

## GESTRA Steam Systems

Product Range B1

### Level Controller NRR 2-2e

### NRR 2-2

#### Purpose and Application

Feed (fill) or drain (discharge) controller for continuous level control with high and low-level alarms and current output for remote level indication, with the GESTRA level probe type NRG 26, NRG 21 or ER 96 and a control valve with electric actuator.

Application in steam boilers, condensate and other tanks.

#### Design

Case for panel mounting in accordance with DIN 43700 for installation into control desks or cabinets. At extra cost with lockable clear lid to protect the unit against spray water.

#### Technical Data

##### Function

3 position stepping controller with proportional action used with level probe type NRG 26, NRG 21 or ER 96 for modulating fill or discharge control with high and low-level alarms and current output

##### Type approval no.

TÜV · WR · 96-320

##### Input

3 connections for NRG 26, NRG 21 or ER 96

##### Output

Output to control valve via two potential-free contacts, max. contact rating: 250 V, 500 W, 3 A ohmic with a life of  $4 \times 10^5$  switching cycles or 0.35 A inductive with a life of  $2 \times 10^6$  cycles.

Contact material silver, hard-gold plated

Current output 0 ... 20 mA for remote indication or recording, can be changed to 4 ... 20 mA by establishing a wire link, max. load 500  $\Omega$

##### Limit values

MIN and MAX alarm via potential-free relay contacts, individually and continuously adjustable within the adjusted probe measuring range.  
Contact rating as under "Output"

##### Measuring range

Depending on probe length, zero point and measuring range adjustable on front panel

##### Set point

Continuously adjustable within the range 0 ... 100 % of the adjustable measuring range

##### Proportional band

5 ... 50 %, continuously adjustable on front panel

##### Feedback

via valve-positioning potentiometer, 1000  $\Omega$

##### Dead band

$\pm 1.5$  %

##### Manual control station

with auto/manual switch and 2 push buttons for valve position OPEN and valve position CLOSED

##### Indicators

Deviation indication  $\pm 20$  % and valve-position meter 0 - 100 % (narrow straight scale), 14 x 35 mm, LEDs indicating switching conditions "OPEN", "CLOSED", "MIN alarm", "MAX alarm"

##### Mains supply

230 V + 10 / - 15 %, 50 Hz, 7 VA,  
120 V + 10 / - 22 %, 60 Hz, 7 VA,  
240 V + 10 / - 15 %, 50 Hz, 7 VA

#### Technical Data – continued –

##### Protection

IP 40 for design with front panel  
IP 54 for design with clear lid  
IP 00 for connecting terminals

##### Permissible ambient temperature

0 ... 50 °C

##### Materials

Body: Glass-fibre reinforced polycarbonate, black  
Front panel: Aluminium, anodized

##### Weight

Approx. 0.8 kg

#### Important Notes

Recommended cable for wiring to the probe:

Screened cable, e.g. I-Y(St)Y 2 x 2 x 0.8 or LIYCY 3 x 0.5 mm<sup>2</sup>, max. cable length 150 m.

The switch contacts should be fused with 2.5 A (inert fuse).

An actuator provided with a feedback potentiometer of 1000  $\Omega$  is required for the operation of the controller.

#### Order and Enquiry Specifications

GESTRA modulating level controller with level probe type NRG 26, NRG 21 or ER 96:

Level controller type NRR 2-2e with or without clear lid, in a case for panel mounting according to DIN 43700 for installation into control desks or cabinets.

Mains supply ..... V

#### Associated Equipment

Level probe type NRG 26, NRG 21 or ER 96.

Bar-chart indicator type URA 1, 2 or ARZ 4 with LED analogue display.

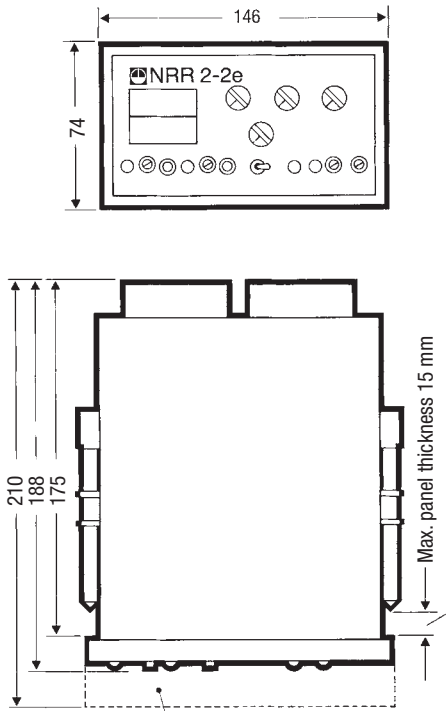
Electric control valves with feedback potentiometer of 1000  $\Omega$ .



NRR 2-2e

# Level Controller NRR 2-2e

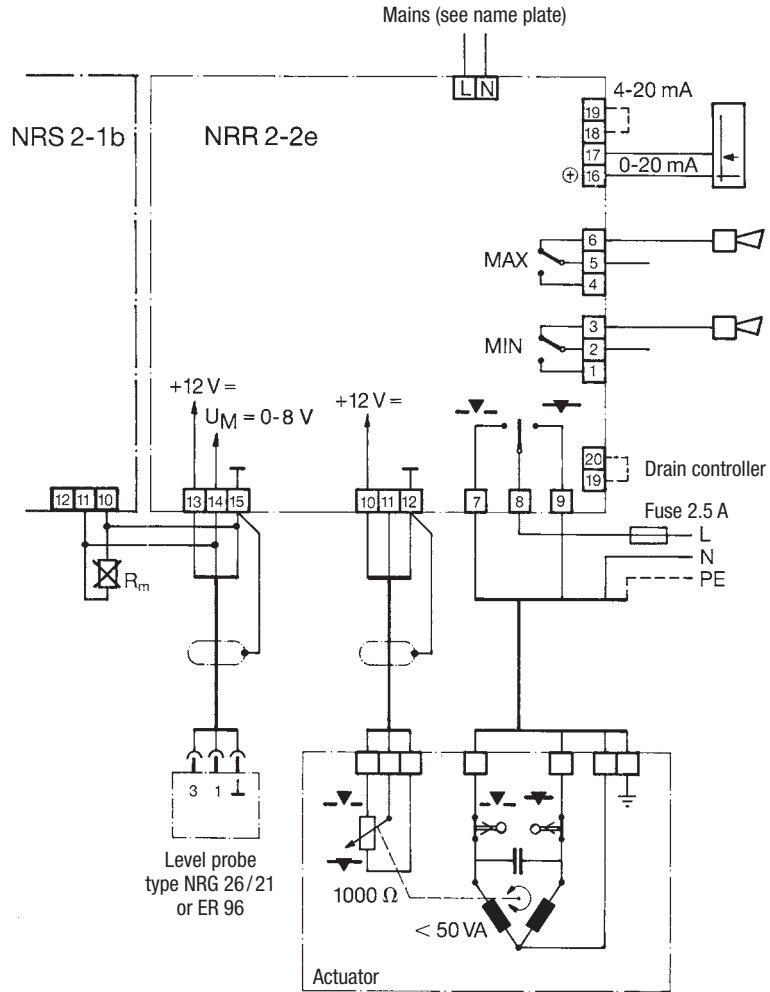
## Dimensions



Clear lid  
Panel cut-out  $138^{+1} \times 68^{+0.7}$  mm, DIN 43700

Dimensions of level controller type NRR 2-2e  
(DIN case for panel mounting)

## Wiring Diagram



Wiring diagram for level controller type NRR 2-2e, level probe type NRG 26, NRG 21 or ER 96 and actuator

**Note:** Provide measuring resistor <sup>1)</sup>  $R_m$  only once.

<sup>1)</sup> In the case of the NRR 2-2e the resistor  $R_m$  is built in and cannot be removed.

Supply in accordance with our general terms  
of business.

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