

“O‘zbekneftgaz” AJ
 “Shurtan gaz kimyo majmuasi” MCHJ
 MTRB xizmati
 RO‘YXATGA OLINDI
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«УТВЕРЖДАЮ»
 Главный метролог
 ООО «Шуртанского ГХК»
 Х. А. Махмудов
 2023 г.

ТЕХНИЧЕСКОЕ ЗАДАНИЕ на закупку контроллеров, аналоговых и дискретных модулей ввода-вывода и терминальных блоков для нужд ООО «Шуртанский ГХК»	TECHNICAL ASSIGNMENT for the purchase of Controllers, analog and digital I/O modules and terminal blocks for the needs of LLC “SGCC”
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1. ОБЩИЕ СВЕДЕНИЯ	1.GENERAL INFORMATION
1.1 Наименование	1.1 Name
Контроллеры, аналоговые и дискретные модули ввода-вывода и терминальные блоки	Controllers, analog and digital I/O modules and terminal blocks
1.2 Основание приобретения товара	1.2 Basis of goods purchasing.
Основание: Утверждённая внеочередная заявка от 27.10.2022г. поз. №100-№112, от 05.12.2022г. поз №1, №2 и годовая заявка на 2023г. Поз. 106, 107	Basis: Approved extraordinary application dated 27.10.2022 item No. 100-No. 112, dated 05.12.2022 pos No. 1, No. 2 and annual application for 2023 pos. 106, 107
1.3 Сведения о новизне (год производства /выпуска товара)	1.3 Information on novelty / (production/manufacture year of goods).
Поставляемая продукция должна быть изготовлена в год поставки или предшествующий ему и быть новой, ранее не использованной.	The delivered products shall be manufactured in or prior to the year of delivery and shall be new, not previously used.
1.4 Код ТН ВЭД и другие международные коды при применимости	1.4 HS code and other international codes when applicable.
Изготовитель товара должен предоставить код ТН ВЭД или другие международные коды.	The manufacturer of the goods shall provide the HS code or other international codes.
2.ОБЛАСТЬ ПРИМЕНЕНИЯ	2.SCOPE OF USE
Контроллеры, аналоговые и дискретные модули ввода-вывода и терминальные блоки предназначены для работы автоматического системы управления в технологической процессы установке. Контроллеры, аналоговые и дискретные модули ввода-вывода и терминальные используются в технологических процессах с применениями контроля рабочих параметров.	Controllers, analog and digital I/O modules and terminal blocks are designed for the operation of an automatic control system in the technological processes of the facility. Existing Controllers, analog and digital I/O modules and terminal blocks are used in technological processes with applications for monitoring operating parameters.
3. УСЛОВИЯ ЭКСПЛУАТАЦИИ	3. OPERATING CONDITIONS
Климатическое исполнение по ГОСТ 12997-84 – У2; Температура окружающего воздуха: от -27 до +75°С; Относительная влажность: – 95% при +35°С; Степень защиты по ГОСТ 14254-96 – IP66/ IP67;	Climatic design as per GOST 12997-84 - U2; Ambient air temperature: from -27 to + 75 ° C; Relative humidity: - 95% at + 35 ° C; Protection degree as per GOST 14254-96-IP66/ IP67;

4. ТЕХНИЧЕСКИЕ ТРЕБОВАНИЯ / TECHNICAL REQUIREMENTS

4.1 Основные технические требования / 1 Basic technical requirements			
Название продукта / Name of product	Краткая характеристика и комплектация оборудования / Brief description and completing of equipment	Ед. Изм / Unit	Кол-во / Qty
Контроллер / Controller S7-400 CPU-416-2 6ES7 416-2XN05-0AB0	CPU 416-2 Central processing unit with: Work memory 5.6 MB, (2.8 MB code, 2.8 MB data), 1st interface MPI/DP 12 Mbit/s, 2nd interface PROFIBUS DP, General information Product type designation CPU 416-2 HW functional status 04 Firmware version V5.3 Engineering with • Programming package STEP 7 V5.3 SP2 or higher with HW update CiR – Configuration in RUN CiR synchronization time, basic load 100 ms CiR synchronization time, time per I/O byte 10 µs Supply voltage Rated value (DC) • 24 V DC No; Power supply via system power supply Input current from backplane bus 5 V DC, typ. 0.9 A from backplane bus 5 V DC, max. 1.1 A from backplane bus 24 V DC, max. 300 mA; 150 mA per DP interface from interface 5 V DC, max. 90 mA; At each DP interface Power loss Power loss, typ. 4.5 W Power loss, max. 5 W Memory Type of memory RAM Work memory • integrated 5.6 Mbyte • integrated (for program) 2.8 Mbyte • integrated (for data) 2.8 Mbyte • expandable No	Шт / Pcs	1

	<p>Load memory • expandable FEPRAM Yes; with Memory Card (FLASH) • expandable FEPRAM, max. 64 Mbyte • integrated RAM, max. 1 Mbyte • expandable RAM Yes; with Memory Card (RAM) • expandable RAM, max. 64 Mbyte Backup • present Yes • with battery Yes; all data Battery Backup battery • Backup current, typ. 125 µA; up to 40 °C • Backup current, max. 550 µA • Backup time, max. See reference manual, module data, Chapter 3.3 • Feeding of external backup voltage to CPU 5 V DC to 15 V DC CPU processing times for bit operations, typ. 30 ns for word operations, typ. 30 ns for fixed point arithmetic, typ. 30 ns for floating point arithmetic, typ. 90 ns Interfaces/bus type 1 x MPI/PROFIBUS DP, 1 x PROFIBUS DP Number of RS 485 interfaces 2; Combined MPI / PROFIBUS DP and PROFIBUS DP 1. Interface type Integrated Physics RS 485 / PROFIBUS + MPI Isolated Yes Power supply to interface (15 to 30 V DC), max. 150 mA Number of connection resources MPI: 44, DP: 32 Protocols • MPI Yes • PROFIBUS DP master Yes • PROFIBUS DP slave Yes MPI • Number of connections 44; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 • Transmission rate, max. 12 Mbit/s Configuration Configuration software • STEP 7 Yes</p>		
<p>Communication Processor C S7-400 6GK7 443-1GX20-0XE0</p>	<p>CP 443-1 Advanced COMMUNICATIONS PROCESSOR CP 443-1 ADVANCED FOR CONNECTING SIMATIC S7-400CPU TO INDUSTRIAL ETHERNET: PROFINET IO-CONTROLLER WITH RT AND IRT, MRP, PROFINET CBA, TCP/IP, ISO, UDP, S7-COM, S5-COMP. COM.(SEND/RECEIVE). FETCH/WRITE WITH AND W/O RFC1006, MULTICAST, DIAGNOSTIC EXPANSIONS, SNMP, DHCP, FTP CLIENT/SERVER, E-MAIL, DATA STORAGE ON C-PLUG, PROFINET-SS 4XRJ45(10/100 MBIT) SWITCHED, GIGABIT-SS 1XRJ45 (10/100/1000 MBIT) Transmission rate Transfer rate • at the 1st interface 10 ... 1000 Mbit/s • at the 2nd interface 10 ... 100 Mbit/s Interfaces Number of interfaces / acc. to Industrial Ethernet 5 Number of electrical connections • at the 1st interface / acc. to Industrial Ethernet 1 • at the 2nd interface / acc. to Industrial Ethernet 4 Type of electrical connection • at the 1st interface / acc. to Industrial Ethernet RJ45 port • at the 2nd interface / acc. to Industrial Ethernet RJ45 port design of the removable storage / C-PLUG Yes Supply voltage, current consumption, power loss Type of voltage / of the supply voltage DC Supply voltage / 1 / from backplane bus 5 V Supply voltage 5 V Relative symmetrical tolerance / at DC • at 5 V 5 % Consumed current • from backplane bus / at DC / at 5 V / typical 1.8 A Power loss [W] 9 W</p>	<p>ШТ / Pcs</p>	<p>1</p>
<p>Communication module S7-400 CP 441-2 6ES7 441-2AA04-0AE0</p>	<p>SIMATIC S7-400, CP 441-2 COMMUNICATIONS MODULE FOR POINT TO POINT CONNECTIONS 2 CHANNELS INCL. Supply voltage Rated value (DC) • 5 V DC Yes • 24 V DC Yes Input current from backplane bus 5 V DC, max. 600 mA; Without interface module Interface modules • 20 mA (TTY), power consumption from 5 V/24 V, max. 300 mA at 5 V, 45 mA at 24 V • RS 422/485 (X.27), power consumption from 5 V, max. 300 mA • RS 232C (V.24), power consumption from 5 V, max. 300 mA Memory requirements per interface in memory card of S7-CPU 1 to 5 KB for parameters; 0 to 55 KB for message texts; 0 to 64 KB for loadable drivers Interfaces Number of interfaces 2; variable Interface physics, 20 mA (TTY) Yes Interface physics, RS 232C (V.24) Yes Interface (physical) RS 422/485 (X.27) Yes 20 mA (TTY), cable length shielded, max. 1 000 m RS 232, cable length shielded, max. 10 m RS 422/RS 485, cable length shielded, max. 1 200 m Configuration software • STEP 7 Yes; own parameter assignment forms</p>	<p>ШТ / Pcs</p>	<p>1</p>
<p>Interface module S7-400 RS 485 6ES7 963-3AA00-0AA0</p>	<p>SIMATIC S7-400, interface module IF963-X27 with RS422/RS485 interface for PTP coupling with CP441 General information Product type designation IF 963 PtP Product version RS 422/485 Dimensions Width 25 mm Height 53 mm Depth 140 mm</p>	<p>ШТ / Pcs</p>	<p>1</p>
<p>DP Bus module 6ES7195-7HB00-0XA0</p>	<p>SIMATIC DP, Bus module for ET 200M for holding two 40 mm wide I/O modules for removal and insertion function Dimensions Width 97 mm; 80 mm when installed Height 92 mm Depth 30 mm</p>	<p>ШТ / Pcs</p>	<p>1</p>
<p>DP interface module IM153-2 (ET-200M) 6ES7153-2BA01-0XB0</p>	<p>SIMATIC DP, ET 200M INTERFACE IM 153-2 HIGH FEATURE FOR MAX. 8 S7-300 MODULES, WITH REDUNDANCY, TIME STAMPING FIT FOR ISOCHRONOUS MODE General information Vendor identification (VendorID) 801Eh Supply voltage Rated value (DC) • 24 V DC Yes permissible range (ripple included), lower limit (DC) 20.4 V permissible range (ripple included), upper limit (DC) 28.8 V</p>	<p>ШТ / Pcs</p>	<p>1</p>



	<p>external protection for power supply lines (recommendation) 2,5 A Mains buffering • Mains/voltage failure stored energy time 5 ms Input current Current consumption, max. 470 mA Inrush current, typ. 3.5 A I²t 0.08 A²-s Power loss typ. 4 W Address area Addressing volume • Inputs 128 byte • Outputs 128 byte Hardware configuration Number of modules per DP slave interface, max. 8 Time stamping Accuracy 1 ms Number of message buffers 15 Number of stampable digital inputs, max. 128 Time format RFC 1119 Internet (ISP) Time resolution 0.466 ns Time stamp on signal change 1 Interfaces physics, RS 485 Configuration software • STEP 7</p>		
<p>Analog input module SM 331 6ES7331-7RD00-0AB0</p>	<p>SIMATIC S7, ANALOG INPUT SM 331, OPTICALLY ISOLATED, 4 AI, 0/4 - 20mA, 1 X 20 PIN, F. SIGNALS F. HAZARDOUS AREAS, CAPABLE OF DIAGNOSTSupply voltage Load voltage L+ • Rated value (DC) 24 V • Reverse polarity protection Yes Input current from load voltage L+ (without load), max. 250 mA from backplane bus 5 V DC, max. 60 mA Output voltage Power supply to the transmitters • Rated value (DC) 13 V; at 22 mA • No-load voltage (DC) 25.2 V Power loss Power loss, typ. 3 W Analog inputs Number of analog inputs 4 permissible input current for current input (destruction limit), max. 40 mA Input ranges • Voltage No • Current Yes • Thermocouple No • Resistance thermometer No • Resistance No Input ranges (rated values), currents • 0 to 20 mA Yes • Input resistance (0 to 20 mA) 50 Ω • 4 mA to 20 mA Yes • Input resistance (4 mA to 20 mA) 50 Ω Cable length • shielded, max. 200 m Encoder Connection of signal encoders • for current measurement as 2-wire transducer Yes • for current measurement as 4-wire transducer Yes</p>	<p>Шт / Pcs</p>	<p>2</p>



<p>Analog output module SM 332 6ES7332-5RD00-0AB0</p>	<p>SIMATIC S7, analog output SM 332, isolated, 4 AA; 0/4 to 20 mA, 20-pole, for signals from the hazardous area, diagnostics-capable, Supply voltage Load voltage L+ • Rated value (DC) 24 V • Reverse polarity protection Yes Input current from load voltage L+ (without load), max. 200 mA from backplane bus 5 V DC, max. 80 mA Power loss Power loss, typ. 4 W Analog outputs Number of analog outputs 4 Voltage output, short-circuit protection Yes Voltage output, short-circuit current, max. 70 mA Current output, no-load voltage, max. 14 V Output ranges, current • 0 to 20 mA Yes • 4 mA to 20 mA Yes Permissible potential difference between the outputs (UCM) 60 V DC/30 V AC when used in the hazardous area; 400 V DC/250 V AC when used in NON-hazardous area Between the outputs and MANA (UCM) 60 V DC/30 V AC when used in the hazardous area; 400 V DC/250 V AC when used in NON-hazardous area Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 15 bit • Basic conversion time (ms) 2.5 ms</p>	<p>IIIТ / Pcs</p>	<p>2</p>
<p>Analog output module SM 332 6ES7332-5HD01-0AB0</p>	<p>IMATIC S7-300, ANALOG OUTPUT SM 332, OPTICALLY ISOLATED, 4 AO, U/I; DIAGNOSTICS; RESOLUTION 11/12 BITS, 20 PIN, REMOVE/INSERT W. ACTIVE, BACKPLANE BUS Supply voltage Load voltage L+ Rated value (DC) 24 V Input current from load voltage L+ (without load), max. 240 mA from backplane bus 5 V DC, max. 60 mA Power loss, typ. 3 W Analog outputs Number of analog outputs 4 Voltage output, short-circuit protection Yes Voltage output, short-circuit current, max. 25 mA Current output, no-load voltage, max. 18 V Output ranges, voltage 0 to 10 V, 1 to 5 V, -10 to +10 V Output ranges, current 0 to 20 mA, -20 to +20 mA, 4 to 20 mA</p>	<p>IIIТ / Pcs</p>	<p>1</p>
<p>Digital input module SM 321 6ES7321-7RD00-0AB0</p>	<p>SIMATIC S7, DIGITAL INPUT SM 321, OPTICALLY ISOLATED, 4 DI, 24V DC, NAMUR/DIN 19234, F. SIGNALS F HAZARDOUS AREAS, CAPABLE OF DIAGNOST Supply voltage Load voltage L+ • Rated value (DC) 24 V • Reverse polarity protection Yes Input current from load voltage L+ (without load), max. 50 mA from backplane bus 5 V DC, max. 80 mA Encoder supply Type of output voltage via the inputs Power loss, typ. 1.1 W Digital inputs Number of NAMUR inputs 4 Input voltage • Rated value (DC) 8.2 V; from internal power circuit supply Input current • on wire-break, max. 0.1 mA • on short-circuit, max. 8.5 mA for NAMUR encoders — for signal "0" 0.35 to 1.2 mA — for signal "1" 2.1 to 7 mA Encoder Connectable encoders • NAMUR encoder Yes; Two-wire connection Interrupts/diagnostics/status information Diagnostic functions Diagnostic messages • Diagnostic information readable Diagnostics indication LED • Group error SF (red) • Status indicator digital input (green) • Channel fault indicator F (red)</p>	<p>IIIТ / Pcs</p>	<p>2</p>
<p>Digital output module SM 322 6ES7322-5SD00-0AB0</p>	<p>SIMATIC S7, DIGITAL OUTPUT SM 322, OPTICALLY ISOLATED, 4 DO, 24V DC, 10mA, 1 X 20 PIN, FOR SIGNALS FROM HAZARDOUS AREAS CAPABLE OF DIAGNOST Supply voltage Load voltage L+ • Rated value (DC) 24 V • Reverse polarity protection Yes Input current from load voltage L+ (without load), max. 160 mA from backplane bus 5 V DC, max. 85 mA Power loss, typ. 3 W</p>	<p>IIIТ / Pcs</p>	<p>2</p>



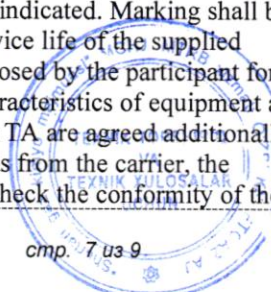
	<p>Digital outputs Number of digital outputs 4 Short-circuit protection Yes; Electronic • Response threshold, typ. Output current with short-circuit protection, min. 10 mA + 10 % Load resistance range • upper limit 390 Ω; Two-wire connection Output voltage • Rated value (DC) 24 V Output current • for signal "1" permissible range for 0 to 60 °C, max. 10 mA; +/-10 % Switching frequency • with resistive load, max. 100 Hz Cable length • unshielded, max. 200 m Interrupts/diagnostics/status information Diagnostic functions Yes Diagnostic messages • Diagnostic information readable Yes • Short-circuit Yes Diagnostics indication LED • Group error SF (red) Yes • Status indicator digital output (green) Yes • Channel fault indicator F (red) Yes</p>																																															
<p>Digital output module SM 323 6ES7323-1BH01-0AA0</p>	<p>SIMATIC S7-300, DIGITAL MODULE SM 323, OPTICALLY ISOLATED, 8 DI AND 8 DO, 24V DC, 0.5A AGGREGATE CURRENT 2A, 1X20 PIN Supply voltage Load voltage L+ • Rated value (DC) 24 V • permissible range, lower limit (DC) 20.4 V • permissible range, upper limit (DC) 28.8 V Input current from load voltage L+ (without load), max. 40 mA from backplane bus 5 V DC, max. 40 mA Power loss, typ. 3.5 W Digital inputs Number of digital inputs 8 Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs horizontal installation — up to 60 °C, max. 8 Input voltage • Type of input voltage DC • Rated value (DC) 24 V • for signal "0" -30 to +5V • for signal "1" 13 to 30V Input current • for signal "1", typ. 7 mA Digital outputs Number of digital outputs 8 Short-circuit protection Yes • Response threshold, typ. 1 A Limitation of inductive shutdown voltage to L+ (-53 V) Controlling a digital input Yes Switching capacity of the outputs • on lamp load, max. 5 W Load resistance range • lower limit 48 Ω • upper limit 4 kΩ Output voltage • for signal "1", min. L+ (-0.8 V) Output current • for signal "1" rated value 0.5 A • for signal "1" permissible range, min. 5 mA • for signal "1" permissible range, max. 0.6 A • for signal "1" minimum load current 5 mA • for signal "0" residual current, max. 0.5 mA Output delay with resistive load • "0" to "1", max. 100 μs • "1" to "0", max. 500 μs Switching frequency • with resistive load, max. 100 Hz • with inductive load, max. 0.5 Hz • on lamp load, max. 10 Hz Total current of the outputs (per group) horizontal installation — up to 40 °C, max. 4 A — up to 60 °C, max. 4 A vertical installation — up to 40 °C, max. 4 A</p>	<p>ШТ / Pcs</p>	<p>1</p>																																													
<p>Контроллер /Controller CPU 312 IFM DI</p>	<table border="0"> <tr> <td>Rated value (DC)</td> <td>• 24 V DC</td> <td>Yes</td> </tr> <tr> <td>permissible range, lower limit (DC)</td> <td></td> <td>20.4 V</td> </tr> <tr> <td>permissible range, upper limit (DC)</td> <td></td> <td>28.8 V</td> </tr> <tr> <td>external protection for power supply lines (recommendation)</td> <td></td> <td>2 A min.</td> </tr> <tr> <td>Current consumption (rated value)</td> <td></td> <td>0.6 A</td> </tr> <tr> <td>Current consumption (in no-load operation), typ.</td> <td></td> <td>60 mA</td> </tr> <tr> <td>Inrush current, typ.</td> <td></td> <td>2.5 A</td> </tr> <tr> <td>I²t</td> <td></td> <td>0.5 A²·s</td> </tr> <tr> <td>Power loss, typ.</td> <td></td> <td>2.5 W</td> </tr> <tr> <td>• integrated</td> <td></td> <td>16 kbyte</td> </tr> <tr> <td>• expandable</td> <td></td> <td>No</td> </tr> <tr> <td>• Plug-in (MMC)</td> <td></td> <td>Yes</td> </tr> <tr> <td>• Plug-in (MMC), max.</td> <td></td> <td>4 Mbyte</td> </tr> <tr> <td>• Data management on MMC (after last programming), min.</td> <td></td> <td>10 y</td> </tr> <tr> <td>• present</td> <td></td> <td>Yes; Guaranteed by MMC (maintenance -free)</td> </tr> </table>	Rated value (DC)	• 24 V DC	Yes	permissible range, lower limit (DC)		20.4 V	permissible range, upper limit (DC)		28.8 V	external protection for power supply lines (recommendation)		2 A min.	Current consumption (rated value)		0.6 A	Current consumption (in no-load operation), typ.		60 mA	Inrush current, typ.		2.5 A	I ² t		0.5 A ² ·s	Power loss, typ.		2.5 W	• integrated		16 kbyte	• expandable		No	• Plug-in (MMC)		Yes	• Plug-in (MMC), max.		4 Mbyte	• Data management on MMC (after last programming), min.		10 y	• present		Yes; Guaranteed by MMC (maintenance -free)	<p>ШТ / Pcs</p>	<p>1</p>
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	<ul style="list-style-type: none"> • without battery <p>for bit operations, typ. for word operations, typ. for fixed point arithmetic, typ.</p>	<p>Yes; Program and data 0.2 μs 0.4 μs 5 μs</p>		
<p>Модуль аналогового ввода/ Analog input module 6ES7 331-7KB01-0AB0</p>	<p>Analog Current/Voltage/RTD/Thermocouple Input Module, (2) Analog Current/Voltage Inputs or (1) Analog Thermocouple/RTD/Resistance Inputs; Voltage Input Ranges: +/-80mV, +/-250mV, +/-500mV, +/-1V, 1-5V, +/-2.5V, +/-5V, +/-10V; Current Input Ranges: +/-3.2mA, +/-10mA, +/-20mA, 0/4 to 20mA; TC Input Ranges: Type E, Type J, Type K, Type N; RTD/Resistance Input Ranges: Ni 100, Pt 100, 0-150 Ohm, 0-300 Ohm, 0-600 Ohm; Integration Time Parameterizable - 2.5/16.67/20/100 ms; 15-Bit Resolution (9/12/14-Bit + Sign), 20-Pin, Diagnostics, Optically Isolated</p>		<p>Шт/ Pcs</p>	<p>2</p>
<p>Контроллер CPU 314 S7-300/ Controller CPU 314 S7-300 314-1AE04-0AB0</p>	<p>Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Input Current consumption (rated value) 1 000 mA Inrush current, typ. 8 A Power loss Power loss, max. 8 W Work memory • integrated 24 kbyte; 24 KB/8 K instructions RAM (integrated); 1 instruction means 3 bytes on average Load memory • expandable FEPRAM Yes; Flash-EPRAM • expandable FEPRAM, max. 4 Mbyte • integrated RAM, max. 40 kbyte Backup • present Yes • with battery Yes; all blocks • without battery Yes; 4 KB: bit memory, counter, times and data CPU processing times for bit operations, typ. 0.3 μs for bit operations, max. 0.6 μs for word operations, typ. 1 μs for fixed point arithmetic, typ. 2 μs for floating point arithmetic, typ. 50 μs for timer/counter operations, typ. 12 μs CPU-blocks DB • Number, max. 127 • Size, max. 8 kbyte • Number, max. 128 • Size, max. 8 kbyte FC • Number, max. 128 • Size, max. 8 kbyte OB • Description see instruction list • Size, max. 8 kbyte • Number of free cycles OBs 1; OB 1 • Number of time alarm OBs 1; OB 10 • Number of cyclic interrupt OBs 1; OB 35 • Number of process alarm OBs 1; OB 40 • Number of startup OBs 1; OB 100 Configuration software • STEP 7 Yes; V5.0, V5.0 SP1 Cycle time monitoring • lower limit 1 ms • upper limit 6 000 ms • adjustable Yes • preset 150 ms</p>		<p>Шт/ Pcs</p>	<p>2</p>
<p>Блок питания/ Power supply 6EP1437-2BA00</p>	<p>STABILIZED POWER SUPPLY INPUT: 400-500 V 3 AC OUTPUT: 24 V DC/30 A Input 3-phase AC Rated voltage value V_{in} rated 400 ... 500 V Voltage range AC 360 ... 550 V • Note 340 ... 360 V for max. 2 s or at max. 0.9 x out rated Wide-range input Yes Overvoltage resistance $2.3 \times V_{in}$ rated, 1.3 ms Mains buffering at out rated, min. 4.5 ms; at $V_{in} = 360$ V Rated line frequency 50 ... 60 Hz Rated line range 47 ... 63 Hz Input current • at rated input voltage 400 V 1.4 A Switch-on current limiting (+25 °C), max. 25 A I^2t, max. 1 A²·s Built-in incoming fuse none Protection in the mains power input (IEC 898) Required: 3-pole connected miniature circuit breaker characteristic C up to 25 A (recommended: 6 A) or circuit-breaker 3RV1021-1DA10 (setting 3 A) or 3RV1721-1DD10 (UL 489) Output Controlled, isolated DC voltage Rated voltage V out DC 24 V Total tolerance, static ± 3 % Residual ripple peak-peak, max. 150 mV Residual ripple peak-peak, typ. 50 mV Spikes peak-peak, max. (bandwidth: 20 MHz) 240 mV Spikes peak-peak, typ. (bandwidth: 20 MHz) 200 mV Adjustment range 22.8 ... 26.4 V Product function Output voltage adjustable Yes Output voltage setting via potentiometer; only permissible at ambient temperature 0 °C to +45 °C Status display Green LED for 24 V OK On/off behavior Slight overshoot of V out (< 2 V for max. 500 ms)</p>		<p>Шт/ Pcs</p>	<p>2</p>



<p>Startup delay, max. 3 s Voltage rise, typ. 40 ms Rated current value out rated 30 A Current range 0 ... 30 A Supplied active power typical 720 W Short-term overload current • on short-circuiting during the start-up typical 60 A • at short-circuit during operation typical 60 A Duration of overloading capability for excess current • on short-circuiting during the start-up 600 ms • at short-circuit during operation 600 ms Parallel switching for enhanced performance Yes; only permissible at ambient temperature 0 °C to 45 °C Efficiency at V out rated, out rated, approx. 90 % Power loss at V out rated, out rated, approx. 80 W Mechanics Connection technology screw-type terminals Connections • Supply input L1, L2, L3, PE: 1 screw terminal each for 0.5 ... 2.5 mm² singlecore/finely stranded • Output L+: 1 screw terminal for 0.33 ... 10 mm²; M: 2 screw terminals for 0.33 ... 10 mm²</p>	
<p>4.2 Требования по надежности и параметрам при воздействии факторов внешней среды</p>	<p>4.2 Requirements for reliability and parameters under the influence of environmental factors</p>
<p>Средний срок службы приборов 5 лет или более. Каждая позиция поставляемого оборудования должна быть работоспособной и обеспечивать предусмотренную производителем функциональность в качестве отдельного компонента. Необходимо избегать вредных воздействию, таких как высокая температура и агрессивная окружающая среда, а также обеспечивать защиту от механического повреждения при хранении, транспортировке и упаковке.</p>	<p>The average life of devices is 5 years or more. Each item of the supplied equipment must be operable and provide the functionality provided by the manufacturer as a separate component. It is necessary to avoid harmful effects such as high temperature and aggressive environment, as well as to provide protection against mechanical damage during storage, transportation and packing.</p>
<p>5. ТРЕБОВАНИЯ ПО ПРАВИЛАМ СДАЧИ И ПРИЕМКИ</p>	<p>5. REQUIREMENTS AS PER DELIVERY AND ACCEPTANCE RULES</p>
<p>5.1 Порядок сдачи и приемки</p>	<p>5.1 Delivery and Acceptance Procedure.</p>
<p>Товар должен приниматься после входного контроля и составления акта в соответствии с договором. Заказчик производит приемку товара по количеству, качеству и комплектности партии, и внешним признакам сохранности товара (наличие механических повреждений, видимая деформация отдельных узлов и деталей товара и иные подобные явные признаки повреждений) в соответствии с транспортными и сопроводительными документами, сертификатами качества завода-изготовителя. Настоящим, стороны договариваются, что визуальный осмотр товара, произведенный представителем Заказчика, должен быть абсолютным и окончательным для сторон для определения соответствия по количеству, комплектности и внешним признакам сохранности товара при его транспортировке. Продукция должна иметь сертификаты соответствия и протоколы сертификационных испытаний, подтверждающие заявленные характеристики, сопровождаться документацией по монтажу, наладке и эксплуатации. Вся сопроводительная документация должна быть составлена на русском и английском языках и передана Заказчику вместе с поставляемой продукцией. Поставляемое оборудование должно быть рассчитано на эксплуатацию в непрерывном режиме круглосуточно в заданных условиях в течение установленного срока службы. Маркировка оборудования должна выполняться на русском и английском языках, и иметь четкие обозначения. Также указывается изготовитель, номер партии и дата изготовления. Маркировка должна сохраняться на весь срок службы поставляемого оборудования. Предлагаемые участником варианты технических параметров и характеристик оборудования и материалов не указанные в ТЗ, согласовываются дополнительно. При приемке товара от перевозчика, Заказчик</p>	<p>The goods shall be accepted after incoming control and drawing up an act in accordance with the contract. The Customer accepts the goods according to the quantity, quality and completeness of the batch, and external signs of preservation of the goods (presence of mechanical damages, visible deformation of individual units and parts of the goods and other similar obvious signs of damage) in accordance with transport and accompanying documents, quality certificates of the manufacturer. Hereby, the parties agree that the visual inspection of the goods performed by the representative of the Customer shall be absolute and final for the parties to determine compliance by quantity, completeness and external signs of preservation of the goods during its transportation. The products shall have certificates of conformity and certification test reports confirming the declared characteristics, accompanied with installation, adjustment and operation documentation. All accompanying documentation shall be in Russian and English and shall be provided to the Customer together with the products supplied. The supplied equipment shall be designed for continuous operation 24 hours a day, 7 days a week under specified conditions during the specified service life. The equipment shall be marked in Russian and English and have clear marking. The manufacturer, batch number and date of manufacture are also indicated. Marking shall be maintained for the entire service life of the supplied equipment. The options proposed by the participant for technical parameters and characteristics of equipment and materials not specified in the TA are agreed additionally. Upon acceptance of the goods from the carrier, the Customer (consignee) shall check the conformity of the</p>



<p>(грузополучатель) обязан проверить соответствие товара сведениям, указанным в договоре, спецификациях или дополнительных соглашениях к нему, а также в транспортных, сопроводительных документах, сертификатах качества завода-изготовителя. В случае, если при приемке товара после его получения от перевозчика будет выявлено несоответствие товара по качеству/количеству, Заказчик (грузополучатель) обязан приостановить приемку.</p>	<p>goods with the information specified in the contract, specifications or additional agreements to it, as well as in transport, accompanying documents, quality certificates of the manufacturer. If upon acceptance of the goods after their receipt from the carrier there is a non-conformity of the goods by quality/quantity, the Customer (consignee) shall suspend the acceptance of the goods</p>
<p>5.2 Требования по передаче заказчику технических и иных документов.</p>	<p>5.2 Requirements for handing-over the technical and other documents to the customer.</p>
<p>Поставщик обязан предоставить следующие документы, подтверждающие соответствие продукции установленным требованиям:</p> <ul style="list-style-type: none"> -Сертификаты (декларации) соответствия требованиям ГОСТ и безопасности; -Спецификация основных комплектующих оборудования с указанием производителей, а также приложением сертификатов соответствия на них; -Документация по монтажу, наладке и эксплуатации на русском и английском языках; Все поставляемое оборудование проходит входной контроль, с представителем участника при получении оборудования на склад. <p>Товар должен сопровождаться следующей документацией:</p> <ul style="list-style-type: none"> -необходимо предоставить сертификат соответствия товара; - счёт-фактура (инвойс) Продавца с описанием товара, указанием количества, цены единицы товара и общей суммы; - транспортная накладная, выпущенная на имя грузополучателя, наименование Заказчика, номер и даты подписания действующего контракта; - сертификат о происхождении страны товара с указанием номера и даты инвойса; - упаковочный лист, сертификат о качестве товара, выписанного производителем, паспорт безопасности товара. 	<p>The Supplier shall provide the following documents confirming compliance of the products with the established requirements:</p> <ul style="list-style-type: none"> - Certificates (declarations) of compliance with GOST and safety requirements; -Specification of main components of equipment with indication of manufacturers, as well as application of certificates of conformity for them; -Documentation for installation, adjustment and operation in Russian and English; All supplied equipment is subject to incoming inspection with the participant's representative when receiving the equipment at the warehouse. <p>The goods shall be accompanied with the following documentation:</p> <ul style="list-style-type: none"> - the certificate of conformity of the goods; - invoice (invoice) of the Seller with description of the goods, indication of the quantity, price of the unit of goods and total amount; - consignment note issued in the name of the consignee, the name of the Customer, the number and dates of signing the existing contract; - Certificate of origin of the country of goods indicating the invoice number and date; - packing list, Certificate of quality of goods issued by the manufacturer, product safety passport.
<p>6. ТРЕБОВАНИЯ К ТРАНСПОРТИРОВАНИЮ</p>	<p>6. TRANSPORTATION REQUIREMENTS</p>
<p>Товар должен быть отгружен в экспортной стандартной таре/упаковке (закрытая, герметичная упаковка, исправная) изготовителя, обеспечивающей полную её сохранность от всякого рода повреждений при длительном хранении и перевозке продукции с учётом нескольких перегрузок в пути (в соответствии с требованием изготовителя). Тара и упаковка должны иметь товарный вид. Доставка оборудования осуществляется за счет Поставщика. При ошибочной отгрузке оборудования не по адресу, Поставщик своими силами за свой счет производит переадресацию продукции в пункт назначения, указанный в договоре.</p>	<p>The goods must be shipped in the export standard tare / packing (closed, sealed package, serviceable) of the manufacturer, ensuring its complete safety from all kinds of damage during long-term storage and transportation of products, taking into account several transshipments in transit(in accordance with the manufacturer's requirement). Tare and packing shall be of a commercial type. The equipment shall be delivered at the Supplier's expense. In case of erroneous shipment of equipment not to the address, the Supplier shall, at its own expense, forward the products to the destination specified in the contract</p>
<p>7. ТРЕБОВАНИЯ К ОБЪЕМУ И/ИЛИ СРОКУ ПРЕДОСТАВЛЕНИЯ ГАРАНТИЙ</p>	<p>7. REQUIREMENTS FOR THE SCOPE AND/OR PERIOD OF GUARANTEES</p>
<p>Срок гарантии на поставляемые материалы и оборудование в соответствии с паспортом завода-изготовителя, но не менее 12 месяцев. Время начала исчисления гарантийного срока с момента ввода оборудования в эксплуатацию. Участник должен за свой счет и сроки, согласованные с заказчиком, устранять любые дефекты в поставляемом оборудовании, материалах, выявленные в течение гарантийного срока. В случае выхода из строя оборудования участник обязан направить своего представителя для участия в составлении акта, фиксирующего дефекты, согласования порядка и сроков их устранения не позднее 5</p>	<p>Warranty period for supplied materials and equipment is in accordance with the manufacturer's passport, but not less than 12 months. The warranty period starts from the moment of equipment commissioning. The Participant shall, at his own expense and at the time agreed with the Customer, eliminate any defects in the supplied equipment, materials identified during the warranty period. In case of equipment failure, the participant is obliged to send his representative to participate in drawing up an act fixing the defects, agreeing on the procedure and terms for their elimination not later than 5</p>

дней со дня получения письменного извещения заказчика. Гарантийный срок в этом случае продлевается соответственно на период устранения дефектов.		days from the date of receipt of the customer's written notice. The warranty period in this case is extended accordingly for the period of elimination of defects.	
8. ЭКОЛОГИЧЕСКИЕ И САНИТАРНЫЕ ТРЕБОВАНИЯ		8. ENVIRONMENTAL AND SANITARY REQUIREMENTS	
Товар не должен причинять какой-либо ущерб окружающей среде.		The goods shall not cause any damage to the environment.	
9. ТРЕБОВАНИЯ ПО БЕЗОПАСНОСТИ		9. SAFETY REQUIREMENTS	
Товар должно быть безопасным при его эксплуатации, хранении, а также утилизации.		The goods shall be safe during their operation, storage and disposal.	
10. ТРЕБОВАНИЯ К КОЛИЧЕСТВУ		10. REQUIREMENTS FOR QUANTITY	
№	Наименование МТР /Name of goods	Ед.Изм./Unit	кол-во /Qty
1.	Контроллер / Controller S7-400 CPU-416-2 6ES7 416-2XN05-0AB0	Шт/ Pcs	1
2.	Communication Processor C S7-400 6GK7 443-1GX20-0XE0	Шт/ Pcs	1
3.	Communication module S7-400 CP 441-2 6ES7 441-2AA04-0AE0	Шт/ Pcs	1
4.	Interface module S7-400 RS 485 6ES7 963-3AA00-0AA0	Шт/ Pcs	1
5.	DP Bus module 6ES7195-7HB00-0XA0	Шт/ Pcs	1
6.	DP interface module IM153-2 (ET-200M) 6ES7153-2BA01-0XB0	Шт/ Pcs	1
7.	Analog input module SM 331 6ES7331-7RD00-0AB0	Шт/ Pcs	2
8.			
9.	Analog output module SM 332 6ES7332-5RD00-0AB0	Шт/ Pcs	2
10.	Analog output module SM 332 6ES7332-5HD01-0AB0	Шт/ Pcs	1
11.	Digital input module SM 321 6ES7321-7RD00-0AB0	Шт/ Pcs	2
12.	Digital output module SM 322 6ES7322-5SD00-0AB0	Шт/ Pcs	2
13.	Digital output module SM 323 6ES7323-1BH01-0AA0	Шт/ Pcs	1
14.	Контроллер /Controller CPU 312 IFM DI	Шт/ Pcs	1
15.	Модуль аналогового ввода/ Analog input module 6ES7 331-7KB01-0AB0	Шт/ Pcs	2
16.	Контроллер CPU 314 S7-300/ Controller CPU 314 S7-300 314-1AE04-0AB0	Шт/ Pcs	2
17.	Блок питания/ Power supply 6EP1437-2BA00	Шт/ Pcs	2
11. ПЕРЕЧЕНЬ ПРИНЯТЫХ СОКРАЩЕНИЙ		11. LIST OF ACCEPTED ABBREVIATIONS	
№	Сокращение / Reduction	Расшифровка сокращения/Explanation of the abbreviation	
1.			
12. ПЕРЕЧЕНЬ ПРИЛОЖЕНИЙ		12. ATTACHED APPENDIXES	
№	Наименование приложения / Name of appendixes	Количество страниц/ Number of pages	
1.			

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Настоящее техническое задание составлено на русском и на английском языках. Текст на русском языке будет превалировать.

This technical specification is compiled in Russian and English. The text in Russian will prevail