



Purpose and Application

Fill or discharge controller for modulating level control with the GESTRA level probe type NRG 21 or type NRG 26 and a control valve with electric actuator.

Application in steam boilers, condensate and other tanks.

Design

Plug-in unit in plastic case for installation in control cabinets. The terminals in the case are accessible after loosening two screws and unplugging the unit from its base. To avoid confusion with other plug-in units of the GESTRA range, inserts are fitted in the bases so that only the correct unit may be plugged into each base.

The plug-in units may be snapped onto a 35 mm supporting rail or screwed into position on a mounting panel.

Field enclosure for several plug-in units are available on request.

Technical Data

Function

Three-position stepping controller with proportional action used with level probe type NRG 21 or NRG 26 for modulating fill or discharge control via control valves with electric actuator

Type-approval No.

TÜV · WR/WS · 90-317

Input

3 connections for NRG 21 or NRG 26

Output

Volt-free relay contacts for powering reversible electric actuator
max. contact rating: 250 V, 500 W, 3 A resistive with a life of 4×10^5 switching cycles or 0.35 A inductive with a life of 2×10^6 cycles;
contact material silver, hard-gold plated

Proportional band

adjustable with potentiometer,
setting range: 1.5 ... 20 %

Feedback

via valve-positioning potentiometer,
1000 Ω

Dead band

± 10 % of adjusted proportional band

Adjustors

for set point and proportional band each with a potentiometer,
measuring range depending on probe length, proportional band 1.5 ... 20 %

Indicators

1 null indicator as error signal meter,
2 LEDs for signalling the valve direction:
OPENING, CLOSING

Mains supply

24 V, 110 V, 120 V, 220 V, 240 V,
50 ... 100 Hz, 3.5 VA
(please state voltage when ordering),
24 VDC supply also possible with the ancillary unit type URN-1

Protection

IP 40

Permissible ambient temperature

0 ... 50 °C

Case materials

Base: ABS plastic, black
Cover: polystyrene (highly shock-resistant), stone grey

Approx. weight

0,7 kg

Important Notes

Recommended cable for wiring to the probe: Screened cable, e.g. 4×0.5 mm² max. cable length 100 m.

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

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

Order and Enquiry Specifications

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

Level controller type NRR 2-1b,
plug-in unit in plastic case for installation in control cabinets

Mains supply V

Associated Equipment

Max.-min. limit switch type NRS 2-1b for MAX and MIN alarms

Level transmitter type NRT 2-1b with current output 0 to 20 mA or 4 to 20 mA

Bar-chart indicator type URA/ARZ 4 with LED analogue display

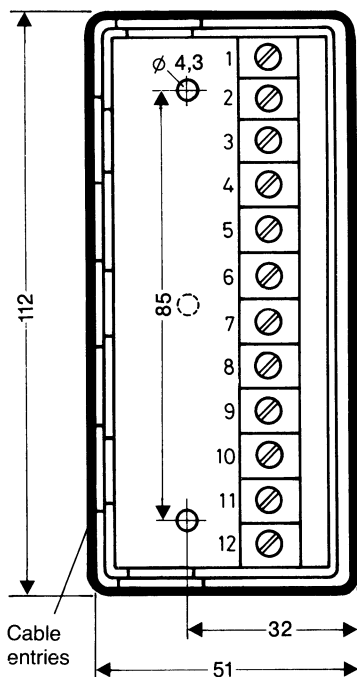
Electric control valves series 100/200 with feedback potentiometer of 1000 Ω .



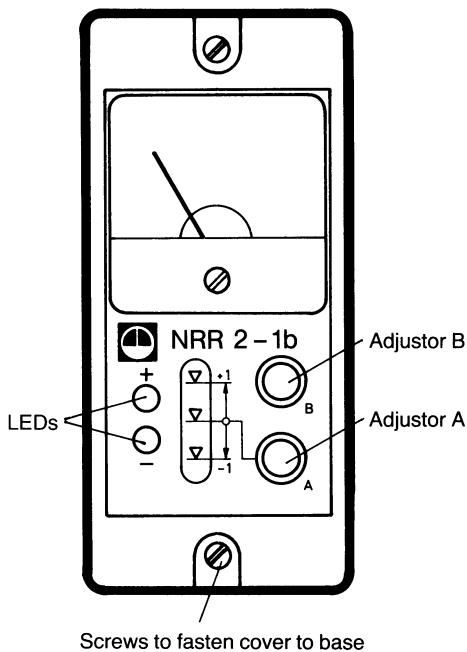
Level controller NRR 2-1b

Dimensions

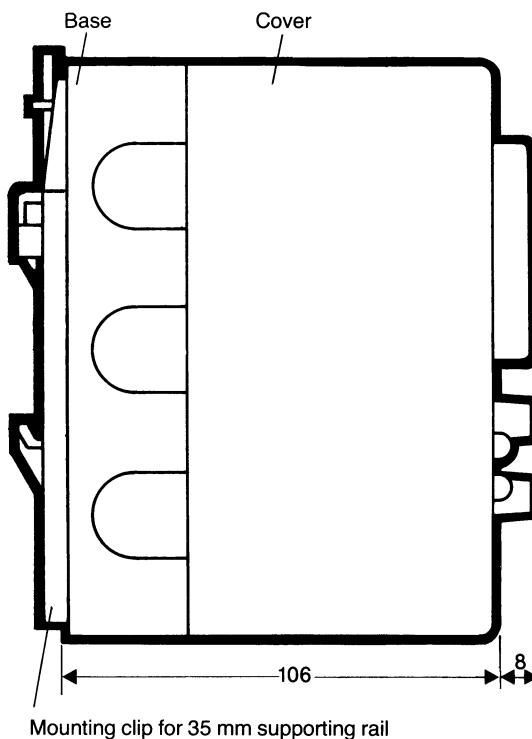
Base with terminals



Front view



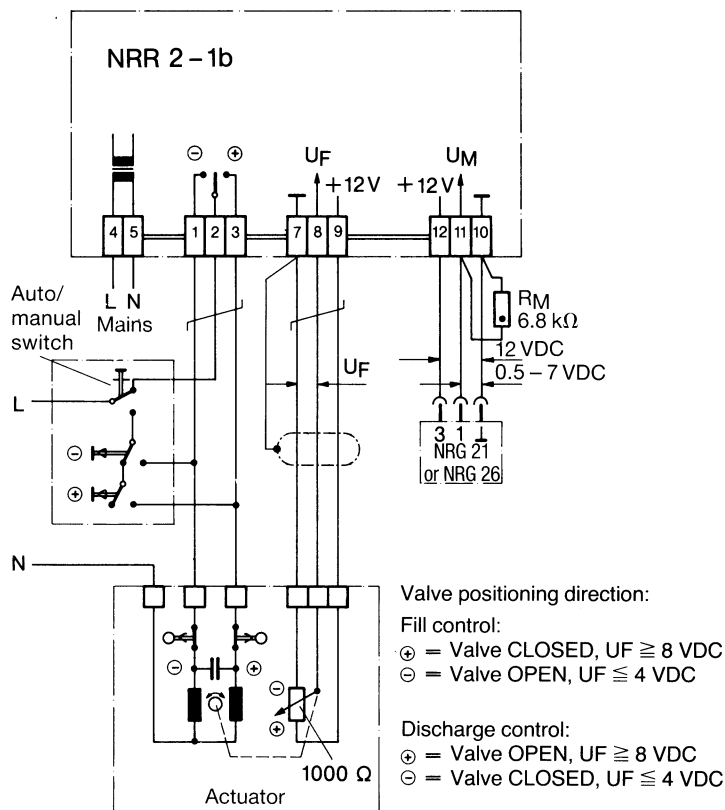
Side view



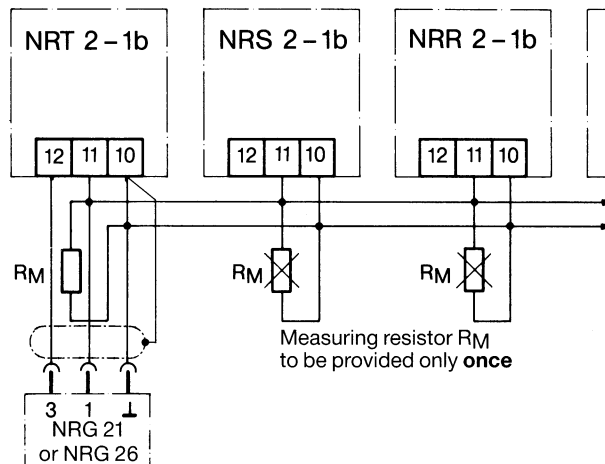
- ⊙ holes to be drilled to 4.3 mm dia for installation of unit in boiler panel
- ⊕ hole drilled for mounting clip

Dimensions of level controller type NRR 2-1b

Wiring Diagrams



Wiring diagram for level controller type NRR 2-1b



Example of parallel connection of several units

Technical modifications reserved.