N	J	J	N	N	J	J
3rd counter	N	J	N	J	N	J	N	J
Operat. mode								
Counter	34	25	21	17	18	15	13	11
Counter x 2	17	13	16	12	9	7	8	7
FW/BW	34	25	21	17	18	15	13	11
FW/BW x 2	17	13	16	12	9	7	8	7
FW/BW BE	34	25	21	17	18	15	13	11
FW/BW BE x 2	17	13	16	12	9	7	8	7
PD x 1	22	19	20	17	12	10	11	10
PD x 2	17	13	16	12	9	7	8	8
PD x 4	8	6	8	6	4	3	4	3
PD BE x 1	22	19	20	17	12	10	11	10
PD BE x 2	17	13	16	12	9	7	8	8
Tachometer	34	34	21	21	34	34	21	21

(units = kHz)

2 counters, A and B or counter A and Tacho B

4 outputs	N	N	N	N	J	J	J	J
Pulse output	N	N	J	J	N	N	J	J
3rd counter	N	J	N	J	N	J	N	J
Operat. mode								
Counter	13	12	13	11	9	7.5	9	7
Counter x 2*	9	7	9	7	5	4	5	4
FW/BW BE	13	12	13	11	9	7.5	9	7
FW/BW BE x 2*	9	7	9	7	5	4	5	4
PD BE x 1*	7	6	6	8	7	3.5	3.5	3
PD BE x 2*	7	6	6	5	7	3.5	3.5	3

*The double cut-off frequency applies to the tachometer in operating mode counter A and tachometer B.

Remarks

- The user input for relay should be externally dampened with FORWARDS/BACKWARDS BE or PD BE. The input characteristic is defined as under user inputs.
- The specified cut-off frequencies only apply when the DIP switches are set to Hi frequency.
- During serial communications the cut-off frequency is reduced by 20%.
- The specified cut-off frequencies are not impaired when the analogue output (option) is used.



Description

The industrial indicator DAG-AXV can be used as a very flexible and accurate laboratory device. However, it was designed with rugged plastic housing and high protection IP 65 for rough industrial applications. The globally used, proven electronics designed for durability undergoes a 3-day quality test under full load after assembly. The device is programmed quickly and securely from a PC or with the 5 keys. The operator can record and easily alter all parameters at once with the convenient user interface. Devices may also be upgraded with the pluggable options.

The device is fitted with the following functions as standard:

- Standard signal display 0-20 mA, 4-20 mA, 0-10 V_{DC}
- Backlite unit
- 3 programmable user inputs
- Scaling, 20 measurements/second
- Totalizing, min/max memory
- 16-step linearization
- Jet-proof and dust-proof from the front (IP 65)
- Simple button programming

Besides the standard functions the device can also be fitted with the following options:

- Limit values:
2 changeover contacts, 4 N/O contacts,
4 NPN-OC transistor outputs or
4 PNP-OC-transistor outputs
- Analogue output:
0/4-20 mA and 0-10 V_{DC}
- Interface:
RS232, RS485, DeviceNET or Profibus-DP



Technical Details

- Display: 5-digit, 14 mm high red LED display, backlite unit
- Input: 0(4) -20 mA; 0-10 V_{DC}
- Impedanz: 20 Ω (20 mA input)
500 kΩ (10 V input)
- Accuracy: ±0.03% + 2 uA; ±0.03% + 2mV (at 18-28°C)
±0.12% + 3 uA; ±0.12% +3mV (at 0-50°C)
- Summator: 9-digits (first 4 digits/second 5 digits) input x time x factor
- Accuracy: typically 0.01% (time base)
- Measurement frequency: 20 measurements / second
16 bit A/D converter
- Response time: 200ms (99% of final value)
- Sensor supply: 24 V_{DC}; ± 5%, max. 50 mA
- Power supply: 85-250 V_{AC}, 15 VA
or 11-36 V_{DC}, 11 W
24 V_{AC} (± 10%), 15 VA
- Max. temperature: 0 to ± 50°C operating temperature
(0 to +45°C with all options)
-40 to +60°C storage temperature
- Rel. humidity: max. 85% rH, non-condensing
- Dimensions: 97 x 50 x 104 mm (WxHxD)
- Cut-out dimensions: 92 x 45 mm
- Housing: plastic, IP 65 from the front
- Mounting: mounting frame with retaining screws
- Connection: fixed terminal block
- Weight: approximately 300g
(without pluggable options)
- Output cards: see DAG-AXI

Order Details (Example: DAG-AXV 0 0 0 0)

Model	Description	Supply	Limit values	Output	Interface
DAG-AXV	Normal signal display 5-digit, 14 mm high LED display, totalizing MIN/MAX memory 16-step linearization	0=85-250 V _{AC} 1= 11-36 V _{DC} , 24 V _{AC}	0= without 2= 2 changeover contacts 4= 4 N/O contacts 8= 4 Transistor outputs NPN 9= 4 Transistor outputs PNP	0=without 4=0(4)-20 mA, 0-10 V	0= without 7= RS 232 8= RS 485 9= Device-NET 5=Profibus-DP