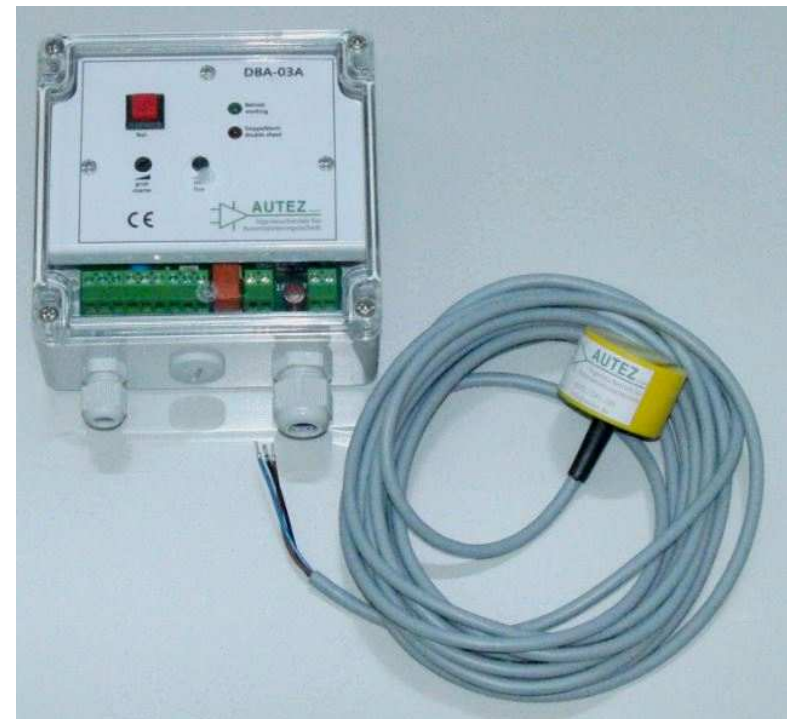


DOUBLE SHEET DETECTOR DBK-03A

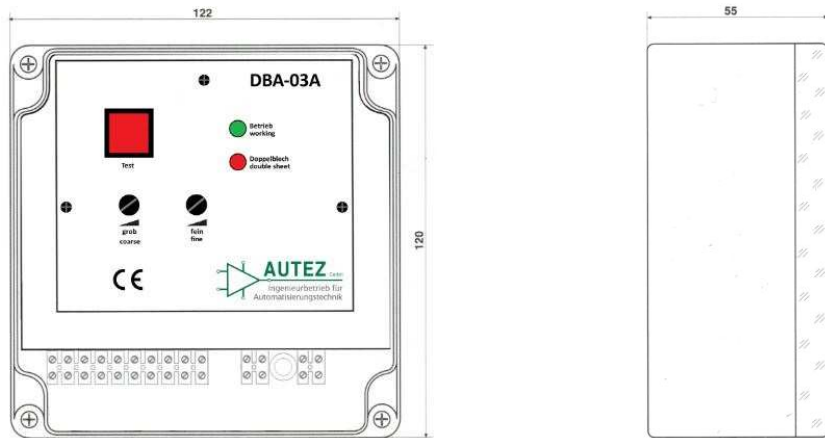
Operating Instructions



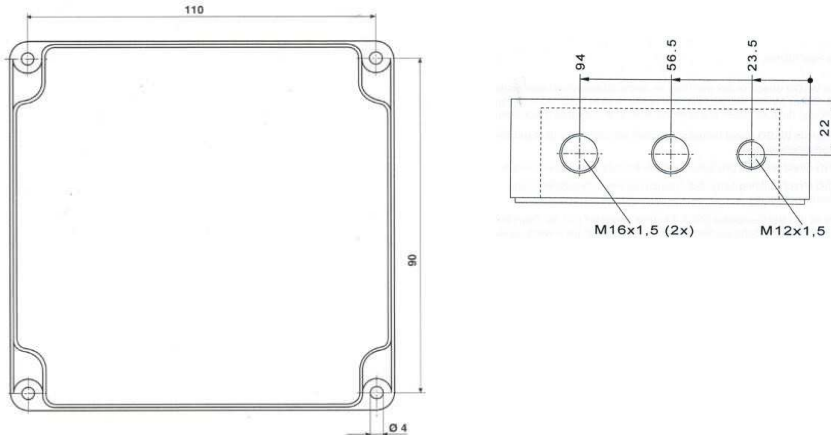
AUTEZ GmbH
Gewerbestraße 19
08115 Lichtentanne
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info@autez.de
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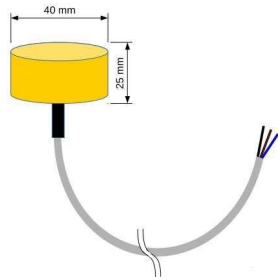
Main dimensions



Dimension for fastening of the monitoring unit

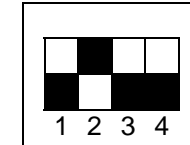


Sensor with open cable end, cable length 5 m

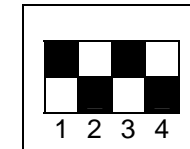


Adjustment procedure

1. Adjustment regarding the kind of material is realised by the manufacturer in accordance with the order. As a rule it is not necessary to change it. Only by processing with various material (e.g. tinplate – aluminium) you have to change the adjustment. After removing the three bolts of the front panel you can remove it and the switches S1...S4 are accessible.



- Ferrous material:
S1 = OFF, S2 = ON, S3 = OFF, S4 = OFF



- Aluminium:
S1 = ON, S2 = OFF, S3 = ON, S4 = OFF

2. After connection to the operating voltage, the green LED (indicating "working" = power ON) must turn on

3. Turn the coarse adjust control "coarse" to the full clockwise position. Turn the fine adjust control "fine" to the full counter-clockwise position.

4. Put one sheet on the sensor (without air gap). Depending on the specific material, the red LED (indicating "double sheet") can be turned on.

5. Press the "Test"-button. If the red LED is turned on, start turning coarse adjust control slowly until the LED just turns off.

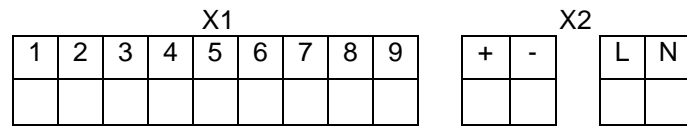
6. Hold the "Test"-button and start turning fine adjust control slowly until the red LED just turns on.

7. Release the "Test"-button. The red LED must turn off.

Tip:

- By using special materials the range of the fine adjust control could be too small. In this case you can turn the coarse adjust control a little clockwise before doing step 6.
- Step 6 should be finished only by turning the fine adjust control.

Pin connection



X1 Terminal strip for sensor and outputs

| | |
|-------|---|
| X1/1 | Terminal for black sensor wire |
| X1/2 | Terminal for blue sensor wire |
| X1/3 | Terminal for brown sensor wire |
| X1/4 | Collector of n-p-n-transistor |
| X1/5 | Emitter of n-p-n-transistor |
| X1/6 | No function (internal connection) |
| X1/7 | Relay output, opening contact |
| X1/8 | Relay output, closer |
| X1/9 | Relay output, pole |
| | |
| X2 | Terminal strip for operating voltage |
| | |
| X2/L1 | Operating voltage 230 V AC (+/- 10%) |
| X2/N | 50/60 Hz |
| | |
| X2/+ | Operating voltage 24 V DC (+/- 20%) |
| X2/- | a protection against false polarity is included |

Technical data

| | |
|--------------------|--------------------------------|
| Sheet thickness: | circa 0.1 ... 0.4 mm |
| Material: | Ferrous and non-ferrous metal |
| Sensor technology: | Non-reactive one sensor system |

Monitoring unit DBA-03A

| | |
|-----------------------|--|
| Operating voltage: | 24 V DC / 230 V AC |
| Power consumption: | Approximately 2.5 VA |
| Dimension: | W = 122 mm, H = 120 mm, D = 55 mm |
| Weight: | 0,5 kg |
| Degree of protection: | IP 65 (German standard) |
| 1st output: | Change-over contact, switching capability 2 A, 250 V |
| 2nd output: | n-p-n transistor (opto-coupler) for activation of electronic components applicable as p- or n-switch |
| | $U_{\text{cmax}} = 60 \text{ V}$, $I_{\text{cmax}} = 30 \text{ mA}$ |
| Cable terminal: | Screw terminal, cable box bushing |

Sensor DBS-01

| | |
|-----------------------|-------------------------|
| Dimension: | Ø 40 mm, H = 25 mm |
| Degree of protection: | IP 67 (German standard) |
| Cable length: | 5 m |
| Weight: | 0,26 kg |

Application

The main task of the Double Sheet Detector DBK-03A is the protection of tools and machines that could be damaged as consequence of feeding more than one sheet.

The most important area of application is the metal packing industry. Both ferrous and non-ferrous materials, e.g. tinplate and aluminium, are processed here at a high speed.

There is a danger of occurring double sheets in the process of separating as well as in the process of transferring sheets.

Such failures can be located with the help of the Double Sheet Detector DBK-03A and the machine control is able to react specifically.

Regarding the thickness of the sheets the series 03 is specified for using in the metal packaging industry.

Sheets with a thickness from circa 0.1 to 0.4 mm can be controlled by this series.

The Double Sheet Detector DBK-03A consists of two components:

- monitoring unit DBA-03A
- Double sheet sensor DBS-01

The Double Sheet Detector DBK-03A is intended for industrial conditions. Degrees of protection:

- IP 65 for monitoring unit DBA-03A
- IP 67 for sensor DBS-01

Advantages of the DBK-03A

- Universal controller with two outputs. One relay output for direct circuit breaking, a second transistor output for activating other electronic components.
- Perfect location of double sheet in a sheet thickness range of circa 0.1 to 0.4 mm.
- Applicability to ferrous and non-ferrous materials.
- Non-reactive, therefore no distortion of sheets and no adhesion between sheet and sensor.
- The one sensor system without ferrite plug on the opposite side provides good conditions for installation.
- Flush mounting in metal is allowed.
- Operating voltage: 24 V DC / 230 V AC

