

## AS-Adapter 3 for PLC and Oscilloscope

- for supply and autonomous operation of AS-active-probes
- amplification of the probe signal switchable x5 or x50
- standardized analog output with  $\pm 10$  V
- calibrated analog output: DC – 100 kHz
- flexible use as table and control cabinet device
- galvanic isolation of supply voltage and measuring system
- wide supply voltage range 9 V to 36 V
- factory calibration certificate
- Made in Germany



The AS-Adapter 3 is used for the autonomous operation of 1-axis and 3-axis AS active probes. The signals from all 3 probes are available simultaneously and in parallel via the BNC connections or via the terminal contacts.

The AS-Adapter 3 supplies the AS active probes with  $\pm 3$  V in a highly stable manner. The probe signals are amplified with x5 or x50, so that with  $\pm 2$  V or  $\pm 0.2$  V they can output  $\pm 10$  V for a PLC system and Provide oscilloscope.

The wide supply voltage range is 9 VDC to 36 VDC. The signals and supply of the probes are galvanic isolated from the operating voltage.

The analog output of the AS-adapter 3 is calibrated and thus can be used e.g. for displaying magnetic pulses in the  $\mu$ s-range (Oscilloscope), recording of measurements and for field control. The bandwidth of the analog output reaches from DC to a least 100 kHz. Therefore it is suitable for measuring both constant magnetic fields and alternating magnetic fields. The actual usable bandwidth depends on used AS-active probe.

After connecting the desired probe, the measurement can start without adjusting zero and scale because all AS-active probes are calibrated. Hence replacement probes can be used at any time.

All of our AS-active probes may be connected to the AS-Adapter 3. This allows the fast adaptation to different measuring task by simply plugging in a different probe. Depending on the type of AS-active probe fields from a few nano Tesla up to 12 Tesla can be measured. Further information can be found in the data sheet of the AS-active probes.

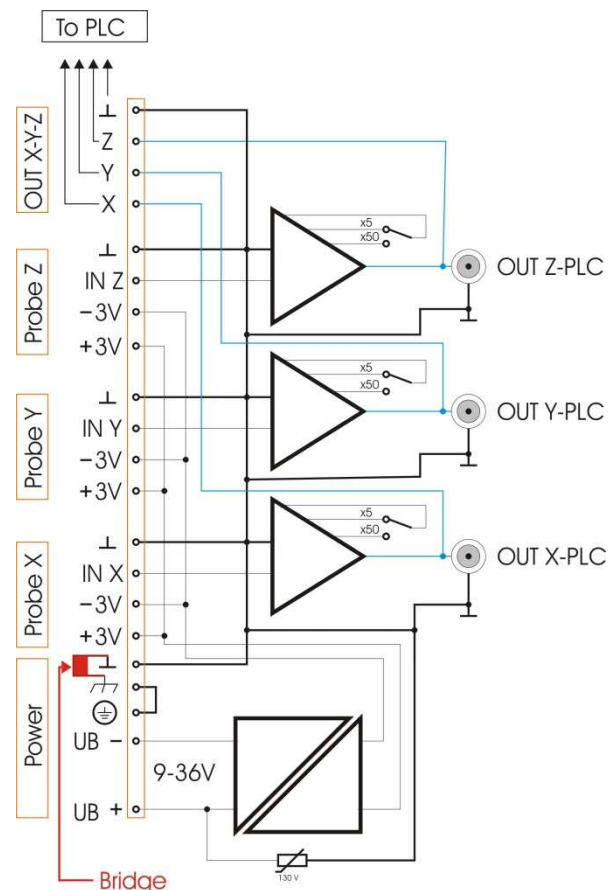
The AS-Adapter 3 has table feet's and a DIN rail holder mount for cabinet device mounting.

**class AS-probe**      **Range and transfer factors with AS-Adapter 3**

|                    |                            |           |   |
|--------------------|----------------------------|-----------|---|
| <b>High: H</b>     | <sup>(1)</sup> 20 T<br>2 T | x5<br>x50 | 10 V / 20 T<br>10 V / 2 T               |
| <b>Normal: N</b>   | 2000 mT<br>200 mT          | x5<br>x50 | 10 V / 2000 mT<br>10 V / 200 mT         |
| <b>Low: L</b>      | 200 mT<br>20 mT            | x5<br>x50 | 10 V / 200 mT<br>10 V / 20 mT           |
| <b>Ultralow: U</b> | 200 $\mu$ T<br>20 $\mu$ T  | x5<br>x50 | 10 V / 200 $\mu$ T<br>10 V / 20 $\mu$ T |

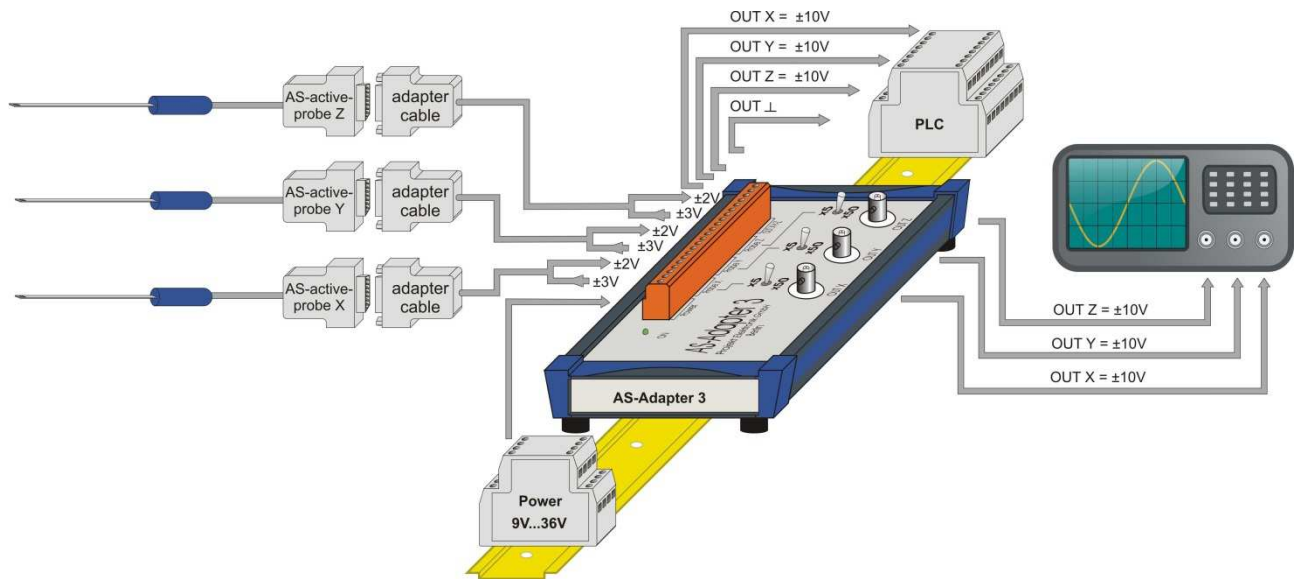
Table 1

(1) calibrated up to 12T

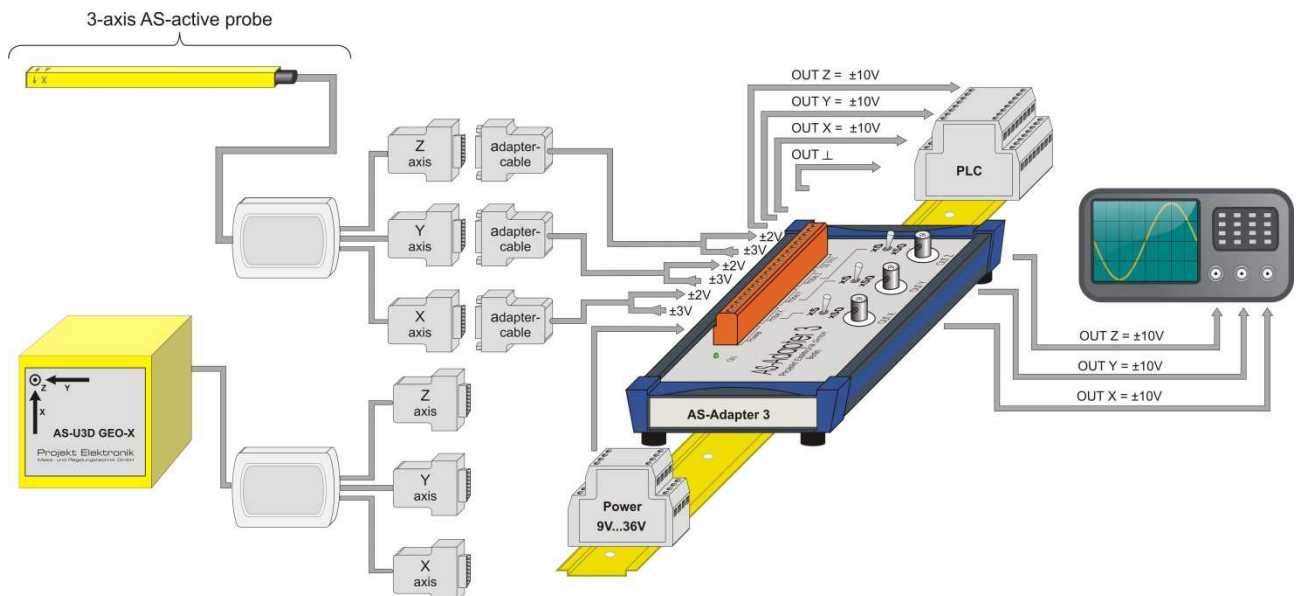


Block diagram AS-Adapter 3

**AS-Adapter 3 with 1-axis AS-active probe**



**AS-Adapter 3 with 3-axis AS-active probe**



## **Technical Data for AS-probe adapter (without AS-active probe):**

### **Supply**

|                             |                               |
|-----------------------------|-------------------------------|
| Supply voltage              | 9 V – 36 V DC                 |
| power consumption           | max. 3 W                      |
| output voltage probe supply | ±3 V                          |
| output current probe supply | max. 60 mA (20 mA ever probe) |

### **Signal**

|                              |  |
|------------------------------|--|
| Gain                         | switchable x5, x50   |
| Offset at output X, Y, Z     | at x5: max. ±0.25 mV (at 23°C)<br>at x50: max. ±2.5 mV (at 23°C) |
| Zero drift at output X, Y, Z | at x5: max. ±0.025 mV/K<br>at x50 max. ±0.25 mV/K                |
| Gain error                   | typ. ±0.1%, max. ±0.4 % (DC, at 23°C)                            |
| Gain drift                   | typ. ±0,005 %/K  |
| Input voltage range          | at x5: ±2 V<br>at x50 ±0.2 V                                     |
| Input resistance             | 22 kΩ  |
| Output voltage               | max. ±10 V, at load min. 5 kΩ<br>Short-circuit proof             |
| Output resistance            | <1 Ω   |
| Bandwidth (-3 dB)            | 100 kHz; depends also on used probe                              |

### **Isolation**

|                    |  |
|--------------------|--|
| Galvanic isolation | power supply – signal: 100 VDC, 70 VAC with<br>Varistor protection<br>Bridge option: PE-GND<br>Bridge option: GND-Case |
|--------------------|--|

### **Mechanics**

|                              |  |
|------------------------------|--|
| Case                         | Alu-Style-Case isolated with bumpers,<br>DIN rail with table feet, |
| Operating temperature        | +5°C bis +50°C   |
| Storage temperature          | -10°C bis +65°C  |
| Dimensions                   | 135 x 105 x 53 mm (L x B x H)                                      |
| Weight (incl. Adapter Cable) | 1045 g   |

### **Adapter Cable for Probe Connection**

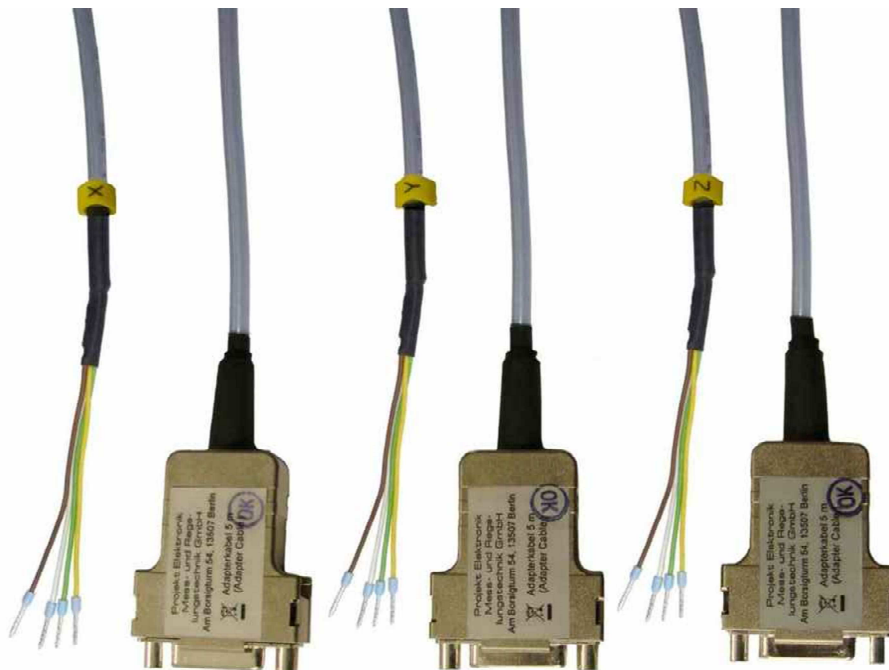
For 3x 1-axis AS-Active probe  
or 1x 3-achsige AS-Active probe

|           |   |
|-----------|---|
| Connector | 3 piece: probe side: 3x15polige SubD socket<br>adapter side: 3x4 single leads |
| Setup     | 4pole, screened<br>screen and socket house to analog-ground!                  |
| Length    | 5 m   |

**Clamping side**



**Adapter Cable with 5 m length for AS-active probe**



**Attention should be paid that there is a connection between GND and cable shield as well as the connector housing in the adapter cable. At brass probes this is also connected to GND. Possibly an isolated installation of the probe and the connector is necessary to prevent an unintended connection between measuring GND and protective earth.**



The AS adapter 3 is connected with 3 pieces of adapter cable (X, Y, Z axis) according to *Table 2*.

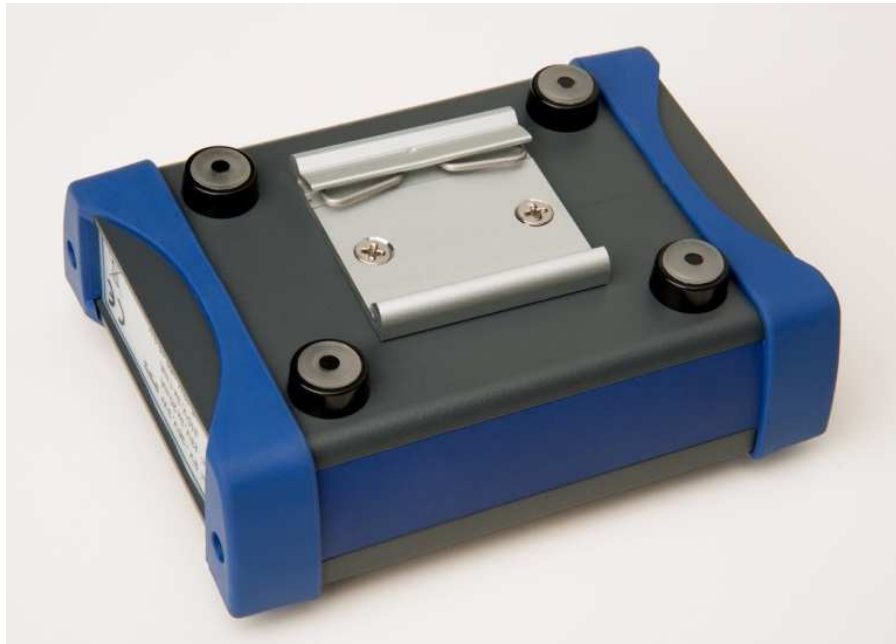
| cable | cable line | connection on AS-Adapter 3 |
|-------|------------|----------------------------|
| X     | YE         | +3V                        |
|       | GN         | -3V                        |
|       | WH         | IN X                       |
|       | BN         | IN GND                     |
| Y     | YE         | +3V                        |
|       | GN         | -3V                        |
|       | WH         | IN Y                       |
|       | BN         | IN GND                     |
| Z     | YE         | +3V                        |
|       | GN         | -3V                        |
|       | WH         | IN Z                       |
|       | BN         | IN GND                     |

Table 2

### Mounted on a DIN rail



## **Bottom: DIN rail holder and table feet**



### **Included in Delivery:**

- AS-Adapter 3
- 3 pieces 5 m adapter cable for probe connection
- operating manual
- factory calibration certificate

### **Options:**

- 9 V plug-in power supply unit for AS-probe adapter
- adapter cable with different length

### **Application Notes**

On our website (<http://www.projekt-elektronik.com/applikation.php>) under Application you can find many additional documents with information, hints and examples for measuring of magnetic fields.

### **Questions?**

Do you have any question about a measuring task? Call us, we would be pleased to advice you.

As manufacturer of this system we can fulfill your desires about developing AS-active probes, changing of measurement range, changing of gain factors or other needs. Please call us or send us an email.

Gladly we accept your suggestions,

Your PE – Team.