GESTRA Steam Systems

Product Range B1

Conductivity Limit Switches
LRS 1-5b, LRS 1-6b

LRS 1-5b
LRS 1-6b

Purpose and Application

Continuous monitoring of the conductivity of liquids with the GESTRA conductivity electrode types ERL 16, LRG 16-4, LRG 17 or LRG 19. Signalling of preselected conductivity limit value.

Application in steam boiler plants for feedwater and condensate monitoring; for condensate monitoring in district heating plants, in the paper and pulp industry and in catering kitchens; for conductivity monitoring in water treatment plants; for monitoring of cooling towers; for dyebath monitoring in dye works.

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. The 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
Measuring transducer with switch contact for conductivity used with the conductivity electrode types ERL 16, LRG 16-4, LRG 17 or LRG 19, manual temperature compensation at operating point.

Input
Four connections for one conductivity electrode ERL or LRG

Output
1 volt-free relay contact;
max. contact rating: 250 V, 500 W, 3 A resistive with a life of 4 x 10^5 switching cycles or 0.35 A inductive with a life of 2 x 10^6 cycles;
contact material silver, hard-gold plated

Limit value
Continuously adjustable within the respective range 0.4...10 mS/cm or 0.04...1 mS/cm for LRS 1-5b, 4...100 µS/cm or 0.4...10 µS/cm for LRS 1-6b

Selection between the two ranges by switch on front panel, values referred to 25 °C

Temperature influence can be compensated with the aid of adjustor up to max. 250 °C on reaching service temperature, initial position calibrated to 25 °C

Switching hysteresis
1 %

Indicators
Two LEDs: green for $\sigma <$ limit value
red for $\sigma >$ limit value

Cell constant of conductivity electrode
C = 1.0 [1/cm]

Electrode supply voltage
Delta voltage 0.5 V_p/1000 Hz for LRS 1-5b
Delta voltage 1.3 V_p/67 Hz for LRS 1-6b

Mains supply
120 V/60 Hz, 220 V/50 Hz, 240 V/50 Hz, 3.5 VA
(please state voltage when ordering)

Prodection
IP 40

Permissible ambient temperature
0...55 °C

Case materials
Base: ABS plastic, black
Cover: ABS plastic, stone-grey

Weight
Approx. 0.5 kg

Important Notes

Cable required for wiring to the electrode:
Screened cable, e.g. 4 x 0.8 mm², cable length see table in “Installation and Service Instructions”.

Order and Enquiry Specifications

GESTRA conductivity limit switch as measuring transducer with switch contact used with the GESTRA conductivity electrode types ERL or LRG:

Conductivity limit switch type LRS 1-..., plug-in unit in plastic case for installation in control cabinets

Mains supply V

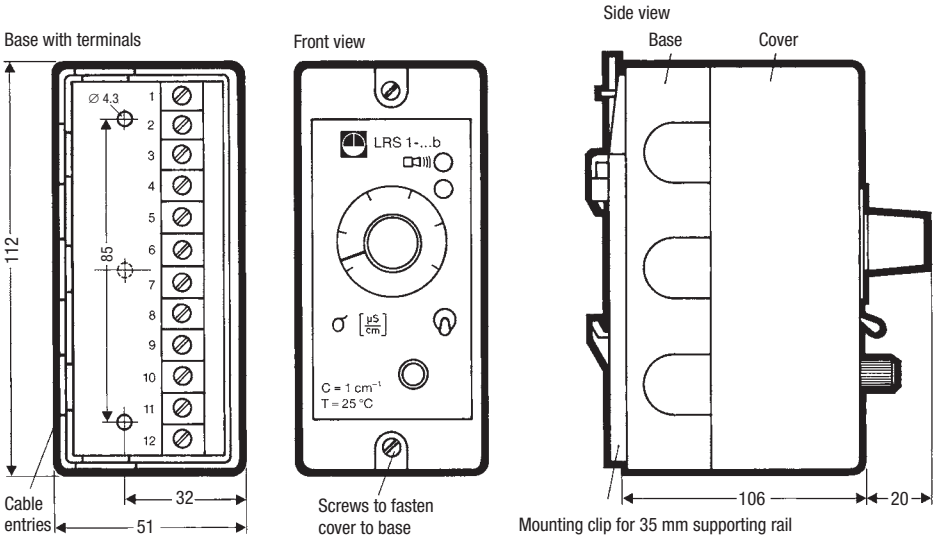
Associated Conductivity Electrodes

Conductivity electrode types
ERL 16-... or LRG 16-4, PN 40
LRG 17-1, PN 63 or
LRG 19-1, PN 160

Conductivity limit switch LRS 1-5b, LRS 1-6b

Conductivity Limit Switches
LRS 1-5b, LRS 1-6b

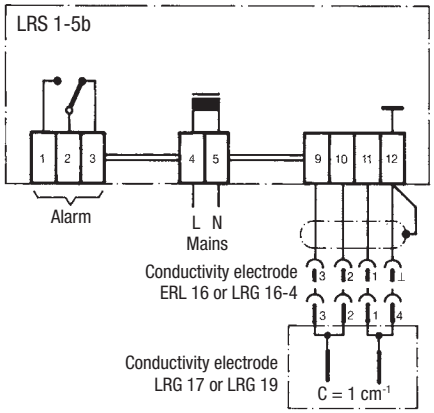
Dimensions



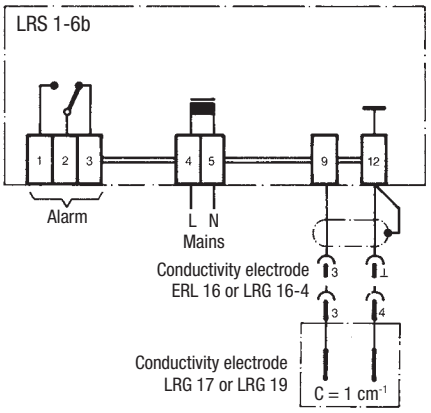
holes to be drilled to 4.3 mm dia for installation of unit in boiler panel
hole drilled for mounting clip

Dimensions of conductivity limit switch types LRS 1-5b, LRS 1-6b

Wiring Diagrams



Wiring diagram for conductivity limit switch type LRS 1-5b, illustrated position of contact: relay de-energized, i.e. alarm



Wiring diagram for conductivity limit switch type LRS 1-6b, illustrated position of contact: relay de-energized, i.e. alarm

Supply in accordance with our general terms of business.