



LRG 16-9

Conductivity Electrode LRG 16-9

Description

The LRG 16-9 conductivity electrode is used with LRS 1-.. conductivity switches or LRR 1-.. conductivity controllers for measuring conductivity in liquid conductive media.

The LRG 16-9 conductivity electrode can be used as a conductivity limiter or blowdown controller in steam boilers in combination with the following equipment:

LRS 1-50 conductivity switch,
LRR 1-50, LRR 1-52 conductivity controller

Function

The LRG 16-9 conductivity electrode is used as a conductivity limiter and blowdown controller in steam boilers in combination with the following equipment:

LRS 1-50 conductivity switch,
LRR 1-50, LRR 1-52 conductivity controller.

In addition, this equipment can monitor the conductivity in condensate and feedwater circuits and in cooling and cleaning water.

In combination with conductivity switches or controllers, the conductivity electrode measures conductivity in conductive fluids.

A Pt100 resistance thermometer is additionally integrated in the electrode for measuring the fluid temperature.

In the event of a short circuit or broken wire in the conductivity electrode, an error signal is generated in the conductivity switch or controller.

Technical data

Service pressure

464 psi at 460 °F (32 bar at 238 °C)

Mechanical connection

Thread ½" 14 NPT

Cell constant

0.5 cm⁻¹

Materials

Screw-in body: 1.4406 / F316L

Electrode: 1.4571, X6CrNiMoTi17-12-2

Electrode rod insulation: PEEK

Electrical connection

M 12 sensor connector, 5-pin, A-coded

Protection rating

IP 55 to DIN EN 60529

NEMA type 1 to NEMA 250

Ambient temperature of connector

Maximum 158 °F (70 °C)

Weight

Approx. 0.66 lb (0.3 kg)

Important notes

Installation

The conductivity electrode is intended for installation in pipes. The conductivity electrode is installed in a screwed socket, a measuring chamber or a mounting flange.

Electrical connection

The LRG 16-9 conductivity electrode features M12 A-coded 5-pole sensor connectors. A pre-wired control cable (with plug and socket) is available in various lengths as an accessory for connecting the electrode.

If you are not using the pre-wired control cable, lay a shielded TC-ER control cable with a minimum wire size of AWG 18, e.g. OELFLEX CONTROL TM CY 5G1, as a connecting cable. In addition, connect a socket to the control cable at the electrode end, e.g. Binder series 713 99-0436-58-05.

The cable length between the conductivity electrode and the conductivity switch or controller is max. 98 ft (30 m), or max. 32 ft (10 m) with a conductivity of 1-10 µS/cm.

Route the connecting cable between items of equipment separately from power lines.

Conductivity Electrode
LRG 16-9

How to order/specify

GESTRA conductivity electrode type LRG 16-9
Thread ½" 14 NPT

Suitable conductivity switch/
controller

- Conductivity switch LRS 1-50
- Conductivity controller LRR 1-50, LRR 1-52

Key

- ① M 12 sensor connector, 5-pin, A-coded
- ② Electrode thread ½" 14 NPT
- ③ Measuring tube
- ④ Measuring surface
- ⑤ Resistance thermometer Pt100
- ⑥ Electrode
- ⑦ Screwed socket ½" 14 NPT, length 0.63 in (16 mm), prepared on-site
- ⑧ Conductivity electrode LRG 16-9
- ⑨ Socket (not included in delivery)

Directives and standards

cULus approval

The equipment has been tested and approved for use in the scope governed by the following directives and standards:

Standards:

- UL 60730-1 and CAN/CSA E60730-1
General Requirements for Automatic Electrical Controls

Improper use

There is a danger of death due to explosion if the equipment is used in potentially explosive atmospheres.
Do not use the equipment in potentially explosive atmospheres.

Please note our general terms of business.

Dimensions

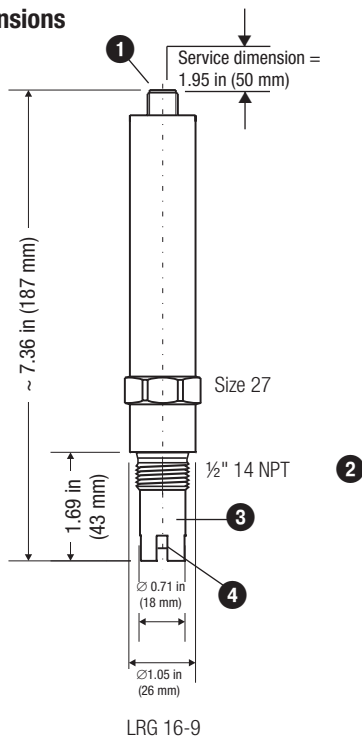


Fig. 1

Connector/socket assignment

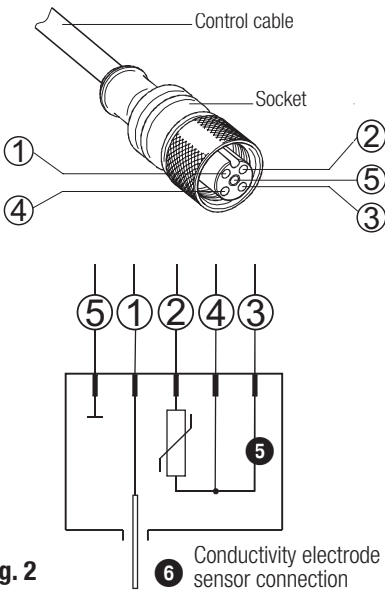


Fig. 2

Connector/ socket	Assignment	Wire colors
1	Electrode	brown (BN)
2	Resistance thermometer Pt100	white (WH)
3		blue (BU)
4		black (BK)
5	Ground	gray (GY)

Installation dimensions and examples

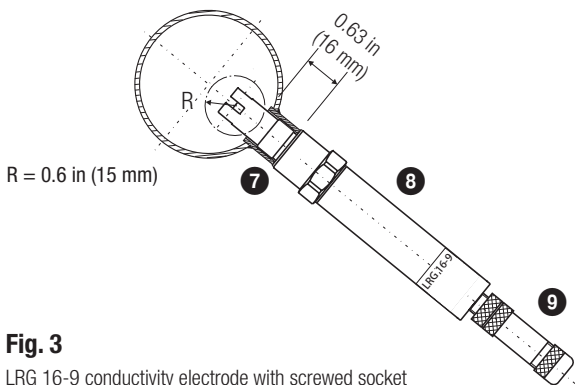


Fig. 3

LRG 16-9 conductivity electrode with screwed socket provided by customer for installation in pipes.

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