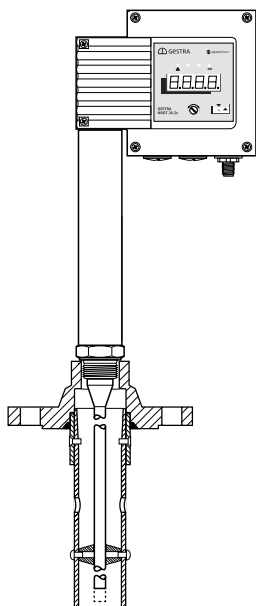


NRGT 26-2



NRGT 26-2s

## Level Transmitter

### NRGT 26-2 NRGT 26-2s

#### System description

##### Use as a water level controller

NRGT 26-2 and NRGT 26-2s level transmitters can be used to continually measure the water level in pressurised steam and hot-water plants, or in condensate and feedwater tanks. The calibrated measuring range from 0 % to 100 % constitutes the linear profile of the 4-20 mA current output.

- The transmitter's secure 4-20 mA actual value output (SIL 2) can be used with a suitable level controller, as a water level controller with MIN/MAX alarm, for example.
- The level transmitters are installed on the inside of pressurised steam plants, tanks or feed lines of pressurised hot-water plants. A protective tube provided on site ensures reliable function.
- A capacitive NRGT 26-2 or NRGT 26-2s level transmitter and a conductive NRG 1x-60 or NRG 1x-61 level electrode can be installed in the same protective tube or level pot.

##### Influence of the fluid to be monitored

NRGT 26-2 and NRGT 26-2s level transmitters can be used in fluids with different conductivity. However, a conductivity of less than 100  $\mu\text{S}/\text{cm}$  has a major influence on the measured capacitance, which is why recalibration of the measuring range at the operating point and after a cold start is extremely important.

To achieve the best possible reproducibility and maintain high-quality measurements (see "Technical data"), the sensor must be installed in a protective tube.

#### Function

##### Transmitter function

The transmitter function is the ability of the electrode to provide a scalable measuring range on the 4-20 mA current output interface and to make this available to one or more recipients for analysis.

The level transmitters do not have any controlling or limiting functions.

##### Behaviour in normal operation (no faults) \*

The display shows the scaled level reading (3 digits + 1 decimal place), e.g. 050.3, and converts the level data into a level-dependent current signal from 4-20 mA.

##### Behaviour in the event of malfunctions \*

The error state or malfunction is permanently shown on the display by a fault code, e.g. E.005.

Every time there is a fault, 0 mA is displayed via the current output.

##### Setting parameters and changing factory settings

You can set parameters and change factory settings using a rotary knob on the terminal box.

##### Display and signals

NRGT 26-2 and NRGT 26-2s level transmitters feature a green 4-digit, 7-segment display for showing readings, status information and fault codes. The operating status is indicated by a red and green LED.

#### Technical data

##### Model and mechanical connection

- NRGT 26-2: Thread G $\frac{3}{4}$  A, EN ISO 228-1
- NRGT 26-2s: Flange DN 50, PN 40, DIN 1092-01

##### Nominal pressure rating, admissible service pressure and temperature

- NRGT 26-2, NRGT 26-2s: PN 40, 32 bar (g) at 238 °C

##### Materials

- Terminal box: 3.2581 G AlSi12, powder-coated
- Sheath: 1.4301 X5 CrNi 18-10
- Electrode rod insulation: PTFE
- Screw-in body: 1.4571, X6CrNiMoTi17-12-2
- NRGT 26-2s:
  - ◆ Flange 1.0460 P250GH
  - ◆ Spacer disc PTFE

##### Max. electrode length at 238 °C, all measurements in mm

- See "How to order", tables in Fig. 1, Fig. 2
- Do **not shorten** the electrode rod.

##### Measurement quality

The information below applies to a compensated fluid conductivity range from 100 – 10000  $\mu\text{S}/\text{cm}$  based on 25 °C.

- Reading error:  $\pm 1$  % of set measuring range at the operating point
- Resolution of reading on display: 0.1 %
- Resolution for internal processing: 15 bits with plus or minus sign (16 bits)
- Resolution of 4-20 mA output: 15 bits equivalent to 0.49  $\mu\text{A}/\text{digit}$

##### Supply voltage

- 24 V DC  $\pm 20$  %

##### Power consumption

- Max. 7 VA

##### Current input

- Max. 0.3 A

##### Internal fuse

- T2A

##### Safety cutout at excessive ambient temperature

- The cutout takes place at an excessive ambient temperature of  $T_{\text{amb.}} = 75$  °C

##### Analogue output

- 1 x actual value output 4 - 20 mA, proportional to level, galvanically isolated
- Maximum output load 500  $\Omega$
- M12 connector, 5-pole, A-coded

Indicators and controls

- 1 x green 4-digit, 7-segment display for showing status information
- 1 x red LED for indicating an error state
- 1 x green LED for indicating an OK state
- 1 x rotary knob IP65 with button for menu navigation and test function

Protection class

- III Safety Extra Low Voltage (SELV)

IP rating to EN 60529

- IP 65

Admissible ambient conditions

- Service temperature: 0 °C - 70 °C
- Storage temperature: - 40 °C - 80 °C
- Transport temperature: - 40 °C - 80 °C
- Air humidity: 10 % - 95 % (non-condensing)

Weight (dependent on length of electrode)

- NRGT 26-2  
approx. 1.8 kg (with 300 mm measuring range)
- NRGT 26-2s  
approx. 5.9 kg (with 275 mm measuring range)

Admissible installation positions

- Vertical
- Oblique to a maximum inclination of 45°. In this case, the length of the electrode rod is limited to 688 mm maximum.

Applicable directives:

NRGT 26-2 and NRGT 26-2s level transmitters have been tested and approved for use in the scope governed by the following directives and standards:

- Directive 2014/68/EU EU Pressure Equipment Directive
- Directive 2014/35/EU Low Voltage Directive
- Directive 2014/30/EU EMC Directive
- Directive 2011/65/EU RoHS II Directive

Notes for planning

Installation

If a level transmitter is installed outside the boiler in a level pot that can be shut off, the connecting pipes must be flushed regularly.

If the steam pipe is ≥ 40 mm and the water pipe is ≥ 100 mm, installation is regarded as internal. In this case, upstream monitoring of flushing processes can be dispensed with.

Electrical connection

Use a shielded, multi-core control cable with a minimum conductor size of 0.5 mm², e.g. LiYCY 4 x 0.5 mm².

Pre-wired control cables (with plug and coupling) are available as accessories in various lengths.

The NRGT 26-2 or NRGT 26-2s level transmitter is supplied with 24 V DC.

A safety power supply unit that delivers a Safety Extra Low Voltage (SELV) and is isolated from connected loads must be used to supply the equipment with 24 V DC.

Connecting the actual value output (4 - 20 mA)

Please note the maximum output load of 500 Ω.

Maximum cable length = 100 m.

How to order:

Level transmitter 26-2

Type: Stock code:  
■ NRGT 26-2 34820.. xx

| A = electrode length (mm)<br>B = measuring range (mm) |      | xx |
|-------------------------------------------------------|------|----|
| A                                                     | B    |    |
| 373                                                   | 300  | 40 |
| 477                                                   | 400  | 41 |
| 583                                                   | 500  | 42 |
| 688                                                   | 600  | 43 |
| 794                                                   | 700  | 44 |
| 899                                                   | 800  | 45 |
| 1004                                                  | 900  | 46 |
| 1110                                                  | 1000 | 47 |
| 1214                                                  | 1100 | 48 |
| 1319                                                  | 1200 | 49 |
| 1423                                                  | 1300 | 50 |
| 1528                                                  | 1400 | 51 |
| 1636                                                  | 1500 | 52 |
| 2156                                                  | 2000 | 53 |

Fig. 1

How to order:

Level transmitter 26-2s

Type: Stock code:  
■ NRGT 26-2s 32120.. xx

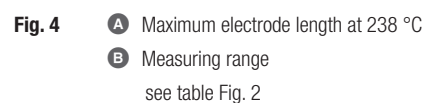
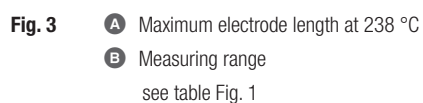
| A = electrode length (mm)<br>B = measuring range (mm) |      | xx |
|-------------------------------------------------------|------|----|
| A                                                     | B    |    |
| 316                                                   | 275  | 52 |
| 420                                                   | 375  | 53 |
| 526                                                   | 475  | 54 |
| 631                                                   | 575  | 55 |
| 737                                                   | 675  | 56 |
| 842                                                   | 775  | 57 |
| 947                                                   | 875  | 58 |
| 1053                                                  | 975  | 59 |
| 1157                                                  | 1075 | 60 |
| 1262                                                  | 1175 | 61 |
| 1366                                                  | 1275 | 62 |
| 1471                                                  | 1375 | 63 |
| 1579                                                  | 1475 | 64 |
| 2099                                                  | 1975 | 65 |

Fig. 2

Additional modules of the NRGT 26-2 and NRGT 26-2s:

- Level switch: NRS 2-50, NRS 2-51
- Level controller: NRR 2-50 or NRR 2-52 with URB 50
- Pump control unit: NRSP 1-51, NRSP 2-51, NRSP 2-52
- Universal controller: KS 92-1w
- Power supply unit: SITOP PSU100C 24V/0.6A

### Dimensions of NRG-T 26-2s



© M12 connector, 5-pole, A-coded

# GESTRA AG

