

GESTRA Steam Systems

Product Range B1

Level Controller NRS 1-1b

NRS 1-1

Purpose and Application

One-off feedwater control and low-level alarm with the GESTRA multiple level-control electrode type ER 5... or level-control electrodes type ER 16.

Application for feed (fill) control with 1st low-level alarm or for drain (discharge) control with pump protection against running dry 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 enclosures for several plug-in units are available on request.

Technical Data

Function

One-off feedwater controller and low-level alarm with multiple level-control electrode type ER 5... or level-control electrode type ER 16

Type-approval no.

TÜV-WR/WB-93-302

Note:

TÜV-WR... applies to NRS 1-1, 1-2, 1-5,
TÜV-WB... applies to NRS 1-3;
combinations of water-level controllers (WR) and
low-level alarms (WB) are possible

Input

4 connections for 3 electrode tips

Output

1 potential-free working contact for the controller,
1 potential-free relay contact for the alarm,
max. contact rating: 250 V, 500 W, 3 A ohmic 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

Sensitivity

Standard design: 10 μ S/cm
Special design: 0.5 μ S/cm

Electrode supply voltage

11 V AC, free from DC voltage

Indicators and adjustors

1 LED "Pump ON", 1 LED "MIN/LW",
1 switch for selection of operation "Feed" or
"Drain" control
1 "Test" button for simulating "low-level alarm" (LW)

Mains supply

24 V, 110 V, 120 V, 220 V, 230 V, 240 V, 50... 100 Hz, 3.5 VA
(please state voltage when ordering),
24 V DC 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

0.8 kg

Important Notes

Recommended cable for wiring to the electrode(s):
Screened cable, e.g. $4 \times 0.5 \text{ mm}^2$, max. cable length
100 m.

When mounting the electrode(s) into steam or pressurized
hot water boilers the relevant regulations must be con-
sidered.

Order and Enquiry Specifications

GESTRA level controller for water-level control and low-
level alarm:

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

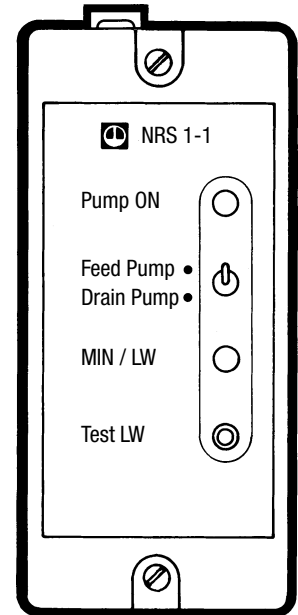
Mains supply..... V

Associated Equipment

Multiple level-control electrodes type ER 5... with 3
electrode tips and a common earth tip.

Level control electrode type ER 16 with one electrode tip.

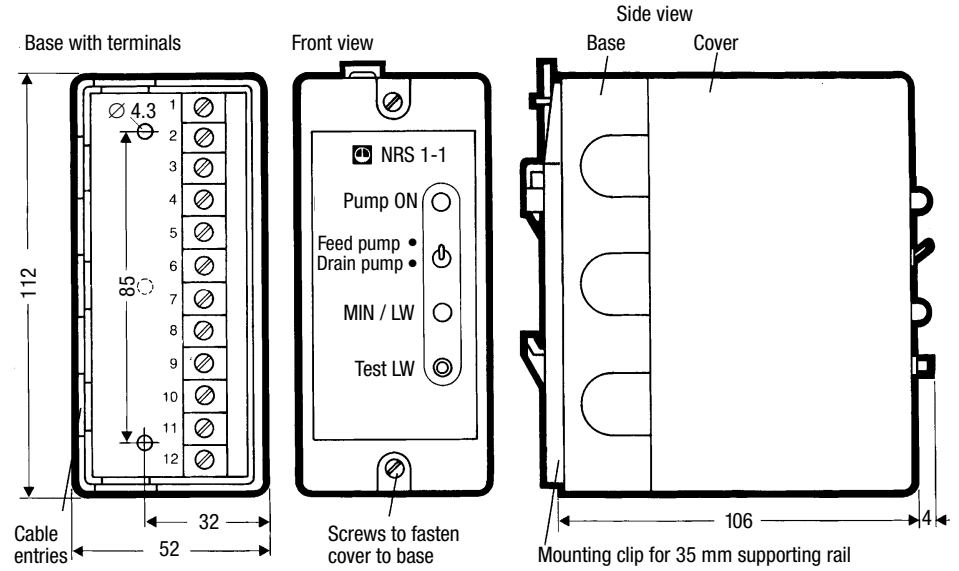
Level switch type NRS 1-2b for signalling of additional
MAX and MIN levels.



Level controller NRS 1-1b

**Level Controller
NRS 1-1b**

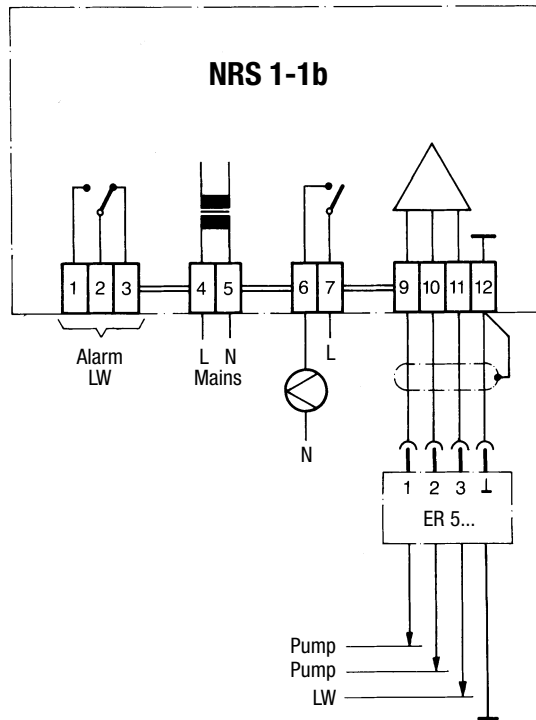
Dimensions



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

Dimensions of level controller NRS 1-1b

Wiring Diagram



Wiring diagram for level controller type NRS 1-1b, illustrated position of contacts: relays deenergized, i. e. alarm

Supply in accordance with our general terms of business.

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