Turbidity analyzer TU-8122

The two-channel instrument is designed to measure the turbidity of water and aqueous solutions. The method of measurement is nephelometric.

Areas of application: water treatment, water cleaning, food, brewering, pulp and paper industry.

Optical turbidity sensors TU 8355, TU 8555, TU 8325, TU 8355 are connecting to the controller.

Immersible sensors TU8355, TU8325 have a nozzle cup for cleaning optical lenses with compressed air.

Flow sensors TU 8555, TU 8525 are installed in the measuring cell TU 910 or in the tee.

BASIC TECHNICAL SPECIFICATION AND PARAMETERS

MI houzing type	wall- or panel-mounting
Number of measuring channels	1 or 2
Measuring ranges:	
sensors TU 8355, 8555	(0…100,0); (0…1000); (0…10000) FTU
sensors TU 8325, 8525	(0…4,000); (0…40,00); (0…400,0) NTU
Accuracy	±4 %
Termocompencation	automatic
Temperature of analyzing liquid	(-5… +50) °C
Maximum pressure of analyzing liquid	0,6 MPa at 20 °C
Self diagnostics	lens purity, liquid presence, external lighting
Method for cleaning the sensors (option for TU 8355, TU 8325)	compressed air
Measuring range	configurable programmatically
Display type	LCD with GUI
The output signals:	
- unified DC galvanically isolated from input	(0…5), (0…20), (4…20) mA
- digital interface	RS-485, ModBus RTU
- discrete	4 relay with changeover contacts, ~240 V, 3 A
Time of the backup is recording all measured parameters once per second	one year
Power supply:	
- AC	(90... 240) V, (47… 63) Hz
- DC	(18... 35) V
Power consumption	max 15 VA
Panel-mounted MI housing material	aluminum alloy
Wall-mounted MI housing material	ABS
Sensor housing material	PVC
Protection against dust and water:	
- panel-mounted MI	IP65
- wall-mounted MI	IP54 (front panel)
- sensors	IP68
Climatic version:	
- panel-mounted MI	(0…+50)°C
- wall-mounted MI	(-10…50)°C
Resistance to mechanical influences	N2
Weight, max:	
- MI	1,0 kg
- submersible sensor with 10m of cable	1,1 kg
- flowing sensor with 10m of cable	0,9 kg

There are channels for measuring the temperature of the sensor and the flow rate of the liquid being analyzed

ACCESSORIES

In the complete set it is possible to order the converter of interface RS485-USB, a terminal box, a cabinet.
Immersion sensors TU 8355, TU 8325 can be completed with immersion holders, compressor, flexible pipe for compressed air, calibration cell for calibration and adjustment.
Flowing sensors TU 8555, TU 8525 can be equipped with a measuring cell TU 910 or a tee, a flowmeter, a calibration cell for calibration and adjustment.
For the analysis of the turbidity of drinking water, you can order the hydraulic panel HP-TU.01.

OVERALL AND MOUNTING DIMENSIONS

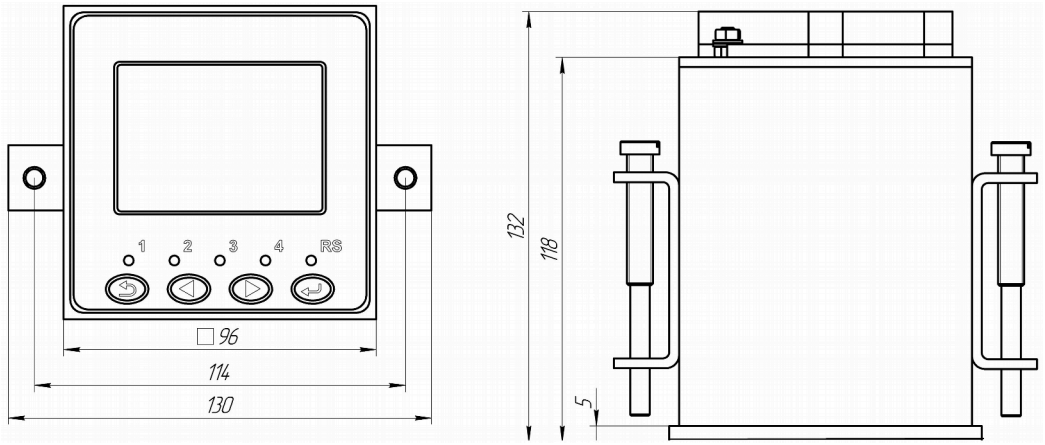


Figure 1. The panel-mounting MI

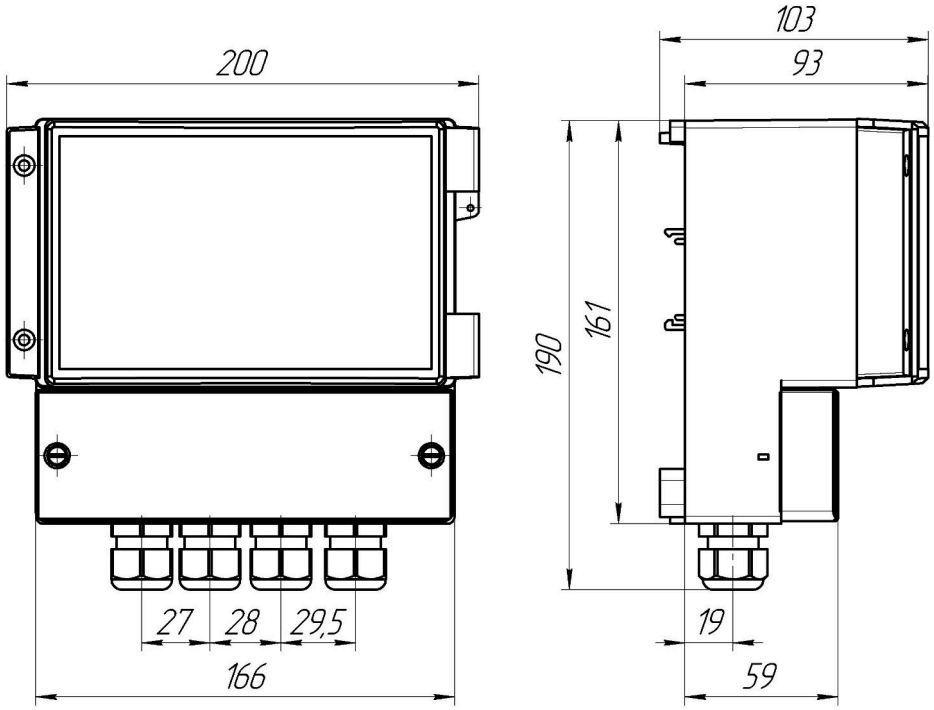
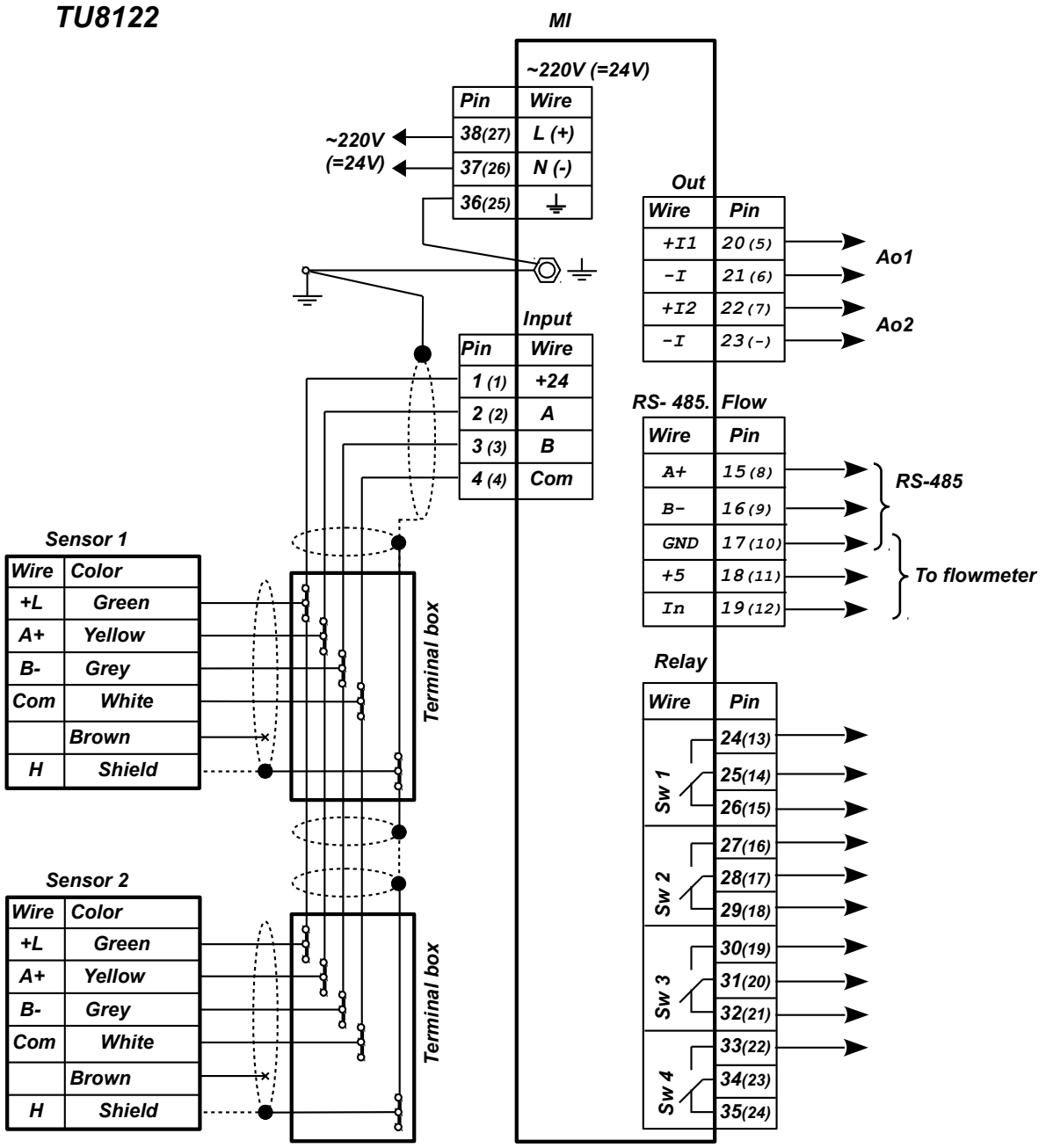


Figure 2. The wall-mounting MI

EXTERNAL WIRING



In parentheses are the pin numbers of the wall-mounted MI.
Pin 17(10) is common for the flowmeter, and for RS-485 interface.

ACCESSORIES

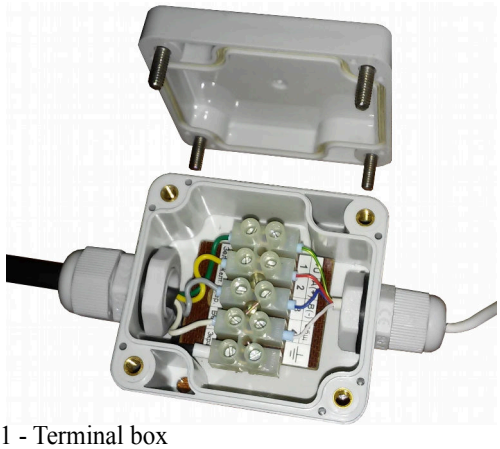


Figure A. 1 - Terminal box

Figure A. 2 - Interface Converter USB-RS485

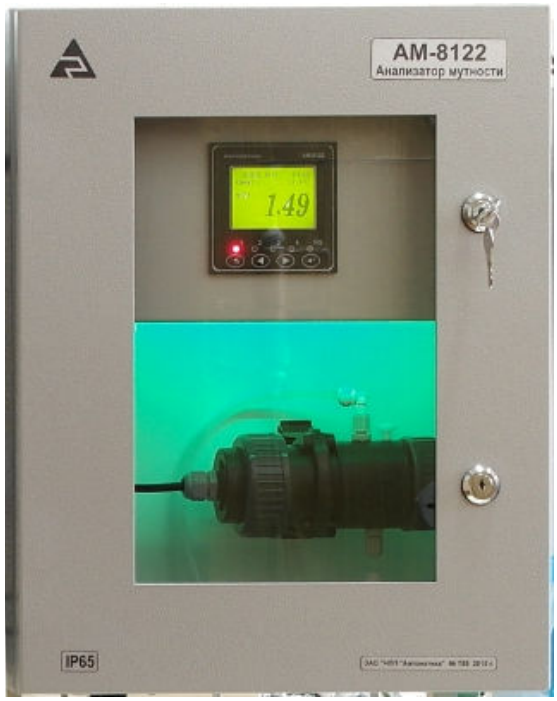


Figure A.3 - Cabinet with panel-mounting MI and sensor

Figure A.4 - Immersion sensor adapter for extension pipe

Figure A.5 - Flowmeter

Figure A.6 - Flow cell TU910

Figure A.7 - Tee YAT75M0021 for a flowing sensor on a PVC pipe with an external diameter of 48 mm

Figure A.8 - Calibration cell for calibration and adjustment of submersible sensors

Figure A.9 - Metal tee for mounting the sensor with auto-cleaning in the pipeline

Figure A.10 - Compressor for cleaning submersible sensors (~ 220 VAC, 60 W, pressure up to 2.4 bar, air flow up to 6 l / min, dimensions 103 × 93 × 64 mm)

Figure A.11 - Compressor for cleaning submersible sensors (12 VDC, 0.6 A, pressure up to 1.5 bar, air flow up to 4 l / min, dimensions 74 × 51 × 32 mm)

ORDER CODE REFERENCE

TU-8122. x. x. x. x. x. x. x. x.

MI housing:

- **P** - panel-mounting
- **W** - wall-mounting

Supply voltage:

- **24** (18… 35) V DC
- **220** (100… 240) V AC, freq (47... 63) Hz

Discrete Output:

- **R** - four electromagnetic relays
- **SR** - four solid-state relays (optoelement)
- **OT** - Four optocouplers of transistor
- **OS** - four optocouplers of triac

Flow sensor:

- **0** - without a flow sensor
- **1** - Flow sensor FCH-m

Measuring ranges of the second turbidity sensor:

- **0** - without a second sensor
- **2** - (0...4), (0...40), (0...400) NTU
- **5** - (0...100), (0...1000), (0...10000) FTU

Type of the second turbidity sensor:

- **0** - without a second sensor
- **3** - submerged with self-cleaning nozzle cup
- **5** - flowing

Measuring ranges of the first turbidity sensor:

- **2** - (0...4), (0...40), (0...400) NTU
- **5** - (0...100), (0...1000), (0...10000) FTU

Type of the first turbidity sensor:

- **3** - submerged with self-cleaning nozzle cup
- **5** - flowing

Example of order:
"TU-8122 .3.2.3.5.0.R.220.P - Turbidity analyzer of the panel version with two submersible sensors with auto-cleaning; the first sensor with a measuring range: (0 ... 4/40/400) NTU, the second sensor: (0 ... 100/1000/10000) FTU, without flow sensor, with four electromegnetic relay, power ~ 220 V, panel-mouting".