Quick Start Guide

NA003

Art.No.: 2700000

090850

www.tele-online.com

Danger! Never carry out work on live parts! Danger of fatal injury!
The product must not be used in case of obvious damage!
To be installed by an authorized person!

- The complete manual is available at:
  http://www.tele-online.com/resources/data-sheets/en_na003_manual.pdf
- This Quick Start Guide does not replace the manual and the Owner should read in conjunction with the whole Manual!
- The safety instructions are to be observed

Intended use:

The TELE NA003 is a Grid and System Protection Device for the use with energy producing generation plants like combined heat and power plants, wind power plants, waterpower plants as well as photovoltaic plants.

In case of power failures or net anomalies private power plants have to be disconnected immediately from mains to avoid unintentional feeding to the grid. On the one hand continuing grid feeding could endanger maintenance staffs, on the other hand connected devices could be exposed to inadmissible voltages and/or frequencies.

In case the grid operator requires thresholds that are not conform with the specific standards, it is partially possible to set thresholds outside the normative defined range!

Outside these range the device is not in accordance with the standards anymore and the corresponding certificate loses validity! This state is indicated as "ncfm" on the display.

Settings outside the conformity range are therefore in responsibility of the operator respectively the acceptance authority!

Safety note

The device was developed, produced and tested accordance to the latest industry standards. Nevertheless improper handling or use can endanger humans and machines.

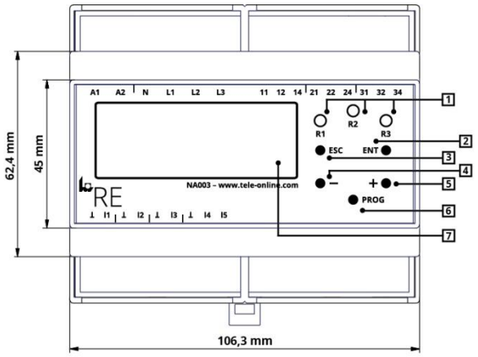
Please use the device only in accordance with the installation and operating instructions. Check for secure assembly and good condition. Moreover, the rules and regulations on accident prevention applicable to the place of use must be strictly followed.

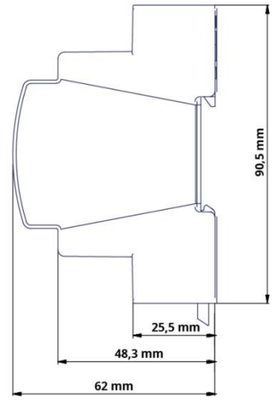
- Eliminate all faults immediately which may endanger safety
- Do not make any unauthorised changes and only use replacement parts and optional accessories purchased from or recommended by TELE
- In case of obvious damage the device must be checked and replaced if necessary
- Country specific regulations have to be considered in any case
- If required by national standards, the NA003 has to be protected against unauthorized changes by password and/or sealing

Mounting on DIN rail according to EN 60715

Snap the rear mounting clip of the device into place in such a way that a safe and tight fit is ensured.

Dimensions





Controls

Legend	Marking	Type	Function
1	R1, R2, R3	LED (yellow)	Status indication for output relays
2	ENT	Pushbutton	ENTER, Input confirmation, menu level forward
3	ESC	Pushbutton	ESCAPE, Input rejection, menu level back
4	-	Pushbutton	Change parameters, menu navigation
5	+	Pushbutton	Change parameters, menu navigation
6	PROG	Pushbutton (sealable)	PROGRAM, Enter Program mode
7		LCD-Display 4x20 characters	Display

Terminals

A1, A2	Supply	DC: 24V AC: 110 - 230V A1: L (+) A2: N (-)
L1, L2, L3, N	Measuring input	U_N: 3x400V AC
11, 12, 14	Relay channel A (CO contact) Status indication via yellow LED R1	Potential free changeover contact 11: Common 12: Normally closed contact 14: Normally open contact
21, 22, 24	Relay channel B (CO contact) Status indication via yellow LED R2	Potential free changeover contact 11: Common 12: Normally closed contact 14: Normally open contact
31, 32, 34	Relay channel D (CO contact) Status indication via yellow LED R3	Potential free changeover contact 11: Common 12: Normally closed contact 14: Normally open contact
I1, ⊥	Digital input 1 (Feedback contact of contactor A)	Potential free (24V/5mA) Input active: I1 and ⊥ connected
I2, ⊥	Digital input 2 (Feedback contact of contactor B)	Potential free (24V/5mA) Input active: I2 and ⊥ connected
I3, ⊥	Digital input 3 (Remote disconnection)	Potential free (24V/5mA) Input active: I3 and ⊥ connected
I4, I5, ⊥	Digital inputs 4 and 5 (Parameter switchover)	Applies to CEI 0-21 Potential free (24V/5mA) Input active: I4 resp. I5 and ⊥ connected

Available configurations

CEI 0-21, VDE V 0126-1-1, VDE-AR-N 4105, according to VDE V 0124-100,
G59/3 LV, G59/3 MV, G83/2, C10-11 LV, C10-11 MV, TR3–according to BDEW 2008, OENorm E 8001-4-712, EN50438, EN50438 (DK), OPEN SETUP

Technical Data

Supply circuit

Terminals:	A1 (L +); A2 (N -)
Supply voltage:	DC: 24V AC: 110 - 230V
Supply voltage tolerance:	DC: ± 10% AC: ± 30%
Rated frequency:	50 / 60Hz
Tolerance of rated frequency:	48 - 63Hz
Rated surge voltage:	4 kV

In order to ensure the proper function during power failures, an external UPS has to be used.

Measuring circuit

Terminals:	L1-L2-L3-N
Measuring input:	3 x 400V AC
Measurand:	line to line voltage, line to neutral voltage, 10 minutes average voltage, frequency, rate of change of frequency (RoCoF), phase shift (PShift)

Measuring ranges

Line to line voltage:	0 - 560VAC
Line to neutral voltage:	0 - 325VAC
Frequency:	40 - 60Hz
RoCoF:	100mHz/s ... 2.000mHz/s
Pshift:	1 - 15°

Digital inputs

Terminals:	I1 and ⊥; I2 and ⊥; I3 and ⊥; I4 resp. I5 and ⊥
Type of contact:	potential free
Min. switching voltage / switching current:	24V / 5mA

Output circuit

Terminals:	11-12-14; 21-22-24; 31-32-34	
Number of contacts:	3 changeover contacts	
Contact material:	AgNi	
Rated current:	5A / 250V AC	
Endurance:	electrical (AC-1):	100 x 10^3 switching cycles
	mechanical:	15 x 10^6 switching cycles

Accuracy

Voltage monitoring:	
Base accuracy:	< 0,5% @ +25°C
Temperature influence:	< 0,01% / °C
Resolution:	10mV
Frequency monitoring:	
Base accuracy:	< 0,01Hz @ +25°C
Temperature influence:	< 0,0002Hz / °C
Resolution:	1mHz

Isolation data

Rated insulation voltage:	400V
Supply circuit / Measuring circuit:	protective separation
Supply circuit / Output circuit:	protective separation
Supply circuit / Digital inputs:	protective separation
Output circuit / Measuring circuit:	basic insulation
Output circuit / Digital inputs:	basic insulation

Environmental conditions

Ambient temperature operation:	-25 ... +55°C
Ambient temperature storage:	-40 ... +70°C
Visibility temperature display:	-15 ... +55°C
Relative humidity:	5 ... 95% (non-condensing)
Weight:	300g

Electrical connection

Wire size:	max. 2,5mm^2
Stripping length:	max. 8mm
Electrical strength:	max. 450V/16A (digital inputs; relay outputs) max. 750V/16A (measuring inputs)
Torque:	max. 0,5Nm
Screw:	M3, slotted recess for screw driver 0,6 x 3,5mm
Sealing wire	Ø max. 0,8mm

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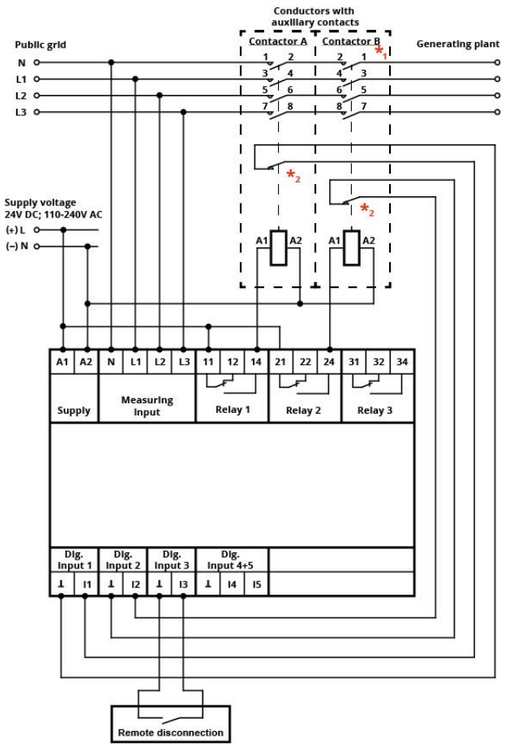
Connection diagram 1



Applies to:

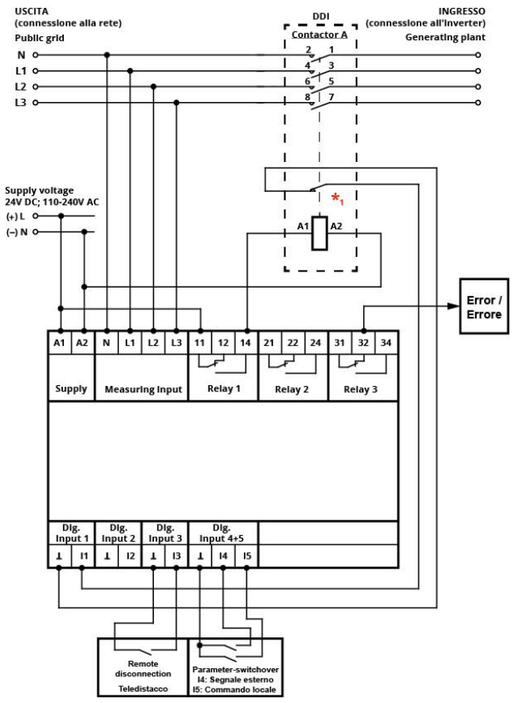
VDE V 0126-1-1
VDE-AR-N 4105, according to VDE V 0124-100
G59/3 LV *1
G59/3 MV *1
G83/2 *1
C10-11 LV *1
C10-11 MV *1
TR3 – according to BDEW 2008 *1
OENorm E 8001-4-712
EN50438
EN50438 (DK) *3
OPEN SETUP *3

*1... Contactor B is not necessary for applications requiring no functional safety

*2... Auxiliary contact configurable as “normally open”, “normally closed” or “disabled”

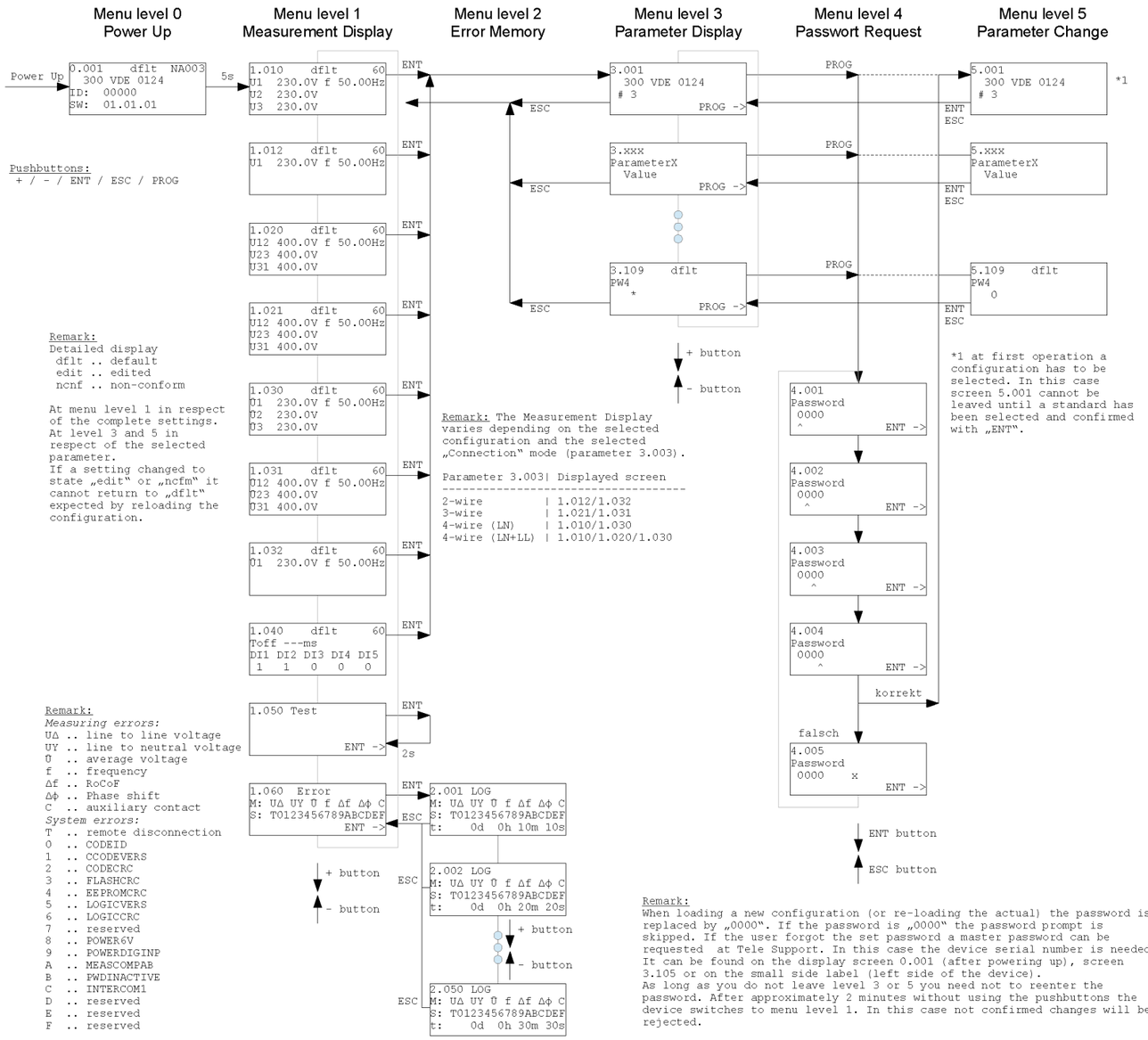
*3... 1 or 2 channel connection possible and configurable

Connection diagram 2 (CEI 0-21)



*1... Auxiliary contact configurable as “normally open”, “normally closed” or “disabled”

Menu structure



Pushbuttons:
+ / - / ENT / ESC / PROG

Remark:
Detailed display
dflt .. default
edit .. edited
ncnf .. non-conform

At menu level 1 in respect of the complete settings. At level 3 and 5 in respect of the selected parameter.
If a setting changed to state „edit“ or „ncfm“ it cannot return to „dflt“ expected by reloading the configuration.

Remark: The Measurement Display varies depending on the selected configuration and the selected „Connection“ mode (parameter 3.003).

Parameter 3.003	Displayed screen
2-wire	1.012/1.032
3-wire	1.021/1.031
4-wire (LN)	1.010/1.030
4-wire (LN+LL)	1.010/1.020/1.030

*1 at first operation a configuration has to be selected. In this case screen 5.001 cannot be leaved until a standard has been selected and confirmed with „ENT“.

Remark:
Measuring errors:
UΔ .. line to line voltage
UY .. line to neutral voltage
Ū .. average voltage
f .. frequency
Δf .. RoCoF
Δϕ .. Phase shift
C .. auxiliary contact
System errors:
T .. remote disconnection
0 .. CODEID
1 .. CCODEVERS
2 .. CODECRC
3 .. FLASHCRC
4 .. EEPROMCRC
5 .. LOGICVERS
6 .. LOGICCRC
7 .. reserved
8 .. POWER6V
9 .. POWERDIGINP
A .. MEASCOMPAB
B .. PWDINACTIVE
C .. INTERCOM1
D .. reserved
E .. reserved
F .. reserved

Remark:
When loading a new configuration (or re-loading the actual) the password is replaced by „0000“. If the password is „0000“ the password prompt is skipped. If the user forgot the set password a master password can be requested at Tele Support. In this case the device serial number is needed. It can be found on the display screen 0.001 (after powering up), screen 3.105 or on the small side label (left side of the device).
As long as you do not leave level 3 or 5 you need not to reenter the password. After approximately 2 minutes without using the pushbuttons the device switches to menu level 1. In this case not confirmed changes will be rejected.

CONTACT

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