

# TA325 / TA326 AC Current Probes



## User's Guide

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Thank you for buying this product.  
For safety reasons and optimal use of this instrument  
read through the operating instructions very carefully.

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# 1. SAFETY

The following symbols appear on the products:



Attention! Refer to Manual



Double/Reinforced Insulation



Do not apply around or remove from HAZARDOUS LIVE conductors without additional protective means. "Additional protective means" can be de-energizing the circuit or wearing protective clothing suitable for high voltage work.



Do not dispose of this product as unsorted municipal waste. Contact a qualified recycler for disposal.



Complies with the relevant European standards.



**Read all instructions completely before using this product.**

**To avoid electric shock:**

- Use caution during installation and use of this product; high voltages and currents may be present in circuit under test.
- This product must be used only by qualified personnel practising applicable safety precautions.
- Wear protective clothing and gloves as required.
- Do not install this product on live conductors.
- Always de-energise circuit under test before installing flexible measuring head. Always inspect the electronics unit, connecting cable, and flexible probe for damage before using this product.
- Do not use product if damaged.
- Always connect electronics unit to display device before installing the flexible measuring head.
- Never change batteries while measurement head is installed on conductor.
- Never connect or disconnect the external power supply while the measurement head is installed on a conductor.
- Never connect the output to any equipment with a common mode voltage to earth greater than 30 volts.
- Always wear protective clothing and gloves if hazardous live parts are present in the installation where the measurement is carried out.
- If the probe is used in a manner not specified by the manufacturer the protection provided by the equipment may be impaired.

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## 2. INTRODUCTION

The TA325 (Three Phase) and TA326 are AC current probes utilising the Rogowski coil principle. They can be used to measure AC current up to 3000 A, when used with oscilloscopes, recorders or data loggers. The flexible probe allows current measurements on conductors that are hard to reach.

The probes provide a 3 V full scale AC output proportional to the current being measured with three selectable ranges.

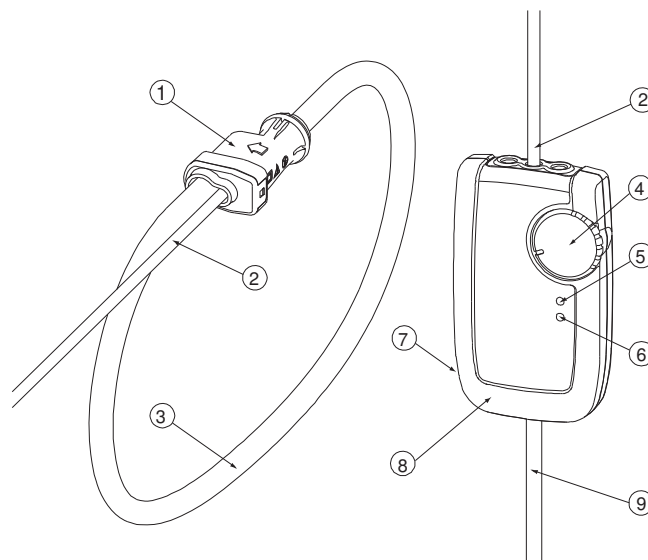


Fig 1

1. Probe Coupling
2. Probe Output Cable
3. Flexible Current Probe
4. Power On / Range Switch
5. RED LED – Overload
6. ORANGE LED – Low Battery
7. External Power Supply Input
8. Integrator Housing
9. Output Cable

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### 3. SPECIFICATIONS

|                                    |   |
|------------------------------------|---|
| Measuring ranges                   | 30 A / 300 A / 3000 A AC  |
| Output sensitivity<br>(AC coupled) | 100 mV / 10 mV / 1 mV per A   |
| Accuracy (45-65Hz)                 | $\pm 1\%$ of reading $\pm 0.1$ A    30 / 300 A<br>$\pm 1\%$ of reading $\pm 1$ A        3000 A                        |
| Minimum load                       | 100 k $\Omega$ for specified accuracy   |
| Frequency range                    | 10 Hz to 20 kHz (-1 dB)   |
| Phase (45-65Hz)                    | $<\pm 1^\circ$  |
| Position sensitivity               | $\pm 2\%$ of reading  |
| External field                     | $\pm 0.25\%$ of range with cable $>100$ mm<br>from the probe  |
| Noise                              | 80 mA RMS 30 A<br>400 mA RMS 300 A / 3000 A   |
| Temperature coeff.                 | $\pm 0.1\%$ / $^\circ$ C  |
| Power supply                       | Two AA MN1500 LR6 alkaline batteries<br>or an external power supply (+3 V / 100 mA)                                   |
| Battery life                       | 1000 hours typical (TA325)<br>2000 hours typical (TA326)  |
| External Power                     | Via 2.1 mm (0.08") mini power connector   |
| Low battery                        | Indicated by an orange LED  |
| Overload                           | Indicated by a red LED  |
| <b>Enclosure</b>                   |   |
| Material                           | ARNITE T06-200SNF, UL94 V0  |
| Degree of Protection               | IP40  |
| Dimensions                         | 110 (l) x 65 (w) x 23 (d) mm  |
| Output connection                  | TA325: 0.5 m coax cable with 3 shrouded BNC<br>connectors<br>TA326: 0.5 m coax cable with a shrouded BNC<br>connector |

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## **Probe**

|                      |                                     |
|----------------------|-------------------------------------|
| Probe length         | 610 mm (24"), double-insulated      |
| Probe diameter       | 9.9 mm (0.39")                      |
| Output cable         | 2 m (78.7"), probe to integrator    |
| Material             | Alcryn 2070 NC, LATI LATENE 7H2W V0 |
| Degree of Protection | IP65                                |

## **General Characteristics**

|                    |                                      |
|--------------------|--------------------------------------|
| Operating temp.    | -20 °C to +65 °C (-4 °F to +149 °F)  |
| Storage temp.      | -40 °C to +75 °C (-40 °F to +167 °F) |
| Operating humidity | 15% to 85% (non-condensing)          |

|                  |                              |
|------------------|------------------------------|
| Safety standards | EN 61010-1<br>EN 61010-2-032 |
|------------------|------------------------------|

|     |              |
|-----|--------------|
| EMC | EN 61326-2-2 |
|-----|--------------|

1000 V RMS, Category III, 600 V RMS, Category IV,  
Pollution Degree 2 (probe and integrator)

30 V maximum between output and ground

ROHS and WEEE compliant

Rated for continuous use

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## 4. OPERATION

### 4.1 BATTERY INSTALLATION



**Never replace the batteries when the flexible measuring head is installed on the conductor to be tested, or when the output is connected to the scope device.**

**Never operate the unit without the battery cover fitted.**

The TA325 and TA326 require two AA MN1500 LR6 alkaline batteries for operation. The battery compartment is accessed from the rear of the electronics enclosure.

Battery status is indicated by an orange LED on the front of the integrator module. This LED will flash once when the unit is switched ON. The length of time the LED is lit will increase as battery life decreases. If the LED is continuously lit, the batteries are low and need to be replaced.

Should you suspect a depleted battery or the low-battery LED is blinking, proceed as follows.

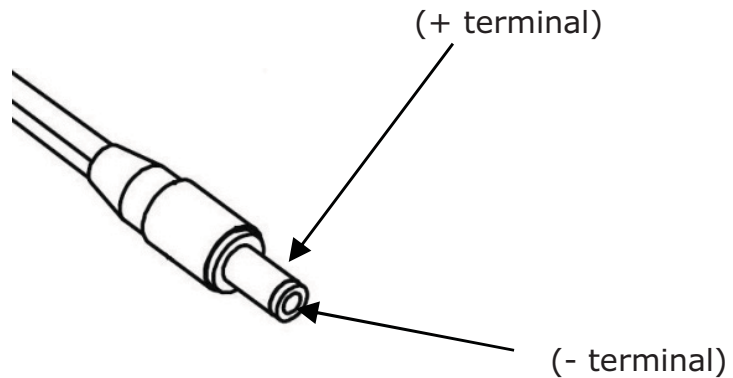
1. Turn OFF all power to the unit and measurement circuits.
2. Set the probe selector switch to the OFF position.
3. Remove the flexible current probe from around the conductor of your measurement circuit. Disconnect the output from the scope device.
4. Rotate the battery lock screw (1/4 turn) until it aligns with the unlock symbol. The battery cover can now be removed.
5. Install the replacement batteries into the battery holder.
6. Replace the battery cover and turn the battery lock until it aligns with the lock symbol.



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## 4.2 EXTERNAL POWER SUPPLY

An optional external power supply can be used with the TA325 and TA326. The requirements are a stabilised 3 V DC supply with a minimum current output of 100 mA. The supply is to be terminated with a 2.1 mm / 5.5 mm (0.08"/0.219") power connector (center negative).



## 4.3 MEASURING CURRENT



**Read the safety section of these instructions before operating this product.**



**Make sure the conductor to be tested is de-energized**  
Connect the output of the electronics to the input of an oscilloscope or other data recording device.

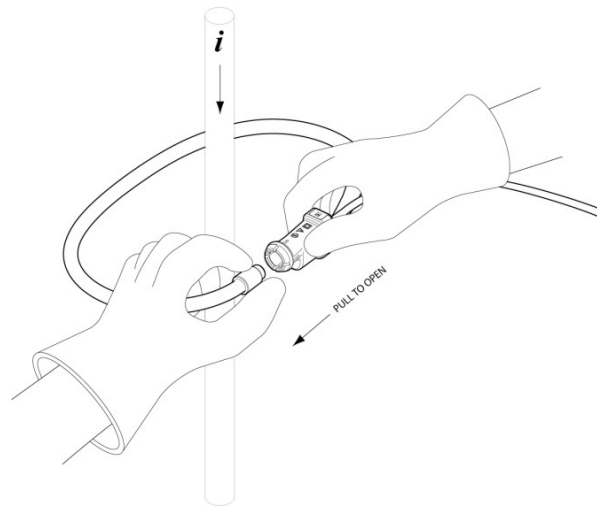


**The flexible current probe is not for use on conductors with a potential of over 1000 V.**

Wrap the flexible probe around the conductor to be tested and close the coupling. Energize the circuit under test. Locate the coupling away from nearby conductors.



**Always use appropriate equipment for personal protection. Do not use the flexible current probe to measure bare conductors unless wearing protective clothing suitable for high-voltage work.**



## **4.4 OPERATION**

To activate the unit, move the rotary switch from the OFF position to the required measuring range. If the value of the current being measured is unknown, first select the highest range and then reduce accordingly.

## **4.5 BATTERY STATUS**

Battery status is indicated by an orange LED on the front of the integrator module. This LED will flash once when the unit is switched ON. The length of time the LED is lit will increase as battery life decreases. If the LED is continuously lit, the batteries are low and need to be replaced.

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## 5. MAINTENANCE



**Do not use the TA325 / TA326 if damaged.**

Always inspect the integrator unit, connecting cable and flexible probe for damage before use.

To avoid electric shock, keep the TA325 / TA326 clean and free of surface contamination.

Use isopropyl alcohol to clean the electronics unit and the probe

Make sure the flexible probe, connecting cable and electronics enclosure are dry before further use.

## 6. WARRANTY

Your TA325 / TA326 is guaranteed for one year from the date of purchase against defective material or workmanship. If the unit fails during the warranty period, we shall, at our discretion, repair or replace it with a new or reconditioned unit provided we are satisfied that the failure is due to defective material or workmanship. To make a claim under warranty, the probe should be returned to us, postage prepaid, with a description of the defect. The use of a battery or external power supply, other than that specified invalidates this warranty.

Goods alleged by the buyer to be defective shall not form the subject of any claim for injury, loss, damage, or any expense howsoever incurred whether arising directly or indirectly from such alleged defects other than death or personal injury resulting from the seller's negligence.

No condition is made or to be implied nor is any warranty given or to be implied as to the life or wear of goods supplied or that they will be suitable for any particular purpose or for use under specific conditions, notwithstanding that such purpose or conditions may be made known to the seller.

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