

NRG 16-4 with four-pole connector

Level Electrode NRG 16-4

Description

The level electrode NRG 16-4 in conjunction with level switch NRS 1-.. is designed to signal a water level limit and used in steam boiler plants and (pressurized) hot-water installations or in condensate and feedwater tanks, e. g. as water level limiter with MIN/MAX alarm.

The level electrode can be used in combination with the following level switches: NRS 1-52, NRS 1-53, NRS 1-54 and NRS 1-55 or NRS 1-1, NRS 1-2, NRS 1-3 and NRS 1-5.

Function

The electrode operation is based on the conductive measuring principle using the electrical conductivity of the water for signalling water level. The length of the electrode rod determines the switchpoint for the water level limit.

The level electrode is installed inside steam boilers, vessels or in an external level pot. If the electrode is installed inside the boiler or vessel, a protection tube provided on side ensures correct functioning.

The level electrode can be installed together with one GESTRA level electrode for water level limiting or for high-level alarm in a single protection tube or external level pot.

Directives and standards

VdTÜV Bulletin "Wasserstand 100" (= Water Level 100)

The level electrode NRG 16-4 in conjunction with the following level switches is type approved according to VdTÜV Bulletin "Wasserstand 100": NRS 1-52, NRS 1-53, NRS 1-54 and NRS 1-55 or NRS 1-1, NRS 1-2, NRS 1-3 and NRS 1-5.

The VdTÜV Bulletin "Wasserstand (=Water Level) 100" specifies the requirements made on water level control and limiting equipment for boilers.

ATEX (Atmosphère Explosible)

The equipment is a simple item of electrical equipment according to EN 60079-11 paragraph 5.7.

According to the European Directive 94/9/EC the equipment must be equipped with approved Zener barriers if used in potentially explosive areas. Applicable in Ex zones 1, 2 (1999/92/EC). The equipment does not bear an Ex marking.

The suitability of the Zener barriers is certified in a separate wiring diagram provided by the manufacturer.

UL/cUL (CSA) Approval

The equipment complies with the requirements of the following standards: UL 508 and CSA C22.2 No. 14-13, Standards for Industrial Control Equipment. File E243189.

Technical Data

Operating pressure

PN 40, 32 bar at 238 °C

Mechanical connection

Screwed G 3/8 A or G 3/4 A to ISO 228

Materials

Screw-in body: 1.4571, X6CrNiMoTi17-12-2

Electrode rod: 1.4571, X6CrNiMoTi17-12-2

Insulation: PTFE

Four-pole connector: polyamide (PA)

Lengths available

500 mm, 1000 mm, 1500 mm

Electrical connection

Four-pole connector, cable gland M 16

Protection

IP 65 to EN 60529

Ambient temperature

Max. 70 °C

Weight

approx. 0.5 kg

Approvals

TÜV type approvals acc. to

VdTÜV Bulletin "Wasserstand 100": Requirements made on water level limiting & control equipment.

Type approval no. TÜV · WR / WB · 08-302; 10-424 (see name plate)

UL/cUL (CSA) Approval: UL 508 and CSA C22.2

No. 14-13, Standards for Industrial Control Equipment. File E243189.

Important Notes

Installation

The level electrode NRG 16-4 can be installed together with one GESTRA level electrode, one compact level switch or transmitter in a single protection tube or external level pot (inside diameter 100 mm). If the level limiting electrode is installed inside the vessel, it must be at least 40 mm away from the upper vent hole.

The angle of inclination of the electrode must not exceed 45°, with the length of the electrode rod being limited to 500 mm.

If installed outdoors the level electrode must be equipped with a GESTRA weather protection cover.

Electrical connection

To connect the level electrode use overall screened multi-core control cable with a min. conductor size 0.5 mm², e. g. LiYCY 4 x 0.5 mm².

Connect the screen only once to the central earthing point **(GEP)** in the control cabinet.

Level Electrode NRG 16-4

Order & Enquiry Specification

GESTRA Level electrode type NRG 16-4
 Connection G ..., inspection
 Length suppliedmm

Key

- 1 Thermal insulation, provided on site, d = 20 mm (outside of thermal insulation of steam boiler)
- 2 Electrode thread G 3/8 A or G 1/4 A to ISO 228
- 4 Flange PN 40, DN 50, DIN EN 1092-01
Flange PN 40, DN 100, DIN EN 1092-01
- 5 For the approval of the boiler standpipe with connecting flange the relevant regulations must be considered.
- 6 Vent hole
- 7 Distance between electrode rod and protection tube ≥ 14 mm
- 8 High water (HW)
- 9 Electrode rods ∅ = 5 mm
- 10 Protection tube ≥ DN 80
- 11 Low water LW
- 12 Reducer DIN 2616-2, K-88.9 x 3.2-42.4 x 2.6 W
- 13 Level pot ≥ DN 80

Dimensions NRG 16-4

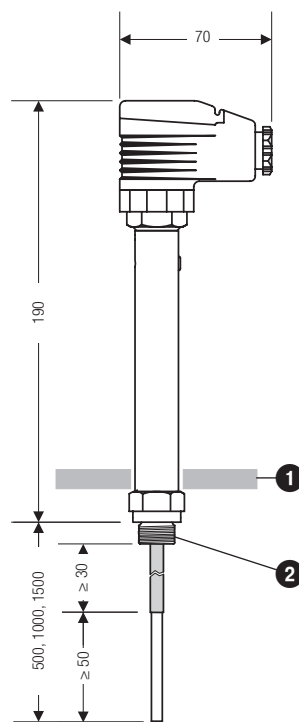


Fig. 1 NRG 16-4

Examples of installation

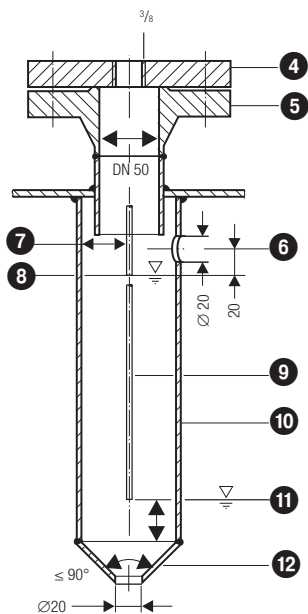


Fig. 2 Protection tube (provided on site) for installation inside the boiler

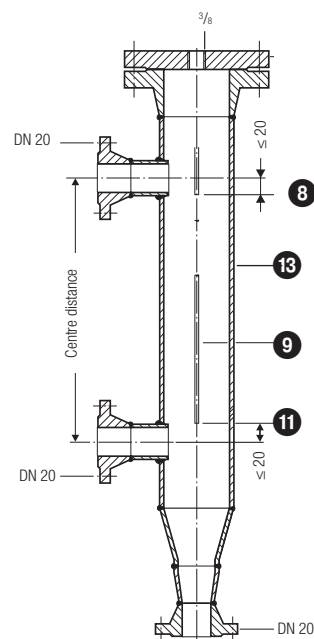


Fig. 3 External level pot

Supply in accordance with our general terms of business.

GESTRA AG

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