

Power supply and alarm unit БПС-21М3



Application

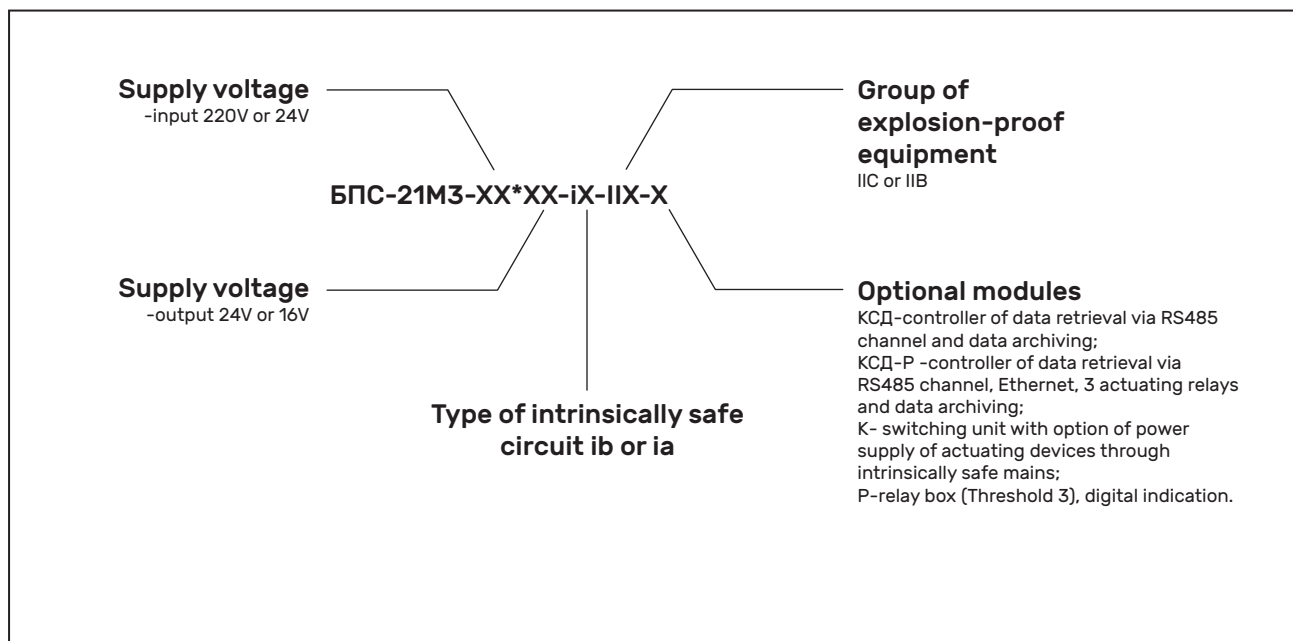
As equipment for power supply, alarm, intrinsically safe barriers, controllers for data retrieval in combination with remote detectors of various types that can be installed both in non- and explosion hazardous areas.



As equipment for power supply, alarm, intrinsically safe barriers, controllers for data retrieval in combination with remote detectors of various types that can be installed both in non- and explosion hazardous areas.

Designed for

- > Generation of supply voltage, including intrinsically safe one, for gas alarms ДАТ-М, ДАХ-М, ДАК, ДАМ, potentiometric analyzers of ion activity АП430-02 and other compatible devices;
- > Integration into ACSTP systems (automatic control system of technological process) via Ethernet interface (КСД module);
- > Data exchange with connected devices via RS485 digital channel, including transfer of measurement information to external devices;
- > Archiving of data received, events and readings (КСД module);
- > Possibility to connect actuating devices, depending on versions (switching unit K);
- > Generation of light alarm when values exceed/drop below the set threshold values (Threshold 1, Threshold 2, Threshold 3) along with simultaneous switching of "dry" relay contacts.



Power supply and alarm unit БПС-21М3

Other technical characteristics		Code names of БПС-21М3 units	ИБЯЛ.411111.047-01	ИБЯЛ.411111.047-02	ИБЯЛ.411111.047-03	ИБЯЛ.411111.047-04	ИБЯЛ.411111.047-05	ИБЯЛ.411111.047-06	ИБЯЛ.411111.047-07	ИБЯЛ.411111.047-08	ИБЯЛ.411111.047-09	ИБЯЛ.411111.047-10	ИБЯЛ.411111.047-11	ИБЯЛ.411111.047-12	ИБЯЛ.411111.047-13	ИБЯЛ.411111.047-14
Ethernet interface	-	24x24-P	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Digital indication	+	ИБЯЛ.411111.047-01	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Rs485 interface	+	ИБЯЛ.411111.047-02	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Threshold relay 3	+	ИБЯЛ.411111.047-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Threshold relay 2	+	ИБЯЛ.411111.047-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Output voltage	24	ИБЯЛ.411111.047-05	24	16	16	16	16	16	16	16	16	24	24	24	24	24
Supply voltage	24	ИБЯЛ.411111.047-06	220	24	24	24	24	24	24	24	24	24	24	24	24	24
Code names of БПС-21М3 units			ИБЯЛ.411111.047-07	ИБЯЛ.411111.047-08	ИБЯЛ.411111.047-09	ИБЯЛ.411111.047-10	ИБЯЛ.411111.047-11	ИБЯЛ.411111.047-12	ИБЯЛ.411111.047-13	ИБЯЛ.411111.047-14	switching unit with option of power supply of devices in use through intrinsically safe circuit					
Ethernet interface	-	ИБЯЛ.411111.047-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Digital indication	+	ИБЯЛ.411111.047-02	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Rs485 interface	+	ИБЯЛ.411111.047-03	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Threshold relay 3	+	ИБЯЛ.411111.047-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Threshold relay 2	+	ИБЯЛ.411111.047-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Output voltage	24	ИБЯЛ.411111.047-06	24	16	16	16	16	16	16	16	16	24	24	24	24	24
Supply voltage	24	ИБЯЛ.411111.047-07	220	24	24	24	24	24	24	24	24	24	24	24	24	24
Code names of БПС-21М3 units			ИБЯЛ.411111.047-08	ИБЯЛ.411111.047-09	ИБЯЛ.411111.047-10	ИБЯЛ.411111.047-11	ИБЯЛ.411111.047-12	ИБЯЛ.411111.047-13	ИБЯЛ.411111.047-14	switching unit with option of power supply of devices in use through intrinsically safe circuit						
Ethernet interface	-	ИБЯЛ.411111.047-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Digital indication	+	ИБЯЛ.411111.047-02	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Rs485 interface	+	ИБЯЛ.411111.047-03	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Threshold relay 3	+	ИБЯЛ.411111.047-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Threshold relay 2	+	ИБЯЛ.411111.047-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Output voltage	24	ИБЯЛ.411111.047-06	24	16	16	16	16	16	16	16	16	24	24	24	24	24
Supply voltage	24	ИБЯЛ.411111.047-07	220	24	24	24	24	24	24	24	24	24	24	24	24	24
Code names of БПС-21М3 units			ИБЯЛ.411111.047-08	ИБЯЛ.411111.047-09	ИБЯЛ.411111.047-10	ИБЯЛ.411111.047-11	ИБЯЛ.411111.047-12	ИБЯЛ.411111.047-13	ИБЯЛ.411111.047-14	switching unit with option of power supply of devices in use through intrinsically safe circuit						
Ethernet interface	-	ИБЯЛ.411111.047-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Digital indication	+	ИБЯЛ.411111.047-02	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Rs485 interface	+	ИБЯЛ.411111.047-03	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Threshold relay 3	+	ИБЯЛ.411111.047-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Threshold relay 2	+	ИБЯЛ.411111.047-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Output voltage	24	ИБЯЛ.411111.047-06	24	16	16	16	16	16	16	16	16	24	24	24	24	24
Supply voltage	24	ИБЯЛ.411111.047-07	220	24	24	24	24	24	24	24	24	24	24	24	24	24
Code names of БПС-21М3 units			ИБЯЛ.411111.047-08	ИБЯЛ.411111.047-09	ИБЯЛ.411111.047-10	ИБЯЛ.411111.047-11	ИБЯЛ.411111.047-12	ИБЯЛ.411111.047-13	ИБЯЛ.411111.047-14	switching unit with option of power supply of devices in use through intrinsically safe circuit						

*connection to external power supply is required

Power supply and alarm unit

БПС-21М3

Basic technical characteristics

Characteristics	Values	Remarks
Protection of units	IP 20	
Ambient temperature, °C	+1 / +50	
Power consumed by БПС-21М3 from DC source, W, at most	15	
Analog output signal, mA	4-20	
Digital output signal	RS485, Ethernet	КЦД unit for connection to PC, controllers of upper level
Parameters of relay contacts	40 V; 0,2 A*	threshold 1, threshold 2, threshold 3, failure, status, mode
Overall dimensions of units, mm	52x114x102	weight of units 1,2 kg
Interval between verifications, months	12	service life 10 years

*БПС-21М3-24x16-ibIIC-K – if consumption current value of connected actuating device is 10 mA or 170 mA;

*БПС-21М3-24x24-iaIIC-K – if consumption current value of connected actuating device is 3 mA or 70 mA.

Advantages

- > Possibility to configure complex gas analysis systems using detectors for various gases and of various explosion protection degrees (Exd, ib, ia);
- > Construction of system with combined configuration of detectors wiring (daisy chain-star);
- > Intrinsically safe barrier of circuit ia, ib, ic;
- > Mounting onto facepiece (enclosure on DIN-rail);
- > Additional status alarm Threshold 1. Threshold 2, Threshold 3;
- > Data archiving, possibility to connect portable data carrier;
- > Possibility to connect actuating devices through intrinsically safe mains (when using switching unit K);
- > Full compliance with normative base of RF and Customs union;
- > Functional safety integrity level SIL 3.

Controller of data retrieval (КЦД) provides preservation of information via RS485 communication channel of the devices.

Functional capabilities:

- > Archiving of measurement results;
- > Issue of commands to connected units of any other modification for setting of threshold values and range for physical quantity measurement for detectors;
- > Retention of parameters of connected detectors:
 - alarm actuation thresholds Threshold 1-2-3;
 - units of measurement;
 - analyte;
 - values of indication range.

Units БПС-21М3-24-КЦД, БПС-21М3-24-КЦД-Р allow to record data:

- > of recent 10 days with interval of 1 minute if maximum quantity of devices are connected (30 at most);
- > of recent 30 days with interval of 1 minute if maximum 10 devices are connected.



Standard equipment:

- > Unit БПС-21М3;
- > SPTA set;
- > Documentation.



Optional items can be ordered:

- > Relay box that can be installed onto DIN-rail (maximum quantity of relays - 1, 4, 8);
- > Power supply sources 220*24 V (20, 40, 60, 120 and 240 W);
- > CD-disk with utility software for connection with PC;
- > USB/RS 485 interface converter «USB-RS485».

Safety system configurations based on power supply and alarm units БПС-21М

Code names of units	ДАТ-М-01,-02,-03, ДАХ-М-01/-03 ДАК-031/-032/-033	ДАТ-М-05/-05Х /-05Г /-05ГХ ДАХ-М-05/-05Х	ДАТ-М-06ТР/-06ТРХ/ -06ТРХН/-06ГТР/ -06ГТРХ/-06ГТРХН ДАХ-М-06ТРХН ДАРТ	ДАТ-М-06/-06Г ДАХ-М-06	ДАХ-М-06ТР/-06ТРХ ДАК-26...-30/-35...-38	ДАХ-М-05ХН ДАТ-М-05ХН-05ГХН	ДАХ-М-07/-07Х	ДАМ	АП-430-02
VERSION FOR MOUNTING ON PANEL									
БПС-21М with intrinsically safe barrier ³⁾	+	-	-	-	-	-	-	+	-
БПС-21М without intrinsically safe barrier	-	+	+*	-	+	+*	-	-	+
БПС-21М-М daisy chaining via RS485	-	-	+	+	+	-	-	-	-
VERSION FOR MOUNTING ON DIN-RAIL									
БПС-21М3-24x24-Р БПС-21М3-220x24	-	+	+*	-	+	+*	-	-	+
БПС-21М3-24x16-ib IIB ¹⁾²⁾ БПС-21М3-24x16-ib IIB-Р ¹⁾ БПС-21М3-220x16-ib IIB ¹⁾	+	-	-	-	-	-	-	-	-
БПС-21М3-24x16-ib IIC ¹⁾²⁾ БПС-21М3-24x16-ib IIC-Р ¹⁾ БПС-21М3-220x16-ib IIC ¹⁾	+	-	-	-	-	-	-	+	-
БПС-21М3-24x24-ia IIC ³⁾ БПС-21М3-24x24-ia IIC-Р ³⁾ БПС-21М3-220x24-ia IIC ³⁾	-	-	-	-	-	-	+	-	-
БПС-21М3-24-КСД ⁴⁾ БПС-21М3-24-КСД-Р ⁴⁾	-	-	+	+	+	-	-	-	-

БПС-21М3-24x16-ibIIC-K switching unit, with option of power supply of devices in use through intrinsically safe circuit
БПС-21М3-24x24-ibIIC-K

* connection to external power supply is required

Power supply and alarm units БПС-21М with intrinsically safe barrier

- 1) Cable for gas analyzers is laid without protection against mechanical damages;
- 2) Can be used as intrinsically safe barrier for connection of gas analyzers of other manufacturers;
- 3) Gas analyzers are connected via two-wire circuit (power supply of detector and data retrieval).

Power supply and alarm units БПС-21М without intrinsically safe barrier

Cable for gas analyzers with explosion protection marking «Exd» is laid using cable gland for armored cable, tubing and cable in metal hose.

- 4) Controller of data retrieval КСД allows to connect maximum 32 power supply and communication units БПС-21М3 in a system, archive data and transfer them via RS485 digital channel (or Ethernet for КСД-Р) for PC or controllers of upper level.