



**AD13A.3-14-1
THREE-PHASE
METER**



**USER'S MANUAL
ADDM.411152.454-14 UM**

Manufacturer:

“ADD-PRODUCTION” S.R.L.

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E/FD-070-15

Rev.02/2018

Acceptance certificate

Three-phase electricity meter:

AD13A.3-14-1

ADDM.411152.454-14

Serial No: 14747427

Software: V8168 CRC: 8655B9CC

Serial numbers in packing list for box No 2

In total 20 pieces

shipment No 106

CE **M24** 1781

EU cert. № T11778

corresponds to the technical documentation and is declared suitable for operation.

Manufacturer's warranty

The manufacturer guarantees conformity of the meter to the technical specifications providing the installation, operation, transportation and storage conditions are observed.

Warranty life of the meter is defined according to the specified Contract, but it is not less than 18 months starting from the date of putting into operation, within the stated warranty period. Warranty storage life is 6 months starting from the manufacture date.

The manufacturer will repair or replace the meter under the terms of the warranty. The meter warranty period is extended to cover the time from the moment the consumer notifies a defect until the manufacturer eliminates it.

The meter can be accepted for repair only if the "Device movement during operation" section in the User's Manual is filled in.

The consumer has the right to present claims.

The warranty is considered void and the claims are not accepted in the following cases:

- the manufacturer' or repair service seals were broken;
- the mechanical damage marks were detected.

Device movement during operation

Installation Date	Installation Place	Removal Date	Removal Cause

1 Purpose

AD13A.3-14-1 is a three-phase transformer operated electricity meter (hereinafter the meter). The meter is designed for active and optional reactive energy metering in three-phase alternating current networks.

2 Delivery set

Name and designation	Quantity
Three-phase meter for electrical energy AD13A.3-14-1	1 piece
User's manual ¹	1 piece
Mounting pieces set ²	1 set
Packing box ³	1 piece

NOTES:

- The delivery of one user's manual for group packing is allowed.
- The mounting pieces set is delivered as agreed.
- The group shipment with use of a many-placed packing box is allowed.

3 Transportation and storage

The meters in packing can be transported by all types of transport under conditions of atmospheric precipitation direct action protection. While being transported by air the meters should be placed into the heated airproof compartments.

Transportation and storage are carried out at the temperature range from – 40 °C to +70 °C with the terminal cover put on.

In storage, content of dust, acid and alkali vapor, corrosive gas and other harmful substances, producing corrosion, should not exceed the content of corrosion-active agents for atmosphere of type 1.

4 Utilization

The meter is safe for life, people health and environment and after its operation lifetime expiration is subjected to utilization by respective Service in accordance with the respective Standards, Regulations and ways, accepted in location where the product is utilized.

5 Technical data

The meter meets EN 50470-1:2006, EN 50470-3:200 6 (IEC 62052-11:2003, IEC 62053-22:200 3, IEC 62053-23:2003) EN 50065-1:2011 requirements.

Reference voltage	(3×230/400 V) ± 20 %
Reference frequency	50 Hz ± 2 %
Reference current, I _n	5 A
Maximum current	10 A
Accuracy class active energy reactive energy	C 2
Minimum current active energy reactive energy	0,01·I _n 0,02·I _n
Starting current active energy reactive energy	0,001·I _n 0,003·I _n
Power, consumed by each voltage circuit active, not more than apparent, not more than	5,0 W 10,0 V·A
Power, consumed by each current circuit, not more than	0,04 V·A
Control relay parameters	277 V/ 5 A
Meter constant active energy reactive energy	10 000 imp./kW·h 10 000 imp./kvar·h
Backlit display	8-digit LCD
Impulse input current, not more than	2 mA ¹
Impulse voltage, not more than	4 kV
Base communication interface	PL (LV 0,4 kV)
Additional communication interface	optical port RS-485
Fraud detection sensors	meter cover opening terminal cover opening magnetic field
Standard clock error within 24 hours at 25°C, not more than	± 0,5 s
Absolute error of meter clock within 24 hours, not more than	± 5 s
The variation of the time-keeping accuracy with the temperature from – 40 °C to +70 °C, not more than	± 0,1 s/°C/24 h
IP rating	IP54
Mean total lifetime, not less than	20 years
Mean operating time between failures, not less than	96 000 h
Overall dimensions	(280x180x68) mm
Weight, not more than	1,2 kg

NOTE:

1. In areas with thunderstorm hyperactivity and overvoltage, surge protective device(s), Class 1, 1+2 should be installed before the meters with an input current (8/20) 2 kA and a pulse voltage (1,2 / 50) 4 kV.

6 Operating conditions

The meter is intended for 24-hours indoor operation. The meter withstands ambient air temperature from – 40 °C to + 70 °C and relative humidity of 95 % at 25°C (without moisture condensation) under operating conditions.

To protect the meter from direct influence of moisture and solar radiation in case of outdoor use it should be obligatory installed inside the airproof protective box.

7 After-sale operation

7.1 Special safety measures

The meter corresponds to class II in accordance with IEC 61010-1 on method of protection against electric shock.

Insulation between, on the one hand, terminals of the electric circuits, the extra relay terminals, connected together, and, on the other hand 'earth', connected with the auxiliary circuits whose reference voltage is less than 40 V, can withstand impulse voltage with peak value of 6 kV.

Insulation between, on the one hand, current circuits, connected together, and on the other hand, voltage circuits, connected together, is 6 kV.

The meter is able to carry impulse voltage, applied between, on the one hand, phase terminals one at time, and, on the other hand, neutral terminal, as well as between phase terminal(s) in all combinations with peak value of 12 kV.

Insulation between, on the one hand, terminals of the electric circuits, the extra relay terminals, connected together, and, on the other hand 'earth', connected with the auxiliary circuits whose reference voltage is less than 40 V, can withstand impulse voltage of 4 kV at frequency 50 Hz for 1 minute.

Under normal conditions insulation resistance between, on the one hand, terminals of the electric circuits, the extra relay terminals, connected together, and, on the other hand, 'earth', connected with the auxiliary circuits whose reference voltage is less than 40 V, should be not less than 20 MΩ.

7.2 Special operating conditions

Installation, removal, repair, verification and sealing of the meters should be carried out by the authorized representatives only.

The meter maintenance requires corresponding qualification from the maintenance personnel.

Connection diagram is indicated on the meter front panel.

The meter should be fixed in 3 points using the mounting pieces set.

Screw	DIN7985, M5x16-H(Z)	3 pieces
Washer	DIN433, M5.3	6 pieces
Nut	DIN934, M5	3 pieces

Information on Tool for Meters Screws Tightening:

Purpose	Required tools	Terminal screw torque	Type of tightening screw
Screws for terminal cover fastening	PH/PZ ¹	(0,3-0,5) N · m	M4x20
Screws for fastening of user 's wires at site	PH/PZ	(0,3-0,5) N · m	M4x12
Screws for connection of extra relay wires at site	PH/PZ	(0,3-0,5) N · m	M2,5x6

NOTE:

1. The type of screw head is agreed with the customer.

Make an external inspection of the meter before the installation and make sure that there is no mechanical damage.

Check for seals according to the certificate.

When the installation is finished, the meter should be sealed up by the representatives of the mounting organization.

Repair of the meter, requiring the metrological seals breaking is followed by the obligatory metrological verification.

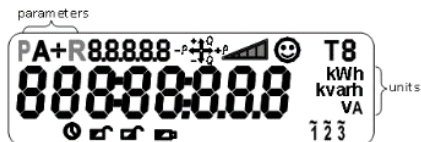
8 Verification conditions

The meter is subjected to verification, which is carried out by the metrological authority according to the verification technique.

The verification of the meter is carried out by the manufacturer at the product release (initial) or after it is repaired.

If the verification results are positive, the meter should be sealed up by the representative of the metrological authority; otherwise, the meter is repaired and then verified by the according services.

9 Displayed data



Test mode. All segments of the display are active¹

Table 9.1 Displaying symbols

Symbol	Description
888888	OBIS (Object Identification System) codes according to IEC 62056-61
	Load characteristic, which can be active and reactive in all combinations
	LV signal: ² <ul style="list-style-type: none"> blinking full triangle - modem is not configured blinking empty triangle - other error empty triangle - meter is not registered with data concentrator triangle with one mark - registered – signal level “low” triangle with two marks - registered – signal level “fair” triangle with three marks - registered – signal level “good” triangle with four marks - registered – signal level “high”
	Meter operates in “credit” mode
T8	Tariff indicator. When “no tariff” mode is required, any tariff can be configured will be actual during the day. At this corresponding tariff indicator will be constantly displayed on the screen
123	Absence of symbol indicates phase voltage absence. Phases blink simultaneously in case of wrong connection (i.e., wrong sequence of phases or a phase absence)
	Battery state. When battery voltage decreases to 3V from the nominal one of 3.6V, low battery symbol is displayed. When battery is charged enough, symbol is not displayed
	Terminal block cover is opened
	Meter cover is opened
	Time synchronization error

Table 9.2 Combination of top line OBIS codes and meter readings (examples)

<p>Active power (abs(QJ+QIV)+(abs(QI+QIII)))</p>	<p>Total Active energy</p>	<p>Active energy import</p>
<p>Active energy export</p>	<p>Total Reactive energy</p>	<p>Reactive power Q+</p>
<p>Reactive energy import</p>	<p>Reactive energy export</p>	<p>Error code</p>
<p>Software version</p>	<p>CRC-code</p>	
<p>Local Time</p>	<p>Local Date</p>	

NOTE:

1. Grey colored symbols shown on the display in test mode are optional.
2. When extension communication module (3GPP module) (optional) is used for communication upwards through the RS-485 interface (PL modem is not active or not available), the symbol is not displayed. Communication state is indicated using communication module LEDs, available on the meter terminal block cover

CERTIFICATE



for the information security management system DIN EN ISO/IEC 27001:2023

The proof of the conforming application with the regulation was furnished and in accordance with certification procedure it is certified for the company



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Scope

Design and development, production, delivery and service of electronic equipment for industrial-technical use.

Statement of applicability

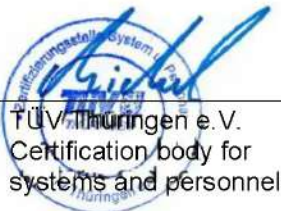
Revision: 2024-01-20

Certificate Registration No.: 15121171658

Valid until: 2027-04-15
Valid from: 2024-06-07

Audit Report No.: 3330 3CDX D0

This certification was conducted in accordance with the TIC auditing and certification procedures and is subject to regular surveillance audits.



Jena, 2024-06-07



Original certificates
are branded with a hologram.

The current validity can be demanded at our homepage www.tuev-thueringen.de

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