



C-3122, C-3122.I-Ex Conductometer — concentration meter two channel with contact and inductive sensors



The analyzer provides a digital display of SEC values and temperature, their conversion into proportional values of uniform DC output signals, data exchange via digital interface RS-485, alarming when the measured parameters are out of the specified values, as well as the measurement results archiving and graphical display.

The analyzer is a two-channel measuring device which consists of one or two remote active primary transducers (PT) of the specified electrical conductivity (SEC) and a two-channel measuring instrument (MI).

The analyzer PT can be equipped with contact or inductive proximity sensors. Overall dimensions of the PT with inductive sensors are specified in the C-3130 analyzers description.

The analyzer is designed to measure SEC, temperature and concentration of salts, alkalis and acids solutions.

C-3122.x.I-Ex analyzers (PT in the "I" enclosure) with a marking IExdIIBT6x have an explosion protection type "flameproof enclosure".

The analyzer is designed to measure SEC, temperature and concentration of salts, alkalis and acids solutions.

Scope of application: heat power industry, chemical, petrochemical and other industries.

BASIC TECHNICAL SPECIFICATIONS

PRIMARY TRANSDUCER

Measuring range:

- C-3122.1	(0..1); (0..10); (0..100); (0..1000) μ S/cm
- C-3122.2	(0..1); (0..10); (0..100); (0..1000) mS/cm
- C-3122.K	(0..99%); (0..230) g/l (see the order reference code)

Basic accuracy:

-for conductometers (SEC)	
on all ranges	2.0% (typically 0,5%)
- for concentration meters depending on the range	max 5.0%

Operating temperature range of measuring liquid, °C

- contact sensor ¹⁾	(5..95)
- inductive sensor	SI 315(5..80); ES-1-A (5..105); AST-37HT (5..150)

Reference temperature for termocompensation ²⁾

in accordance with the order

Thermocompensation range relatively the reference temperature

$\pm 15^{\circ}\text{C}$

Material of contact sensor:

default	SS321
by order	SS904, SS316, titanium BT1-00, tantalum

Material of inductive sensor

SI 315 PVDF; ES-1-A PP; AST-37HT - PEEK

Material of housing:

- type D	duralumin with polymer coating
- type I (with indication)	duralumin with polymer coating, glass
- type S	SS321

Pressure of the analyzed liquid for the contact sensor max, MPa

1,6

- for the inductive sensor max, MPa

SI 315: **0,3**; ES-1-A: **0,6**; AST-37HT: **0,7**

Sensor type

flowing or submersible

Conductivity analyzers > With active primary transducers (sensors) > C-3122(Ex)

The flow rate of the liquid for the flowing contact sensor.....	max 100 l/h
Linear fluid velocity for submersible sensor.....	max 0,5 m/sec
Degree of protection against water and dust.....	IP65
Resistance to electromagnetic influence.....	IV by GOST 32137 (Rus), criterion A
Climatic version.....	(-40..+50)°C
Resistance to mechanical influences in accordance with GOST R 52931 (Rus).....	V2
Weight with flowing sensor.....	max 1,3 kg

1) By special order, the contact sensor for C-3122.1 is manufactured for temperature of up to 120 ° C (HT). The upper limit of the temperature of the liquid to be analyzed is determined depending on the medium.
 2) The reference temperature for termocompensation (° C) and the temperature coefficient (% per ° C) are set programmatically.
 3) The upper limit for contact submersible sensors is 100 mS / cm.

MEASURING INSTRUMENT

Quantity of measuring channels.....	1, 2
Parameters being measured in every channel.....	SEC and temperature
Communication line length from the PT to MI.....	max 1000 m
Measuring range (according to analogue output signal).....	set programmatically
Indicator type.....	LCD graphics
Output signals:	
-direct current analogue, proportional to the measuring ranges of SEC and temperature galvanically isolated from the input signals.....	(0...5), (0...20) mA or (4...20) mA
-digital interface.....	RS-485, ModBus RTU data communications protocol
-discrete, programmable, actuation according to SEC or temperature set points.....	four relay with switching contacts, ~240V, 3A
Archiving interval.....	programmable from 1 sec to 5 min
Archiving time.....	from 4.4 hours to 55 days
Power supply.....	~(100..240) V, (50..60)Hz
Power consumption.....	max 15 VA
MI enclosure material:	
Panel mounted design.....	aluminum alloy
Wall mounted design.....	ABS plastic
Dust and water protection:	
-wall mount MI enclosures.....	IP65
-panel mount MI enclosures on the front panel.....	IP54
Climatic version.....	T=(+5..+50)°C
Resistance to mechanical influences in accordance with GOST R 52931 (Rus).....	V2
Weight.....	max 1 kg

OVERALL AND MOUNTING DIMENSIONS

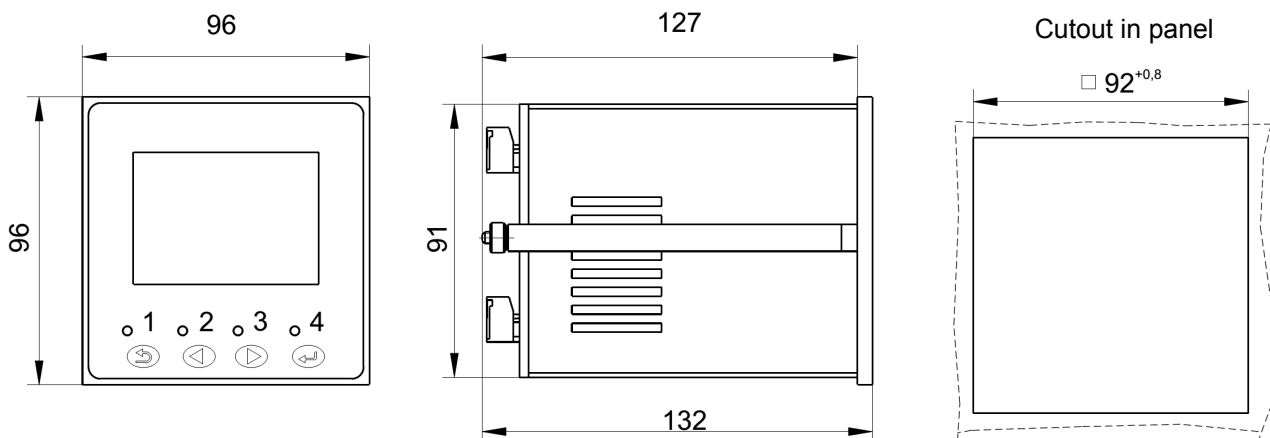


Figure 1. Panel mouning measuring instrument, aluminum alloy, IP54 on the front panel

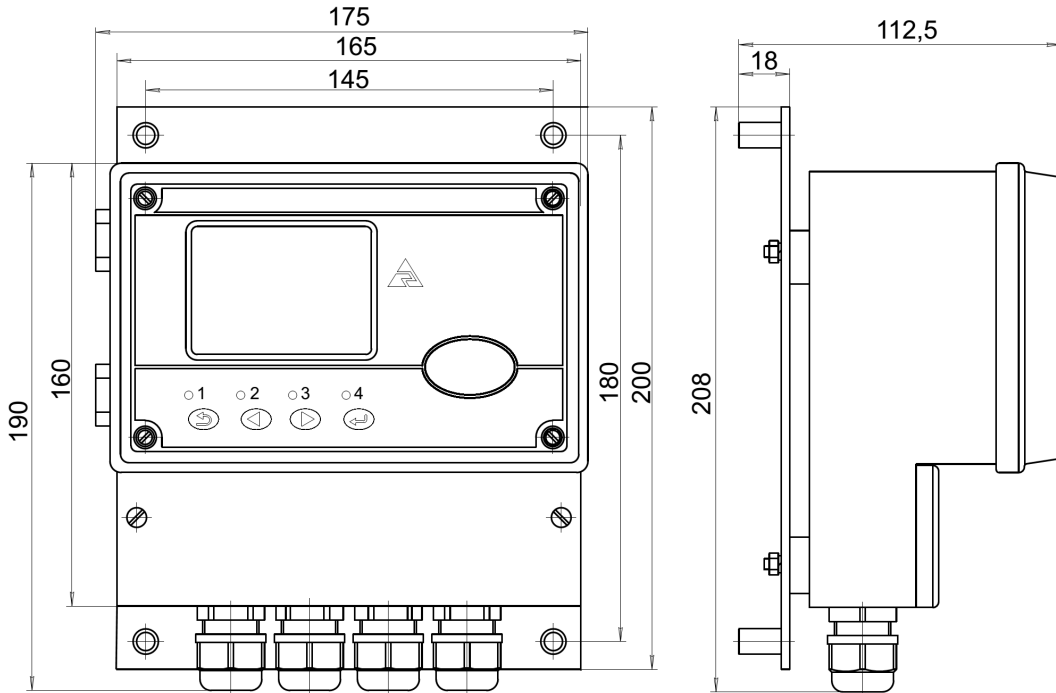


Figure 2. Wall-mounted measuring instrument, plastic, IP65

Note: The overall and mounting dimensions of the variants of the primary transducers in the D, S and I packages are given in the description of the instrument C-3101M

WIRING DIAGRAMM

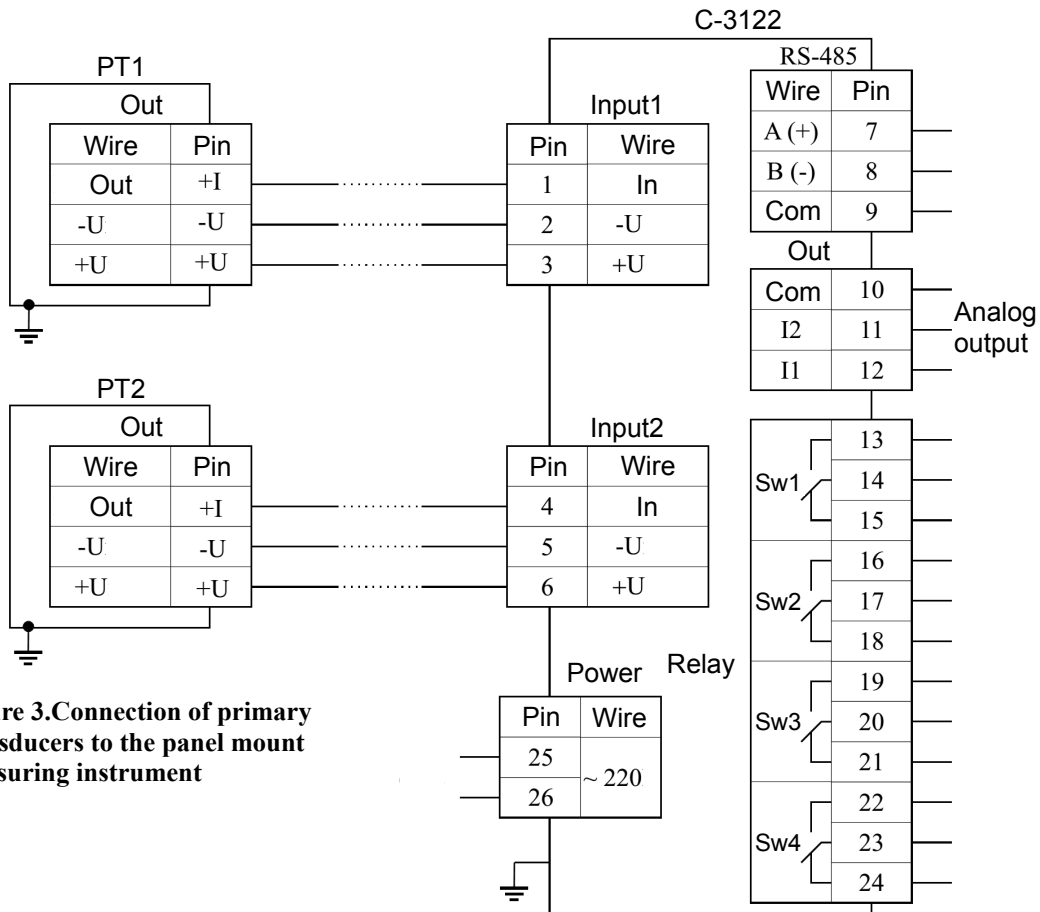


Figure 3. Connection of primary transducers to the panel mount measuring instrument

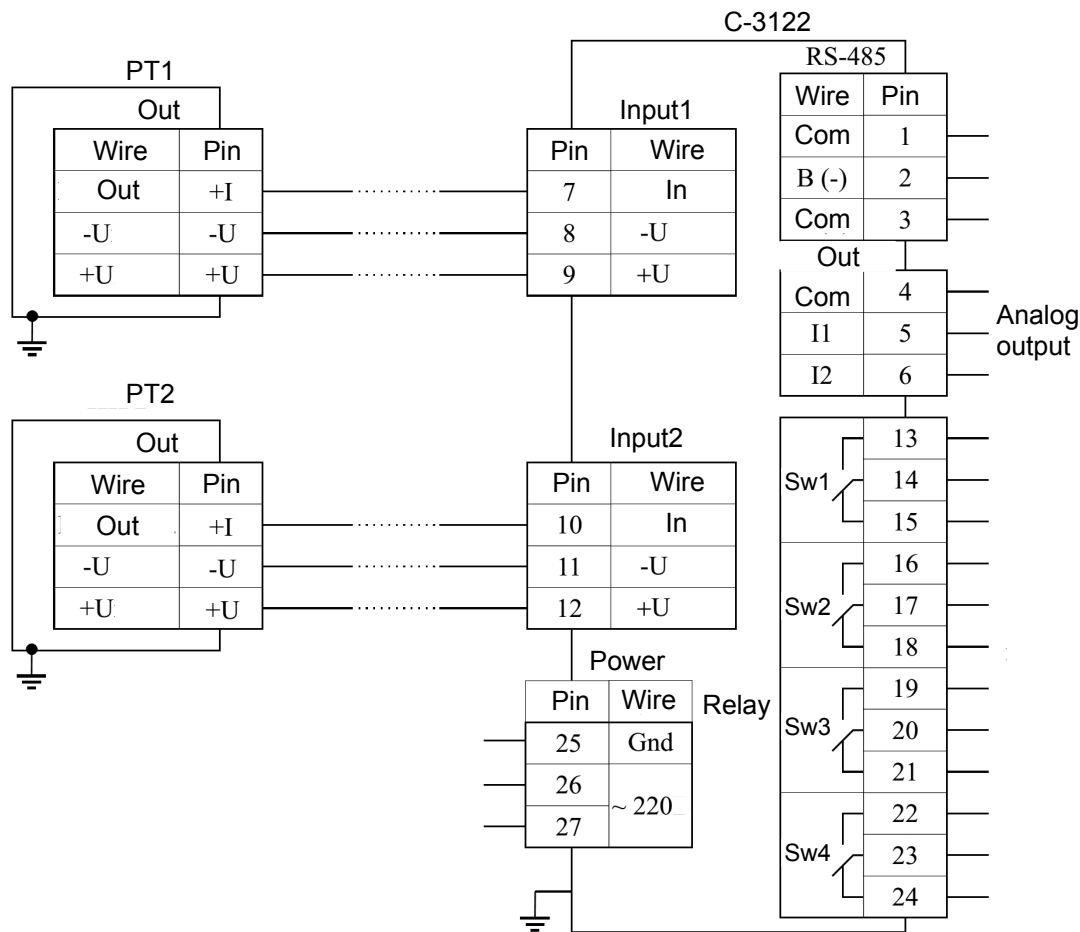


Figure 4. Connection of primary transducers to wall mounting measuring instrument

ORDER EXAMPLE

«Conductometer C-3122 in the complete set:

- wall mounting two-channel measuring instrument;

- First measuring channel: **C-3122.1.N.S.s400.C.00** primary transducer with measurement ranges (0 ... 1); (0 ... 10); (0 ... 100); (0..1000) $\mu\text{S}/\text{cm}$, with not needed Increased resistance to electric influence, the housing of the electronic unit of the primary transducer from stainless steel SS321, the type of sensor is submersible, the depth of immersion is 400 mm, contact sensor. Holder is HS-1.1-01 H=500. Temperature of liquid is 50..70°C. Reference temperature is 25°C. Pressure is 0,9 MPa.

- Second measuring channel: **C-3122.2.N.I.F.C.Ex** primary transducer with measurement ranges (0 ... 1); (0 ... 10); (0 ... 100); (0..1000) mS/cm , with not needed Increased resistance to electric influence, the housing of the electronic unit of the primary transducer from aluminium alloy with indication, the type of sensor is flowing, contact sensor. Explosion proof with type of protection "flameproof enclosure". Without Holder. Temperature of liquid is 60..75°C. Reference temperature is 25°C. Pressure is 0,5 MPa.

When ordering the analyzer with the separated electronic unit and the sensor of the primary converter, the length of the cable between them, must be lower than 20 m, it is additionally indicated.

When ordering, in addition to the order code, please ,write measuring range, reference temperature for termo-compensation, operating temperature of liquid, operating pressure of liquid, analog output signal parameters, the color of the MI indicator, the presence of a signaling relay.

When ordering the analyzer with index K (concentration meter), the normalized dependence of the SEC on the concentration of the solution must be discussed and coordinated between the customer and the manufacturer.

When ordering, it is recommended to specify the Figure from the catalog.

Note: when ordering, it is necessary to use the order codes, given in the description of the device C-3101M. Parameters of sensors of primary transducers and used types of holders See C-3101M and C-3122.x.P.I.