

Số: 1316/NMĐSH1-KHTC
V/v cung cấp báo giá hàng hóa

Hậu Giang, ngày 05 tháng 10 năm 2024

Kính gửi: Các nhà cung cấp

Chi nhánh phát điện Dầu khí/ Nhà máy Điện Sông Hậu 1 (NMĐ Sông Hậu 1) đang có nhu cầu triển khai mua sắm “Vật tư dự phòng thay thế phục vụ công tác bảo dưỡng sửa chữa Nhà máy điện Sông Hậu 1 – Phần C&I”. NMĐ Sông Hậu 1 đề nghị Quý Công ty quan tâm, nghiên cứu và cung cấp báo giá cho hàng hóa nói trên với nội dung như sau:

1. Phạm vi công việc:
 - Danh mục hàng hóa: như Phụ lục đính kèm
 - Hàng hóa mới 100%, chưa qua sử dụng, bảo hành tối thiểu 12 tháng, sản xuất từ năm 2023 trở lại đây.
 - Cung cấp tài liệu nhà sản xuất, cung cấp CO,CQ/các tài liệu liên quan khác.
2. Tiến độ cung cấp: Nhà thầu đề xuất tiến độ tốt nhất để Nhà máy xem xét.
3. Địa điểm giao hàng: Nhà máy Nhiệt Điện Sông Hậu 1, Ấp Phú Xuân, Thị Trấn Mái Dầm, Huyện Châu Thành, Tỉnh Hậu Giang.
4. Điều kiện thanh toán:
 - Tạm ứng 10% sau khi ký Hợp đồng, giá trị tạm ứng được thu hồi vào các đợt thanh toán.
 - Thanh toán 95% giá trị sau khi nghiệm thu bàn giao (bao gồm thu hồi tạm ứng), 5% giá trị còn lại được thanh toán sau khi hoàn thành nghĩa vụ Bảo hành hoặc Nhà thầu cấp Bảo lãnh bảo hành.
5. Hiệu lực báo giá: 60 ngày kể từ ngày chào giá.
6. Thời gian gửi báo giá: trước 15h00 ngày 18/10/2024.
7. Phương thức gửi báo giá: gửi trực tiếp/bưu điện theo địa chỉ tiếp nhận báo giá hoặc qua email, fax.
8. Thông tin liên hệ:

Người nhận: Phòng Kế hoạch Tài chính – NMĐ Sông Hậu 1.

Địa chỉ: ấp Phú Xuân, thị trấn Mái Dầm, huyện Châu Thành, tỉnh Hậu Giang.

Email: giangtth@pvpgb.vn; hanhhx@pvpgb.vn; nharnh@pvpgb.vn

NMĐ Sông Hậu 1 cảm ơn sự hợp tác của Quý Công ty./.

Nơi nhận:

- Như trên;
- GD NMĐSH1 (để b/c);
- Phòng/PX: KTATMT;
- Lưu VT, KHTC (N.H.N);

**TL. GIÁM ĐỐC CHI NHÁNH PĐDK
KT. GIÁM ĐỐC NMĐ SÔNG HẬU 1
PHÓ GIÁM ĐỐC**



Nguyễn Văn Chính

Phụ lục - VẬT TƯ THAY THẾ PHẦN C&I
(Đính kèm văn bản số 1316/NMDSH-KHTC ngày 05/10/2024)

STT	Tên vật tư/mô tả	Ordering information (Part No)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
1	Time Synchronization module	6GK60838AC210BC-0-ZA00	Specification Interface - Ethernet Ports 1 x 100TX RJ45 optional - Fiber Ports 1 x 100FX LC optional Power Requirements - Supply Voltage 11 to 36 VDC, 38 to 72 VDC, 100 to 300 VDC, 85 to 264 VAC - Maximum Power Loss 7 W Ambient Operating - Temperature -40 to 85 °C (-40 to 185 °F) - Ambient Storage Temperature -40 to 85 °C (-40 to 185 °F) - Ambient Relative Humidity 5% to 95% - Maximum Altitude 2000 m (6562 ft) - Weight 1.1 kg (2.4 lbs) Ingress Protection IP30 (2.5 mm or 0.1 in objects) Enclosure 21 AWG Galvanized Steel PSU 100W 24 V/12.5 A stabilized power supply input: 100-240 V AC Input type of the power supply network 1-phase AC supply voltage at AC • minimum rated value 100 V • maximum rated value 240 V • initial value 85 V • full-scale value 264 V design of input wide range input Yes operating condition of the mains buffering at Vin = 115/230 V buffering time for rated value of the output current in the event of power failure minimum 15 ms operating condition of the mains buffering at Vin = 115/230 V line frequency • 1 rated value 50 Hz • 2 rated value 60 Hz line frequency 47 ... 63 Hz input current • at rated input voltage 100 V 4 A • at rated input voltage 240 V 2 A current limitation of inrush current at 25 °C maximum 60 A I2t value maximum 1.1 A².s fuse protection type internal • in the feeder Recommended miniature circuit breaker: from 10 A characteristic C or from 16 A characteristic B Output voltage curve at output Controlled, isolated DC voltage output voltage at DC rated value 24 V output voltage • at output 1 at DC rated value 24 V relative overall tolerance of the voltage 2 % relative control precision of the output voltage • on slow fluctuation of input voltage 0.5 % • on slow fluctuation of ohm loading 0.5 % residual ripple • maximum 100 mV voltage peak • maximum 100 mV adjustable output voltage 22 ... 28 V product function output voltage adjustable Yes type of output voltage setting via potentiometer display version for normal operation Green LED for 24 V OK type of signal at output - behavior of the output voltage when switching on Overshoot of Vout < 2 % response delay maximum 1 s voltage increase time of the output voltage • maximum 30 ms	Siemens	1	pcs	
2	Power supply	6EP1334-1LD00		Siemens	1	pcs	
3	DISPLAY INTERFACE MODULE	A47833-1	Weight: 2.90 lbs Dimensions: 8.00 x 6.50 x 3.00 (link tham khảo https://www.riparts.com/products/merrick-a47833-1-operator-interface-panels/550644)	Merrick	3	pcs	

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4	Power Amplifiers	EBA-PAM-553-D-32-EN27	Control (output) supplies z22: +15V for LVDTs only Reference voltages z2: +10V x 5 mA b2: -10V x 5 mA Analog inputs: Command inputs Direct-voltage inputs b6, b8, b10, z8 Inverting-voltage input z10 Voltage range: +10V Input impedance (voltage): 47 kΩ Current input z6 Current range: +20 mA Input impedance (current): 100Ω Feed-forward input d8 Input impedance: 6 kΩ Voltage range: +10V Input to ramp generator d28 Input impedance: 10 kΩ Voltage range: +10V Inputs from sensors Voltage input d2 Input impedance: 1 MΩ Voltage range: 0 to 10V, or +10V Current input Input impedance: 100Ω Current range (See "DIL Switches" five pages on): 4-20 mA or 0-20 mA Monitoring of sensor failure for sensors with a current output only Digital inputs: Drive enable (power available to solenoid) z24 Ramps enable b24 Integrator enable d14 PID-controller enable d12 Enabled: 17 to 40V Disabled: 0 to 3.5V Load current: <10mA Digital outputs: Sensor failure d18 Sensor o.k.: <3V Sensor failure: Vcc -2V Load current (withstands a continuous short-circuit condition) This output may be used only in conjunction with sensors providing a current output (4-20 mA) Feedback = command signal d10 Feedback matches demand: Vcc -2V Feedback does not match demand: <3V Load current (withstands a continuous short-circuit condition) : <100mA - Range: 0...15/75° - BA/Code: 303 - Power supply: 13.2...36VDC/ 13.2...26.4VAC. - Output current: 4-20 mA 4-wire - Zero: Approx. ± 5 % adjustable (referred to the output span) - Shaft: can be freely rotated: (1) Clockwise rotation, rising output current, for anti-clockwise rotation see Data Sheets - Output and power supply + Non-linearity * < 1 % (referred to the output span) measuring range < 90°: * < 0.5 % (referred to the output span) + Response time: < 50 ms (jump 0 %...100 %) + Long-term influence: < 0.2 % / year + Residual ripple (peak-peak): * Output signal < 1 % * Power supply < 1.5 V - Environment conditions: + Ambient temperature : -25...+80 °C + Transportation and storage temperature: -40...+80 °C + Relative humidity: < 90 % annual average, occasional condensation permitted - Connection, housing, mounting and safety: + Electrical connections: Screw terminals for 2.5 mm² or plug connection Han 7 D (not for Ex) + Material of housing:	Vickers/EATON	1	pcs	
5	Transmitter for angular position	TGM 5		ABB	1	pcs	

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			* Salt-water-proof cast aluminium * Surface anodized + Weight: approx. 2.6 kg				
6	Temperature Transmitter	644HANA2M5Q4	- Temperature transmitter - Transmitter type: DIN A Head Mount - Single - Output: 4-20 mA with digital signal based on HART protocol - Enclosure options + Housing style: Universal junction box, 3 entries + Material: Aluminium + Entry size: 1/2 NPT + Diameter: 3.5-in. (89 mm) - Display and interface options: LCD display - Calibration certificate: Calibration certificate (3-point calibration with certificate)	EMERSON	1	set	
7	HMI	6AV2124-0UC02-0AX0	Product type designation TP1900 Comfort Display - Design of display TFT - Screen diagonal 18.5 in - Display width 409.8 mm - Display height 230.4 mm - Number of colors 16 777 216 - Resolution (pixels) • Horizontal image resolution 1 366 pixel • Vertical image resolution 768 pixel - Backlighting • MTBF backlighting (at 25 °C) 50 000 h • Backlight dimmable Yes; 0-100 % Control elements - Keyboard fonts • Function keys — Number of function keys 0 — Number of function keys with LEDs 0 • Keys with LED No • System keys No • Numeric keyboard Yes • alphanumeric keyboard Yes Touch operation • Design as touch screen Yes; Analog-resistive Expansions for operator control of the process • DP direct LEDs (LEDs as S7 output I/O) — F1... Fx 0 • Direct keys (keys as S7 input I/O) — F1... Fx 0 • Direct keys (touch buttons as S7 input I/O) 40 Installation type/mounting - Installation type/mounting - Mounting position vertical - Wall mounting/direct mounting No - Mounting in portrait format possible Yes - Mounting in landscape format possible Yes - maximum permissible angle of inclination without external ventilation 35° Supply voltage - Type of supply voltage DC - Rated value (DC) 24 V - permissible range, lower limit (DC) 19.2 V - permissible range, upper limit (DC) 28.8 V Input current - Current consumption (rated value) 1.3 A - Starting current inrush Pt 0.5 A²·s Power - Active power limit typ. 32 W	Siemens	1	pcs	

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8	Power supply	1478130000	PHYSICAL DIMENSIONS Depth 125 mm Depth (inches) 4.921 inch Height 130 mm Height (inches) 5.118 inch Width 60 mm Width (inches) 2.362 inch Net weight 1,050 g Temperatures Storage temperature -40 °C...85 °C Operating temperature -25 °C...70 °C Operating temperature, min. -25 °C Operating temperature, max. 70 °C Humidity at operating temperature 5...95 %, no condensation Rated data UL Certificate No. (cURus) E255651 Input AC current consumption 1.5 A @ 230 V AC / 3 A @ 115 V AC AC input voltage range 85...277 V AC Connection system Screw connection DC current consumption 1,5A @ 370 VDC / 3A @ 120 VDC DC input voltage range 80...370 V DC Frequency range AC 45...65 Hz Input fuse (internal) Yes Inrush current max. 15 A Nominal power consumption 262.3 VA Power factor Power factor typical 0.95 Input voltage 230 V Ambient temperature 25 °C Output power 240 W Rated input voltage 100...240 V AC Recommended back-up fuse 10 A, Char. B circuit breaker, 6...8 A, char. C circuit breaker Surge protection Varistor Output Connection system Screw connection Continuous output current @ UNominal 12 A @ 45°C, 7,5 A @ 70°C Nominal output current for Unom 10 A @ 60 °C Output power 240 W Output voltage, max. 29.5 V Output voltage, min. 22.5 V Output voltage, note (adjustable via potentiometer) Parallel connection option yes, max. 5 Protection against inverse voltage Yes Rated output voltage 24 V DC ± 1 % Residual ripple, breaking spikes < 50 mVss @ UNenn, Full Load	Weidmüller	1	pcs	
			DC input voltage range 18...30 V DC Input current 2 x 10 A or 1 x 20 A Rated input voltage 24 V DC Wire connection method Screw connection Output Continuous output current @ UNominal 24 A @ 45 °C, 22.5 A @ 55 °C, 15 A @ 70 °C Nominal output current for Unom 20 A @ 60 °C Output current, max. 24 A Output voltage, note Voltage input - 0.7 V Rated output voltage 24 V DC ± 1 % Switching thresholds 21.6 V DC, relay is on for Power Good, 20.4 V DC, relay is off for Power Fail Voltage monitoring Yes, In both inputs Wire connection method Screw connection General data Degree of efficiency > 97% @ 24 V Input voltage Humidity 5...95 %, no condensation Mounting position, installation noise Horizontal on TS35 mounting rail 50 mm of				

STT	Tên vật tư/mô tả	Ordering Information (Part Nf)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
9	Diode module	1222210000	Clearance at top & amp; bottom for air circ. Can mount side by side with no space in between. Protection degree IP20 EMC / shock / vibration Interference immunity test acc. to EN 61000-4-2 (ESD) EN 61000-4-3 and EN 61000-4-8 (fields) EN 61000-4-4 (burst) EN 61000-4-5 (surge) EN 61000-4-6 (conducted) Noise emission in accordance with EN55032 Class B Shock resistance IEC 60068-2-27 15 g In all directions Vibration resistance IEC 60068-2-6 1 g according to EN 50178 Insulation coordination Insulation voltage 0.5 kV Input / output - Box Pollution severity 2 Protection class III, with no ground	Weidmüller	1	pcs	
10	Limit Switch	LSA3K	- Switch type: Micro Switch HDLS - Contacts: SPDT - Pretravel: 15° max - Different Travel: 5° max - Overtravel: 60° min. - Oper. torque: 0.45 Nm [4 in-lb] max. - Action: CW & CCW (Spring return) - Op. temp range: -12 °C to 121 °C [10 °F to 250 °F] - Contacts: Silver - Body Style: Non-plug-in - Conduit (NPT): 0.5 in Dimensions and weights Depth 120 mm Depth (inches) 4.724 inch Height 125 mm Height (inches) 4.921 inch Width 100 mm Width (inches) 3.937 inch Net weight 1,557 g Temperatures Storage temperature -40 °C...85 °C Operating temperature -25 °C...70 °C Operating temperature, min. -25 °C Operating temperature, max. 70 °C Input AC current consumption 2,37 A @ 230 V AC / 5,2 A @ 110 V AC AC input voltage range 85...264 V AC (derating at 100 V AC) Connection system Screw connection DC current consumption 1,55 A @ 370 V DC / 4,65 A @ 120 V DC DC input voltage range 80...370 V DC (Derating @ 120 V DC) Frequency range AC 47...63 Hz Input frequency 47...63 Hz Input fuse (internal) Yes Inrush current max. 5 A Nominal power consumption 527.5 VA Rated input voltage 100...240 V AC	Honeywell	2	pcs	
11	Power supply	1469510000		Weidmüller	1	pcs	

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			Recommended back-up fuse 6 A / DI, safety fuse 16 A, Char. B, circuit breaker 6...8 A, Char. C, circuit breaker Surge protection Varistor Output Capacitive load unrestricted Connection system Screw connection Continuous output current @ UNominal 20 A @ 55 °C, 15 A @ 70 °C Nominal output current for Unom 20 A @ 55 °C Output power 480 W Output voltage, max. 28 V Output voltage, min. 22 V Output voltage, note (adjustable via potentiometer) Overload protection Yes Parallel connection option yes, max. 3 Protection against inverse voltage Yes Ramp-up time ≤ 100 ms Rated output voltage 24 V DC ± 1 % Residual ripple, breaking spikes < 50 mVPP @ 24 V DC, IN Dimensions and weights Depth 110 mm Depth (inches) 4.331 inch Height 125 mm Height (inches) 4.921 inch Width 55.5 mm Width (inches) 2.185 inch Net weight 411 g Temperatures Storage temperature -20 °C...85 °C Operating temperature -10 °C...55 °C Operating temperature, min. -10 °C Operating temperature, max. 55 °C Rated data UL Certificate No. (cURus) E255651 Input Clamping range, input 4 mm² Clamping range, input, max. 6 mm² Clamping range, input, min. 0.13 mm² Input current 2 x 0...20 A max. Input voltage (voltage mode input) 40 V DC max. Wire connection method Screw connection Output Clamping range, output 10 mm² Clamping range, output, max. 16 mm² Clamping range, output, min. 0.32 mm² Output current 0...40 A max. or 20 A max. for redundant operations Output power 960 W Output voltage, note U_{len} - 0.5 V typ. Wire connection method Screw connection General data Building Width 55.5 mm Building height 142 mm Degree of efficiency at max. load 97.5% Depth 100 mm Installation advice Clearance: side ≥ 2 cm; above/below ≥ 10 cm Mounting position, installation notice horizontally, on terminal rail TS 35 Protection degree IP20 Weight 411 g Approbations Certificate No. (cURus) E255651 Certificate no. (cULus) E258476 Institute (cULus) CULUS Institute (cURus) CURUS Classifications ETIM 6.0 EC002540 ETIM 7.0 EC002540 ETIM 8.0 EC002540 ETIM 9.0 EC002540 ECLASS 9.0 27-04-07-01 ECLASS 9.1 27-04-07-01 ECLASS 10.0 27-04-07-01 ECLASS 11.0 27-04-07-90 ECLASS 12.0 27-04-07-90 ECLASS 13.0 27040790 Environmental Product Compliance REACH SVHC Lead 7439-92-1				
12	Diode module	8768650000		Weidmüller	1	pcs	

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13	Switch	6GK5208-0BA10-2AA3	transfer rate 10 Mbit/s, 100 Mbit/s interfaces / for communication / integrated number of electrical connections • for network components or terminal equipment 8 - number of 10/100 Mbit/s RJ45 ports / integrated • with securing collar 8 - interfaces / other - number of electrical connections • for signaling contact 1 • for power supply 1 - type of electrical connection • for signaling contact 2-pole terminal block • for power supply 4-pole terminal block - design of the removable storage • C-PLUG Yes signal inputs/outputs operating voltage / of the signaling contacts • at DC / rated value 24 V - operational current / of the signaling contacts • at DC / maximum 0.1 A supply voltage, current consumption, power loss product component / connection for redundant voltage supply Yes type of voltage / 1 / of the supply voltage DC • supply voltage / 1 / rated value 24 V • power loss [W] / 1 / rated value 3.84 W • supply voltage / 1 / rated value 18 ... 32 V • consumed current / 1 / maximum 0.185 A • type of electrical connection / 1 / for power supply 4-pole terminal block • product component / 1 / fusing at power supply input Yes • fuse protection type / 1 / at input for supply voltage 0.6 A / 60 V ambient conditions fastening method • 35 mm top hat DIN rail mounting Yes • wall mounting Yes • S7-300 rail mounting Yes • S7-1500 rail mounting No product features, product functions, product components / general cascading in the case of a redundant ring / at reconfiguration time of <math>\leq 0.31</math>-s 100 cascading in cases of star topology any (depending only on signal propagation time) product functions / management, configuration, engineering product function	Siemens	1	pcs	
14	Temperature Transmitter	YTA70-J	- Supply & Load Requirements: Voltage + 8 to 35 V DC for operation + (8 to 30 V DC for Intrinsically safe type) + 13.8 to 35 V DC for digital communication - Temperature Transmitter (Head Mount Type) - Output Signal: 4 to 20 mA DC with digital communication (HART 5/HART 7 protocol)*1 - Input Type: 3 wire RTD. - Output: Two wire 4 to 20 mA DC - Ambient Temperature Limits: -40 to 85°C (-40 to 185°F) - Material: Polycarbonate - Color of the case: Red - Mounting: DIN form B head mounting - Terminals: M3 screws - Air flow sensor with connection cable L = 2m - Stock item/part name: air flow sensor - Makers ref: type F2 - Weight: 160 gm Tham khảo : order code 116957, model D-SK F3-2 của hãng Durag	YOKOGAWA	2	pcs	
15	Air Flow Sensor	D-SK F3-2		DURAG	2	pcs	
16	Hydraulic Actuator	MV10400	- IP Grade: IP68 - Power: 220VAC.1ph.60Hz - Ambient Temp: -25C to 55C - Serial No: AVT-2021-01-003 - (hoặc tương đương model MV10400, AVTEC)	AVTEC	1	set	

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17	Hydraulic Actuator	MV10800	- IP Grade: IP68 - Power: 220V AC, 1ph, 60Hz - Ambient Temp: -25C to 55C - Serial No: AVT-2021-01-009 - (hoặc tương đương model MV10800, AVTEC)	AVTEC	1	set	
18	Zirconia Cell	Zirconia Cell Parts No: E7042UE K9119FD K9119GF	- (hoặc tương đương Yokogawa Zirconia Cell - Parts No: E7042UE K9119ED K9119GE)	YOKOGAWA	3	pcs	
19	Transmitter LCD Display	Part Number: 03031-0199-0001	4-20 mA HART and 1-5 Vdc Low Power LCD Display	Emerson	20	pcs	
20	Air Pilot Actuated Valves	NF3PAN520N00000	- Valve Series: Poppet for Compressed Air - Port Size: 3/8" - Valve Actuator: Air pilot with spring return - Valve Function: 2 Position 3-way Normally Closed (non-passing) - Mounting: Line mounted (ports in valve body) - Wiring Options: No wiring - Air piloted - Port Type: NPTF Pressure ports - Special Options: No Option - Voltage: Air Pilot	Niumatics	2	pcs	
21	Pressure Transmitter	2051TG3A2B21AB4 M5Q4T1S5+0306RT 22BA11	TRANSMITTER - Type: In-Line Pressure Transmitter - Pressure type: Gage - Pressure range: -14.7 to 800 psi (-1.0 to 55 bar) - Transmitter output: 4-20 mA with digital signal based on HART® Protocol - Process connection style: 1/2-14 NPT female - Isolating diaphragm: 316L SST - Sensor fill fluid: Silicone - Housing material: Aluminum - Manifold assemblies: Assemble to Rosemount 306 Integral Manifold - Mounting bracket: Bracket for 2-in. pipe or panel mounting, all SST - Display and interface options: LCD display - Terminal blocks: Transient protection terminal block - Calibration certification: Calibration certificate MANIFOLD - Manifold type: Five-valve natural gas metering pattern - Body: 316/316L SST - Process connection style: Flanged - Packing/stem seal material: PTFE - Adapters and connectors: 1/2-14 NPT female flange adapter - Bolt material: Austenitic 316 SST bolts	Emerson	1	pcs	
22	Flow Transmitter	3051S2CD2A2A11A 1AL2M5C1P0Q4T1 + 0305KC52B11B4L8	Scalable pressure transmitter - Measurement type: Differential - Performance class: Classic: 0.035% span accuracy, 150:1 rangedown, 15-yr stability - Connection type: Coplanar - Pressure range: -250 to 250 inH2O (-621.60 to 621.60 mbar) - Transmitter output: 4-20 mA with digital signal based on HART® Protocol - Isolating diaphragm: 316L SST - Process connection: Assemble to Rosemount 305 integral manifold - Housing material: Aluminum, 1/2-14 NPT - O-ring: Graphite-filled PTFE O-ring - Display and interface options: PlantWeb LCD display - Maximum static line pressure: 6092 psig (420 bar) static pressure limit (Rosemount 3051S2CD only) MANIFOLD - Manifold type: Coplanar : Five-valve - Body: 316/316L SST - Process connection style: 1/2-14 NPT female - Packing material: PTFE - Valve seal: Integral - Mounting brackets: SST mounting bracket for 2-in. pipe mounting, 300 SST bolts - Bolt material: ASTM A193, Class 2, Grade B8M bolts	EMERSON	1	pcs	

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23	Temperature Transmitter	248RANAQ4	- Type: Rail mount temperature transmitter - Output protocol: 4-20 mA with digital signal based on HART Protocol - Product certifications: No Approvals - Calibration certificate: Calibration certificate (3-point calibration) - Accuracy : $\pm 0.1\%$ of Span - Output Signal : TWO-WIRE(HART) - Power Supply :12 - 42.4 VDC - Damping: 5 seconds - Sensor connections: 2-wire RTD; 3-wire RTD; 4-wire RTD; TC - Rated capacity(R.C): 200lf - Rated output(R.O): 2.0mV/V± 0.1(50lf/500lf: 1.5mV/V$\pm 0.1\%$) - Nonlinearity: 0.1% of R.O - Hysteresis: 0.1% of R.O - Repeatability: 0.1% of R.O - Zero balance: $\pm 1\%$ of R.O - Temperature effect, on rated output: 0.1% of LOAD/10... - Temperature effect, on zero balance: 0.1% of R.O/10... - Temperature range, compensated: -10/60C - Temperature range, safe: -20/80C - Terminal resistance input: 350$\pm 5\Omega$ - Insulation resistance bridge/case: 5000MΩ - Excitation recommended: 10V - Safe overload: 150% R.C - Cable length: Ø7mm 4core, 3m	EMERSON	7	pcs	
24	Load cell	CXG-T200 Serial no: D2207003	- Separate type Zirconia Oxygen/ High Temperature Humidity Analyzer, Detector - Length: 2.0 m - Wetted material: Stainless steel - Flange: ANSI Class 150 4 RF - Reference gas: External connection (Instrument air) - Gas Thread: 1/4NPT(Female) - Connection box thread: 1/2 NPT - Options: Inconel bolt	Dacell	4	pcs	
25	Sensor O2 ANALYZER	ZR22G-200-S-C-E-T- T-E-AVC	- Coplanar pressure transmitter - Measurement type: Differential - Pressure range: -250 to 250 inH2O (-621.60 to 621.60 mbar) - Transmitter output: 4-20 mA with digital signal based on HART® Protocol - Materials of construction: Alternate process connection - Isolating diaphragm: 316L SST - O-ring: Glass-filled PTFE - Sensor fill fluid: Silicone - Housing material: Aluminum - Display and interface options: LCD display - Calibration certificate: Calibration certificate	YOKOGAWA	2	set	
26	Pressure transmitter	3051CD2A02A1AMS BCH2L4T1Q4S6	- Measuring range: 1 to 100 kPa (4 to 400 inH2O) - Output signal: 4 to 20 mA DC with digital communication (HART 5/HART 7 protocol) - Process connections: 1/4 NPT female on the cover flanges - Supply voltage: 10.5...32V DC - Process temperature -70°C...400°C (-94°F...752°F) - Ambient temperature: -30 to 80°C (-22 to 176°F) with LCD display - Process connection: without process connector (1/4 NPT female on the cover flanges) - Materials of construction: + Bolts and nuts material: 316L SST + Installation: Bottom Process Connection, left side high pressure + Amplifier housing: Cast aluminum alloy + Electrical connection: 1/2 NPT female, two electrical connections and a SUS316 blind plug - Integral indicator: Digital indicator - Failure alarm down-scale: Output status at CPU1 failure and hardware error is -5%, 3.2 mA DC or less	Emerson	1	pcs	
27	Differential Pressure Transmitter	EJA110E-IMS5G- BICDN/C2HC		YOKOGAWA	1	set	

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28	Set of Flexible fibre optic cable for optical compact flame monitor		- Set of Flexible Fibre Optic cable for optical compact flame monitor, include 1) Flexible fibre optic cable: - Flexible Fibre system: inner part UV - length A total: 4455 mm - Flexible cable outer diameter: Ø10 - Flange side tip outer diameter: 8mm 2) Mounting flange of Flexible fibre optic cable: - nut connection for Flexible Fibre Optic cable - Inner Diameter 8mm 3) Centering piece of Flexible fibre optic cable - Screw fixation at Flexible Fibre Optic cable tip - Inner Diameter: 12mm - (Thước kích với thiết bị hiển hữu được sử dụng cùng nháy máy SH1) - Operational mode: Intermitent operation and continuous operation - Safety: Self-monitoring and fail-safe - Auxiliary supply: 24 VDC - Protection class: IP68 - Flame relay: 1x NO contact, 24 VDC, 0.5 A - Status relay: 1x NO contact, 24 VDC, 0.5 A - Safety time: 1, 2, 3, 5 s - Viewing: angle 6° - Ranges: 2 - Communication: LED, Modbus RTU, IrDA - Analogue output: 0/4...20 mA - Ambient temperature range: -40...+85°C - Dimensions Weight: 85x85 mm, length approx. 250 mm approx. 1.25 kg - Sighting tube connection: G 1/4" or 1/2" NPT(F) - Purge air connection: G 1/4" or 1/2" NPT(F) - Spectral ranges: IR - Threshold switches: Flame intensity and flicker frequency - Operational mode: Intermitent operation and continuous operation - Safety: Self-monitoring and fail-safe - Auxiliary supply: 24 VDC - Protection class: IP68 - Flame relay: 1x NO contact, 24 VDC, 0.5 A - Status relay: 1x NO contact, 24 VDC, 0.5 A - Safety time: 1, 2, 3, 5 s - Ranges: 2 - Communication: LED, Modbus RTU, IrDA - Analogue output: 0/4...20 mA - Ambient temperature range: -40...+85°C - Dimensions Weight: 85x85 mm, length approx. 175 mm approx. 1.25 kg - Spectral ranges: UV - Threshold switches: Flame intensity and flicker frequency	Durag	25	pcs	
29	Coal Flame Scanner	D-LX-200 IG-10		DURAG	1	pcs	
30	Oil Flame Scanner	D-LX-720 UA-10		DURAG	1	pcs	
31	Pressure Switch	H122-361/M202/M446/M446/M914/QC1	- Type: Two SPDT; epoxy coated enclosure; external adjustment with reference dial, single conduit - Adjustable set point: 0 to 300 psi - Deadband: 2 to 9 psi - Over range: 200 psi - Proof: 350 psi - Dial division: 10 ("Hg) - Wetted material: 316LSS - Thread: 1/4" NPT (F) - Orifice: 0.06" - Sensor style: L - Welded 316L stainless steel bellows and 1/4" NPT (female) pressure connection - Adjustable set point: 0 to 300 psi - Deadband: 2 to 9 psi - Proof: 350 psi - Dial division: 10	UE	1	pcs	
32	Pressure Switch	H402-316/M202/M446/M900/M914/QC1	- Type: Proportional directional valve with 4 main ports, direct-acting - Nominal size: 6 - Symbol: E - Nominal flow: 4 l/min - Series: D01 - Rated voltage of the solenoid coil: 24 - Coil type: device connector to DIN EN175301-803 - Sealing material: FKM (standard)	UE	1	pcs	
33	Solenoid valve	P4WE 06 E04 D01-24PG/V		HYDAC	1	pcs	

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34	Solenoid valve	P4WE 06 E08 D01-24PG/V	- Type: Proportional directional valve with 4 main ports, direct-acting - Nominal size: 6 - Symbol: E - Nominal flow: 8 l/min - Series: D01 - Rated voltage of the solenoid coil: 24 - Coil type: device connector to DIN EN175301-803 - Sealing material: FKM (standard) - Switch type: Micro Switch HDLS - Type: HIGH CAPACITY LIMIT SWITCH - Contacts: DPDT - Signal type: DC24V - Actuator Style: Side Rotary with Roller Lever - Pretravel: 17° max - Different Travel: 8° max - Overtravel: 58° min - Oper. torque: 0,45 Nm (4 in-lb) max - Action: CW & CCW (Spring return) - Op. temp range: -12 °C to 93 °C [10 °F to 200 °F] - Contacts: Silver - Body Style: Non-plug-in - Conduit (NPT): 0.75 in - Body Orientation: Right Angle	HYDAC	1	pcs	
35	Limit Switch	LSQ051	- IRIG-B Unmodulated (PWM) - PPS PWM - IRIG specifications - IRIG line code supported IRIG-B - IRIG formats supported B000 – B007 - PTP specifications - Version support PTP version 2 (IEEE 1588) - Supported profiles, configurable Power, P2P and E2E - PMU protocol support IEEE 1344, C37.118-2005, C37.118-2011 - PPS specifications - Pulse width, configurable 1 to 200 ms - Pulse interval, configurable 1 to 86400 seconds -Pressure type: Gauge - Pressure range: -14.7 to 10000 psi (-1.0 to 689 bar) -Transmitter output: 4-20 mA with digital signal based on HART® Protocol. - Process connection style: ½-14 NPT female - Isolating diaphragm: 316L SST - Sensor fill fluid: Silicone - Housing material: Aluminium, ½-14 NPT - Mounting bracket: Bracket for 2-in. pipe or panel mounting, all SST. - Display and interface options: LCD display. - Calibration certification: Calibration certificate. - Manifold valve: + Manifold style: Threaded + Manifold type: Two-valve + Material of construction: + Body: 316/316L SST. + Bonnet: 316 SST + Stem and tip/ball: 316 SST + Process connection: ½-14 female NPT process connection for in-line transmitter. + Packing material: PTFE + Valve seat: Integral - Calib range: 0 ~ 700°C - Scale range: 0 ~ 700°C - GENERAL - Type: Smart - Mounting : DIN RAIL-JT BOX MOUNTING - Accuracy : ±0.1% of Span - Power Supply: 24 V DC - Input Signal: TC-K - Output Signal: 4-20 mA - Impedance (ohm): 250 ~ 1000 - Input/ Output isolation - Noise filter	Honeywell	1	pcs	
36	Rugged Media Converter	6GK6083-8AC13-0BC1-Z A00		Siemens	1	pcs	
37	Pressure Transmitter	2051TG5A2B21AB4 M5Q4T1		EMERSON	1	pcs	
38	Temperature Transmitter	644SANA5C1Q4		EMERSON	1	pcs	

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39	Digital Valve Controller	DVC6200HW2	- Input Signal: + Analog Input Signal: 4-20 mA DC, nominal; split ranging available + Minimum Voltage Available at Instrument Terminals must be 9.5 VDC for analog control, 10 VDC for HART communication + Minimum Control Current: 4.0 mA + Minimum Current w/o Microprocessor Restart: 3.5 mA + Maximum Voltage: 30 VDC - Multi-drop - Instrument Power: 11 to 30 VDC at 10 mA - Reverse Polarity protected - Supply Pressure: Maximum: 10.0 bar (145 psig) or maximum pressure rating of the actuator, whichever is lower - Output Signal: Maximum Span: 9.5 bar (140 psig) - Action: Single Direct - Maximum Output Capacity: At 5.5 bar (80 psig) supply pressure: 29.5 normal m³/hr (1100 scfh) - Operating Ambient Temperature Limits: -40 to 85°F C (-40 to 185°F) - Independent Linearity: Typical Value: ±0.50% of output span - Connections: + Supply Pressure: 1/4 NPT internal and integral pad for mounting 67CFR regulator + Output Pressure: 1/4 NPT internal + Tubing: 3/8-inch recommended + Vent: 3/8 NPT internal + Electrical: 1/2 NPT internal or M20 - Actuator Compatibility: + Sliding-Stem Linear Linear actuators with rated travel between 6.35 mm (0.25 inch) and 606 mm (23.375 inches)	EMERSON	2	pcs	
40	Solenoid Valve	WSNF8327B002	- Connection: 1/4 NPT - Orifice size: 5.7 mm - Body: Brass or stainless steel AISI 316L - Stem, core tube: Stainless steel - Core and plugnut: Stainless steel - Springs: Stainless steel - Differential pressure: 0 - 10 Bar - Standard voltages: 24-48Vdc - Power cord: 11.2 W - Protection class: IP67	ASCO	1	pcs	
41	Limit Switch	3SE5162-0CD02	- Repeat accuracy mm 0.1 - Ambient temperature during the operating phase °C -25 ... 85 - Material of the housing: metal - Material / of the housing / of the switch head : metal - Protection class: IP67 - Design of the cable entry (gland): 1x (M20 x 1.5) - Contact element: 1NC/1NO - Width of the sensor: 40mm - Operating current at AC-15: 230V, 6A	SIEMENS	1	pcs	
42	Pressure Switch	1402-358-M202-AD-M446	- Proof Pressure: 17.2 bar - Adjustable setpoint range (low end of range on fall, high end of range on rise): 0-13.8mbar - Deadband (Default) doubles for 2 or 3 switch types): 0.1-0.6mbar - Over-range pressure: 13.8bar - Signal type: DC24V - Type Sensing bellows - Switch Type Microswitch - Number 2 (independent) - Action SPDT - AMBIENT TEMPERATURE LIMITS: -40 to 160°F (-40 to 71°C); set point typically shifts less than 1% of range for a 50°F (28°C) ambient temperature change - SET POINT Temperature models: ± 2% of full scale range - REPEATABILITY Pressure: models 126-376: ± 2% of full scale range - SHOCK Set point repeats after 15 G, 10 millisecond duration - VIBRATION Set point repeats after 2.5 G, 5-500 Hz - ENCLOSURE Die: cast aluminum, epoxy powder coated, gasketed, captive cover screws - ENCLOSURE CLASSIFICATION: Designed to meet enclosure type 4X requirements - SWITCH OUTPUT One, two or three SPDT switches, may be separated up to 100% of range	UE	3	pcs	

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			30%; switches may be wired "normally open" or "normally closed" - ELECTRICAL RATING 15 A 125/250/480 VAC resistive. Electrical switches have limited DC capabilities, at 24-30 VDC, 2A resistive and 1A inductive; at 125 VDC, 0.5A resistive and 0.03A inductive. Consult factory for additional information. - WEIGHT Approx. 3 to 7.5 lbs.; varies with model - ELECTRICAL CONNECTION: One 3/4" NPT and two 7/8" diameter knockouts - PRESSURE CONNECTION: 1/4" NPT (female) TEMPERATURE ASSEMBLY: Bulb and capillary: 6 feet 304 stainless steel FILL Temperature Models: Non-toxic oil filled				
43	Pressure transmitter	2051TG2A2B21AB4 E7M3D4T1Q4	- In-Line Pressure Transmitter - Pressure type: Gage - Pressure range: -14.7 to 150 psi (-1.0 to 10.3 bar) - Transmitter output: 4-20 mA with digital signal based on HART® Protocol - Isolating diaphragm: 316L SST - Sensor fill fluid: Silicone - Housing material: Aluminum - Conduit entry size: 1/2-14 NPT - Mounting bracket: Bracket for 2-in. pipe or panel mounting, all SST - Product certifications: IECEx Flameproof, Dust Ignition-proof - Display and interface options: LCD display - Terminal blocks: Transient protection terminal block - Calibration certification: Calibration certificate	EMERSON	1	pcs	
44	Pressure transmitter	2051TG4A2B21AB4 M5T1D4Q4	- In-Line Pressure Transmitter - Pressure type: Gage - Pressure range: -14.7 to 4000 psi (-1.0 to 276 bar) - Transmitter output: 4-20 mA with digital signal based on HART® Protocol - Process connection style: 1/2-14 NPT female - Isolating diaphragm: 316L SST - Sensor fill fluid: Silicone - Housing material: Aluminum - Conduit entry size: 1/2-14 NPT - Mounting bracket: Bracket for 2-in. pipe or panel mounting, all SST - Display and interface options: LCD display - Hardware adjustment: Zero and span configuration buttons. - Terminal blocks: Transient protection terminal block - Calibration certification: Calibration certificate	EMERSON	1	pcs	
45	Temperature Transmitter	TTH300.Y0.H.BS	- Ambient temperature: Standard: -40 to 85 °C (-40 to 185 °F) - Material + Housing: Polycarbonate + Color: gray RAL9002 + Casting compound: Polyurethane (PUR) - Output signal: Configurable 4 to 20 mA (standard) - Supply voltage: US = 11 to 30 V DC - TTH300 Head Mounted Temperature Transmitter, Pt100 (RTD), thermocouples, electrical isolation - Explosion Protection Without explosion protection ATEX Intrinsic Safety type of protection: Zone 0: II 1 G Ex ia IIC T6...T1 Gb, Zone 1 (0): II 2 (1) G Ex [ia IIC Gb] Ib IIC T6...T1 Gb, - Communication Protocol: HART - Configuration: Standard configuration	ABB	4	pcs	

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46	switch	6GK5308-2QG00-2AA2	transfer rate 10 Mbit/s, 100 Mbit/s, 1000 Mbit/s number of ports / maximum 8 interfaces / for communication / maximum configuration for modular devices number of electrical ports / maximum 8 number of electrical ports / with PoE / maximum 4 number of optical ports / maximum 4 interfaces / for communication / integrated number of electrical connections • for Power-over-Ethernet / for network components or terminal equipment 4; RJ45 with securing collar • with securing collar 4 number of connectable media modules • with 2 ports 2 interfaces / for communication / plug-in number of 10/100/1000 Mbit/s RJ45 ports 4 • with securing collar 4 • for V/D mode of operation / with securing collar 4 number of 10/100/1000 Mbit/s M12-ports (X-coded) 4 number of 100 Mbit/s SC-RJ-ports / for PoE FOC 4 number of 100 Mbit/s ST(BFOC) ports • for multimode 4 • for single mode (LD) 4 number of 100 Mbit/s SC ports • for multimode 4 • for single mode (LD) 4 number of 1000 Mbit/s SC ports • for multimode 4 • for single mode (LD) 4 • for single mode (LH) 4 • for single mode (LH+) 4 number of 100 Mbit/s LC ports • for multimode 4 • for single mode (LD) 4 • for single mode (LH+) 4 • for single mode (ELH200) 4	Siemens	1	PCS	
47	Fiber Optic Transmission	IRGR-1501-7	Fiber Optic Receiver Wavelength: 1310nm Fiber: Single mode FC Signal Bandwidth 100Hz - 500KHz (+0,-3dB) Input / Output Impedance 50 ohms Input / Output Level 3 volts pp maximum Output Drive Current 60 mA maximum Protocols IRIG-A,B,D,E,G,H; NASA36 Signal/Noise Ratio* 60 dB minimum Linearity 2% typical System Delay 35ns for 850nm multimode 16ns for 1310nm single-mode Operating Wavelength 850, 1310 or 1550nm Optical Loss Budget 0-12 dB (multimode or single-mode) Optical Connectors ST (multimode) FC/PC (single-mode) Signal Connector BNC MTBF (MIL-HDBK-217) > 100,000 Hours Operating Temperature -35°C to +75°C Relative Humidity < 95% non-condensing Power Requirements 11-24 VAC/DC @150 mA Physical Size (mm) 5.0"(127) x 3.0"(76) x 1.0"(25.4) • 12 dB Loss Budget • Signal & Power Indicators • Stand-alone, DIN or Rack Mountable (same unit)	LuxLink/USA	1	PCS	

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48	Splitter	TTM018-Mk2-DC	Input resistance 50 Ohms Input range 4-20mA, 0-10mA Excitation voltage 20VDC nom. 28mA max Output Output range 4-20mA, 0-10mA Span adjustment +/-9mA Zero adjustment +/-1mA Response speed 200 mSeconds Isolation 380V to earth and power Drive capacity 600 Ohms per loop Accuracy +/-0.1 % span Temp.Co. +/-75ppm/C Note: AI+ O/P terminals are internally connected Power Supply voltage 11-30 VDC Power consumption 3 Watts max Connections Screw terminals - plug-in Environmental Working temp. range 0-50 C Storage temp. range -20 to 75 C Humidity 0-90% rh non-condensing Sealing IP40 Mechanical Mounting DIN Rail ENS0 022 Size 22.5 w x 99h x 111 d Weight 200 grammes	Siemens	1	PCS	
49	COUPLING RELAYS	2700356PSR-PS20-INO-INC-24DC-SC	Power supply Rated control circuit supply voltage US 24 V DC -15 % / +10 % (A1/A2) 20.4 V DC ... 26.4 V DC Rated control supply current IS typ. 45 mA Power consumption at US typ. 1.08 W Inrush current typ. 400 mA ($\Delta t < 10 \mu s$ at Us) Filter time max. 2 ms (at A1-A2; test pulse width) ≥ 100 ms (at A1-A2; test pulse rate) Diagnostic supply voltage UD 24 V DC -15 % / +10 % (21/A2) Input current at UD 6 mA (at 21-A2 for UD; depending on load + 100 mA at M1 and 22) Inrush current at UD typ. 2.5 A ($\Delta t < 20 \mu s$ at UD) Protective circuit Serial protection against polarity reversal Suppressor diode 33 V (A1/A2), 38 V (21/A2) Relay outputs: enabling current path Output name Enabling current path Output description 2 N/O contacts in series, without delay, floating Number of outputs 1 (safety-related N/O contacts: 13/14) Contact type 1 enabling current path Contact material AgSiO2 Switching voltage min. 12 V AC/DC max. 250 V AC/DC (Observe the load curve) Limiting continuous current 6 A (High demand) 4 A (Low demand) Inrush current min. 3 mA, max. 6 A IS, Total current 36 A? (observe derating)	Siemens	3	PCS	

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50	Transformer Isolated Barriers	KFD2-SR2-Ex1 W	Switching capacity min. 60 mW Switching frequency max. 1 Hz Mechanical service life 10x 106 cycles Switching capacity according to IEC 60947-5-1 4 A (24 V (DC13)) 5 A (250 V (AC15)) Relay outputs: enabling current path Output fuse 6 A gL/gG 4 A gL/gG (for low-demand applications) Relay outputs: return current/signaling current path Output name Confirmation current path Output description 2 N/C contacts in series, without delay, not floating (reference ground: A2) Designation M1 Output description PNP Number of outputs 1 (non-safety-related) Voltage approx. 22 V DC (UD - 2 V) Current max. 100 mA Maximum inrush current 500 mA ($\Delta t = 1$ ms at U_0) Short-circuit protection no Relay type Electromechanical relay with forcibly guided contacts in accordance with IEC/EN 61810-3 (EN 50205) Power supply Connection type Power Rail or terminals 14+, 15- Rated operational voltage 20 ... 30 V DC Rated operational current 20 ... 23 mA Safety maximum voltage U_m 40 V DC Ripple $\pm 10\%$ Input (intrinsically safe) Connection type terminals 1+, 2+, 3- Nominal data in accordance with IEC 60947-5-6 (NAMUR, DIN 19234); see system Allowable type terminals 1, 3; 2, 3; 4, 6; 5, 6 Input Voltage VOC 12.9 V Current ISC 19.8 mA Explosion group A&B C&E D, F&G Max. external capacitance C_a 1.273 μF 3.82 μF 10.18 μF Max. external inductance L_a 84.8 mH 254.4 mH 678.4 mH Safety parameter UL control drawing E 106378 CSA control drawing LR 36087-13 Control drawing No. 116-0047 Connection type terminals 1, 3; 2, 3; 4, 6; 5, 6 Input 1 Safety parameter 12.6 V / 650 Ohm Voltage VOC 12.9 V Current ISC 19.8 mA Output signal ; relay Contact loading 253 V AC / 2 A / $\cos \phi > 0.7$; 40 V DC / 2 A ohmic load; from January 2002 increase of the contact rating to 4 A for 115 V AC switching voltage. The respective connection data are shown on the type plate. Mechanical life 107 switchings Energized/De-energized delay approx. 20 ms / approx. 20 ms Transfer characteristics Switching frequency < 10 Hz Galvanic isolation Input/Output safe galvanic isolation acc. to EN 50020, voltage peak value 375 V Input/Power supply safe galvanic isolation acc. to EN 50020, voltage peak value 375 V Output/Power supply safe isolation acc. to DIN VDE 0106, design isolation voltage 253 Veff Ambient temperature -20 ... 60 °C (253 ... 333 K) Standard conformity Input in accordance with IEC 60947-5-6 (NAMUR, DIN 19234); see system description for electrical data Coordination of insulation accord. to DIN EN 50178 Galvanic isolation accord. to DIN EN 50178 Climatic conditions accord. to DIN IEC 721	Pepperl+Fuchs	2	PCS	

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51	Belt Misalignment Switch	389383003 Type: CL03	- Dimension: 195Lx100Wx123H (mm) - Weight: 1,7 kg - Enclosure: Aluminum - Mounting: 2 slotted holes for M6 screws - Switching points: adjustable between 5° ... 15° or 15° ... 35° - Displacement of actuator: max. 75° - Actuation force: 30N ±10N - Permissible ambient temperature: -40 °C ...+70 °C - Protection rating: IP 65 TCVN 4255:2008 - Utilization category: 15A/250VAC 0,6A/125VDC 0,3A/250 VDC - Connection cross section: 1 - 2,5 mm² - Switching system: Up to 3 NC and NO contacts	NARIME	3	pcs	
52	Emergency Pull Cord Switch	GD-04 Order number: 389382.004	- Dimension: 195Lx100Wx123H (mm) - Weight: 1,7kg - Assembly: M6 - Dimension: 195L x 100W x 123H (mm) - Weight: 1,7 kg - Enclosure: Aluminum - Mounting: 2 slotted holes for M6 screws - Installation position: Horizontal - Type of actuation: Bidirectional; spring-loaded - Pull-rope length: Up to approx. 100 m - Actuation force: 30N ±10N - Permissible ambient: + Temperature: -40 °C ...+70 °C + Protection rating: IP 65 TCVN 4255:2008 - Utilization category: 15A/250VAC 0,6A/125VDC 0,3A/250 VDC - Connection cross - section: 1 - 2,5 mm² - Switching system: Up to 4 SPDT contacts	NARIME	3	pcs	
53	CPU	6ES7516-3AN01-0AB0	Product type designation CPU 1516-3 PN/DP HW functional status FS03 Firmware version V2.9 Product function • I&M data Yes; I&M0 to I&M3 • Isochronous mode Yes; Distributed and central; with minimum OB 6x cycle of 375 µs (distributed) and 1 ms (central) Engineering with • STEP 7 TIA Portal configurable/integrated from version V17 (FW V2.9) / V13 SP1 Update 4 (FW V1.8) or higher Configuration control via dataset: Yes Display - Screen diagonal [cm] 6.1 cm - Control elements - Number of keys 6 - Mode selector switch 1 - Supply voltage - Rated value (DC) 24 V - permissible range, lower limit (DC) 19.2 V - permissible range, upper limit (DC) 28.8 V - Reverse polarity protection Yes - Mains buffering • Mains/voltage failure stored energy time 5 ms • Repeat rate, min. 1/s	Siemens	1	PCS	

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			Current consumption (rated value) 0.85 A Inrush current, max. 2.4 A; Rated value Pt 0.02 A²·s Power Infeed power to the backplane bus 12 W Power consumption from the backplane bus (balanced) 6.7 W Power loss Power loss, typ. 7 W Memory Number of slots for SIMATIC memory card 1 SIMATIC memory card required Yes Work memory - integrated (for program) 1 Mbyte - integrated (for data) 5 Mbyte Load memory - Plug-in (SIMATIC Memory Card), max. 32 Gbyte Backup - maintenance-free Yes CPU processing times for bit operations, typ. 10 ns for word operations, typ. 12 ns for fixed point arithmetic, typ. 16 ns HW functional status from PS04 Firmware version V2.2.0 - FW update possible Yes Product function - I&M data Yes; I&M0 to I&M3 - Isosynchronous mode Yes - Prioritized startup Yes Engineering with - STEP 7 TIA Portal configurable/integrated from version V13 SP1 /- - STEP 7 configurable/integrated from version V5.5 SP3 /- - PROFIBUS from GSD version/GSD revision V1.0 / V5.1 - PROFINET from GSD version/GSD revision V2.3 /- Operating mode - DI Yes - Counter Yes - Oversampling No - MSI Yes Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption, max. 20 mA; with 24 V DC supply Power Power available from the backplane bus 1.1 W Power loss Power loss, typ. 2.6 W Digital inputs Number of digital inputs 16 Digital inputs, parameterizable Yes Source/sink input P-reading Input characteristic curve in accordance with IEC 61131, type 3 Yes Digital input functions, parameterizable - Gate start/stop Yes - Freely usable digital input Yes - Counter - Number, max. 2 - Counting frequency, max. 6 kHz - Counting width 32 bit - Counting direction up/down Up Input voltage - Rated value (DC) 24 V - for signal "0" -30 to +5 V - for signal "1" +11 to +30V Input current - for signal "1", typ. 2.5 mA				
54	Digital Input module	6ES7521-1BH00-0AB0		Siemens	1	PCS	

STT	Tên vật tư/mô tả	Ordering information (Part N0)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
55	Digital output module	6ES7522-1BH01-0AA0	Product type designation DQ 16x24VDC/0.5A HF HW functional status From PS02 Firmware version V1.1.0 - FW update possible Yes Product function - I&M data Yes; I&M0 to I&M3 - Isosynchronous mode Yes - Prioritized startup Yes Engineering with - STEP 7 TIA Portal configurable/integrated from version V13 SP1 / - - STEP 7 configurable/integrated from version V5.5 SP3 / - - PROFIBUS from GSD version/GSD revision V1.0 / V5.1 - PROFINET from GSD version/GSD revision V2.3 / - Operating mode - DQ Yes - DQ with energy-saving function No - PWM No - Cam control (switching at comparison values) No - Oversampling No - MSO Yes - Integrated operating cycle counter Yes Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes; through internal protection with 7 A per group Input current Current consumption, max. 30 mA output voltage / header Rated value (DC) 24 V Power Power available from the backplane bus 1.1 W Power loss Power loss, typ. 2 W Digital outputs Type of digital output Transistor Number of digital outputs 16 Current-sourcing Yes Digital outputs, parameterizable Yes Short-circuit protection Yes; Clocked electronically 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, max. 0.5 A - 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 Available colors: RAL7032/RAL7035 Rated voltage (V / Hz): 230/50/60 Air flow With export filters 1 xFK6622.300:43/50m3/h 2xFK6622.300:48/55m3/h Axial Fan: Automatically shield pole motor Rated current (A): 0.12/0.10 Power (W): 19/14 Noise level (dB): 50/52 Operating temperature range: -10C to +55C Exit filter: FK6622.300 RAL7032(2012.012)/RAL7035(2012.043)	Siemens	1	PCS	
56	Fan	2012.009/2012.040		LEIPOL	3	PCS	

STT	Tên vật tư/mô tả	Ordering Information (Part No)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
57	DIGITAL OUTPUT MODULE	6ES7132-6BF00-0BA0	ORDERING INFORMATION Product type designation ET 200SP, DQ 8x 24 V DC/0.5 A ST, PU 1 Firmware version V1.1 - FW update possible Yes usable BaseUnits BU type A0 Color code for module-specific color identification plate CC02 Product function - I&M data Yes; I&M0 to I&M3 - STEP 7 TIA Portal configurable/integrated as of version V11 SP2 / V13 - STEP 7 configurable/integrated as of version V5.5 SP3 / - - PCS 7 configurable/integrated as of version V8.1 SP1 - PROFIBUS as of GSD version/GSD revision GSD Revision 5 - PROFINET as of GSD version/GSD revision GSDML V2.3 Operating mode - DQ Yes Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption, max. 35 mA, without load Output voltage Rated value (DC) 24 V Power loss, typ. 1 W Address area Address space per module - Address space per module, max. 1 byte; + 1 byte for QI information Hardware configuration Automatic encoding - Mechanical coding element Yes Selection of BaseUnit for connection variants 1-wire connection BU type A0 2-wire connection BU type A0 3-wire connection BU type A0 with AUX terminals Digital outputs Number of digital outputs 8 Current-sinking No Current-sourcing Yes Short-circuit protection Yes - Response threshold, typ. 0.7 to 1.3 A Limitation of inductive shutdown voltage to Typ. L+ (-50 V) Controlling a digital input Yes Switching capacity of the outputs - with resistive load, max. 0.5 A - on lamp load, max. 5 W Load resistance range Lower limit 48 Ω, upper limit 1.2 kΩ	Siemens	4	PCS	

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58	PROFIBUS Module	6ES7155-6BU00-0CN0	Product type designation: 6ES7155-6BU00-0CN0, HW, FW: V3.1 Product function • 1&M data Yes; 1&M0 to 1&M3 • Module swapping during operation (hot swapping) Yes; Multi-hot swapping • Isochronous mode No Engineering with • STEP 7 TIA Portal configurable/integrated from version V13 SP1 • STEP 7 configurable/integrated from version V5.5 SP4 and higher PROFIBUS from GSD version/GSD revision One GSD file each, Revision 3 and 5 and higher Configuration control via dataset: Yes Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Main buffering • Main/voltage failure stored energy time 5 ms Input current Current consumption, max. 250 mA Power loss, typ. 1.5 W Address area Address space per module • Address space per module, max. 32 byte; per input / output Address space per station • Address space per station, max. 244 byte; per input / output Hardware configuration Rack • Modules per rack, max. 32; + 16 ET 200AL modules Interfaces Number of PROFIBUS interfaces 1 1. Interface Interface types • RS 485 Yes • Output current of the interface, max. 90 mA Protocols • PROFIBUS DP slave Yes Interface types RS 485 • Transmission rate, max. 12 Mbit/s Protocols PROFIBUS DP Services — SYNC capability Yes — FREEZE capability Yes — DPV0 Yes — DPV1 Yes Isochronous mode Isochronous operation (application synchronized up to terminal) No Interrupts/diagnostics/status information	Siemens	1	PCS	
59	Relay module	8237710000	Operating temperature -25 °C...+50 °C Rated data UL Certificate No. (eURus) E141197 Control side Rated control voltage 230 V AC ±10 %, Rated current AC 9.5 mA Power rating 2.1 VA Pull-in/drop-out voltage, typ. 150 V / 60 V AC Pull-in/drop-out current, typ. 5 mA / 2.5 mA AC Status indicator Green LED Protective circuit Rectifier Load side Rated switching voltage 250 V AC Continuous current 6 A Max. switching frequency at rated load 0.1 Hz Max. switching voltage AC 250 V Max. switching voltage DC 250 V Inrush current 6 A AC switching capacity (resistive), max. 1500 VA DC switching capacity (resistive), max. 144 W @ 24 V Switch-on delay < 11 ms Switch-off delay < 35 ms Contact type 1 CO contact (AgSnO) Mechanical service life 10 x 10⁶ switching cycles Min. switching power 1 mA @ 24 V, 10 mA @ 10 V, 100 mA @ 5 V	Weidmüller	4	PCS	

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60	FAN	K2E200-AH20-05	Motor M2E068-CF Phase 1~ Nominal voltage / VAC 230 Frequency / Hz: 50 Valid for approval/standard: CE Speed (rpm) / min-1: 2700 Power consumption / W: 70 Current draw / A: 0.37 Capacitor / µF: 1.5 Capacitor voltage / VDB: 400 Capacitor standard S0 (CE) Min. back pressure / Pa: 0 Max. back pressure / Pa: 115 Min. ambient temperature / °C: -30 Max. ambient temperature / °C: 55 Starting current / A: 0.87	EBM-Papst	3	PCS	
61	Proximity Sensor	NBN40-U1-A2-M	- Switching function: complementary - Output type: PNP - Rated operating distance: 40 mm - Installation: non-flush - Output polarity: DC - Assured operating distance: 0 ... 32.4 mm - Actual operating distance: 36 ... 44 mm - Reduction factor rAI: 0.34 - Reduction factor rCu: 0.3 - Reduction factor rSt: 37 1 - Reduction factor rBrass: 0.4 - Output type: 4-wire - Operating voltage UB: 10 ... 60 V DC - Switching frequency f: 0 ... 150 Hz - Hysteresis H typ: 5 % - Reverse polarity protection: reverse polarity protected - Short-circuit protection: pulsing - Voltage drop Udi: ≤ 2 V - Operating current IL: 0 ... 200 mA - Off-state current Ir: 0 ... 0.5 mA - No-load supply current IO: ≤ 20 mA - Operating voltage indicator: LED, green - Switching state indicator: LED, yellow - Ambient temperature: -40 ... 85 °C (-40 ... 185 °F) - Housing base: plastic - Degree of protection: IP68	PEPPERL + FUCHS	16	pcs	
62	Limit Switch Brake Bucket	Type: 83733	- Max. operating force (N): 6 - Max. total travel force (N): 25 - Max. Allowable overtravel force (N): 30 - Max. Pretravel (mm): 1.5 - Max. Differential travel (mm): 0.2 - Ambient operating temperature (°C): -5 → +70 - Mechanical life (operations): 10 ⁶ - Connections: 1.0 (cable, 1 m)	CROUZET	2	pcs	
63	Power supply	MDR-20-24	- OUTPUT DC VOLTAGE: 24V RATED CURRENT: 1A CURRENT RANGE: 0 ~ 1A RATED POWER: 24W RIPPLE & NOISE (max.) Note 2: 150mVp-p - VOLTAGE ADJ. RANGE: 21.6 ~ 26.4V - VOLTAGE TOLERANCE Note 3: ±1.0% - LINE REGULATION: ±1.0% - LOAD REGULATION: ±1.0% - SETUP, RISE TIME Note 5: 500ms, 30ms/230VAC - HOLD UP TIME (Typ.): 50ms/230VAC - INPUT + VOLTAGE RANGE: 85 ~ 264VAC + FREQUENCY RANGE: 47 ~ 63Hz + EFFICIENCY (Typ.): 84% + AC CURRENT (Typ.): 0.35A/230VAC + INRUSH CURRENT (Typ.): COLD START 20A/115VAC - 40A/230VAC + LEAKAGE CURRENT: <1mA / 240VAC	MEAN WELL	1	pcs	

STT	Tên vật tư/mô tả	Ordering information (Part No)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
64	Card Digital Control	VT-VPCD-1-12V/10 (R901026243)	- Digital control electronics for controlling axial piston variable displacement pumps - Component series 12 - With display - Operating voltage: 24V - Current consumption: 3.5 A - Range: 4 to 20 mA - Input resistance: 100 Ω (voltage drop at actual pressure value input with 4 mA approx. 1.7 V, with 20 mA approx. 3.5 V) - Leakage current: 0.15 % (with 500 Ω between pin A1 x - and 0 V) - Resolution: 5 µA [12 bit] - Analog outputs A01, A02 and A03 - Output voltage: ±10 V - Load: 1 kΩ - Resolution: 10 mV (11 bit) - Residual ripple: ±25 mV (without noise) - 4/3 directional spool valve - solenoid-operated, direct-acting - 4WE 6 - Solenoid-operated directional valve with 4 main ports, direct-acting - Nominal size: 6 - Spool symbol: J - Rated voltage of the solenoid coil: 24 VDC - Electrical connection (for details, see page 8): device plug, DIN EN 175301-803 A - Power supply: 230 Vac - Housing: ABS - Colour: red - Cap: Polycarbonate - Protection degree: IP 66 (IEC 60529) - Cable gland: knockouts - Connection terminals: Terminal capacity: 2.5 mm² single-wire 1.5 mm² fine-wire - Sound level: approx. 112 dB(A) - Flash energy: 2.5 Joule - Signals: 32 different signal tones - Temperature range: -25 °C to +70 °C - Product or component type: Limit switch - Shock resistance: 68 gn conforming to IEC 60068-2-27 - Vibration resistance: 9 gn (f= 10...500 Hz) conforming to IEC 60068-2-6 - IP degree of protection: IP65 conforming to IEC 60529 - Overvoltage category: Class I conforming to IEC 61140 - Class I conforming to NF C 20-030 - Ambient air temperature for operation: -25...70 °C - Ambient air temperature for storage: -40...70 °C - Protective treatment: TC - Product certifications: CSA / CCC - Mechanical durability: 10000000 cycles - Width: 85 mm - Height: 95 mm - Depth: 75 mm - Contacts type and composition: 2 x (1 NC + 1 NO) - Electrical connection Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Movement of operating head: Rotary - Body material: Zinc alloy - Switch actuation: By any moving part - Minimum actuation speed: 0.01 m/min - Maximum actuation speed: 1.5 m/s - Short-circuit protection: 10 A cartridge fuse, type gG - Port size: G 1/2 - Nominal Diameter (mm): 50 - Valve length (mm): 135 - Operating pressure (bar): 0.4...8 - Kv-value * (Base m³/h): 59 - Weight: 1.18 - Power supply: 24V - Body: Aluminium - Supply voltage 24 VDC - Nominal size 6 - Nominal flow: 26 l/min	Bosch Rexroth	1	pcs	
65	Solenoid valve	4WE 6 J S01 24DC/V	- Solenoid-operated directional valve with 4 main ports, direct-acting - Nominal size: 6 - Spool symbol: J - Rated voltage of the solenoid coil: 24 VDC - Electrical connection (for details, see page 8): device plug, DIN EN 175301-803 A - Power supply: 230 Vac - Housing: ABS - Colour: red - Cap: Polycarbonate - Protection degree: IP 66 (IEC 60529) - Cable gland: knockouts - Connection terminals: Terminal capacity: 2.5 mm² single-wire 1.5 mm² fine-wire - Sound level: approx. 112 dB(A) - Flash energy: 2.5 Joule - Signals: 32 different signal tones - Temperature range: -25 °C to +70 °C - Product or component type: Limit switch - Shock resistance: 68 gn conforming to IEC 60068-2-27 - Vibration resistance: 9 gn (f= 10...500 Hz) conforming to IEC 60068-2-6 - IP degree of protection: IP65 conforming to IEC 60529 - Overvoltage category: Class I conforming to IEC 61140 - Class I conforming to NF C 20-030 - Ambient air temperature for operation: -25...70 °C - Ambient air temperature for storage: -40...70 °C - Protective treatment: TC - Product certifications: CSA / CCC - Mechanical durability: 10000000 cycles - Width: 85 mm - Height: 95 mm - Depth: 75 mm - Contacts type and composition: 2 x (1 NC + 1 NO) - Electrical connection Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Movement of operating head: Rotary - Body material: Zinc alloy - Switch actuation: By any moving part - Minimum actuation speed: 0.01 m/min - Maximum actuation speed: 1.5 m/s - Short-circuit protection: 10 A cartridge fuse, type gG - Port size: G 1/2 - Nominal Diameter (mm): 50 - Valve length (mm): 135 - Operating pressure (bar): 0.4...8 - Kv-value * (Base m³/h): 59 - Weight: 1.18 - Power supply: 24V - Body: Aluminium - Supply voltage 24 VDC - Nominal size 6 - Nominal flow: 26 l/min	HYDAC	1	set	
66	Alarm Horn & Strope Lamp	AXL05 Type: 22510703	- Product or component type: Limit switch - Shock resistance: 68 gn conforming to IEC 60068-2-27 - Vibration resistance: 9 gn (f= 10...500 Hz) conforming to IEC 60068-2-6 - IP degree of protection: IP65 conforming to IEC 60529 - Overvoltage category: Class I conforming to IEC 61140 - Class I conforming to NF C 20-030 - Ambient air temperature for operation: -25...70 °C - Ambient air temperature for storage: -40...70 °C - Protective treatment: TC - Product certifications: CSA / CCC - Mechanical durability: 10000000 cycles - Width: 85 mm - Height: 95 mm - Depth: 75 mm - Contacts type and composition: 2 x (1 NC + 1 NO) - Electrical connection Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Movement of operating head: Rotary - Body material: Zinc alloy - Switch actuation: By any moving part - Minimum actuation speed: 0.01 m/min - Maximum actuation speed: 1.5 m/s - Short-circuit protection: 10 A cartridge fuse, type gG - Port size: G 1/2 - Nominal Diameter (mm): 50 - Valve length (mm): 135 - Operating pressure (bar): 0.4...8 - Kv-value * (Base m³/h): 59 - Weight: 1.18 - Power supply: 24V - Body: Aluminium - Supply voltage 24 VDC - Nominal size 6 - Nominal flow: 26 l/min	EATON	1	pcs	
67	Limit Switch	XCRF171	- Product or component type: Limit switch - Shock resistance: 68 gn conforming to IEC 60068-2-27 - Vibration resistance: 9 gn (f= 10...500 Hz) conforming to IEC 60068-2-6 - IP degree of protection: IP65 conforming to IEC 60529 - Overvoltage category: Class I conforming to IEC 61140 - Class I conforming to NF C 20-030 - Ambient air temperature for operation: -25...70 °C - Ambient air temperature for storage: -40...70 °C - Protective treatment: TC - Product certifications: CSA / CCC - Mechanical durability: 10000000 cycles - Width: 85 mm - Height: 95 mm - Depth: 75 mm - Contacts type and composition: 2 x (1 NC + 1 NO) - Electrical connection Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Movement of operating head: Rotary - Body material: Zinc alloy - Switch actuation: By any moving part - Minimum actuation speed: 0.01 m/min - Maximum actuation speed: 1.5 m/s - Short-circuit protection: 10 A cartridge fuse, type gG - Port size: G 1/2 - Nominal Diameter (mm): 50 - Valve length (mm): 135 - Operating pressure (bar): 0.4...8 - Kv-value * (Base m³/h): 59 - Weight: 1.18 - Power supply: 24V - Body: Aluminium - Supply voltage 24 VDC - Nominal size 6 - Nominal flow: 26 l/min	Telemecanique	1	pcs	
68	Solenoid valve	8296600.8171	- Product or component type: Limit switch - Shock resistance: 68 gn conforming to IEC 60068-2-27 - Vibration resistance: 9 gn (f= 10...500 Hz) conforming to IEC 60068-2-6 - IP degree of protection: IP65 conforming to IEC 60529 - Overvoltage category: Class I conforming to IEC 61140 - Class I conforming to NF C 20-030 - Ambient air temperature for operation: -25...70 °C - Ambient air temperature for storage: -40...70 °C - Protective treatment: TC - Product certifications: CSA / CCC - Mechanical durability: 10000000 cycles - Width: 85 mm - Height: 95 mm - Depth: 75 mm - Contacts type and composition: 2 x (1 NC + 1 NO) - Electrical connection Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Movement of operating head: Rotary - Body material: Zinc alloy - Switch actuation: By any moving part - Minimum actuation speed: 0.01 m/min - Maximum actuation speed: 1.5 m/s - Short-circuit protection: 10 A cartridge fuse, type gG - Port size: G 1/2 - Nominal Diameter (mm): 50 - Valve length (mm): 135 - Operating pressure (bar): 0.4...8 - Kv-value * (Base m³/h): 59 - Weight: 1.18 - Power supply: 24V - Body: Aluminium - Supply voltage 24 VDC - Nominal size 6 - Nominal flow: 26 l/min	IMI BUSCHJOIST	2	pcs	
69	Solenoid Valve	4/3 MNR R 900972655 4WRAP6W7-04-30-G72K4V= 00	- Product or component type: Limit switch - Shock resistance: 68 gn conforming to IEC 60068-2-27 - Vibration resistance: 9 gn (f= 10...500 Hz) conforming to IEC 60068-2-6 - IP degree of protection: IP65 conforming to IEC 60529 - Overvoltage category: Class I conforming to IEC 61140 - Class I conforming to NF C 20-030 - Ambient air temperature for operation: -25...70 °C - Ambient air temperature for storage: -40...70 °C - Protective treatment: TC - Product certifications: CSA / CCC - Mechanical durability: 10000000 cycles - Width: 85 mm - Height: 95 mm - Depth: 75 mm - Contacts type and composition: 2 x (1 NC + 1 NO) - Electrical connection Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Movement of operating head: Rotary - Body material: Zinc alloy - Switch actuation: By any moving part - Minimum actuation speed: 0.01 m/min - Maximum actuation speed: 1.5 m/s - Short-circuit protection: 10 A cartridge fuse, type gG - Port size: G 1/2 - Nominal Diameter (mm): 50 - Valve length (mm): 135 - Operating pressure (bar): 0.4...8 - Kv-value * (Base m³/h): 59 - Weight: 1.18 - Power supply: 24V - Body: Aluminium - Supply voltage 24 VDC - Nominal size 6 - Nominal flow: 26 l/min	Bosch Rexroth	1	set	

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70	Transmitter Power Supply	S1SD-1A1-1U	General specifications Signal type Analog input Supply Connection terminals 1-, 2+ Rated voltage Un 16.8 ... 31.2 V DC Power dissipation 0.8 W Power consumption 1.2 W Input Connection terminals 5+, 6, 7- Input signal 0/4 ... 20 mA Open circuit voltage/short-circuit current ≤ 22 V / 30 mA Input resistance 25 Ω Transmission range linearity range: -1 ... 110 % Available voltage 16 V at 20 mA Output Connection terminals 3-, 4+ Analog voltage output 0/2 ... 10 V, load ≥ 2 kΩ Analog current output 0/4 ... 20 mA, load ≤ 600 Ω Ripple ≤ 10 mV eff Transfer characteristics Deviation ≤ 0.1 % of full-scale value Influence of ambient temperature < 100 ppm/K of full-scale value Frequency range 0 ... 100 Hz Rise time/fall time ≤ 3.5 ms Electrical isolation Output/power supply safe electrical isolation by reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 Veff test voltage 3 kV, 50 Hz, 1 min Input/Other circuits safe electrical isolation by reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 Veff test voltage 3 kV, 50 Hz, 1 min Directive conformity Electromagnetic compatibility Directive 2014/30/EU EN 61326-1:2013 (industrial locations) Conformity Degree of protection IEC 60529:2001 Protection against electrical shock EN 61010-1:2010 Ambient conditions Ambient temperature -25 ... 70 °C (-13 ... 158 °F) Storage temperature -40 ... 85 °C (-40 ... 185 °F) Mechanical specifications Connection type screw terminals Core cross-section 0.5 ... 2.5 mm², 20 ... 14 AWG Degree of protection IP20	Pepperl+Fuchs	5	pcs	
71	Power Supply	6EP1333-1LD00	Input type of the power supply network 1-phase AC supply voltage at AC • minimum rated value 100 V • maximum rated value 240 V • initial value 85 V • full-scale value 264 V design of input wide range input Yes operating condition of the mains buffering at Vin = 115/230 V buffering time for rated value of the output current in the event of power failure minimum 15 ms operating condition of the mains buffering at Vin = 115/230 V line frequency • 1 rated value 50 Hz • 2 rated value 60 Hz line frequency 47 ... 63 Hz input current • at rated input voltage 100 V 3.1 A • at rated input voltage 240 V 2 A current limitation of furnish current at 25 °C maximum 7.5 A I_{2t} value maximum 6.5 A²·s fuse protection type internal	Siemens	2	pcs	

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			- in the feeder Recommended miniature circuit breaker: from 10 A characteristic C or from 16 A characteristic B Output voltage curve at output Controlled, isolated DC voltage output voltage at DC rated value 24 V output voltage - at output 1 at DC rated value 24 V relative overall tolerance of the voltage 2 % relative control precision of the output voltage - on slow fluctuation of input voltage 0.5 % - on slow fluctuation of ohm loading 1 % residual ripple - maximum 100 mV voltage peak - maximum 100 mV adjustable output voltage 22 ... 28 V product function output voltage adjustable Yes type of output voltage setting via potentiometer display version for normal operation Green LED for 24 V OK behavior of the output voltage when switching on Overshoot of Vout < 2 % response delay maximum 1 s				
72	Air Filter Regulator	(L74C-4GP-QPN) + (F74G-4GN-QP1)	- Lubricators - Oil fog lubricator - Port size: 1/2" - Thread form: ISO G parallel (standard) - Drain: Manual (standard) - Bowl: Transparent with guard (standard) - Option: None (standard) - General purpose filter - Port size: 1/2" - Thread form: Iso G parallel (standard) - Service life indicator: Without (standard) - Drain: Manual - Bowl: Transparent with guard (standard) - Filter element: 5 um (standard)	IMI NORGEN	9	set	
73	Isolator Module	SISL-2A1-2C	General specifications Signal type Analog input Operation time MTBF: 1508 a acc. to SN 29500 stationary continuous operating, average ambient temperature 40 °C (104 °F) Supply Rated voltage Ur 2.2 ... 30 V DC , loop powered Power dissipation 0.1 W Power consumption 0.6 W Input Connection side field side Connection terminals 5+; 6-; 7+; 8- Input signal 0/4 ... 20 mA, max. 50 mA Input voltage ≥ 2.3 V + 1 x load , max. 30 V Voltage drop ≤ 2.3 V Output Connection side control side Connection terminals 1-, 2+; 3-, 4+ Analog current output 0/4 ... 20 mA, load ≤ 6000Ω Ripple ≤ 10 mV eff Transfer characteristics Accuracy max. 0.1 % of full-scale value Deviation Influence of load 0.05 % of the measured value per 100 Ω Influence of ambient temperature < 100 ppm/K of full-scale value Temperature range 0 ... 100 °F	Pepperl+Fuchs	5	pcs	

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			Frequency range: 100 kHz to 1 MHz Rise time/fall time ≤ 3.5 ns Galvanic isolation Field circuit/control circuit safe electrical isolation by reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 Veff test voltage 3 kV, 50 Hz, 1 min Indicators/settings Labeling space for labeling at the front Directive conformity Electromagnetic compatibility Directive 2014/30/EU EN 61326-1:2013 (industrial locations) Conformity Degree of protection IEC 60529:2001 Protection against electrical shock EN 61010-1:2010 Ambient conditions Ambient temperature -25 ... 70 °C (-13 ... 158 °F) Storage temperature -40 ... 85 °C (-40 ... 185 °F) Damaging gas designed for operation in environmental conditions acc. to ISA-S71.04-1985, severity level G3				
74	Power Feed Module	SISD-2PF	Supply Connection Power Bus or terminals 1-, 2+; 7+, 8- Rated voltage Ur 16.8 ... 31.2 V DC Fusing 4 A/T with back-up fuse Power dissipation 0.8 W Output Connection Power Bus Output rated operating current max. 3 A Output voltage 24 V DC Indicators/settings Labeling space for labeling at the front Electromagnetic compatibility Directive 2014/30/EU EN 61326-1:2013 (industrial locations) Conformity Degree of protection IEC 60529:2001 Ambient conditions Ambient temperature -25 ... 70 °C (-13 ... 158 °F) Storage temperature -40 ... 85 °C (-40 ... 185 °F) Damaging gas designed for operation in environmental conditions acc. to ISA-S71.04-1985, severity level G3 Mechanical specifications Degree of protection IP20 Connection screw terminals Core cross section 0.5 ... 2.5 mm² (20 ... 14 AWG) Mass approx. 70 g Dimensions 6.2 x 97 x 107 mm (0.24 x 3.82 x 4.21 inch) (W x H x D), housing type S1 Mounting on 35 mm DIN mounting rail acc. to EN 60715:2001 Data for application in connection with hazardous areas Certificate DEMKO 16 ATEX 1750X Marking 1 II 3G Ex nA IIC T4 Gc Directive conformity Directive 2014/34/EU EN 60079-0:2012+A11:2013, EN 60079-15:2010 International approvals UL approval E106378 IECEx approval IECEx certificate IECEx UL 16.0116X IECEx marking Ex nA IIC T4 Gc	Pepperl+Fuchs	2	pcs	

STT	Tên vật tư/mô tả	Ordering information (Part No)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
75	Pressure Transmitter	P320 7MF0300- IFE11-5AF2-Z A00+C11+C12+C14 +E00+H02+T03+Y01 +Y21+Y15	- Type: SITRANS P320 - Voltage supply: 10.5 ... 45 Vdc - Communication: HART, 4...20 mA - Measuring cell filling: Silicone oil - Maximum measuring span: 250 mbar (3.6 psi) - Process connection: Female thread 1/2-14 NPT - Wetted parts materials: process connection, seal diaphragm: Stainless steel 316L/1.4404, alloy C276/2.4819 - Non-wetted parts materials: Die-cast aluminum - Electrical connections/cable entries: 2 x M20 x 1.5 - Cable glands included: Plastic - Mounting bracket: Stainless steel 1.4301/304 - Quality inspection certificate, 5-point factory calibration (IEC 62828-2) - C11 - Inspection certificate (EN 10204-3.1) - Material of pressurized and wetted parts - Factory certificate (EN 10204-2.2) - Wetted parts - Mounting bracket: Stainless steel 1.4301/304 - Local display - Measurement Type: Magnetostrictive - Supply: 10 ... 240 V ac/dc - Cable length/plug: 2m - Protection: IP66 - Materials: Plastic - Type: Reed with LED - With plug: M12 x 1 - Operating temperature: -20 ... +80°C (-4 ... +176°F)	SIEMENS	2	pcs	
76	Reed Switch	QM/322	- Measurement Type: Magnetostrictive - Supply: 10 ... 240 V ac/dc - Cable length/plug: 2m - Protection: IP66 - Materials: Plastic - Type: Reed with LED - With plug: M12 x 1 - Operating temperature: -20 ... +80°C (-4 ... +176°F)	IMI NORGREN	3	pcs	
77	PH Sensor	CPS41D-7BC2B1	- Measurement range: pH 0-14 - Diameter: 12 mm (0.47 inch) Shaft length: 120 - Process temperature: 0 to 135 °C (32 to 275 °F) - Process pressure: 0 to 145 psi - Ingress protection: IP68 - Measuring principle: Potentiometric - Electrolyte supply: KCl hose connection, CPY7 - Approval: Non-hazardous area - Application range: pH = 0 to 14, T = 32 to 275°F (0 to 135°C), 3 diaphragms, sterilizable - Version: Basic version	ENDRESS + HAUSER	2	pcs	
78	Proximity Switch	NJ2 + V3-N-Y	- Switching function: Normally closed (NC) - Output type: NAMUR - Rated operating distance: sn 2 mm - Installation: flush - Assured operating distance: sa 0 ... 1.62 mm - Output type: 2-wire - Nominal voltage: Uo 8.2 V (Ri approx. 1 kΩ) - Switching frequency: f0 ... 1000 Hz - Suitable for 2:1 technology: yes, Reverse polarity protection diode not required - Current consumption - Measuring plate not detected: ≥ 3 mA - Measuring plate detected: ≤ 1 mA - Ambient temperature -25 ... 100 °C (-13 ... 212 °F) - Connection type cable - Housing material: PBT - Sensing face: PBT - Degree of protection: IP67 - Cable diameter 2.6 mm ± 0.2 mm - Bending radius: > 10 x cable diameter - Material: PVC - Core cross section: 0.14 mm - Length : L 130 mm	PEPPERL+FUC HS	2	pcs	

STT	Tên vật tư/mô tả	Ordering information (Part No)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Chú chú
79	Limit Switch	XCKJ10541H29	GENERAL - Product or component type: Limit switch - Device short name: XCKJ - Body type: Fixed - Head type: Rotary head - Material: Metal - Body material: Zamak - Head material: Zamak - Type of operator: Spring return roller lever thermoplastic (variable length) - Type of approach: Lateral approach 1 or 2 programmable direction - Cable entry: 1 entry tapped for M20 x 1.5 cable gland, cable outer diameter: 7...13 mm - Contacts type and composition: 1 NO + 1 NC - Contacts operation: Snap action - Switch actuation By 30° cam - Electrical connection: Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Contact code designation: AC-15 (Ue = 240 V, Ie = 3 A) conforming to EN/IEC 60947-5-1 appendix A - [UI] rated insulation voltage: 300 V conforming to CSA C22-2 No 14 - [Uimp] rated impulse withstand voltage: 6 kV conforming to IEC 60664 - 6 kV conforming to IEC 60947-1 - Width: 40 mm - Height: 77 mm - Depth: 44 mm - Vibration resistance 25 gn (f = 10...500 Hz) conforming to IEC 60068-2-6 - IP degree of protection IP66 conforming to IEC 60529 - IK degree of protection IK07 conforming to EN 50102 - Ambient air temperature for operation -25...70 °C	TELEMECANIQUE	2	pcs	
80	Limit Switch (Belt misalignment)	XCRT115	- Product or component type: Limit switch - Body type: Fixed - Head type: Rotary head - Material Metal - Fixing mode: By the body - Movement of operating head: Rotary - Type of operator: Zinc plated steel spring return roller (with lever) - Type of approach: 2 directions lateral approach - Electrical connection Screw-clamp terminals, clamping capacity: 1 x 0.5...2 x 2.5 mm² - Number of poles: 2 - Contacts type and com-position: 2 C/O - Contacts operation: Snap action - Contact block per direction (control circuit): 2 per direction - Positive opening: Without - Body material: Zinc alloy - Switch actuation: By conveyor belt - Cable entry: 1 entry tapped for Pg 13.5 cable gland, cable outer diameter: 9...12 mm conforming to NF C 68-300 - Contacts insulation form: Za - Number of steps: 2 - Minimum torque for tripping: 1 N.m - Minimum actuation speed: 0.01 m/min - Tripping angle: 18 ° for stopping of the conveyor belt 10 ° for fault signalling - Maximum displacement angle: 90 ° 90 ° 90 ° - Contact code designation: Q300, DC-13 250 V, Ie = 0.27 A) conforming to EN/IEC 60947-5-1 appendix A A300, AC-15 240 V, Ie = 3 A) conforming to EN/IEC 60947-5-1 appendix A - Mechanical durability: 300000 cycles - Width: 85 mm - Height: 95 mm - Depth: 75 mm - Terminals description ISO n°:1 (11-12)NC (13-14)NO - IP degree of protection: IP65 conforming to IEC 60529 - Ambient air temperature for operation: -25...70 °C	TELEMECANIQUE	2	pcs	

STT	Tên vật tư/mô tả (Belt misalignment)	Ordering information (Part No)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
81	Limit Switch (Belt misalignment)	60-30G	- Contact configuration: 2 NO + 2 NC - Contact rating AC15: 24V=10A, 250V=6A - Contact rating DC13: 24V=8A, 48V=2A - Contact elements with Positive Break Function according to IEC/EN 60947.5.1 - Operating temperature range: -45C to 85C - Enclosure Rating: IP65 - Cable inlet: N 3 cable inlets M20X1,5 (PG21, M25 or different available on request) - Construction: Rugged cast Aluminum, heavy duty design - Approvals: ATEX for Zone 21 and 22 - Measurement Type: Multiturn Absolute Encoder - Electrical Specification + Resolution: 8192 cpr x 4096 turns + Accuracy: ±0.04° + Counting Frequency: 100 kHz max + Power supply: + 10V; +30V + Interface: Profibus-DP V0, Class 2 (RS485) - Materials + Flange: anticorrosion UNI EN AW-6082 + Housing: anticorrosion UNI EN AW-6082 + Bearings: ABEC 5 + Shaft: stainless steel, non magnetic, UNI EN 4305 - Mechanical Specification + Shaft Diameter: 10mm + Shaft Loading: 40 N max + Shaft Rotational Speed: 6000 rpm max + Electrical Connection: PG outlet - Environmental Specifications + Vibrations: 10g, 5 - 2000Hz + Protection: IP65 + Operating temperature range: - 25oC - 85oC + CC-PB: connection cap with PG outlet	THERMORAM SEY	5	pcs	
82	Encoder	AM58S13/4096PB-10	- GENERAL: - Type of output signal: Digital - Contact configuration: 2 NO + 2 NC - Cable entry: N 3 Threaded entry for M20 x 1.5 cable gland - Degree of protection: Ip 65 - Operating Angle: 18 Alarm & Shutdown - Ubication: Internal/ External Use - Operating Temp.: -45oC ... +85oC - Relative humidity: 95% - ELECTRICAL: - Isolating Voltage: Ui = 400V - Isolating Voltage (impulsive): U imp = 4kV - Contact rating: DC 24V=8A; 48V=6A - Min. switching value: min voltage: 10V/ min current: 40mA - MECHANICAL: - Material: Rugged cast aluminium - Dimensions: 105 x 235 x 155 (HxWxD) - Weight: 4kg - Enclosure colour: RAL 1018 - Rod colour: RAL 3020 - Shock resistance: 50g -> 11 ms - Vibration resistance: 10g - 10 to 500 Hz - Type FLR-S - Can be installed with: DOUBLE - Optical features: 24x Bright LEDs, in a 6x4 configuration, allow three luminous effects: steady light, flashing light (a triple-flash strobe effect), rotating light (a rotating effect perfectly simulating the traditional rotating beacons yet without moving parts, hence enormously enhancing product life time) - Mechanical features: - Self-extinguishing PC body with high impact resistance, suitable for outdoor applications thanks to the IP66, UL TYPE 4X protection grade. - Type: HT DOUBLE - 120/240V AC	LIKA	1	pcs	
83	Pull Cord Switch	60-31G	- Type of output signal: Digital - Contact configuration: 2 NO + 2 NC - Cable entry: N 3 Threaded entry for M20 x 1.5 cable gland - Degree of protection: Ip 65 - Operating Angle: 18 Alarm & Shutdown - Ubication: Internal/ External Use - Operating Temp.: -45oC ... +85oC - Relative humidity: 95% - ELECTRICAL: - Isolating Voltage: Ui = 400V - Isolating Voltage (impulsive): U imp = 4kV - Contact rating: DC 24V=8A; 48V=6A - Min. switching value: min voltage: 10V/ min current: 40mA - MECHANICAL: - Material: Rugged cast aluminium - Dimensions: 105 x 235 x 155 (HxWxD) - Weight: 4kg - Enclosure colour: RAL 1018 - Rod colour: RAL 3020 - Shock resistance: 50g -> 11 ms - Vibration resistance: 10g - 10 to 500 Hz - Type FLR-S - Can be installed with: DOUBLE - Optical features: 24x Bright LEDs, in a 6x4 configuration, allow three luminous effects: steady light, flashing light (a triple-flash strobe effect), rotating light (a rotating effect perfectly simulating the traditional rotating beacons yet without moving parts, hence enormously enhancing product life time) - Mechanical features: - Self-extinguishing PC body with high impact resistance, suitable for outdoor applications thanks to the IP66, UL TYPE 4X protection grade. - Type: HT DOUBLE - 120/240V AC	ThermoRamsey	10	pcs	
84	Rotation Light	FLR-S + HT DOUBLE (90352 + 90512)	- Type FLR-S - Can be installed with: DOUBLE - Optical features: 24x Bright LEDs, in a 6x4 configuration, allow three luminous effects: steady light, flashing light (a triple-flash strobe effect), rotating light (a rotating effect perfectly simulating the traditional rotating beacons yet without moving parts, hence enormously enhancing product life time) - Mechanical features: - Self-extinguishing PC body with high impact resistance, suitable for outdoor applications thanks to the IP66, UL TYPE 4X protection grade. - Type: HT DOUBLE - 120/240V AC	SIRENA	5	pcs	

STT	Tên vật tư/mô tả	Ordering information (Part No)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
85	Limit Switch	ZCK1H29-ZCKE05 +ZCKY43	- Product or component type: Limit switch body - Product compatibility: XCKJ - Body material: Metal - Cable entry: 1 entry tapped for M20 x 1.5 cable gland - Number of poles: 2 - Contacts type and composition: 1 NC + 1 NO - Contact operation: Snap action - Number of steps: 1 1 position - Contacts material: Silver plated contacts - Electrical connection: Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Positive opening: With - Minimum actuation speed: 0.01 m/min - [I_{oe}] rated operational current: 3 A at 240 V, AC-15, A300 conforming to EN/IEC 60947-5-1 appendix A 0.27 A at 250 V, DC-13, Q300 conforming to EN/IEC 60947-5-1 appendix A - [I_{th}] conventional enclosed thermal current: 10 A - Width: 43 mm - Height: 84 mm - Depth: 36 mm - IP degree of protection: IP66 - Ambient air temperature for operation: 10...120 °C for high temperature - Ambient air temperature for storage: 10...120 °C - Environmental characteristic: High temperature - Range of product: OsSense XC - Series name: Standard format - Thread connection: NPTF - Product series: 651 - Revision letter: A - Product type: Filter/Regulator - Particulate - Elements: 5 µm (White) - Bowl type: Metal bowl with sight gauge (glass) - Port size: 1/4 (Series 651 or 652) - Gauge type: Round gauge bar/PSI - Options: Side Mounting Brackets - Pressure range: 0.5...16 bar (653 only) (2) - Drain type: Manual/Semi-automatic drain	TELEMECANIQUE	2	pcs	
86	Air Filter Regulator	8651APBL2Q101NN	- Fluid: Air - Proof pressure: 1.5MPa - Operating pressure range: 0.05 to 1.0MPa - Ambient and fluid temperature: -5 to 150°C (No freezing) - Number of needle rotations: 8turns - Body size: 3/8 NPT - Port size: 1/4 NPT - NO: 1119MA21493 - TPA: 00R1B8-101-000 - MSP:1110KC3-F18E2 - 3 - 400V P:A1 - -30/+70 oC IP68 - Contr: 24V DC - (Hoặe tương đương Auma AM 01.1 - Order no: 13448281)	AVENTICS	10	set	
87	Heat Resistant In-line Style Speed Controller	AS3000-N02-X221	- Proof pressure: 1.5MPa - Operating pressure range: 0.05 to 1.0MPa - Ambient and fluid temperature: -5 to 150°C (No freezing) - Number of needle rotations: 8turns - Body size: 3/8 NPT - Port size: 1/4 NPT - NO: 1119MA21493 - TPA: 00R1B8-101-000 - MSP:1110KC3-F18E2 - 3 - 400V P:A1 - -30/+70 oC IP68 - Contr: 24V DC - (Hoặe tương đương Auma AM 01.1 - Order no: 13448281)	SMC	10	set	
88	Actuator Control Board	AM 01.1 Order no: 13448281	- Type size: 1/4" - Orifice size: 6 - Flow coefficient Kv: 10 l/min - Standard voltages: 230V AC(1)50Hz	Auma	1	pcs	
89	Solenoid valve	Solenoid catalog No: EFHT8007/G1 Valve catalog No: VCEFCM/HTX8551G 409	- Type size: 1/4" - Orifice size: 6 - Flow coefficient Kv: 10 l/min - Standard voltages: 230V AC(1)50Hz	ASCO	10	set	

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90	Limit Switch	ZCP21 + ZCE01 + ZCY45	* Product or Component Type: Limit switch body - Body Material: Plastic - Number of poles: 2 - Contacts type and composition: INC + INO - Contact operation: Snap action - Width 1.22 in (31 mm) - Height 2.36 in (65 mm) - Depth 1.18 in (30 mm) * Product or Component Type: Limit switch head: - Movement of operating head: Rotary - Type of operator: Without operating lever spring return metal - Type of approach: Lateral approach, 2 directions * Product or component type: Limit switch lever - Movement of operating head: Rotary - Type of operator: Roller lever spring return thermoplastic (variable length) - Tracks: No track - Type of approach: Lateral approach	Telemecanique	2	pcs	
91	Open Brake Switch	XSS18B1PBL2	* Overview: Inductive proximity sensors XS, inductive sensor XSS M18, L39mm, brass, S15mm, 12...24 VDC, cable 2 m. - Series name: General purpose - Sensor type: Inductive proximity sensor - Sensor name: XSS - Sensor design: Cylindrical M18 - Size: 39 mm - Body type: Fixed - Detector acceptance flush mounting: Flush mountable - Material: Metal - Type of output signal: Discrete - Wiring technique: 3-wire - [Sn] nominal sensing distance: 5 mm - Discrete output function: 1 NC - Output circuit type: DC - Discrete output type: PNP - Electrical connection Cable - Cable length: 2 m - [Us] rated supply voltage: 12...24 V DC with reverse polarity protection - Switching capacity in mA: ≤ 200 mA DC with overload and short-circuit protection: - IP degree of protection: IP68 double insulation conforming to IEC 60529 - Thread type : M18 x 1 - Detection face: Frontal - Front material: PPS - Operating zone: 0 ... 4 mm - Cable composition: 3 x 0.34 mm² - Wire insulation material: PVC - Status LED Output state: 1 LED (yellow)	TELEMECANIQUE	1	pcs	
92	Limit switch	XCKJ10541H29	- Product or component type: Limit switch - Device short name: XCKJ - Body type: Fixed - Head type: Rotary head - Material: Metal - Body material: Zamak - Head material: Zamak - Type of operator: Spring return roller lever thermoplastic (variable length) - Type of approach: Lateral approach 1 or 2 programmable direction - Cable entry: 1 entry tapped for M20 x 1.5 cable gland, cable outer diameter: 7...13 mm - Contacts type and composition: 1 NO + 1 NC - Contacts operation: Snap action - Switch actuation By 30° cam - Electrical connection: Screw-clamp terminals, clamping capacity: 1 x 0.34...2 x 1.5 mm² - Contact code designation: AC-15 (Ue = 240 V, Ie = 3 A) conforming to EN/IEC 60947-5-1 appendix A - [Ui] rated insulation voltage: 300 V conforming to CSA C22-2 No 14 - [Uimp] rated impulse withstand voltage: 6 kV conforming to IEC 60664	TELEMECANIQUE	2	pcs	

STT	Tên vật tư/mô tả	Ordering information (Part No)	Thông số kỹ thuật	Nhà Sản xuất	Số lượng	Đơn vị	Ghi chú
			6 kV conforming to IEC 60947-1 - Width: 40 mm - Height: 77 mm - Depth: 44 mm - Vibration resistance 25 gn (f = 10...500 Hz) conforming to IEC 60068-2-6 - IP degree of protection IP66 conforming to IEC 60529 - IK degree of protection IK07 conforming to EN 50102 - Ambient air temperature for operation -25...70 °C				
93	Solenoid valve	WSETX8353D133.1 7081 Serial No.250119-086	- Power Supply: 24VDC - Pipe: 1" NPT - Protection: IP67 Hoặc tương đương ASCO WSETX8353D133.17081 Serial No.250119-086 - Coplanar pressure transmitter - Measurement type: Differential - Pressure range: -1000 to 1000 mH2O (-2.48 to 2.48 bar) - Transmitter output: 4-20 mA with digital signal based on HART® Protocol - Materials of construction: Transmitter flange type Coplanar - Isolating diaphragm: 316L SST - O-ring: Glass-filled PTFE - Sensor fill fluid: Silicone - Housing material: Description Aluminum, Conduit entry size ½-14 NPT - Seal assemblies: Assemble to two Rosemount seals - Product certifications: IECEx Flameproof - Display and interface options: LCD display - Transient protection: Transient protection terminal block - Mounting bracket: Coplanar flange bracket, all SST, 2-in. (51 mm) pipe and panel	ASCO	2	pcs	
94	Differential pressure Transmitter	3051CD3A22A1AS2 E7M5B4T1Q4	- Type: 23.8 inch IPS w/LED backlight - Panel Active Area (W*H): 52.7*29.64cm - Contrast Ratio (Typical): 1000:1 Static: 50000000:1 Dynamic - Pixel Pitch 0.2745*0.2745 - Color support: Upto 16.7 million colors with the use of PRC technology - Input connectors: DisplayPort 1.2, (1) HDMI, (1) VGA/ HDCP support on DisplayPort and HDMI - Power supply: Internal - Input power: 100-240 VAC 50Hz - Max. Power: 35W - Typical Power: 25W - Sleep power: 0.5W (standby)	EMERSON	2	pcs	
95	Monitor Module	EliteDisplay E240	- Type: 23.8 inch IPS w/LED backlight - Panel Active Area (W*H): 52.7*29.64cm - Contrast Ratio (Typical): 1000:1 Static: 50000000:1 Dynamic - Pixel Pitch 0.2745*0.2745 - Color support: Upto 16.7 million colors with the use of PRC technology - Input connectors: DisplayPort 1.2, (1) HDMI, (1) VGA/ HDCP support on DisplayPort and HDMI - Power supply: Internal - Input power: 100-240 VAC 50Hz - Max. Power: 35W - Typical Power: 25W - Sleep power: 0.5W (standby)	HP	1	pcs	
96	Annual Spares Kit	AW601155	- Bộ phụ kiện thay thế định kỳ hàng năm dùng trong máy phân tích Silica (phù hợp cho máy sản xuất sau T10/2010), bao gồm: con quay (04 cái), bộ lọc PTFE (1 gói), ống bơm như động(04 cái) - Xuất xứ: ABB/UK - (Tương đương Odercod AW601155 được sử dụng cho máy phân tích Silica ABB navigator 600)	ABB	3	set	
97	Tubing Kit	AW601176	- Bộ phụ kiện ống thay thế định kỳ dùng trong máy phân tích Silica, Chất liệu PTFE: Ống dẫn màu xanh da trời/xanh lá cây/xám/đen/nâu/cam/ tím/đỏ - Xuất xứ: ABB/UK - (Tương đương Odercod AW601176 được sử dụng cho máy phân tích Silica ABB navigator 600)	ABB	3	set	
98	Filter Assembly	AW600049	- Bộ lọc màu nâu vào dùng trong máy phân tích Silica - Chất liệu: Nhựa, trọng lượng: 0,013 kg - Xuất xứ: ABB/UK - (Tương đương Odercod AW600049 được sử dụng cho máy phân tích Silica ABB navigator 600)	ABB	3	set	
99	Pump Motor and Coupling	AW600047	- Bộ bơm hút và khớp nối dùng trong máy phân tích Silica - Bơm màu và hóa chất. Trọng lượng 1 kg - Xuất xứ: ABB/UK - (Tương đương Odercod AW600047 được sử dụng cho máy phân tích Silica ABB navigator 600)	ABB	1	set	
100	Calibration/clean/cuvette/sample Select Valve Including Manifold	AW600034	- Van điện tử dùng trong máy phân tích Silica, lựa chọn chức năng hiệu chuẩn vệ sinh/đo mẫu/lựa chọn mẫu đầu vào. Trọng lượng: 0,031 kg - Xuất xứ: ABB/UK - (Tương đương Odercod AW600034 được sử dụng cho máy phân tích Silica ABB navigator 600)	ABB	1	set	
101	Optical Unit (excluding secondary debubbler)	AW601110	- Cắm biến đo dùng trong thiết bị phân tích Silica, cảm biến quang có sẵn đầu kết nối, không bao gồm bộ lọc bóng khí - Xuất xứ: ABB/UK - (Tương đương Odercod AW601110 được sử dụng cho máy phân tích Silica ABB navigator 600)	ABB	1	set	
102	Reaction Coil, Manifold & Cover	AW601181	- Cuộn dây phản ứng dùng trong thiết bị phân tích Silica, chất liệu: Nhựa/PTFE, bao gồm ống dẫn màu tích hợp bên trong. Trọng lượng: 0,615 kg - Xuất xứ: ABB/UK - (Tương đương Odercod AW601181 được sử dụng cho máy phân tích Silica ABB navigator 600)	ABB	1	set	

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103	Secondary Debbubler Assembly	AW601715	Bộ tách khí lần 2, Chất liệu: Nhựa Xuất xứ: ABB/UK - (Tuong đương Odercod AW601715 được sử dụng cho máy phân tích Silica ABB navigator 600)	ABB	1	set	
104	Tubing Kit	AW501 075	Bộ ống thay thế định kỳ dùng trong máy phân tích Natri. Chất liệu: Nhựa - (Tuong đương Odercod AW501 075 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	3	set	
105	O-ring Pack (40ft) – Pt1000 and Electrodes	AW501 060	Bộ vòng đệm dùng trong máy phân tích Natri. Số lượng: 04 vòng/gói, chất liệu: Cao su - (Tuong đương Odercod AW501 060 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	2	set	
106	ASO550 Sodium Electrode	AW501 030	Điện cực cảm biến Natri - (Tuong đương Odercod AW501 030 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	1	pcs	
107	ASO550 Reference Electrode for non Reservoir Fed Systems	AW501 035	Điện cực tham chiếu cảm biến Natri - (Tuong đương Odercod AW501 035 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	1	pcs	
108	Sodium Wet-Section PCB	AW501036	ASO550 reference electrode for reservoir-fed systems - (Tuong đương Odercod AW501036 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	2	set	
109	Entrainment Piece Assembly	AW501 065	Bộ đầu vào mẫu và chất phản ứng. Chất liệu: Nhựa - (Tuong đương Odercod AW501 065 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	2	set	
110	Reagent Solution Bottle Kit Assembly ~ includes hazard labels for Ammonia Solution and Separate hazard label for Di isopropylamine (DIPA) Solution	AW501 071	Bình đựng chất phản ứng NH3. Chất liệu: Nhựa - (Tuong đương Odercod AW501 071 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	2	set	
111	AWT Main Board Spares Kit	AW501 077	Van điện tử, đóng/mở đường mẫu chuẩn. Điện áp hoạt động: 24VDC - (Tuong đương Odercod AW501071) được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	4	set	
112	Calibration Solution Bottle Kit Assembly	AW501 070	Bình đựng chất chuẩn. Chất liệu: Nhựa - (Tuong đương Odercod AW501 070 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	2	set	
113	Solenoid Valve – Multi-Stream Cal / Stream Switch	AW501 053	Van điện tử, đóng/mở đường mẫu chuẩn. Điện áp hoạt động: 24VDC - (Tuong đương Odercod AW501 053 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	4	set	
114	Multi-stream Manifold Assembly	AW501 055	Bộ chia - (Tuong đương Odercod AW501 055 được sử dụng cho máy phân tích Sodium natri ABB navigator 500)	ABB	2	set	
115	STANDARD TRIP ELECTRIC-RESET LOCK OUT RELAY	7828HF	Coil specification: Trip coil (Coil H): Nominal voltage 250 VDC. Configuration : Sid. Trip LOR/ER No. of Decks:8 Operating range 180-280 VDC/Threshold (Min): 140 VDC/ Coil resistance: 104 Ohm/ Coil burden (250 VDC): 2.4 AMP. Reset coil: Nominal voltage 250 VDC/ Operating range 200-275 VDC/ Threshold (Min): N/A/ Coil resistance: 80.6 Ohm/ Coil burden (250 VDC): 3.1 AMP.	ELECTROSWITCH	3	pcs	

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116	Monitor module	LED- BV2455-BK	Cabinet Color: Black Panel Type: IPS Backlight: LED Size: 24.1" / 61 cm (61.1 mm diagonal) Native Resolution: 1920 x 1200 (16:10 aspect ratio) Viewable Image Size (H x V): 518.4 x 324.0 mm Pixel Pitch: 0.270 x 0.270 mm Display Colors: 16.77 million Viewing Angles (H / V, typical): 178°, 178° Brightness (typical) : 300 cd/m2 Contrast Ratio (typical) 1000:01:00 Video Signals Input Terminals: D-Sub mini 15 pin x 1, DVI-D 24 pin x 1 (with HDCP), HDMI x 1 (with HDCP), DisplayPort x1 (with HDCP) Digital Scanning Frequency (H / V): DVI: 31 - 76 kHz, 59 - 61 Hz, DisplayPort: 31 - 76 kHz, 59 - 61 Hz, HDMI: 15 - 76 kHz, 49 - 61 Hz Analog Scanning Frequency (H / V): 31 - 81 kHz, 55 - 76 Hz Power Power Requirements: AC 100 - 120 V / 200 - 240 V, 50 / 60 Hz Maximum Power Consumption: 49 W Typical Power Consumption: 13 W Power Save Mode Less than 0.3 W	Eizo	2	pcs	
117	LAN SWITCH	AT-GS910/24	Dimension: Width: 341mm Depth: 210mm Height: 44mm Operating Temperature: 0-50°C Weight: 2.1Kg Switching Capacity: 480Gbps Throughput: 35.7Mpps Mac Address: Max 8K Power Current 0.4A Max power consumption: 17W Number of port: 24 Interface port connection: 10/100/1000T RJ45 Rate voltage: 100-240VAC Frequency: 50-60Hz	ALLIED TELESIS	1	pcs	
118	Media Converter Rack Power Supply Unit	AT-MMCR-PWR-AC-60	- General - Device Type: Power supply - internal - Localisation: Australia, North America, United Kingdom, Europe - Miscellaneous - Included Accessories: Power cable - Cables Included: 4 x power cable - Compatibility Information - Designed For/P/N: AT-MMCR18-00, AT-MMCR18-60 - Model: AT-MMCR-PWR-AC-60 - MPN: AT-MMCR-PWR-AC-60	ALLIED TELESIS	1	pcs	
119	Transceivers	AT-SPLX10	Form Factor: SFP TX Wavelength: 1310nm Reach: 10km Cable Type: SMF Rate Category: 1000Base Interface Type: LX Connector Type: LC • Operating temperature range: a. Standard 0 to +70 °C	ALLIED TELESIS	6	pcs	
120	FIBER OPTIC CONVERTER module	AT-MMC2000/SP	10/100/1000T to 1000X/SFP Gigabit mini media converter Physical Specifications: - Dimensions (W x D x H): 5.6 cm x 10.16 cm x 2.18 cm - Weight: 6 oz Power consumption: 140mA@12V typical Power supply: 12VDC Operating temperature: 0°C to 50°C (32°F to 122°F) Safety: UL 60950-1, EN60950-1	ALLIED TELESIS	6	pcs	

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121	Relay	MKS2XTN-11	Relay Type: General Purpose Coil Current: 63.2 mA Coil: 24VDC Coil resistance: 380Ω Must operate voltage (V): 80% max. Must release voltage (V): 15% min. Maximum voltage allowable (V): 110% Power consumption (VA, W): Approx. 1.5 W Contact Ratings for Models for DC Loads Contact configuration: NO :Double-break NC : Single-break Contact Material: Silver Tin Indium (AgSnIn) Rated load : NO : 5 A, 220 VDC NC : 2 A, 220 VDC Max. switching voltage NO: 220 VDC NC: 220 VDC Characteristics Operate Time: 30 ms Release Time: 20 ms Operating Temperature: -25°C ~ 60°C Contact: 220VDC 5A(NO), 2A (NC) Series: MKS-X Coil ratings: 24 to 240 VAC	OMRON	6	pcs	
122	Media Converter Rack	AT-MMCR18	- Dimensions: W x H x D 439 mm x 86mm x 239 mm (17.3 in x 3.4 in x 9.4 in) - Operating Temperature: 0° C to 50° C (32° F to 122° F) - Storage Temperature: -15° C to 65° C (-5° F to 149° F) - Operating Humidity: 5% to 90% non-condensing - Storage Humidity: 5% to 95% non-condensing - Operating Altitude: Up to 3,048 meters (10,000 feet) - AC Power Power Rating: 100-240 VAC, 50/60 Hz, 2.0A DC Power Input Current: 40-60 VDC (1.5A) - Relay Contact Ratings (Alarm Out Connector on the Fan Unit) AC Rating: 30Vrms, 0.5A DC Rating: 30VDC, 1A	ALLIED TELESIS	1	pcs	
123	Media Converter Rack Power Supply Unit	AT-MMCR-PWR-AC	Power Supply Unit for AT-MMCR18 Media Converter Rack-mount Chassis Electrical Ratings AC Power Power Rating: 100-240 VAC, 50/60 Hz, 2.0A Sử dụng được cho nhà máy Nhiệt điện Sông Hậu 11	ALLIED TELESIS	1	pcs	
124	Power Supply Module	VM-751B1	INPUT Rated voltage : VM-751B (AC) : 100-240VAC/50-60HZ Rated power : VM-751B (AC) : 206VA / 100VAC *2 196VA / 240VAC *2 Full Installation(VM-741Bx1, VM-742Bx2, VM-701Bx11) Voltage range : VM-751B (AC) : 85-264VAC OUTPUT Power output : Output to each module via mother board Rated Voltage : 26V (Primary)_x005f_ 24V (Secondary) Rated Power : 180W Indicators : POWER-OK LED (Green) When module is normal : ON Contact output : Output in normal output state Output points : 1point Contact type : Dry CONTACT (SPDT) Contact capacity : 250VAC/5A 30VDC/5A ENVIRONMENTAL CONDITION Operating temperature : 0 to +65°C Storage temperature : -30 to +85°C Relative humidity : 20 to 95%RH (noncondensing) INSULATION RESISTANCE Between power supply and contact :100M_ x0002_ at 500VDC	Shinkawa	1	pcs	

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			THÔNG TIN SẢN PHẨM Between power supply and GND : 2000VAC one minute Between contact and GND : 500VAC one minute MATERIAL AND FINISH Face plate : ABS/ Black Sheet : Polyester tough top (Gray) Base plate : Aluminium alloy (Silver) MASS Body : Max. 1.5kg (3.3lb) INPUT (VIBRATION/DISPLACEMENT) Input points : 4point Input impedance : Approx. 50k$\square$ (Current signal input: Approx. 250$\square$) INPUT TRANSDUCER (VIBRATION/DISPLACEMENT) Displacement vibration input : FK-452F, FK-202F, VK-202A, VK-452A, VK-202P, VK-302P, VC-020 Velocity vibration input : CV-88, CV-87, CV-86 Acceleration vibration input : CA-302, CA-72 Displacement input : FK-452F, FK-202F, VK-202A, VK-452A, VK-302P, VK-602P, VK-143P, VK-263P, VC-253 Other input : VM-21P Voltage signal (Input range:-10V to +10V) Current signal (Input range:4mA to 20mA) OUTPUT Indicators : OK LED (Green) When channel is normal : ON, When alarming : Flashing TRG LED (Yellow) When rotational pulse is not detected : ON When rotational pulse is detected : Flashing Monitor output : Input signal is output via buffer amplifier. Location : BNC (Front) and connector (Back) Output impedance : Approx. 100$\square$ (Max.5mA) Transducer power supply : Proximity transducer : -24VDC$\pm$10% / 25mA Max. Piezoelectric transducer : +24VDC$\pm$10% / 4mA (constant current) Alarm contact : Number of relay : 6 points (logic changeable) Contact type : Dry contact Contact capacity : 250VAC/5A, 30VDC/5A Output to analysis software Dynamic data : Synchronous waveform, Asynchronous waveform Static data : Amplitude (0.5X, 1X, 2X, nX (n=0.01 to 8.00), Not-1X, SQ-p) max) Phase (0.5X, 1X, 2X, nX (n=0.01 to 8.00)) Rotation speed Refer to the specification sheet of VM-773B infSYS ANALYSIS VIEW. Note) *2$\square$ At calibrate frequency.	Shinkawa	2	pcs	
125	Vibration/Displacement Monitor Module	VM-701B/PM0/ALY					

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126	Local Display Unit	DPC-150LT-ST	1 CPU Intel® Core i3-2330M Processor(3M Cache, 2.20 GHz) 2 Chipset INTEL® QM77 Chipset 3 Memory DDR3 2GB (SO-DIMM) 4 HDD 500GB (2.5" HDD/SATA/5400rpm/16m) 5 ODD Slim DVD-Multi/SATA 6 Power Supply Unit ST-220FUB(220W ATX) 7 I/O 2*USB 2.0/1.1 port 2*USB 3.0 port 2*RJ-45 port 1*HDMI port 4*COM port (COM4 for RS232/422/485) 1*DP port 1*VGA port 3*Audio Phone Jack 8 Basic input output system AMI EFI 64MB SMT Flash Rom 9 Audio Realtek ALC662 6-Channel HD Audio Codec 10 LAN Intel 82579LM & 82574L PCI-E Gigabit Ethernet LAN 11 Touch-screen 15" 5 wires Analog resistive USB 12 LCD 15" LCD / Resol:1024 x 768 13 Chassis All-Steel 14 Dimensions 482 (W) x 285.1(H) x 112(D) 15 MODEL/ MAKER DPC-150LT-ST / MAXAN NEWTECH	Maxannewtech	1	pcs	
127	Signal Splitter/Repeater	DN21000S	Input signal 0 ... 20 mA 0 ... 10 V 0 ... 5 V (calibrated switchable) 4 ... 20 mA 2 ... 10 V 1 ... 5 V Input resistance Current input Voltage input ≤ 35 Ω ≥ 100 kΩ Overload Current input Voltage input < 50 mA < 30 V Transmitter supply Tx (switchable) 16 V (open circuit voltage/short circuit current ≤ 22 V/35 mA) Output I / Output II Output signal 0 ... 20 mA 0 ... 10 V 0 ... 5 V (calibrated switchable) 4 ... 20 mA 2 ... 10 V 1 ... 5 V Load Current output: ≤ 6 V (300 Ω at 20 mA) Voltage output: ≤ 5 mA (2 kΩ at 10 V) Linear transmission range -1 ... +110 % Residual ripple < 10 mVrms General Data Transmission error < 0.1 % full scale Temperature coefficient1) < 100 ppm/K Cut-off frequency -3 dB 5 kHz Response time T99 150 μs Test voltage 3 kV AC, 50 Hz, 1 min. Input against Output 1 against Output 2 against power supply Working voltage2) (Basic Insulation) 600 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010-1 Protection against electrical shock Protective separation according to EN 61140 by reinforced insulation in accordance with EN 61010-1 up to 300 V AC/DC for overvoltage category II and pollution degree 2 between all circuits Ambient temperature Operation Transport and storage - 25 °C to + 70 °C - 40 °C to + 85 °C (- 13 to + 158 °F) (- 40 to + 185 °F) Power supply 24 V DC voltage range 16.8 ... 31.2 V DC, approx. 1.4 W EMC3) EN 61326-1 Approvals ATEX DEMKO 16 ATEX 1685X II 3 G Ex nA IIC T4 Gc IECEx IECEx UL 16.0055X Ex nA IIC T4 Gc UL E478692 USA/Canada Class 1, Division 2 Groups A, B, C, D T4 Construction 6.2 mm (0.244") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715	Draco	2	pcs	

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128	8AI/8DI/4DO/4-Slot Expansion Wireless Intelligent RTU	ADAM-3600- C2GL1A1E	CPU: Cortex-A8 AM3352 Memory: RAM 256MB Battery Backup RAM 32KB OS: RT-Linux V3.12 MicroSD card 11GB included for system Storage: SD card slot/Optional Programming: IEC-61131-3, Linux C Communication: Modbus/TCP, DNP3 L2, TCP/IP, DHCP, IEC104 1 x RS232/485 - DB9 2 x RS485 - Terminal Block 2 x RJ-45 10/100 Mbps 1 x USB 2.0 1 x D-SUB15 System LEDs/10 LEDs Certification: CE/FCC Operating temp.: -40~70°C Storage temp.: -40~85°C Humidity: 5~95%(no-condensation) Mounting: DIN 35 rail/Wall Mount Includes: - Analog Input module ADAM-3617 (03 pcs) - Digital Input Module ADAM-3651 (01 pcs)	ADVANTECH	1	set	
129	Boiler Tube Leak Detection - Cable	HTC - 10M	- AE Sensor → Pre-Amplifier - Standard : RG316/U-FEP - Temperature Range : -55 to 200°C - Impedance : 50Ω - Capacitance : 95pF/m - Length : Max. 10m - Connector sensor: Microdot - Connector preamplifier: BNC - Frequency: 0.1 ~ 35kHz - Input Impedance: 100MΩ - Operation Voltage: +12VDC - Operation Temperature 0~93 DegreesC - Connection: BNC Type - Case Material: Aluminium - Operating Temp : -10 to 80 °C - Amplification : 10 times fixed type - Output Range : -700mVp ~ 700mVp	ORBIS	4	pcs	
130	Boiler Tube Leak Detection - Preamplifier	BTPR-18		ORBIS	5	set	