

A		B		C		D		E		F		G		H		
1																1
2																2
3																3
4																4
5																5
6																6

BẢN VẼ THIẾT KẾ ĐIỆN

PROJECT No: VAS19-02COO25
Customer: Công ty CP chế tạo Bơm Hải Dương
Name Panel: Trạm Bơm Văn Sơn + Châu Xuyên Bắc Giang
Quantity:

Designer: Trần Duy Định
Checker: Đặng Vũ Trung

A		B		C		D		E		F		G		H	
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															
30															
31															
32															
33															
34															
35															
36															
37															
38															
39															
40															
41															
42															
43															
44															
45															
46															
47															
48															
49															
50															
51															
52															
53															
54															
55															
56															
57															
58															
59															
60															
61															
62															
63															
64															
65															
66															
67															
68															
69															
70															
71															
72															
73															
74															
75															
76															
77															
78															
79															
80															
81															
82															
83															
84															
85															
86															
87															
88															
89															
90															
91															
92															
93															
94															
95															
96															
97															
98															
99															
100															

A		B		C		D		E		F		G		H	
DRAWING LIST															
1															
2															
3															
4															
5															
6															
REV. DATE CONTENTS DGN'D BY CHK'D BY APP'D BY															
3															
2															
1															
0															
REV. DATE CONTENTS DGN'D BY CHK'D BY APP'D BY															
VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD															
OFFICE: 6 Floor Nam Hai Building Vinh Hung Zone, Hong Van Thu, Hong Hai, Ha Noi															
Tel: (+84-4) 62843557 Fax: (+84-4) 62843557															
Email: vascos@vasco-electric.com.vn															
Website: http://www.vasco-electric.com.vn															
PROJECT CUS. CÔNG TY CP CHẾ TẠO BOM HẢI DƯƠNG															
TRÀM BOM VẬN SƠN VÀ CHẤU XUYỀN BẮC GIANG															
JOB No. LIST DRAWING															
VAS19-02C0025															
SHEET NO. A01															
REV. 0															
NO. DRAWING NO. REV. NO. DESCRIPTION NO. DRAWING NO. REV. NO. DESCRIPTION															
1 A00 0 COVER DRAWING 28 29 0															
2 A01 0 LIST DRAWING 29 30 0															
3 A02 0 SYMBOL LEGENDS 1/4 30 31 0															
4 A03 0 SYMBOL LEGENDS 2/4 31 32 0															
5 A04 0 SYMBOL LEGENDS 3/4 32 33 0															
6 A05 0 SYMBOL LEGENDS 4/4 33 34 0															
7 C00-C05 0 MAIN LINE ONE DIAGRAM 34 35 0															
8 D00-D05 0 MAIN LINE THREE DIAGRAM 35 36 0															
9 E00 0 CONTROL DIAGRAM 36 37 0															
10 0 37 38 0															
11 0 38 39 0															
12 0 39 40 0															
13 0 40 41 0															
14 0 41 42 0															
15 0 42 43 0															
16 0 43 44 0															
17 0 44 45 0															
18 0 45 46 0															
19 0 46 47 0															
20 0 47 48 0															
21 0 48 49 0															
22 0 49 50 0															
23 0 50 51 0															
24 0 51 52 0															
25 0 52 53 0															
26 0 53 54 0															
27 0 54 0															
6															

SYMBOL LEGENDS

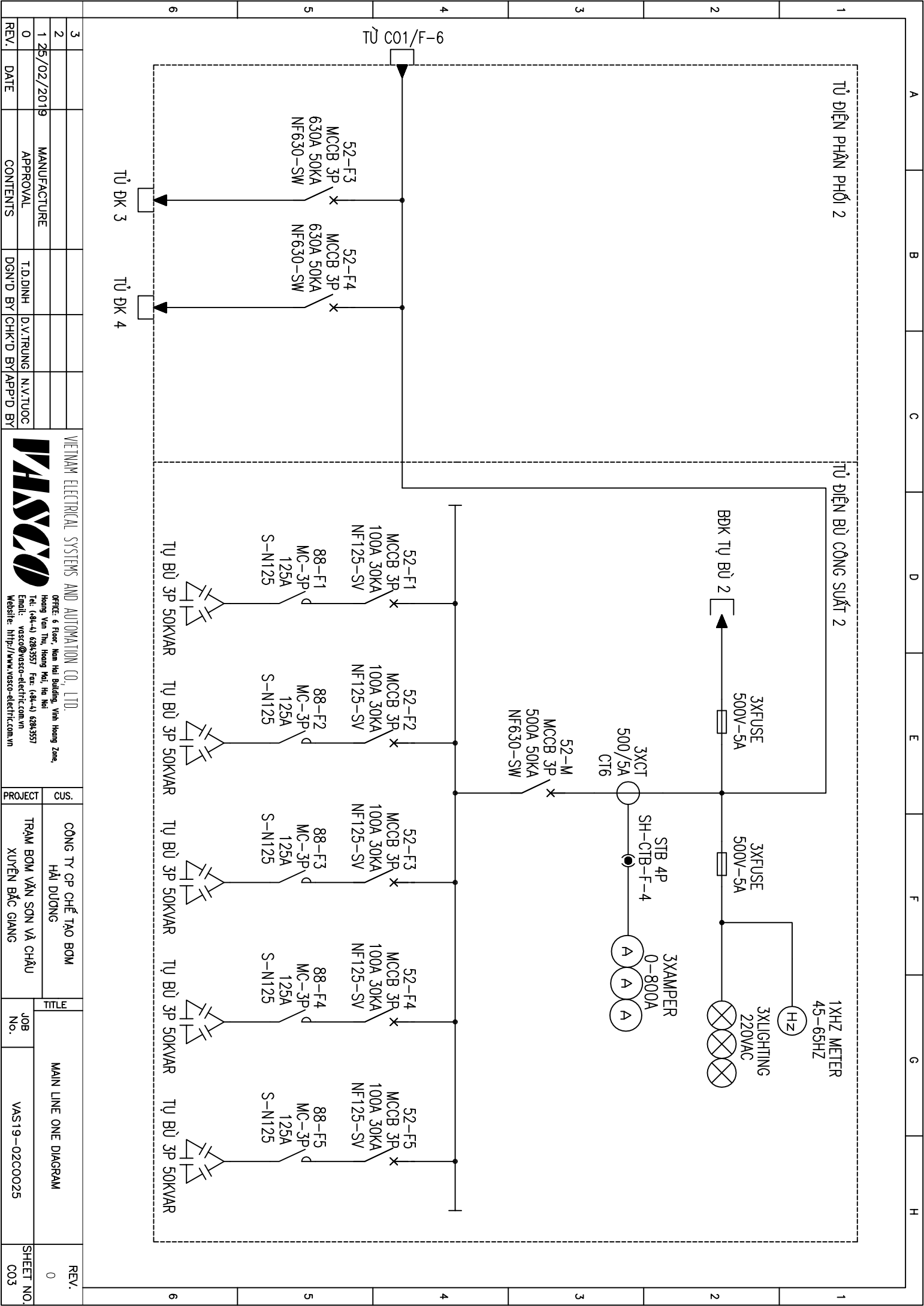
PAGE : 2/4

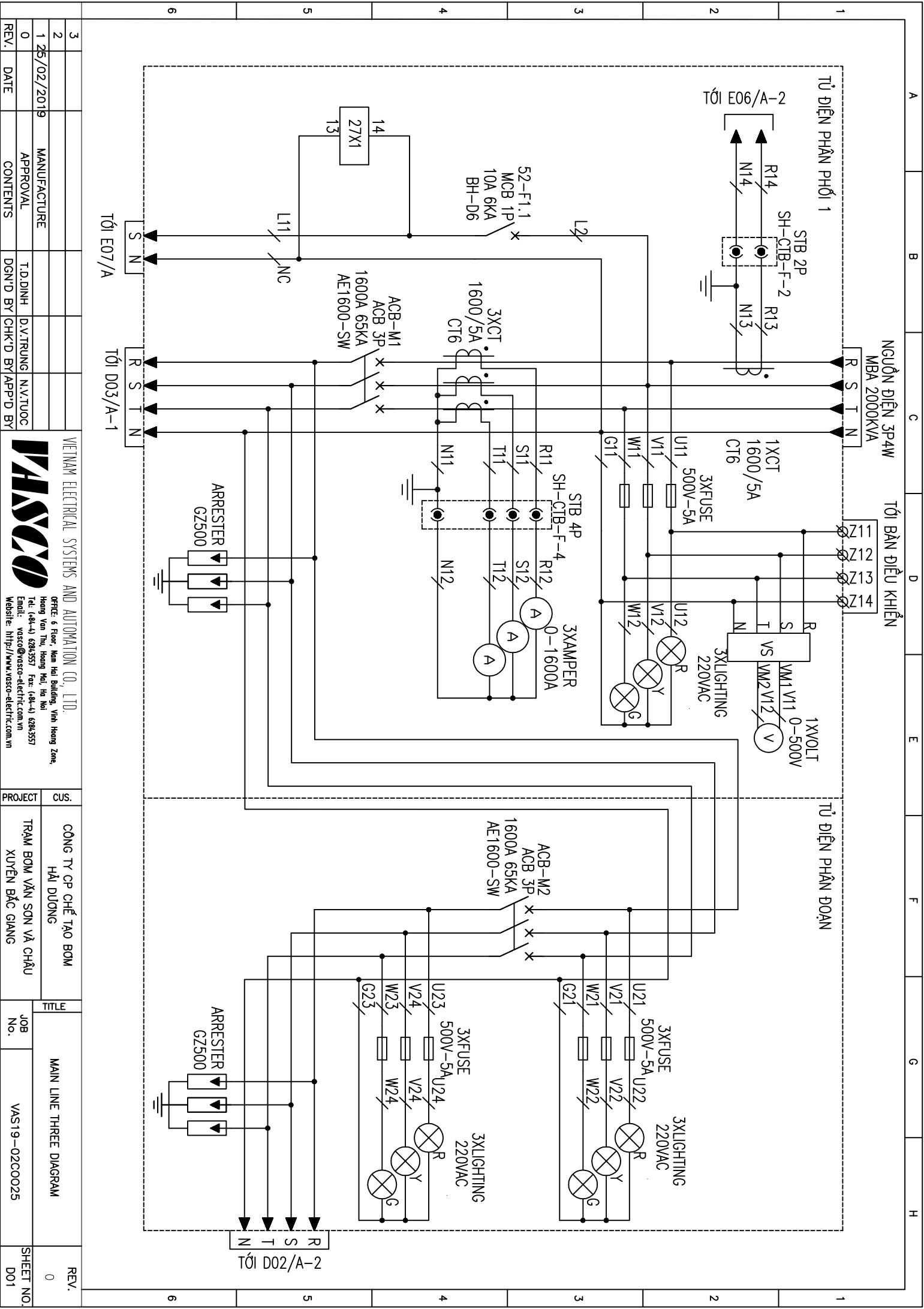
1	DM- SION	NO.	SYMBOL	DESCRIPTION
2	1	50	SHORT CIRCUIT RELAY	
	2	51	OVER CURRENT RELAY	
	3	50G	SHORT CIRCUIT OVER CURRENT GROUND RELAY	
	4	51G	OVER CURRENENT GROUND RELAY	
	5	MPR	MOTOR PROTECTION RELAY	
	6	49	THERMAL OR TEMPERATURE RELAY	
	7	87T	DIFFERENTIAL RELAY	
	8	25	SYNCHRONIZING OR SYNCHRONISM CHECK DEVICE	
	9	27	UNDER VOLTAGE RELAY	
	10	59	OVER VOLTAGE RELAY	
	11	64	OVER VOLTAGE GROUND RELAY	
	12	67G	DIRECTIONAL GROUND RELAY	
3	DM- SION	NO.	SYMBOL	DESCRIPTION
4	13	21/21G W/F/L W/DEF	DISTANCE PROTECTION RELAY WITH WITH FAULT LOCATOR WITH DERECTION EARTH FAULT	
	14	79	AUTO RECLOSING RELAY	
	15	95B	BUS BAR SUPERVISION RELAY	
	16	67/ 67G	DIRECTIONAL OVER CURRENT AND DIRECTIONAL E/F RELAY	
	17	74	TRIP CIRCUIT SUPERVISION RELAY	
	18	86	MASTER TRIPPING RELAY	
	19	86B	BUS BAR PROTECTION RELAY	
	20	AVR	AUTOMATIC VOLTAGE REGULATOR	
	21			
	22			
	23			
	5	DM- SION	NO.	SYMBOL
6	B. PROTECTION RELAY			
	24			
	25			
	26			
	27			
	28			
	29			
	30			
	31			
	32			
	33			
	34			

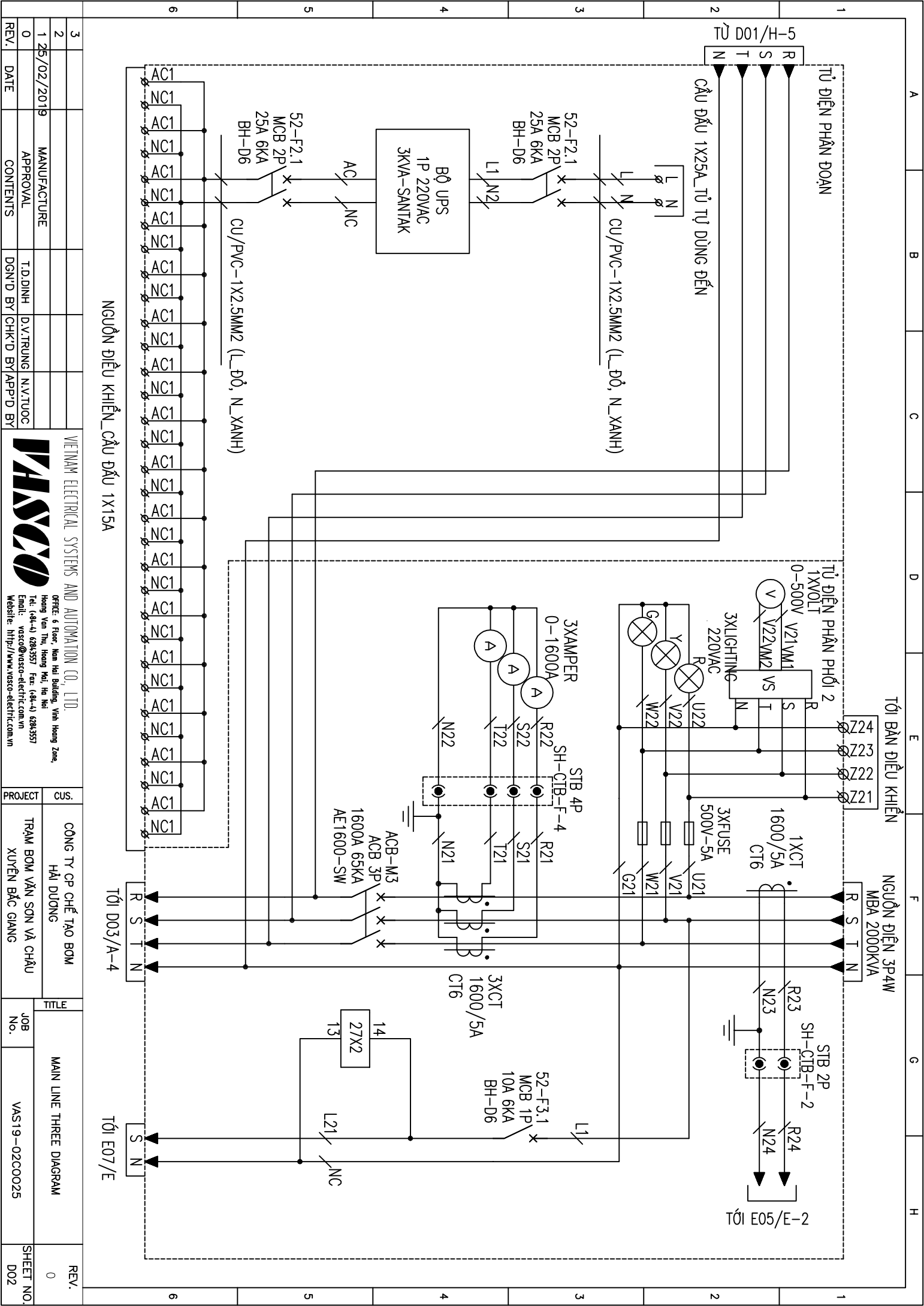
SYMBOL LEGENDS

PAGE : 4/4

DM- SION	NO.	SYMBOL	DESCRIPTION
C. INSTRUMENT METER	1		VOLTAGE METER
	2		AMPERE METER
	3		WATT METER
	4		WATT HOUR METER
	5		POWER FACTOR METER
	6		VAR METER
	7		BOTH DIRECTION VAR METER
	8		VAR HOUR METER
	9		ZERO PHASE VOLTAGE METER
	10		FREQUENCY METER
	11		EXTERNAL TERMINAL
	12		TERMINAL
DM- SION	NO.	SYMBOL	DESCRIPTION
D. CONTROL AND AUX. DEVICE	13		THERMOSTAT
	14		SPACE HEATER
	15		BUZZER
	16		BELL
	17		TEST TERMINAL FOR PROTECTION RELAY (MMLG 01)
	18		DIODE
	19		SIGNAL LAMP
	20		PUSH BUTTON
	21		ON-DELAY
	22		OFF-DELAY
	23		FLICKER RY ON-OFF DELAY
	24		AUX.-RELAY







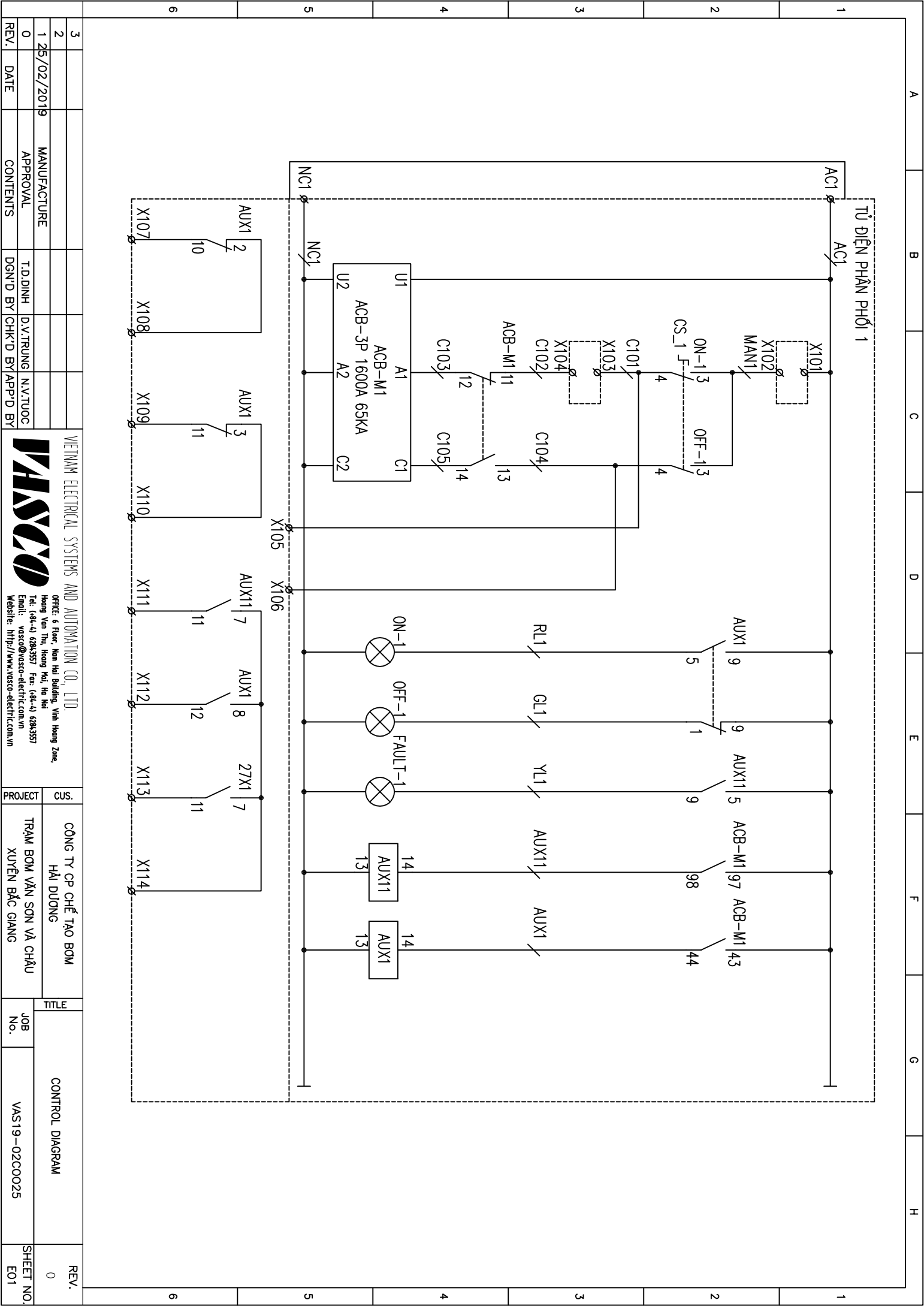
REV.	DATE	CONTENTS	PROJECT	CUS.	COMPANY	TITLE	JOB	SHEET
0	25/02/2019	MANUFACTURE	T.D.DINH	D.V.TRUNG	N.V.TUOC	TRAM BOM VAN SON VA CHAU	VAS19-02C0025	0
1	25/02/2019	MANUFACTURE	T.D.DINH	D.V.TRUNG	N.V.TUOC	TRAM BOM VAN SON VA CHAU	VAS19-02C0025	0
2	25/02/2019	MANUFACTURE	T.D.DINH	D.V.TRUNG	N.V.TUOC	TRAM BOM VAN SON VA CHAU	VAS19-02C0025	0
3	25/02/2019	MANUFACTURE	T.D.DINH	D.V.TRUNG	N.V.TUOC	TRAM BOM VAN SON VA CHAU	VAS19-02C0025	0

VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD.

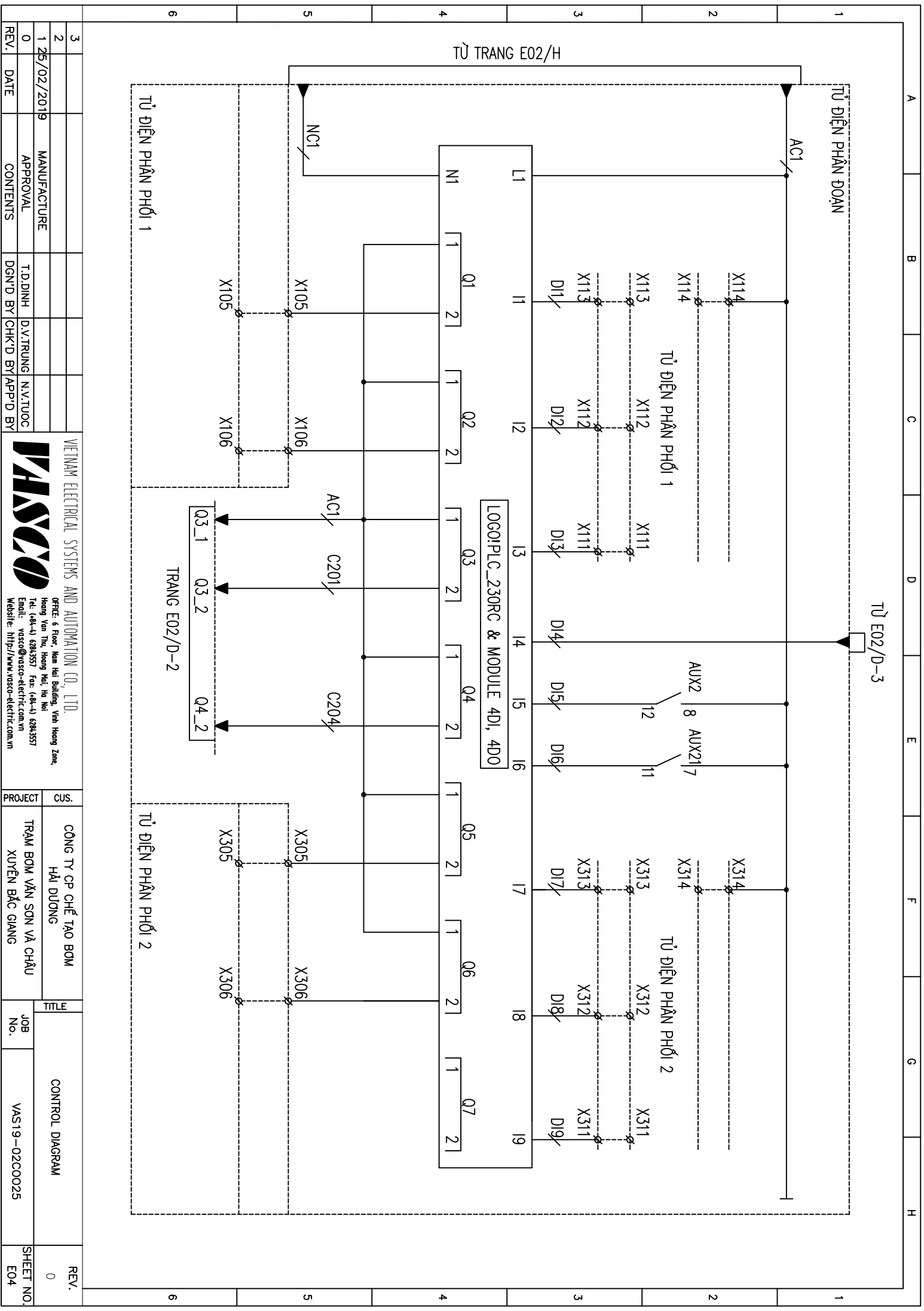
OFFICE: 6 Floor Nam Hai Building, Vinh Hung Zone,
Hoang Van Thu, Hoang Mai, Ha Noi
Tel: (+84-4) 62843557 Trac: (+84-4) 62843557
Email: vascosco@vasco-electric.com.vn
Website: http://www.vasco-electric.com.vn

VASCO

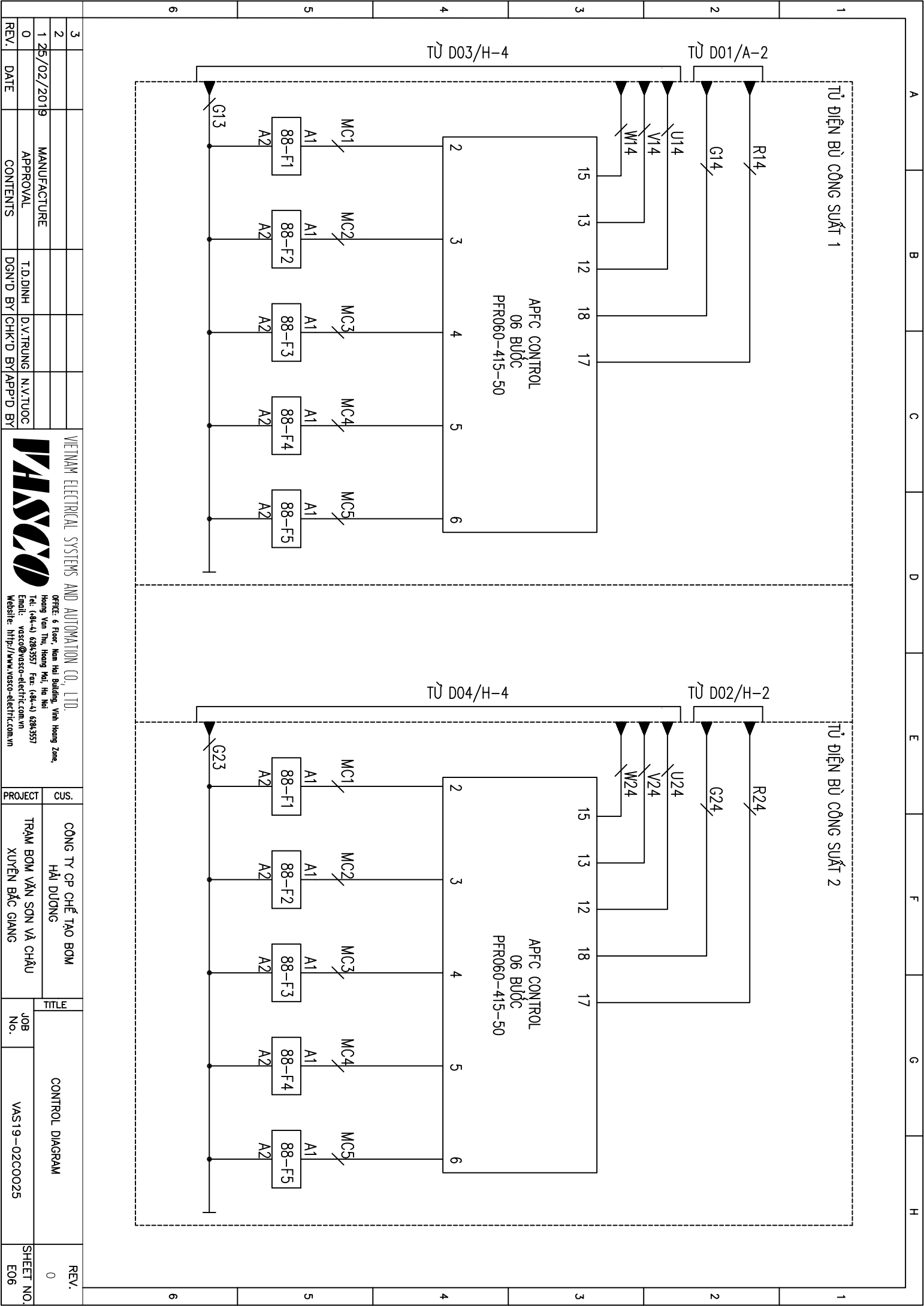
REV.	SHEET	JOB	COMPANY	PROJECT
0	0	VAS19-02C0025	TRAM BOM VAN SON VA CHAU	XUYEN BAC GIANG

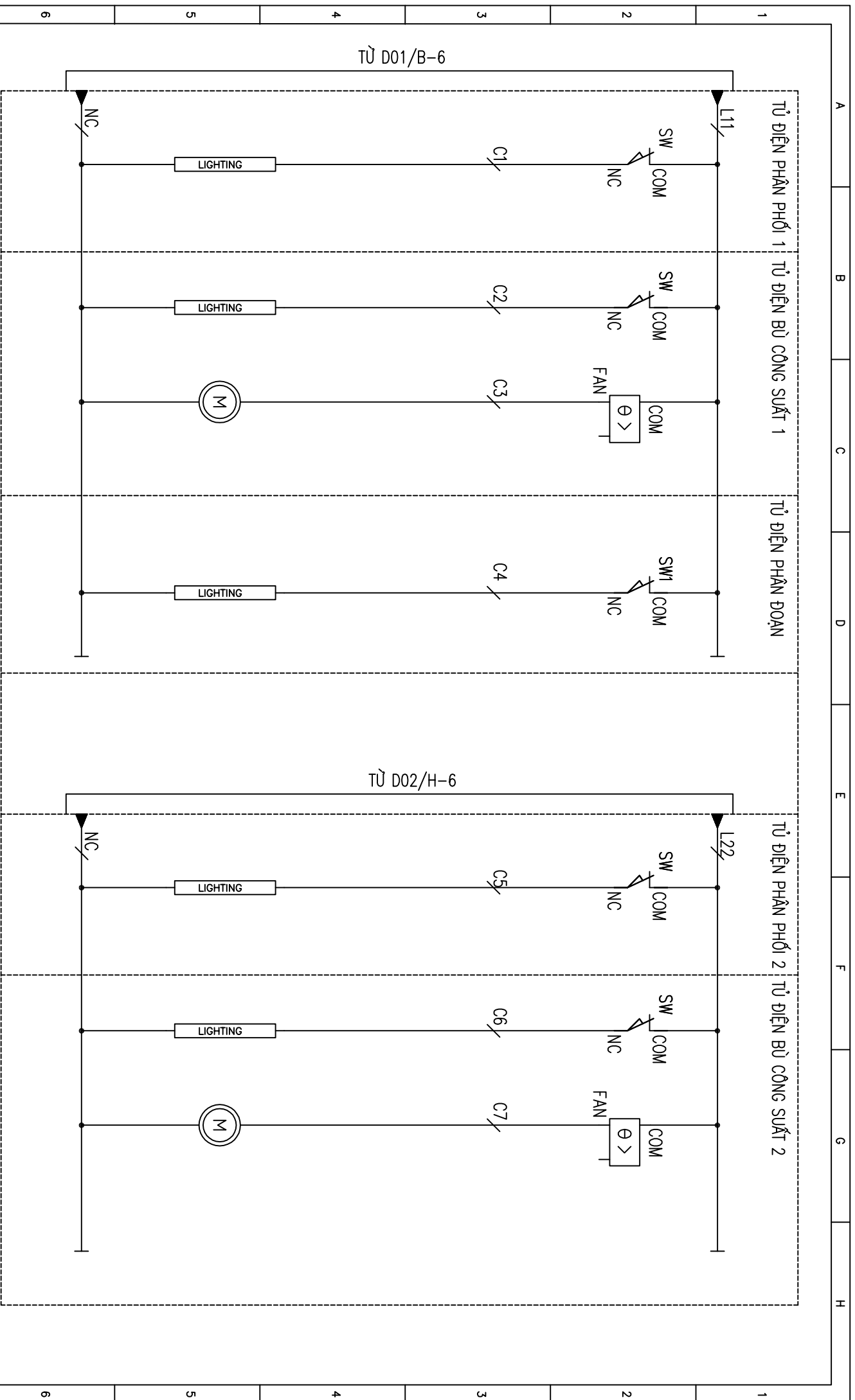


[illegible]

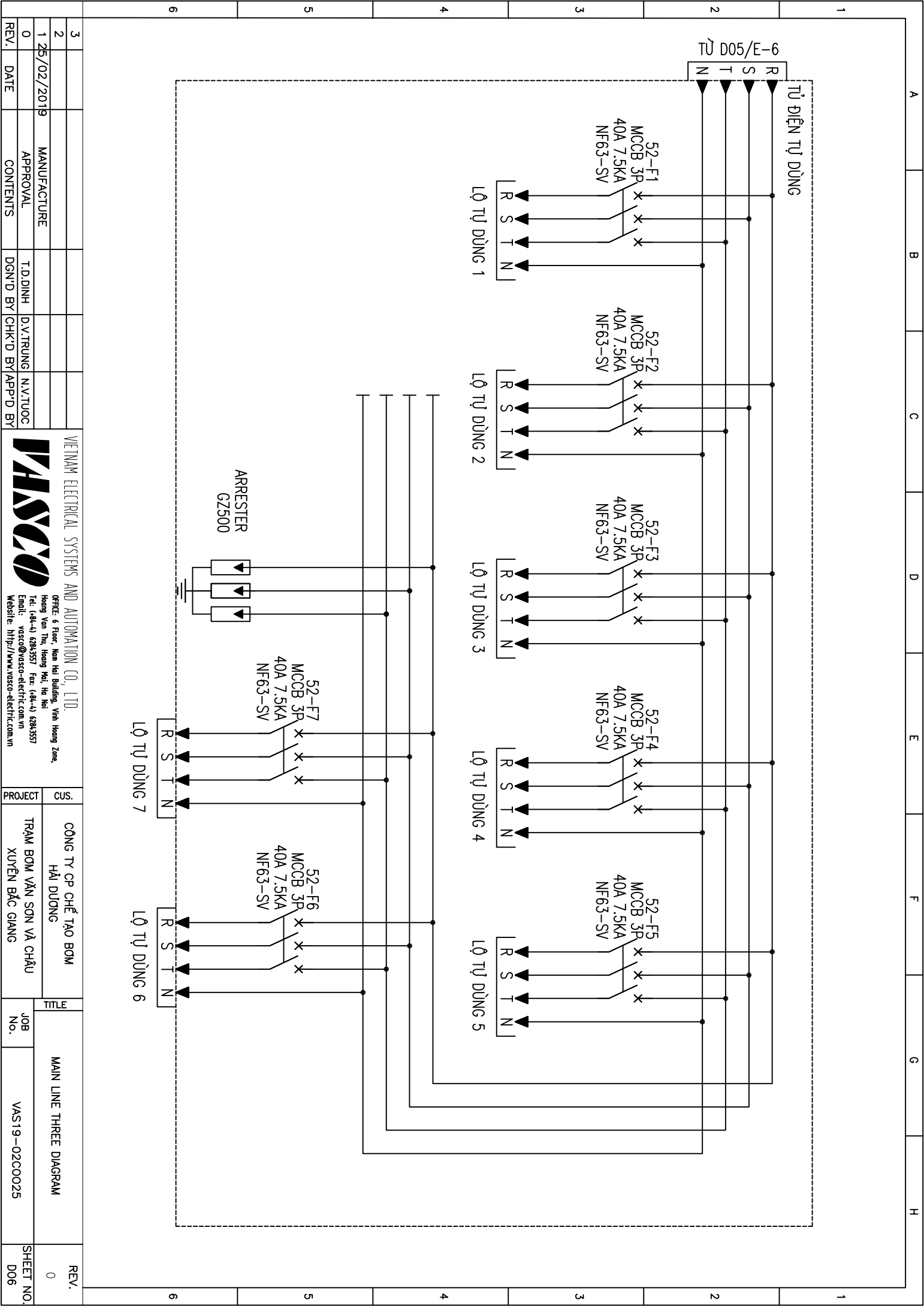


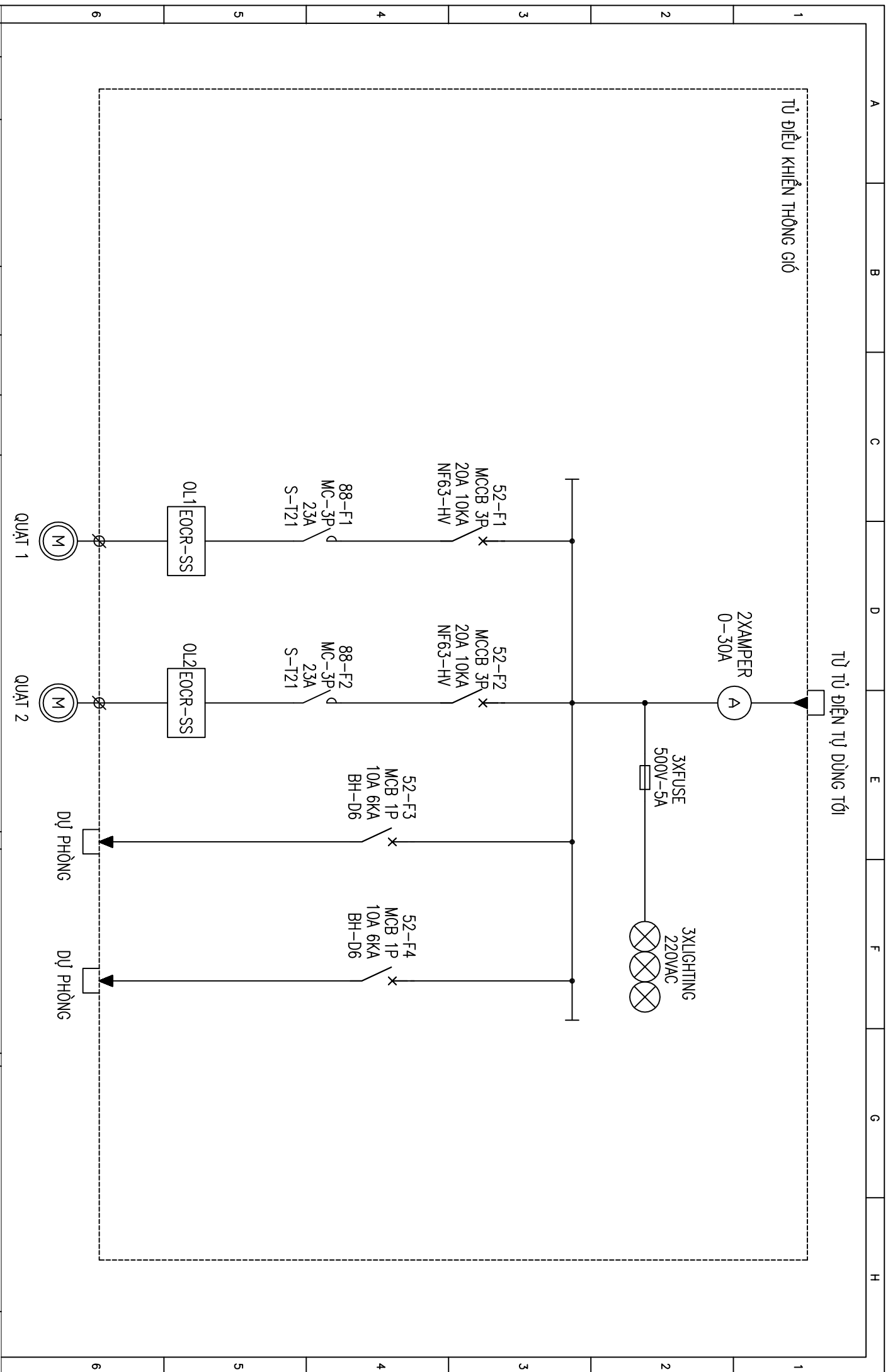
[illegible]



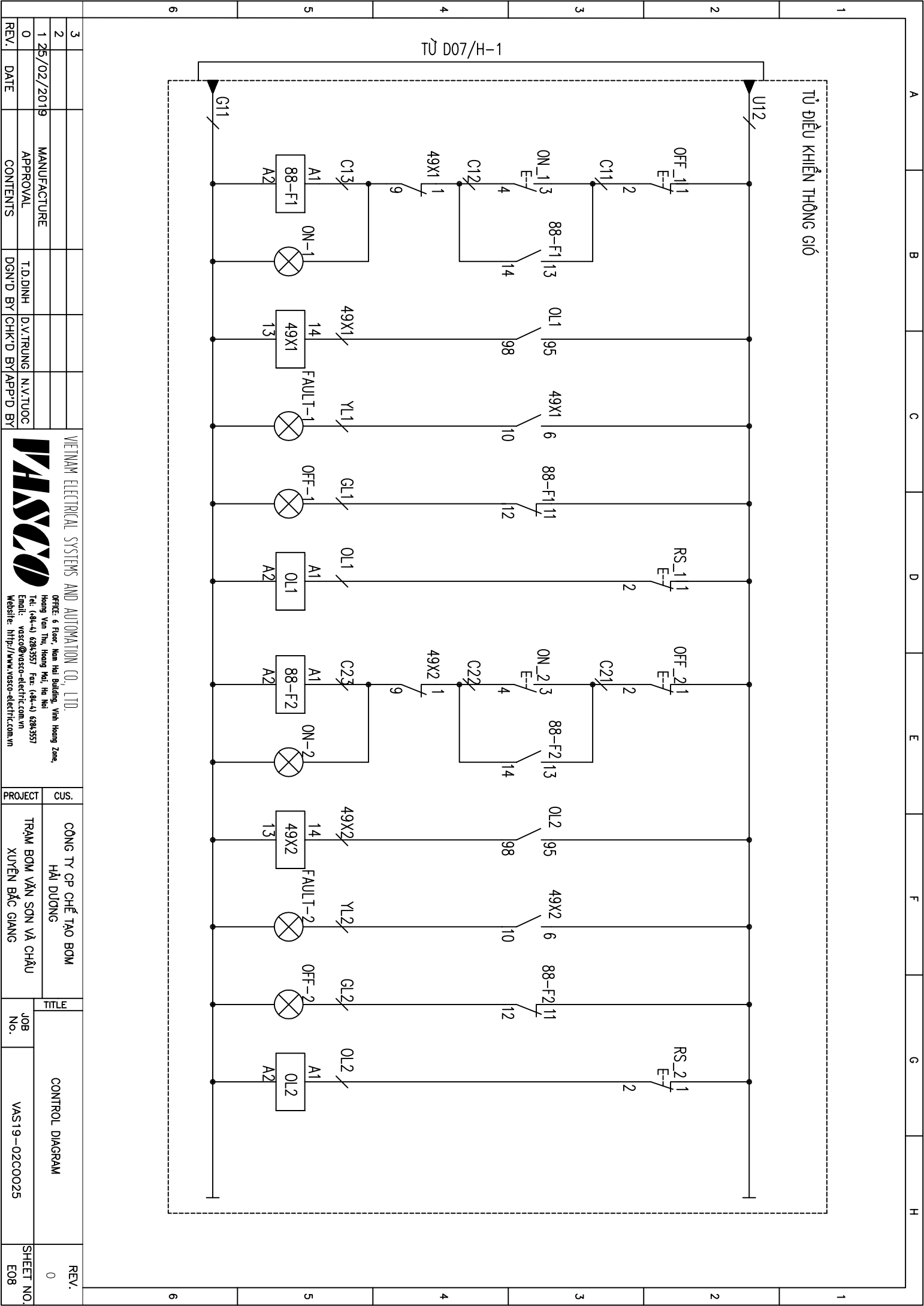


The diagram illustrates a power distribution system. At the top, the power source (NGUỒN ĐIỆN 3P4W MBA 100KVA) is connected to a main switch (TỦ ĐIỆN TỰ DÙNG) via a circuit breaker (DS-3P-100A) and a fuse (CD-3P-100A-2N). The main switch is connected to a busbar (52-M) which is protected by a 3P MCCB (52-M, 100A 30KA, NF125-SV). The busbar is connected to seven distribution units (LỘ TỰ DÙNG 1 to 7), each containing a 3P MCCB (52-F1 to 52-F7, 40A 7.5KA, NF63-SV) and a 3P fuse (40A 7.5KA, NF63-SV). The distribution units are connected to a common ground (ARRESTER GZ500).





3						VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD. OFFICE: 6 Floor, Nam Hai Building, Vinh Hung Zone, Hung Vuong Thu, Hoang Mai, Ha Noi Tel: (+84-4) 62843557 Fax: (+84-4) 62843557 Email: vasaco@vasco-electric.com.vn Website: http://www.vasco-electric.com.vn
2						
1	25/02/2019	MANUFACTURE				
0		APPROVAL				
REV.	DATE	CONTENTS	D.G.N/D	BY	CHK/D BY	
			T.D.DINH	D.V.TRUNG	N.V.TUOC	
						
PROJECT		CUS.		TITLE		REV.
TRÀM BOM VÂN SƠN VÀ CHÁU XUYÊN BẮC GIANG		CÔNG TY CP CHẾ TẠO BOM HẢI DƯƠNG		MAIN LINE ONE DIAGRAM		0
JOB No.		SHEET NO				
VAS19-02C00025		C05				



3						VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD		CUS.	CÔNG TY CP CHẾ TẠO BOM		TITLE	CONTROL DIAGRAM	REV.
2						OFFICE: 6 Floor Nam Hai Building Vinh Hung Zone, Hung Vuon Thuong Hai, Ha Noi			HAI DUONG				0
1	25/02/2019	MANUFACTURE				Tel: (+84-4) 62843557 Fax: (+84-4) 62843557			TRAM BOM VAN SON VA CHAU		JOB No.	VAS19-02C0025	SHEET NO.
0		APPROVAL				Email: vasc@vasco-electric.com.vn Website: http://www.vasco-electric.com.vn		PROJECT	XUYEN BAC GIANG				E08
REV.	DATE	CONTENTS	DGN'D BY	CHK'D BY	APP'D BY								

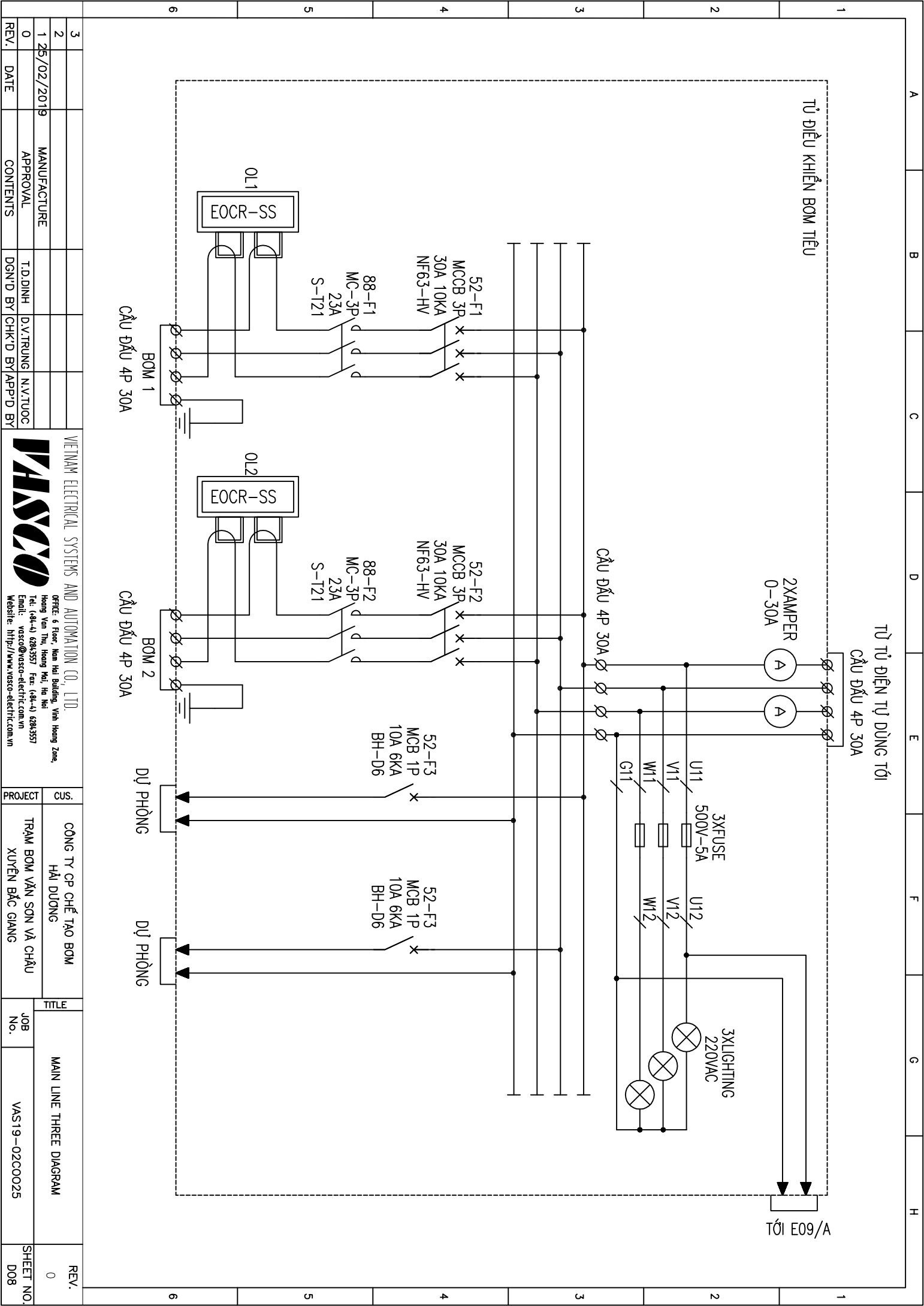
The diagram illustrates the electrical control system for a pump. It is divided into two main sections: the power supply section (TỦ ĐIỆN TỰ DÙNG TỚI) and the pump control section (TỦ ĐIỀU KHIỂN BƠM TIỂU).

Power Supply Section (TỦ ĐIỆN TỰ DÙNG TỚI):

- Input power is connected to a 2X AMPER 0-30A ammeter (A).
- The circuit is protected by a 3X FUSE 500V-5A.
- Three 220VAC lighting fixtures (3X LIGHTING) are connected to the supply.

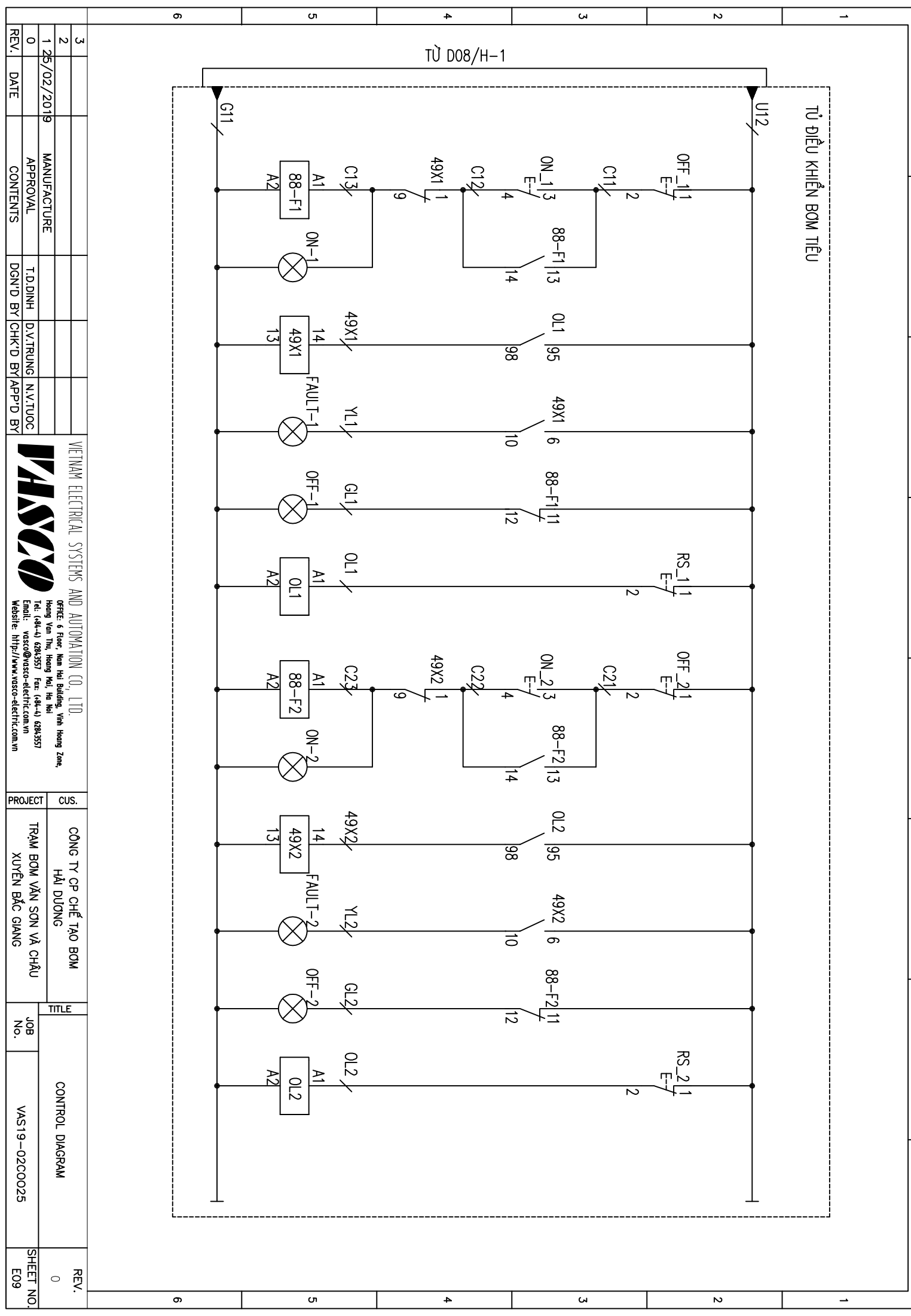
Pump Control Section (TỦ ĐIỀU KHIỂN BƠM TIỂU):

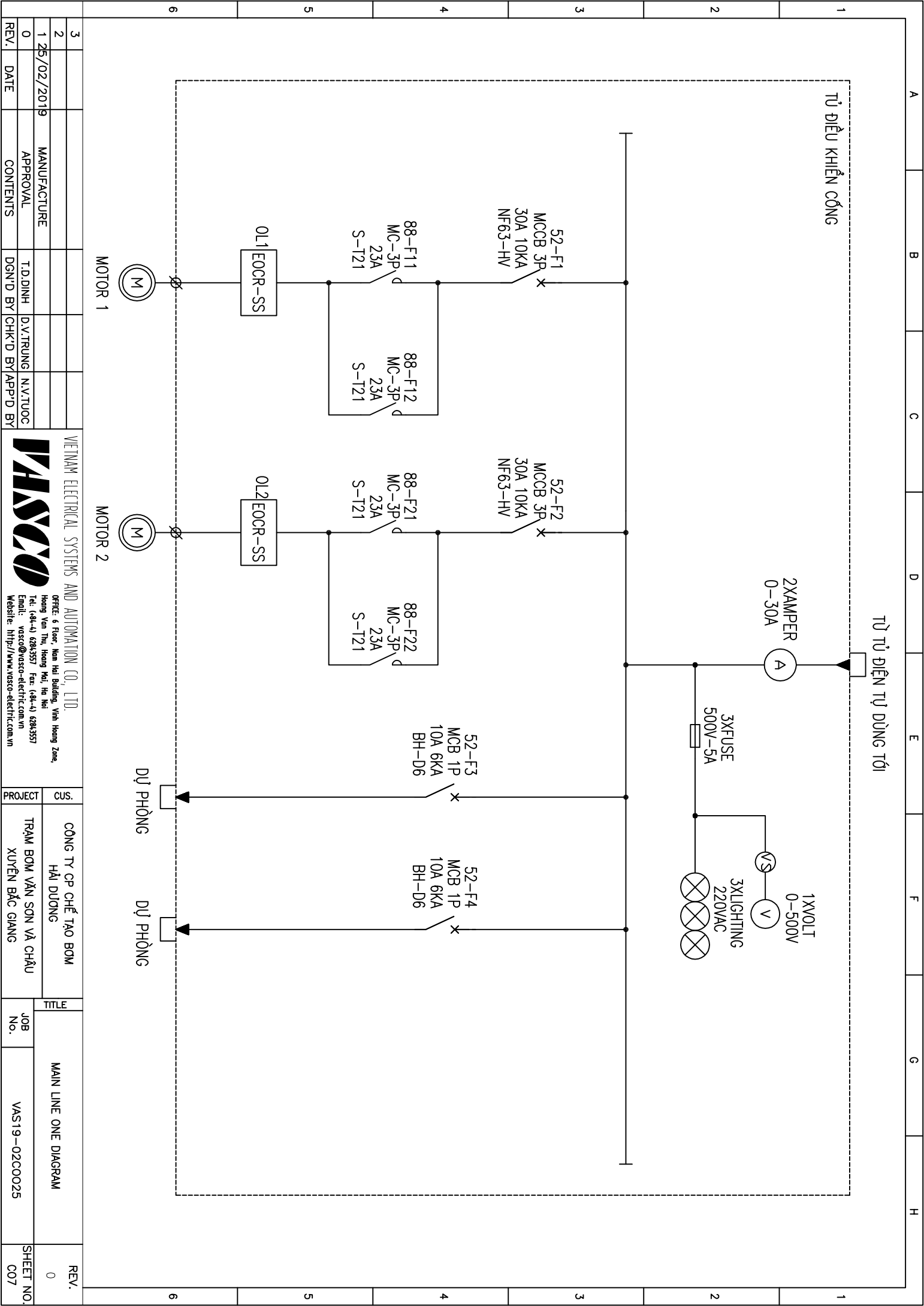
- The supply is distributed to two pumps: BƠM 1 and BƠM 2.
- Each pump is controlled by an EOCR-SS unit (OL1 and OL2).
- The wiring includes 52-F1, 52-F2, 52-F3, 52-F4, 88-F1, 88-F2, 88-F3, 88-F4, MC-3P, MC-3P, MC-3P, MC-3P, S-T21, S-T21, S-T21, S-T21, and S-T21.



REV.	DATE	CONTENTS	DGN'D BY	CHK'D BY	APP'D BY
0					
1	25/02/2019	MANUFACTURE	T.D.DINH	D.V.TRUNG	N.V.TUOC
2					
3					

VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD.	CUS.	CÔNG TY CP CHẾ TẠO BƠM HẢI DƯƠNG	TITLE	MAIN LINE THREE DIAGRAM	REV.
OFFICE: 6 Floor Nam Hai Building Vinh Hung Zone, Hong Van Thu, Hung Hai, Ha Noi Tel: (+84-4) 62843557 Fax: (+84-4) 62843557 Email: vascos@vasco-electric.com.vn Website: http://www.vasco-electric.com.vn	PROJECT	TRẠM BƠM VẠN SƠN VÀ CHÁU XUYỀN BẮC GIANG	JOB No.	VAS19-02C0025	SHEET NO. D08





REV.	DATE	CONTENTS	DGN'D BY	CHK'D BY	APP'D BY
0		MANUFACTURE	T.D.DINH	D.V.TRUNG	N.V.TUOC
1	25/02/2019				
2					
3					

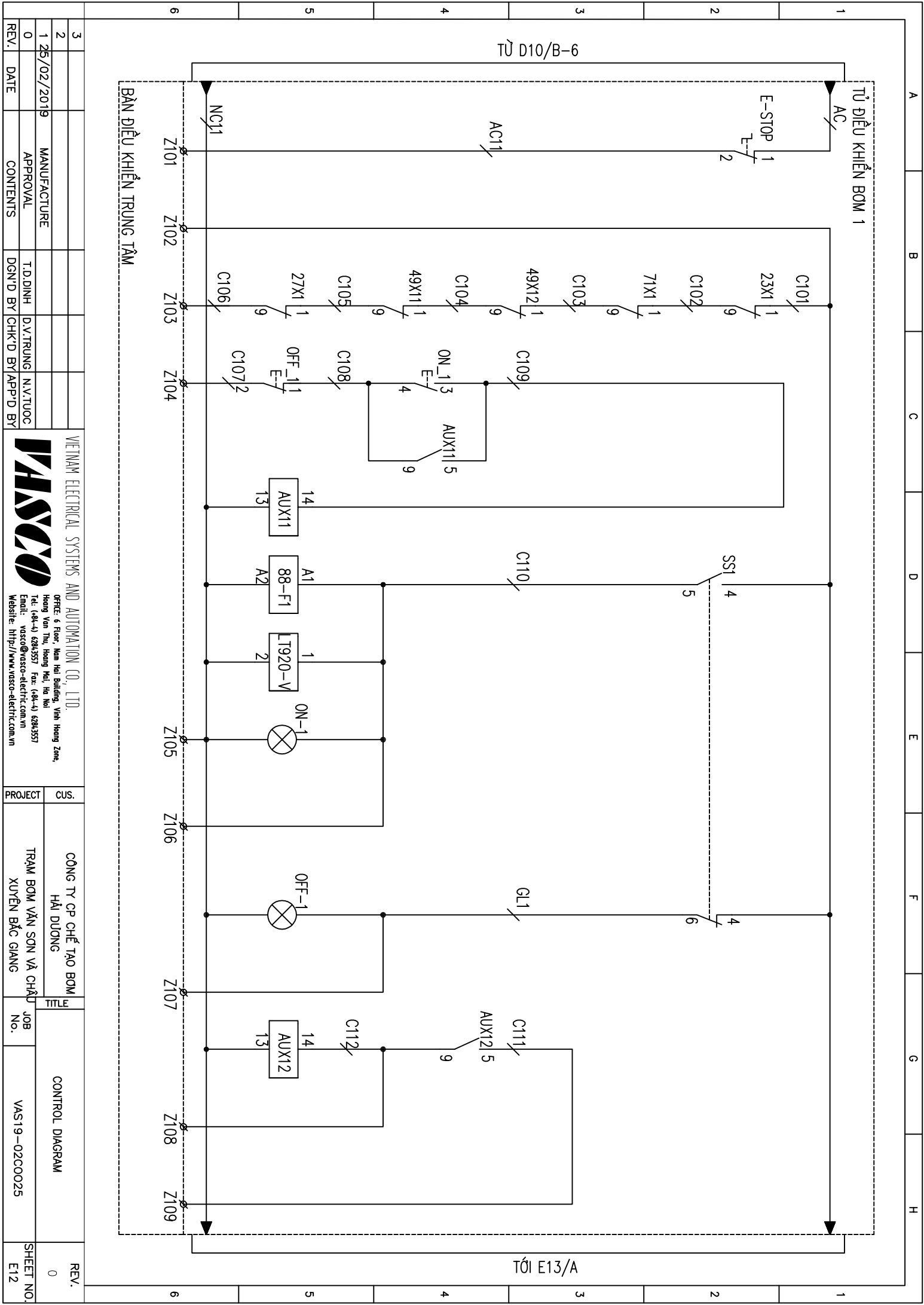
PROJECT	CUS.	TITLE	JOB No.	SHEET NO.
TRÀM BOM VẬN SƠN VÀ CHẤU XUYỀN BẮC GIANG	CÔNG TY CP CHẾ TẠO BOM HẢI DƯƠNG	MAIN LINE ONE DIAGRAM	VAS19-02C0025	007

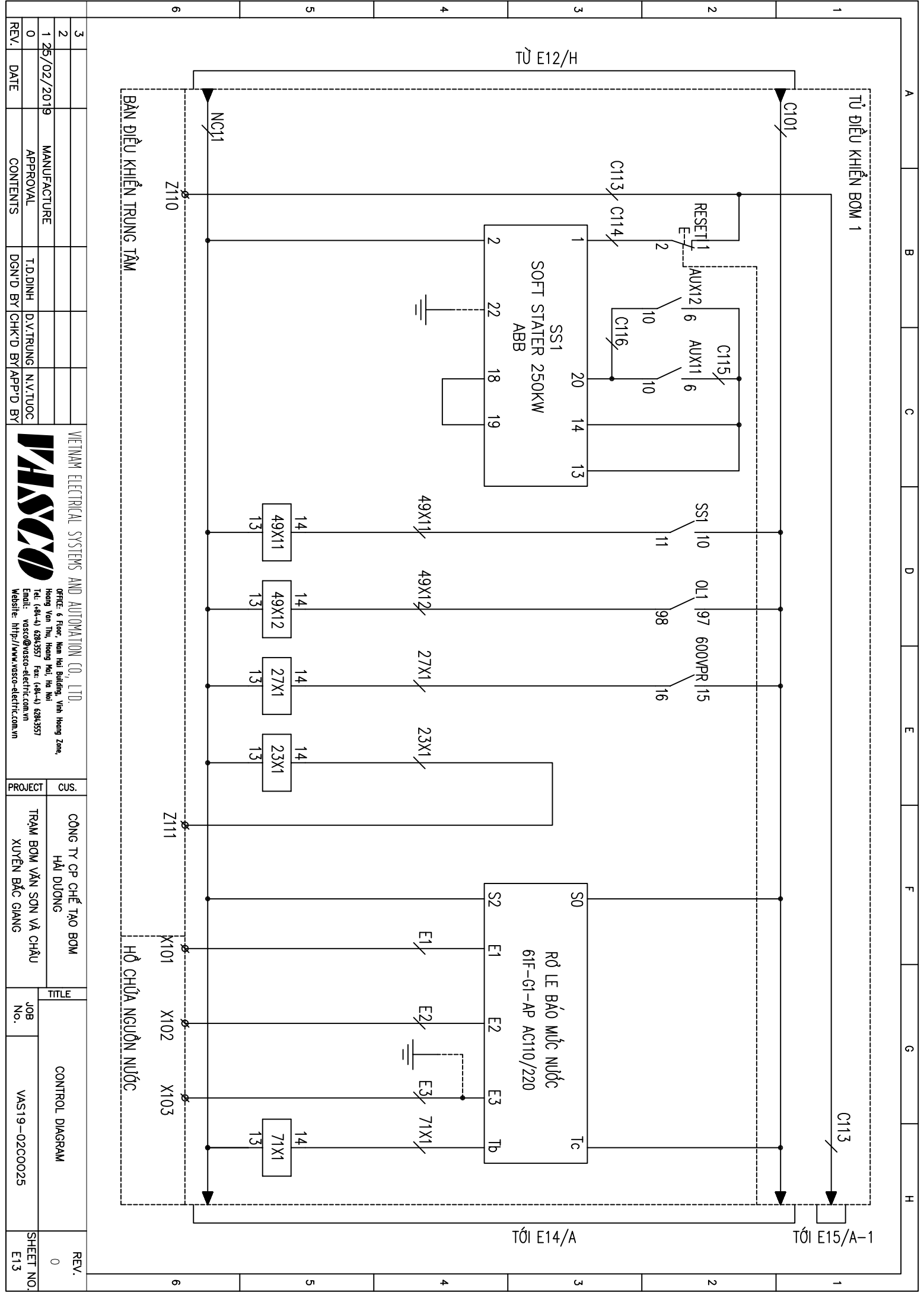
VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD.

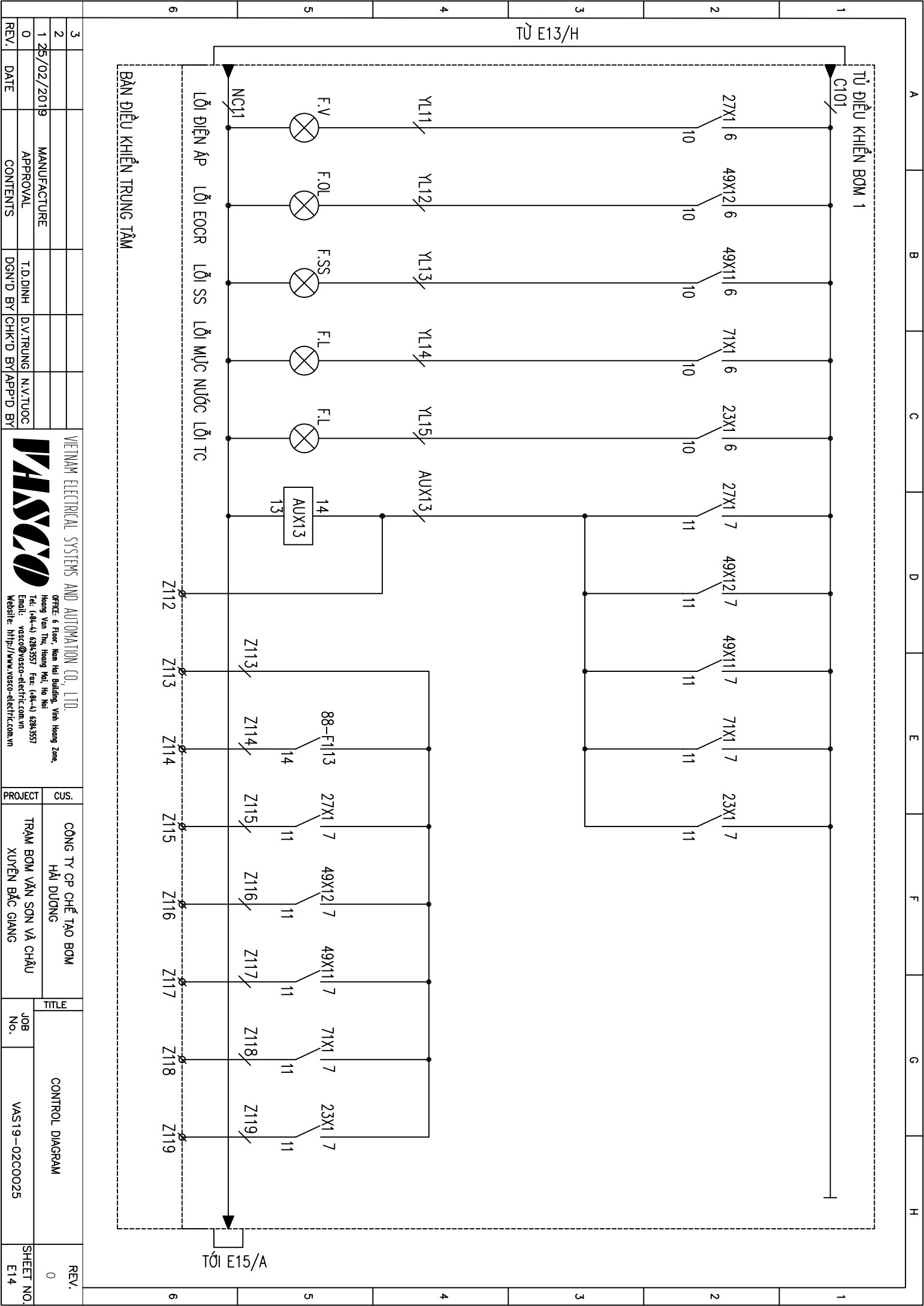
VASCO

OFFICE: 6 Floor Nam Hai Building, Vinh Hung Zone, Hung Vuong Thu, Hung Hai, Ha Noi
Tel: (+84-4) 62843557 Fax: (+84-4) 62843557
Email: vasco@vasco-electric.com.vn
Website: http://www.vasco-electric.com.vn

[illegible]







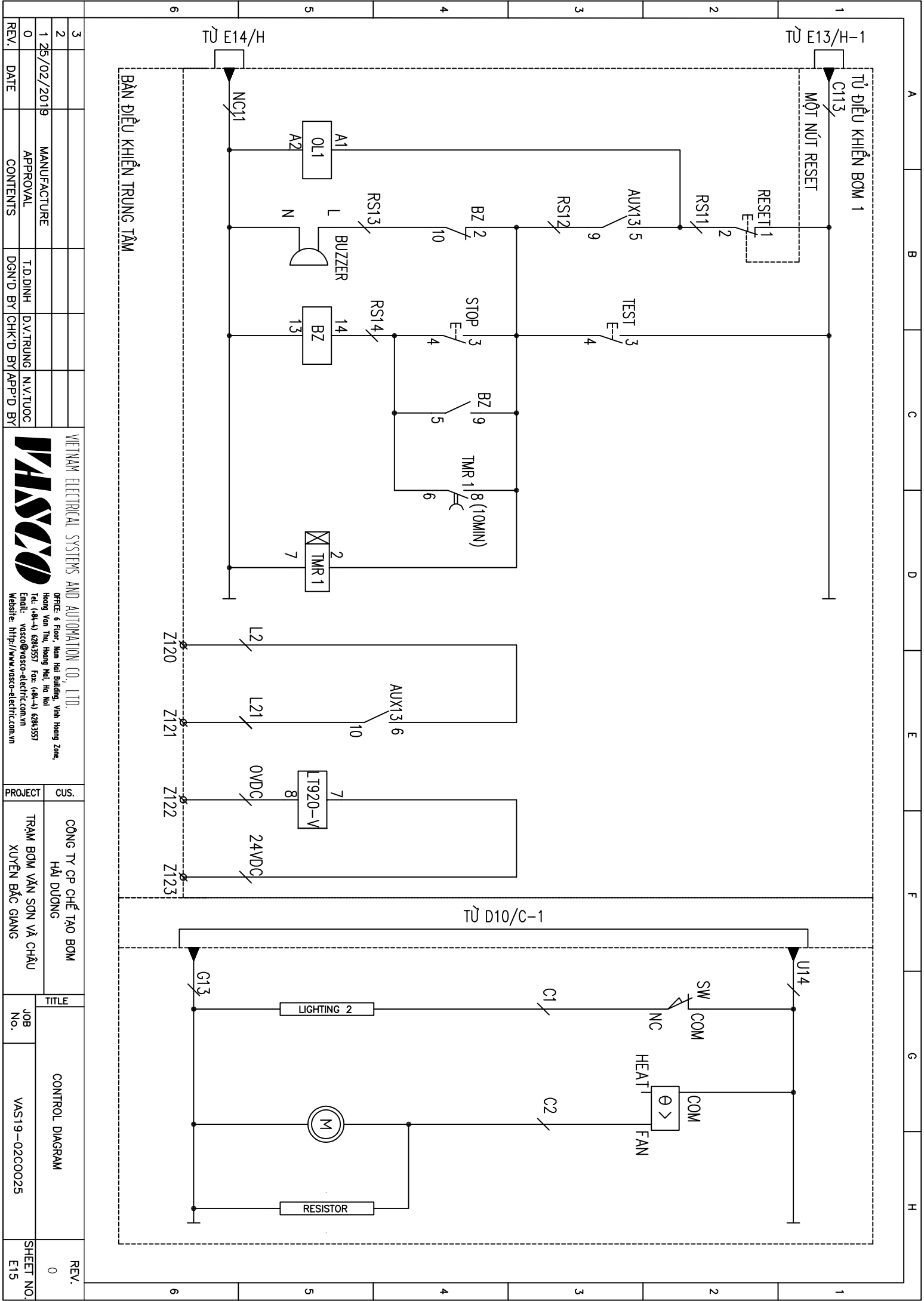
VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD

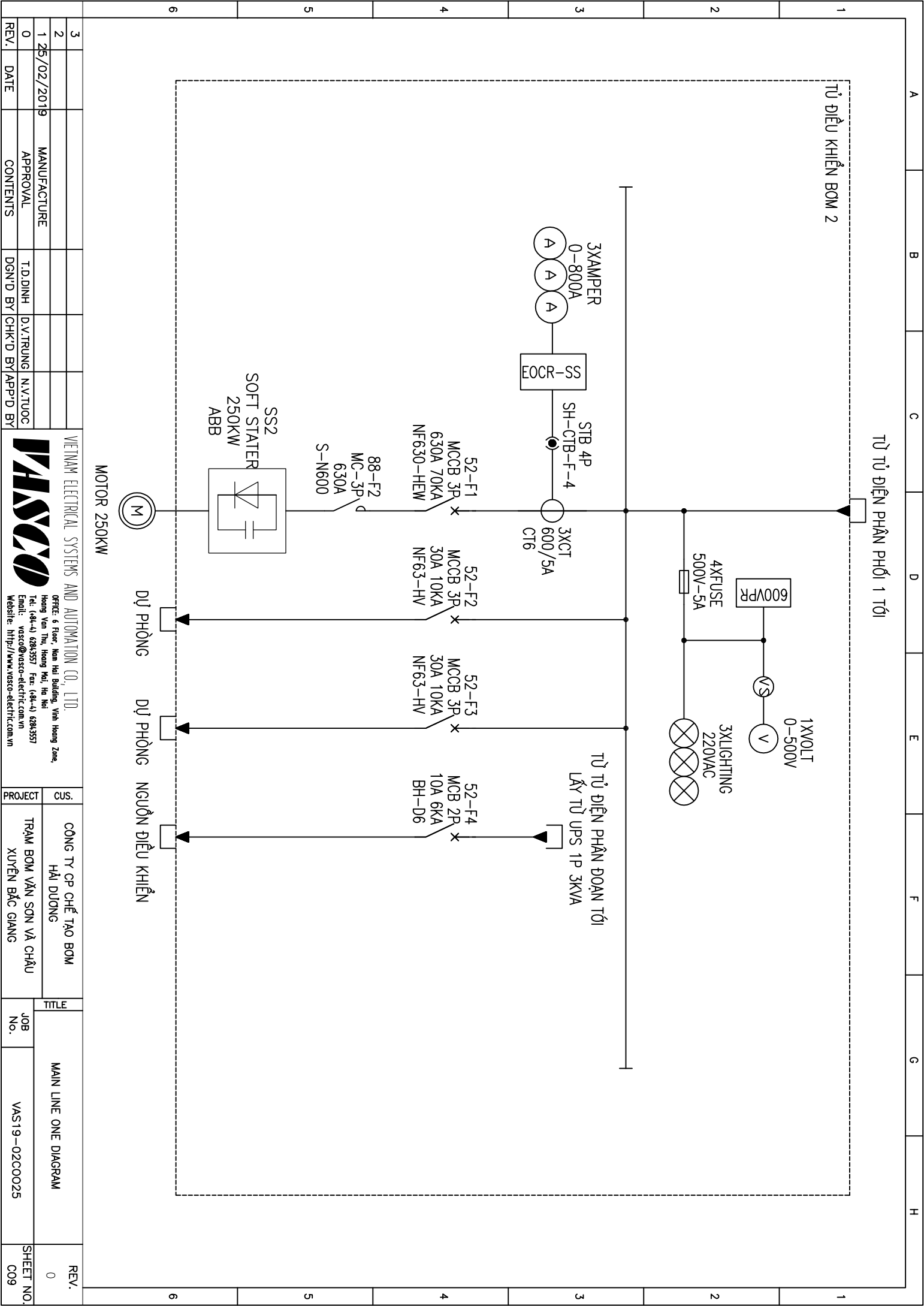
OFFICE: 6 Floor Nam Hai Building, Vinh Hung Zone, Hung Vuong Thu, Hung Hai, Ha Noi

Tel: (+84-4) 62843557 Fax: (+84-4) 62843557

Email: vasc@vasco-electric.com.vn

Website: http://www.vasco-electric.com.vn

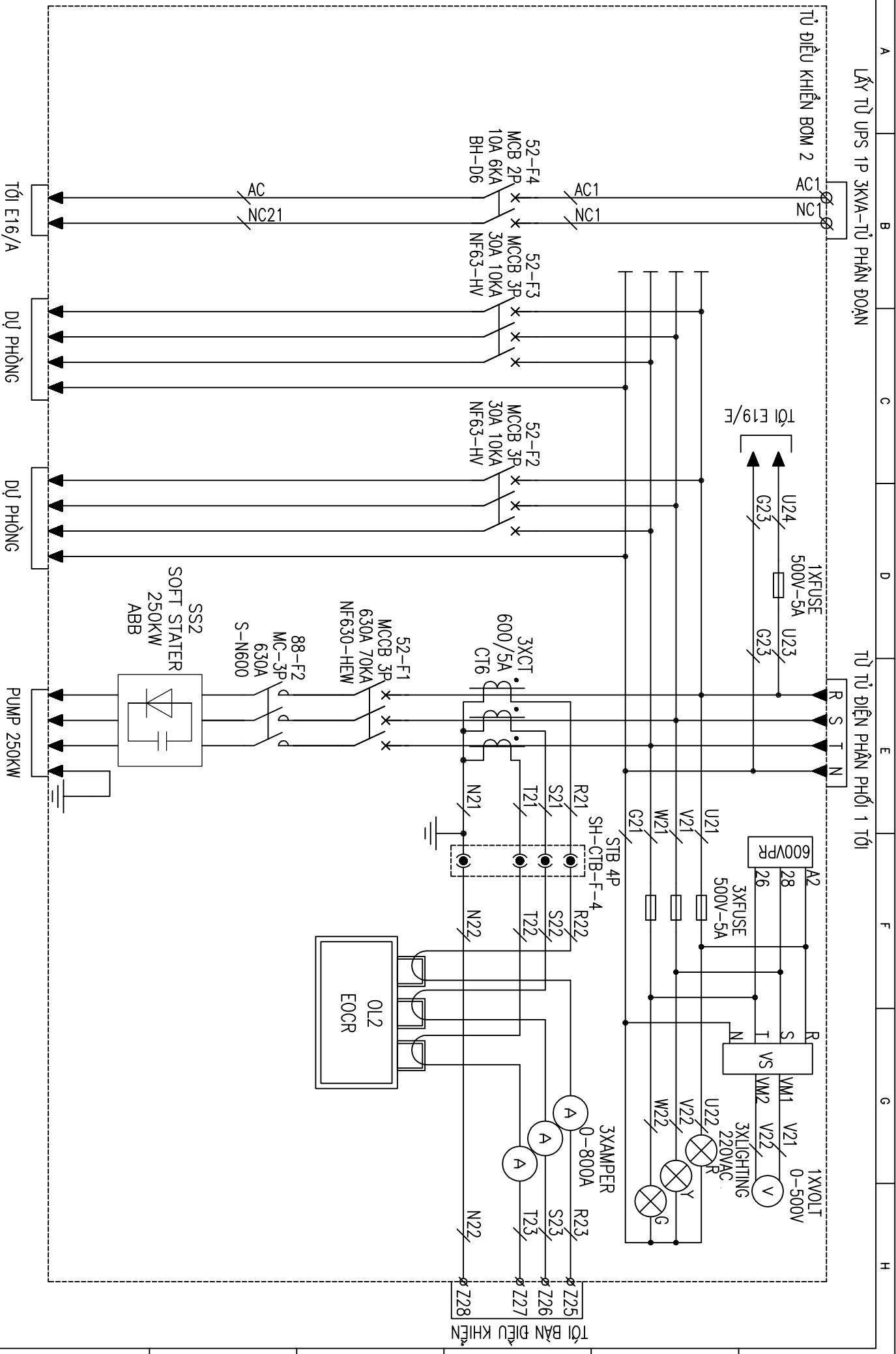




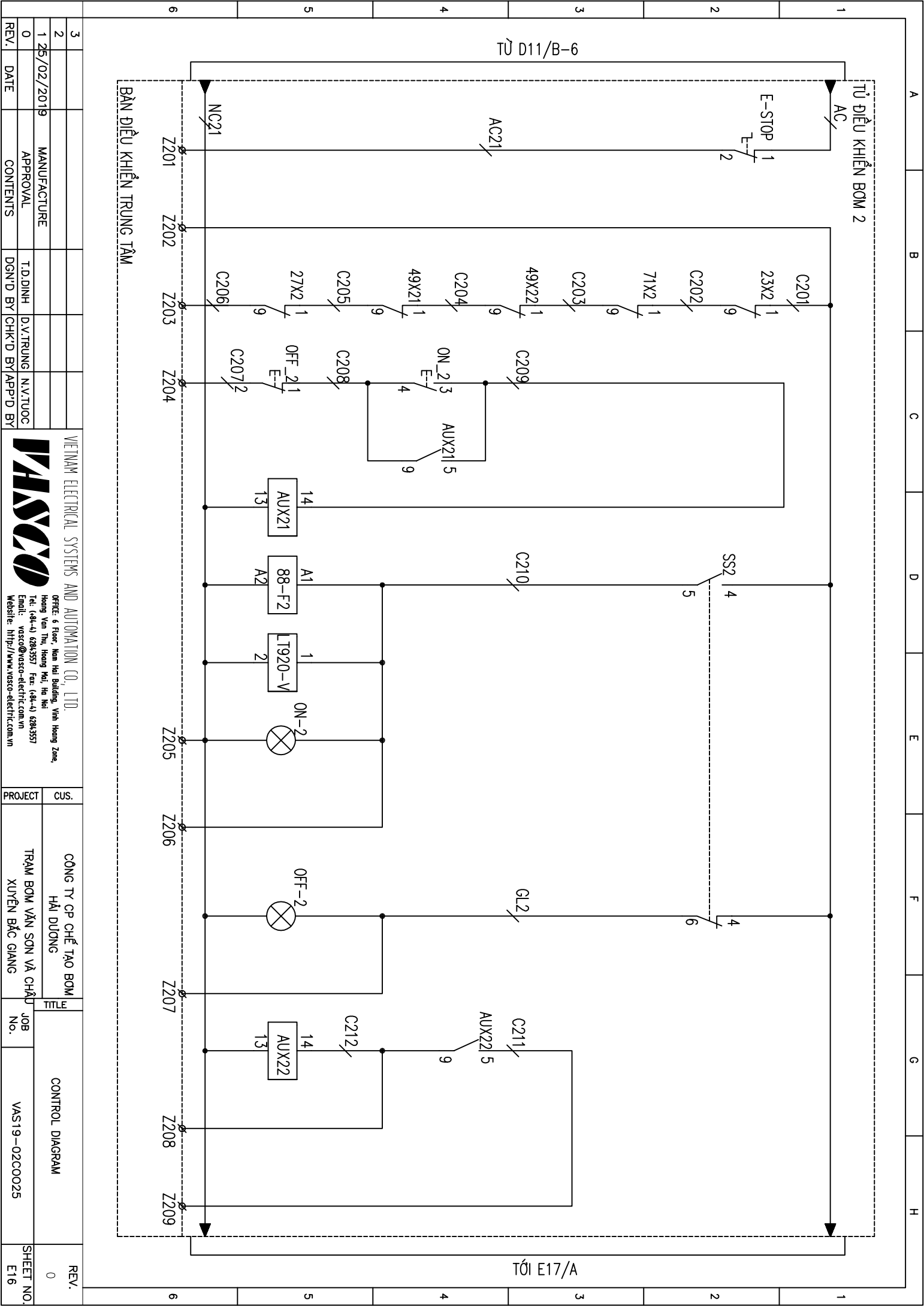
REV.	DATE	CONTENTS	DGN'D BY	CHK'D BY	APP'D BY
0					
1	25/02/2019	MANUFACTURE	T.D.DINH	D.V.TRUNG	N.V.TUOC
2					
3					

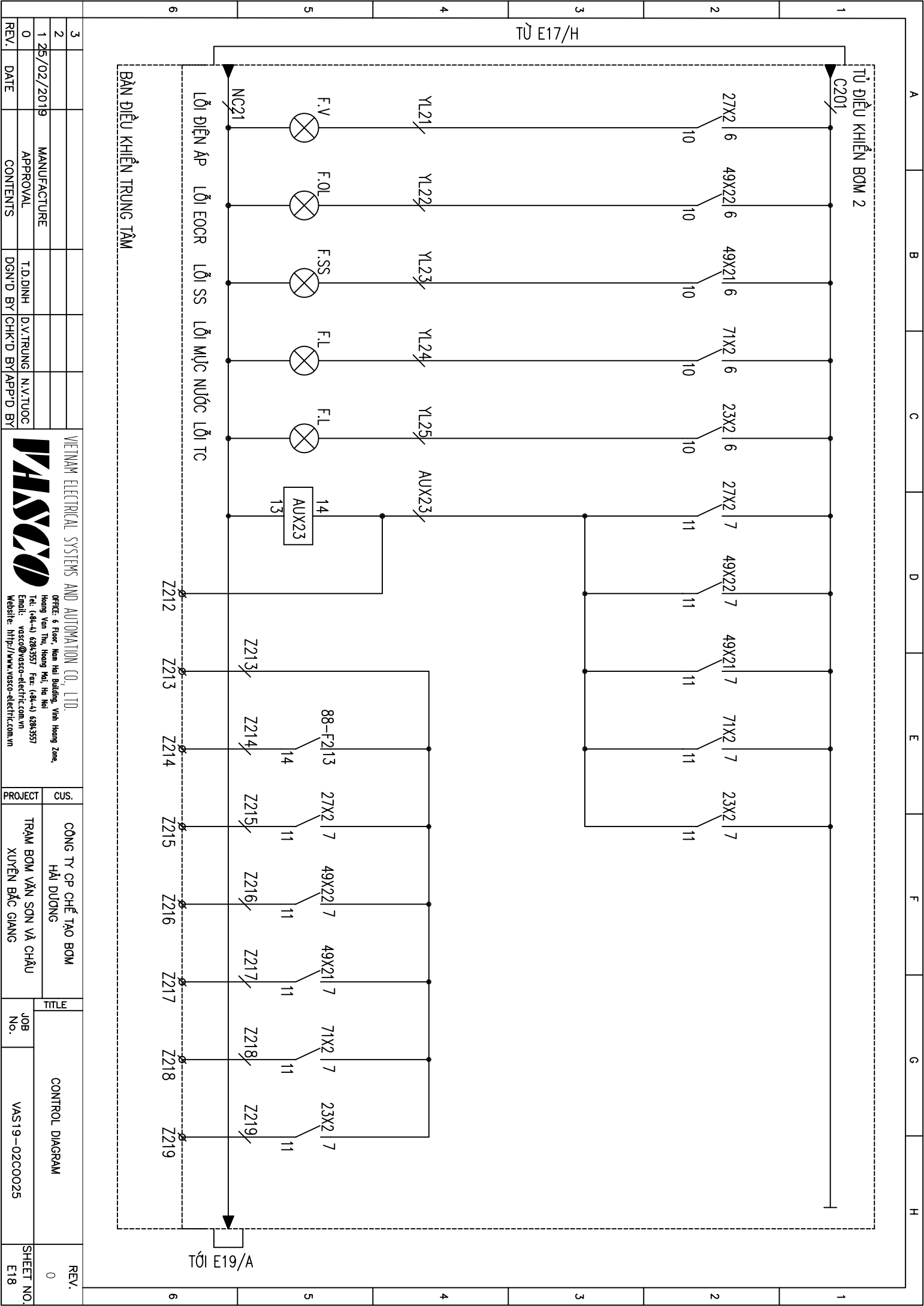
VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD.	
OFFICE: 6 Floor Nam Hai Building, Vinh Hung Zone, Hung Vuon Thu, Hung Hai, Ha Noi	
Tel: (+84-4) 62843557 Fax: (+84-4) 62843557	
Email: vascos@vasco-electric.com.vn	
Website: http://www.vasco-electric.com.vn	

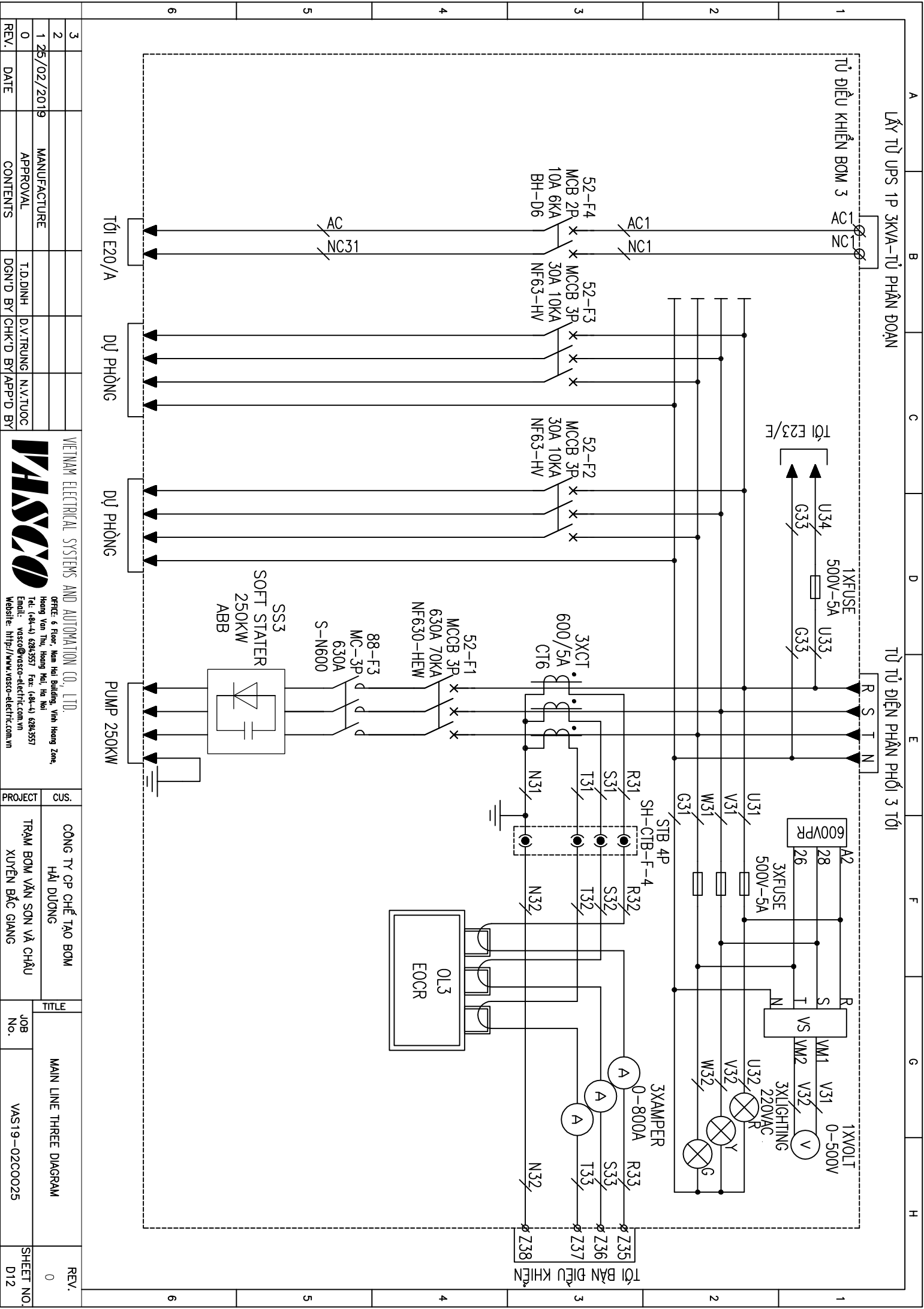
PROJECT	CUS.	TITLE	JOB No.	SHEET NO.
TRAM BOM VAN SON VA CHAU XUYEN BAC GIANG	CÔNG TY CP CHẾ TẠO BOM HẢI DƯƠNG	MAIN LINE ONE DIAGRAM	VAS19-02C0025	C09

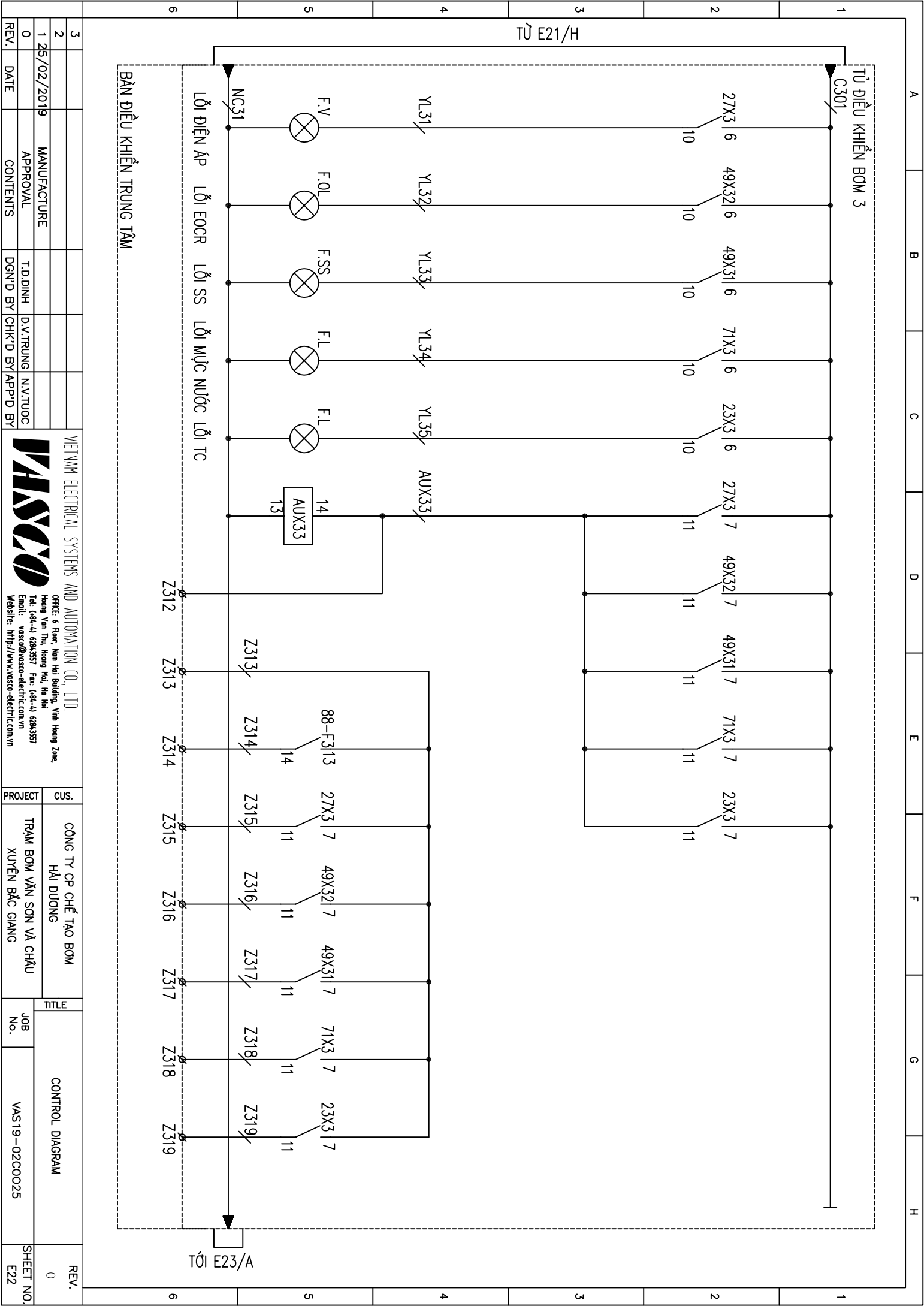


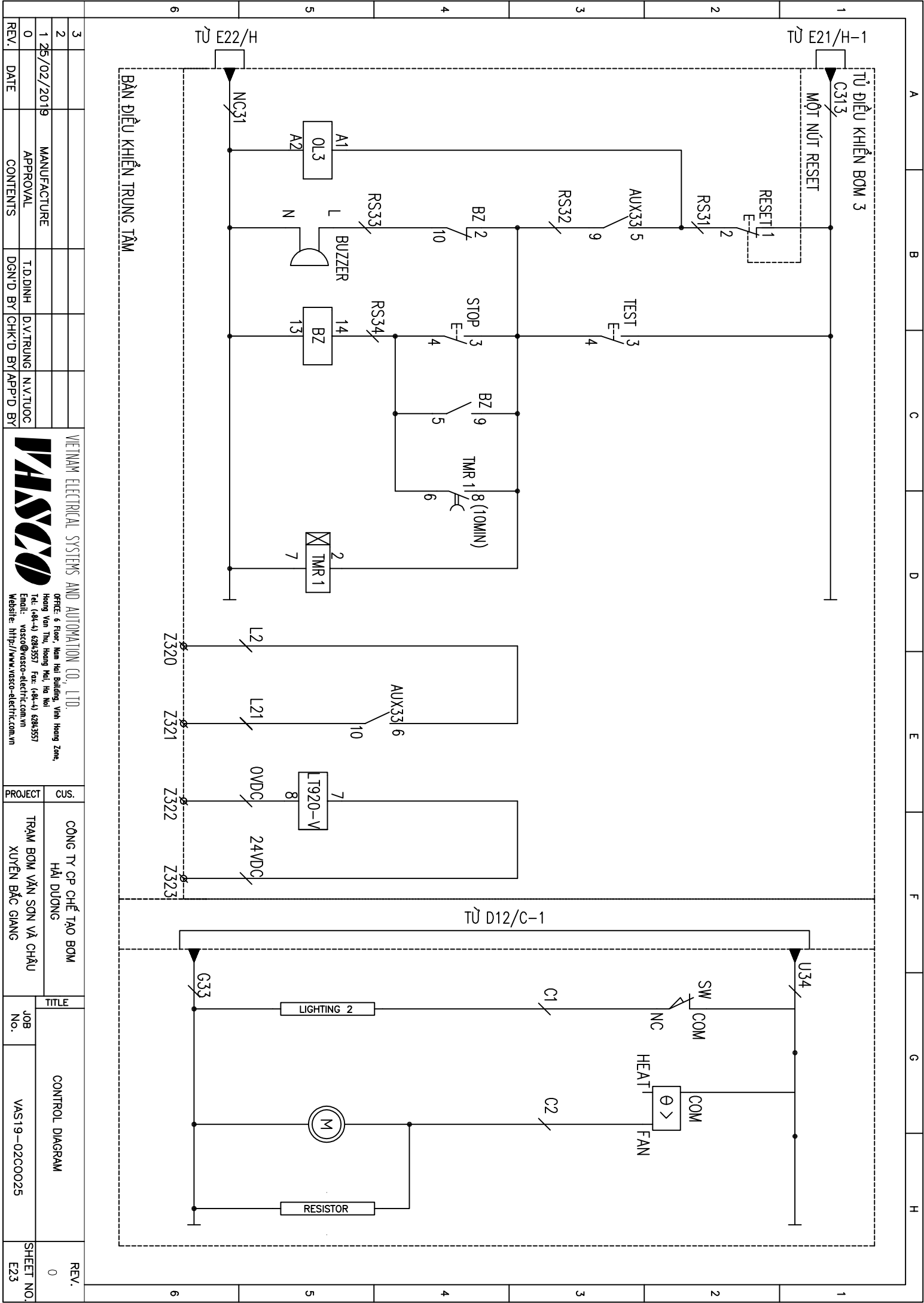
3						VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD. OFFICE: 6 Floor, Nam Hai Building, Vinh Hung Zone, Hoang Van Thu, Hoang Mai, Hai Ba Trung, Hanoi, Vietnam Tel: (+84-4) 62843557 Fax: (+84-4) 62843557 Email: vasco@vasco-electric.com.vn Website: http://www.vasco-electric.com.vn
2						
1	25/02/2019	MANUFACTURE				
0		APPROVAL	T.D.DINH	D.V.TRUNG	N.V.TUOC	
REV.	DATE	CONTENTS	DGND BY	CHK'D BY	APP'D BY	
			PROJECT	CUS.	CÔNG TY CP CHẾ TẠO BOM HẢI DƯƠNG	
			TITLE		TRÀM BOM VÂN SƠN VÀ CHẦU XUYỀN BẮC GIANG	
			JOB NO.	MAIN LINE THREE DIAGRAM		REV.
			VAS19-02C0025			0
			SHEET NO.			D11

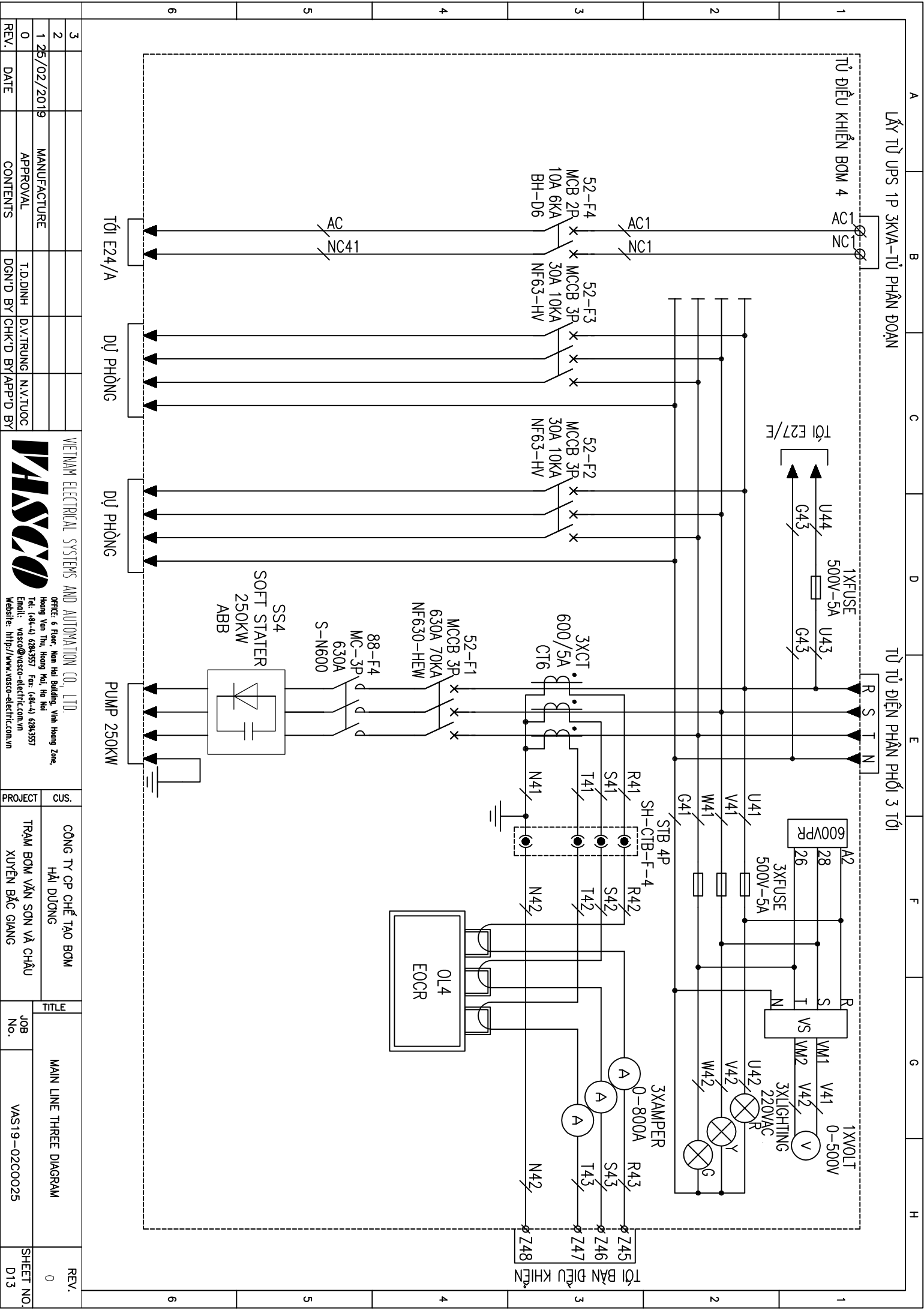


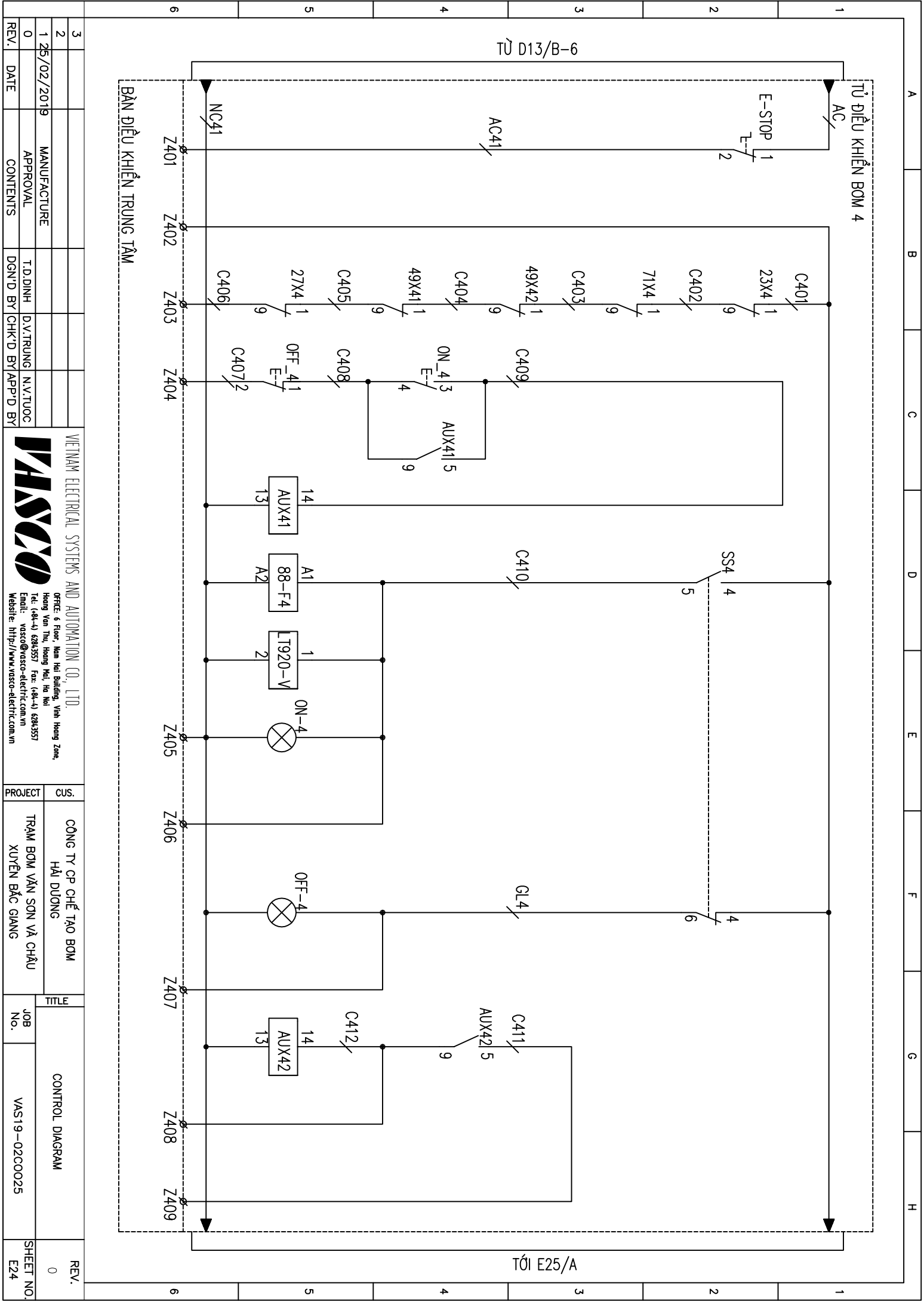


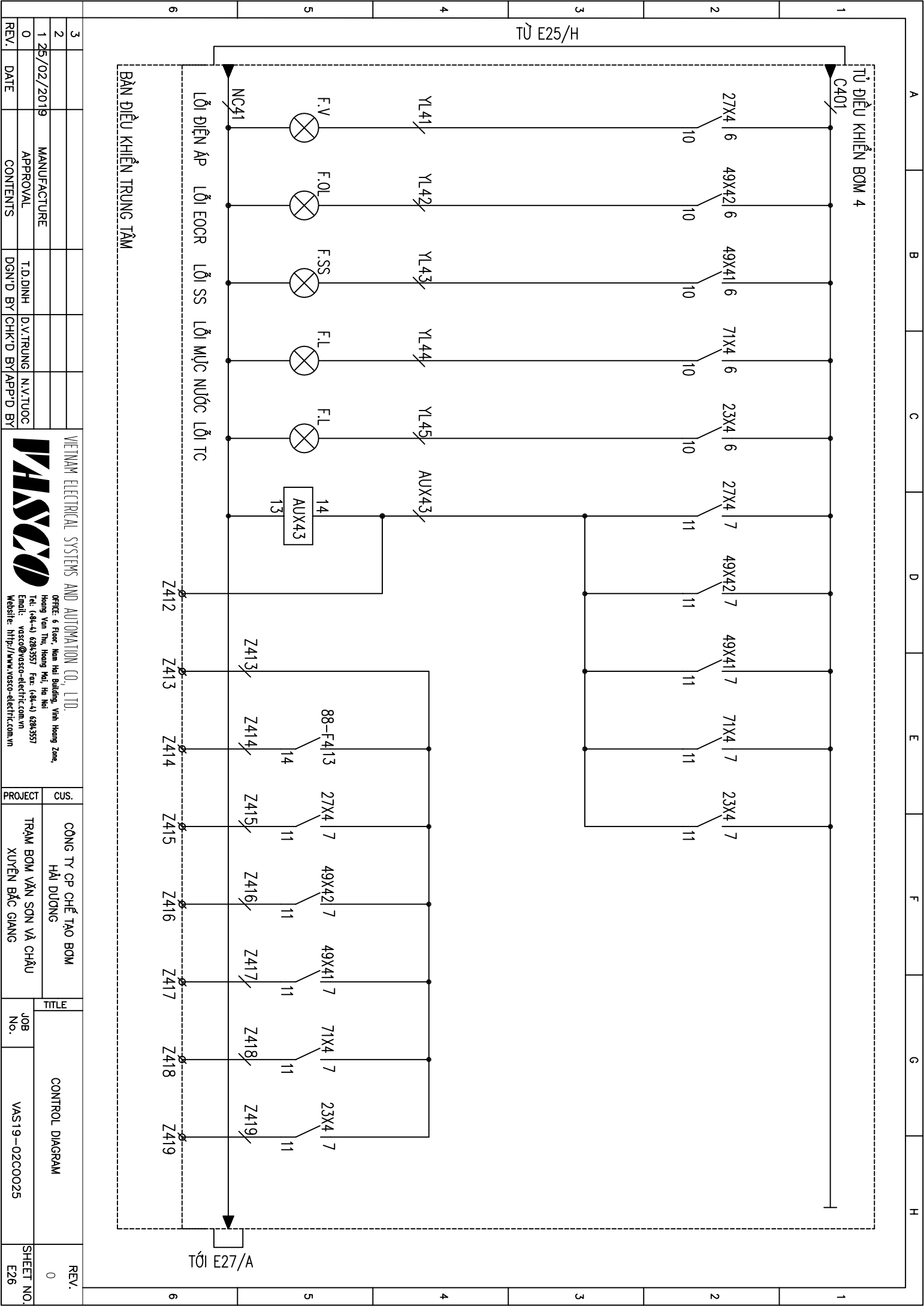












3						VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD. OFFICE: 6 Floor, Nam Hai Building, Vinh Hung Zone, Hoang Van Thu, Hoang Mai, Ha Noi Tel: (+84-4) 62843557 Fax: (+84-4) 62843557 Email: vasco@vasco-electric.com.vn Website: http://www.vasco-electric.com.vn																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
---	--	--	--	--	--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

The diagram illustrates the electrical control system for three pumps (BOM 1, BOM 2, BOM 3) and a central control panel (BÀN ĐIỀU KHIỂN TRUNG TÂM).

1. Tủ Điện Phân Phối 1 (Distribution Cabinet 1): Contains terminal blocks Z11-Z14, Z21-Z24, Z15-Z18, and Z19-Z20. It includes a 1XVOLT 0-500V voltmeter (VM1 V11) and a 3X LIGHTING 220VAC circuit with a switch (U12) and a fuse (G11).

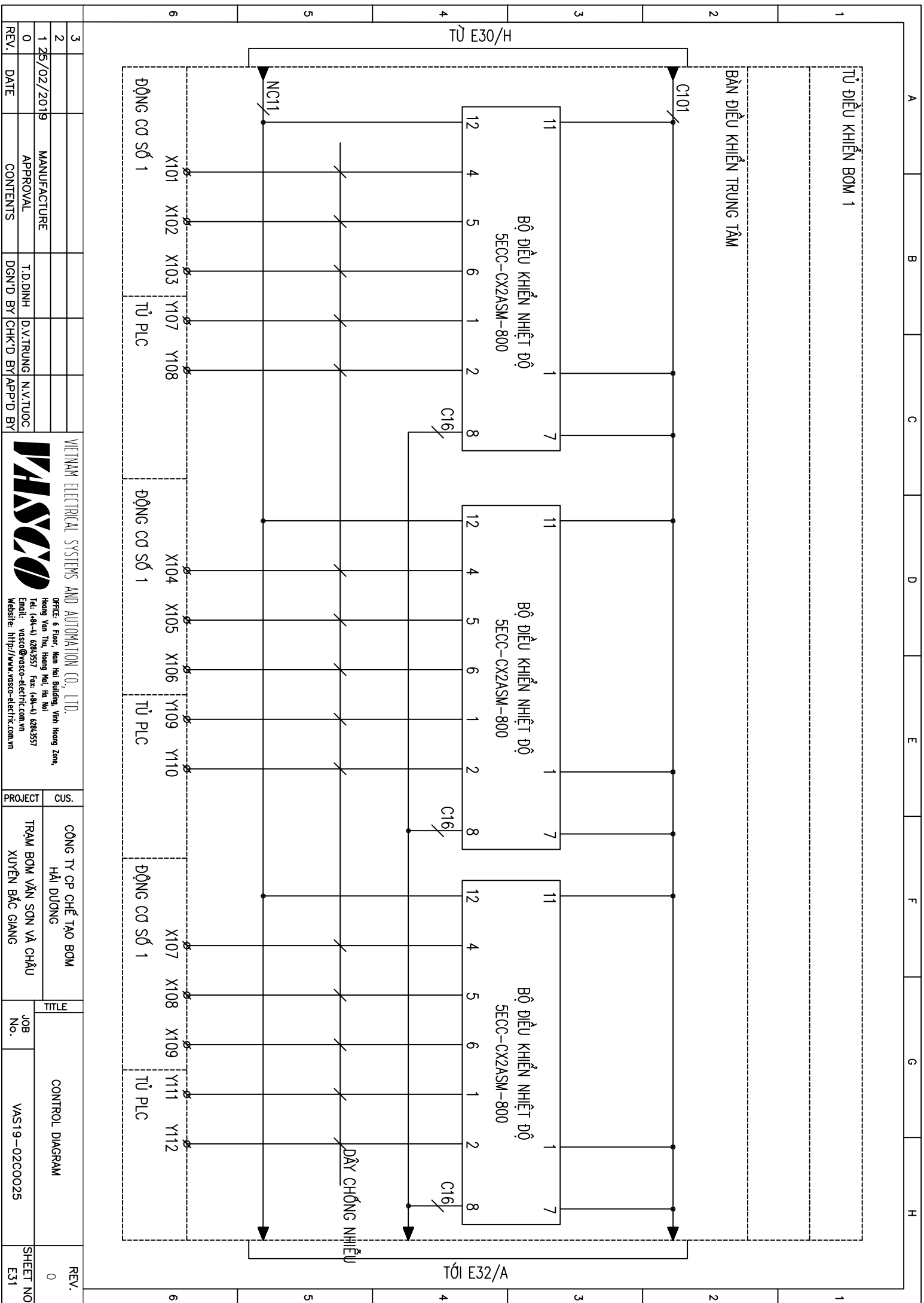
2. Tủ Điện Phân Phối 2 (Distribution Cabinet 2): Contains terminal blocks Z21-Z24, Z25-Z28, Z35-Z38, and Z45-Z48. It includes a 1XVOLT 0-500V voltmeter (VM1 V21) and a 3X LIGHTING 220VAC circuit with a switch (U22) and a fuse (G21).

3. Tủ Điều Khiển BOM 1 (BOM 1 Control Cabinet): Contains terminal blocks R13, S13, T13, N12, and N11. It includes a 1X AMPER 0-800A ammeter (AM1 A11) and a 1X AMPER 0-800A ammeter (AM2 A12).

4. Tủ Điều Khiển BOM 2 (BOM 2 Control Cabinet): Contains terminal blocks R23, S23, T23, N22, and N21. It includes a 1X AMPER 0-800A ammeter (AM1 A21) and a 1X AMPER 0-800A ammeter (AM2 A22).

5. Tủ Điều Khiển BOM 3 (BOM 3 Control Cabinet): Contains terminal blocks R33, S33, T33, N32, and N31. It includes a 1X AMPER 0-800A ammeter (AM1 A31) and a 1X AMPER 0-800A ammeter (AM2 A32).

6. Bàn Điều Khiển Trung Tâm (Central Control Panel): Contains terminal blocks R43, S43, T43, N42, and N41. It includes a 1X AMPER 0-800A ammeter (AM1 A41) and a 1X AMPER 0-800A ammeter (AM2 A42).

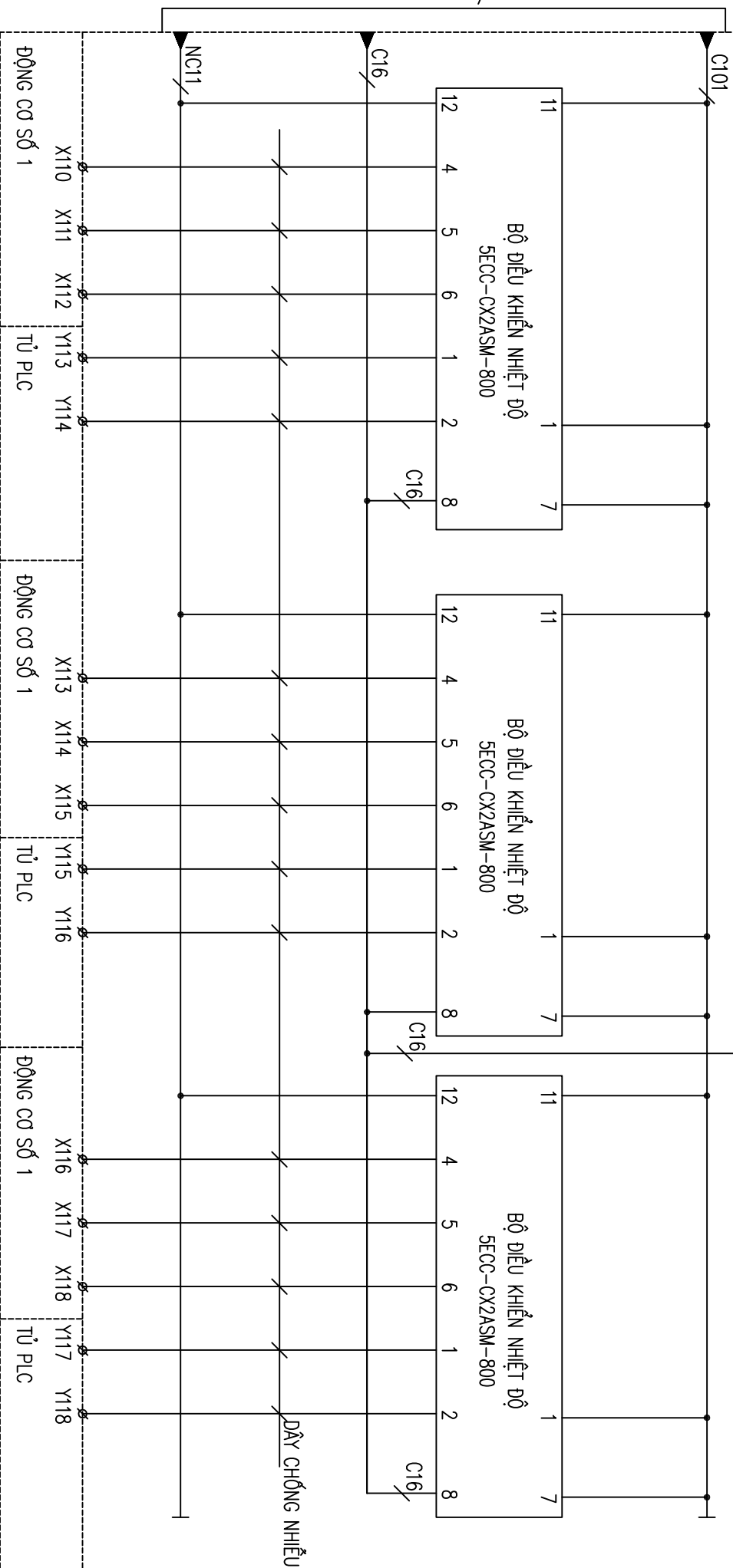


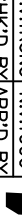
TỰ ĐIỀU KHIỂN BỒM 1

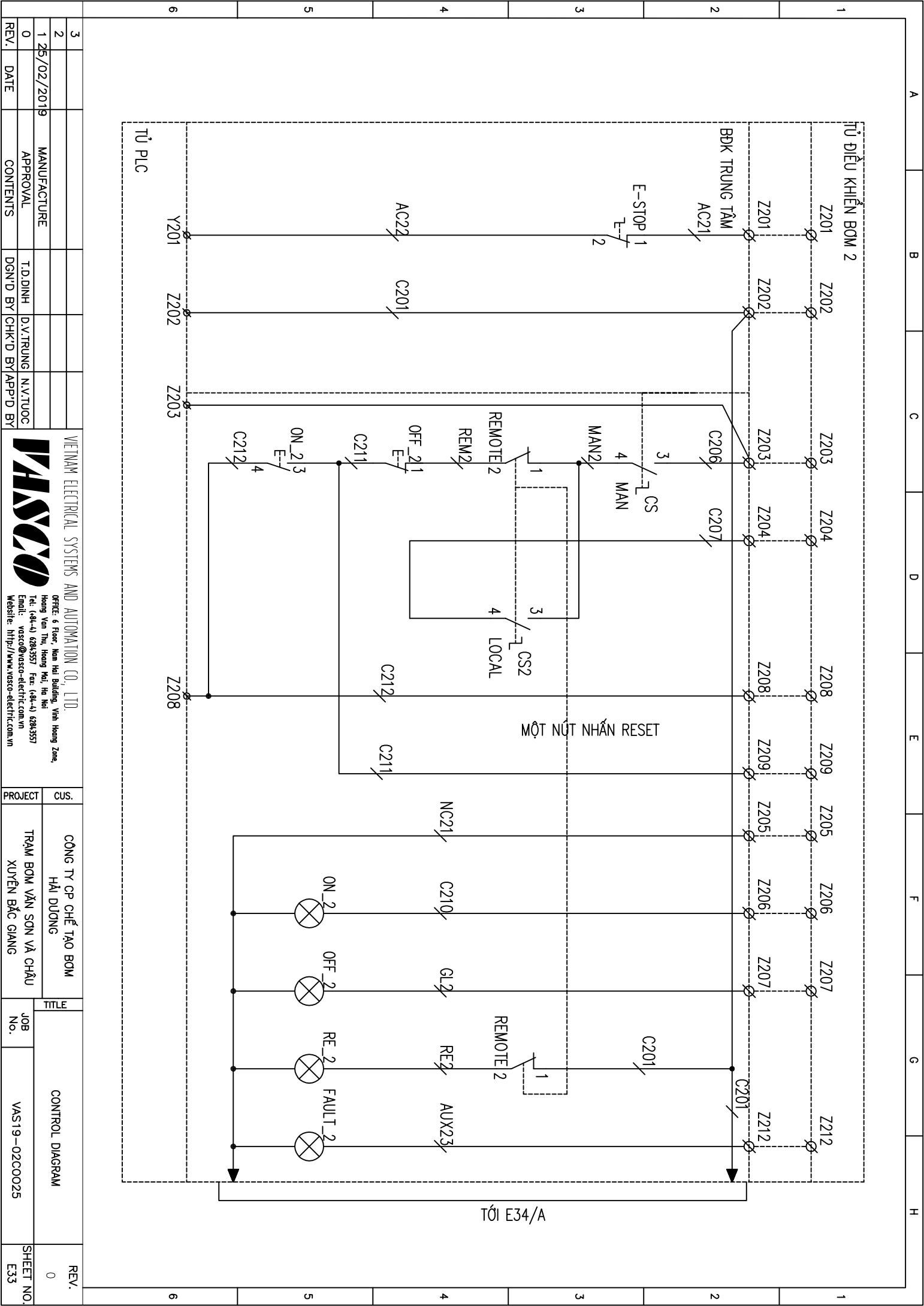
Z111

Z111

!BẢN ĐIỀU KIỆN TRUNG TÂM



3						VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD. OFFICE: 6 Floor, Nam Hai Building, Vinh Hung Zone, Hong Van Thu, Hung Hai, Ha Noi Tel: (+84-4) 62843537 Fax: (+84-4) 62843537 Email: vasco@vasco-electric.com.vn Website: http://www.vasco-electric.com.vn
2						
1	25/02/2019	MANUFACTURE				
0		APPROVAL				
REV.	DATE	CONTENTS	D.G.D BY	C.H.K.D BY	A.P.P.D BY	
			T.D.DINH	D.V.TRUNG	N.V.TUOC	
						
PROJECT			CUS.			
TRAM BOM VAN SON VA CHAU XUYEN BAC GIANG			CÔNG TY CP CHẾ TẠO BOM HẢI DƯƠNG			
JOB No.			TITLE			REV.
VAS19--02C0025			CONTROL DIAGRAM			
						SHEET NO E32
						0



3					VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD		CUS.	CÔNG TY CP CHẾ TẠO BƠM		TITLE	CONTROL DIAGRAM		REV.
2					OFFICE: 6 Floor Nam Hai Building Vinh Hung Zone,			HẢI DƯƠNG					0
1	25/02/2019	MANUFACTURE			Hoang Van Thu, Hoang Mai, Ha Noi			TRẠM BƠM VĂN SƠN VÀ CHÂU		JOB	VAS19-02C0025		
0		APPROVAL	T.D.DINH	D.V.TRUNG	N.V.TUOC			XUYỀN BẮC GIANG		No.			
REV.	DATE	CONTENTS	DGN'D BY	CHK'D BY	APP'D BY	PROJECT						SHEET NO.	
						Website: http://www.vasco-electric.com.vn						E33	

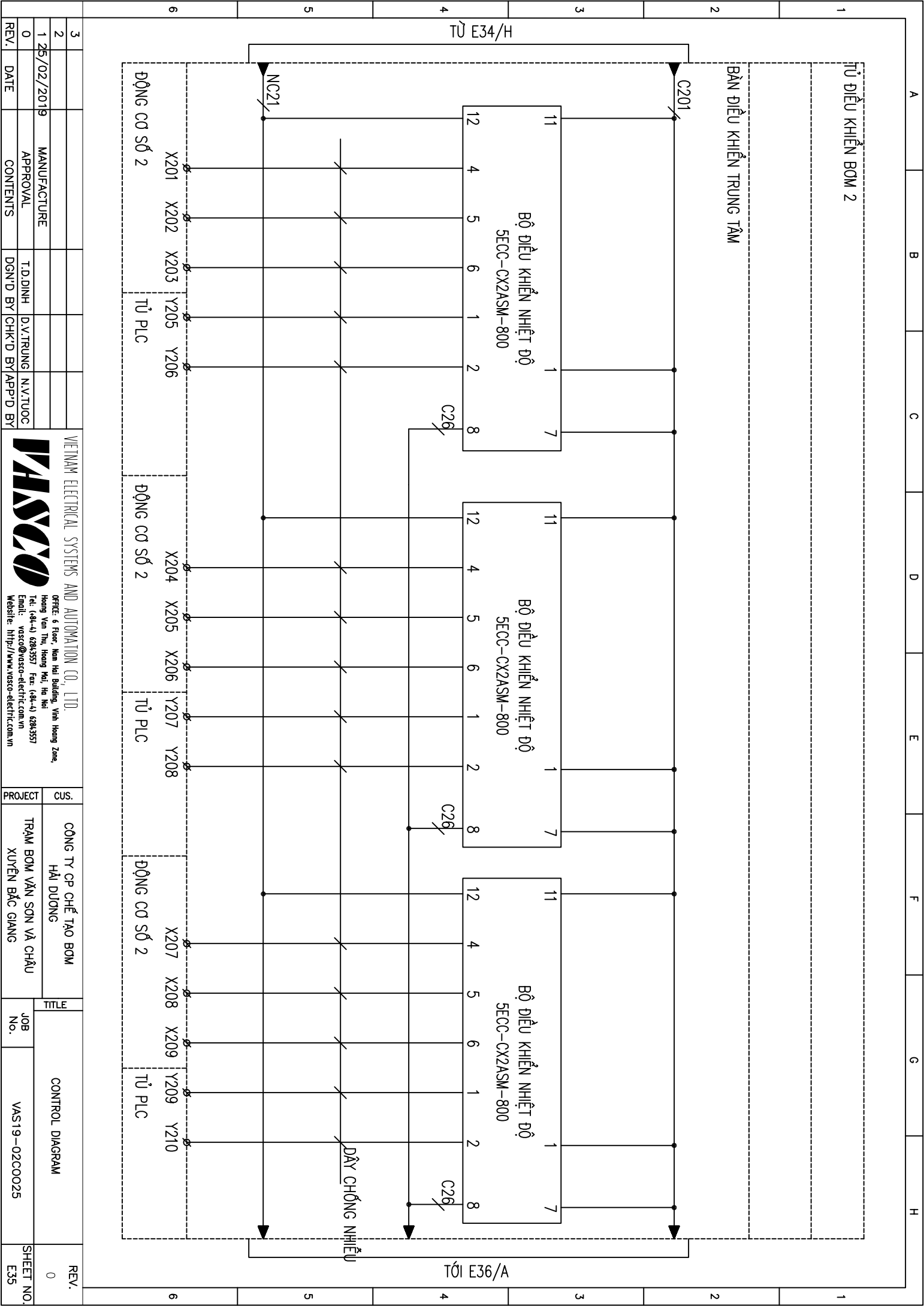


Diagram illustrating the wiring connections for the BÀN ĐIỀU KHIỂN TRUNG TÂM (Central Control Panel) and the TỦ ĐIỀU KHIỂN BƠM 2 (Bore Control Cabinet 2).

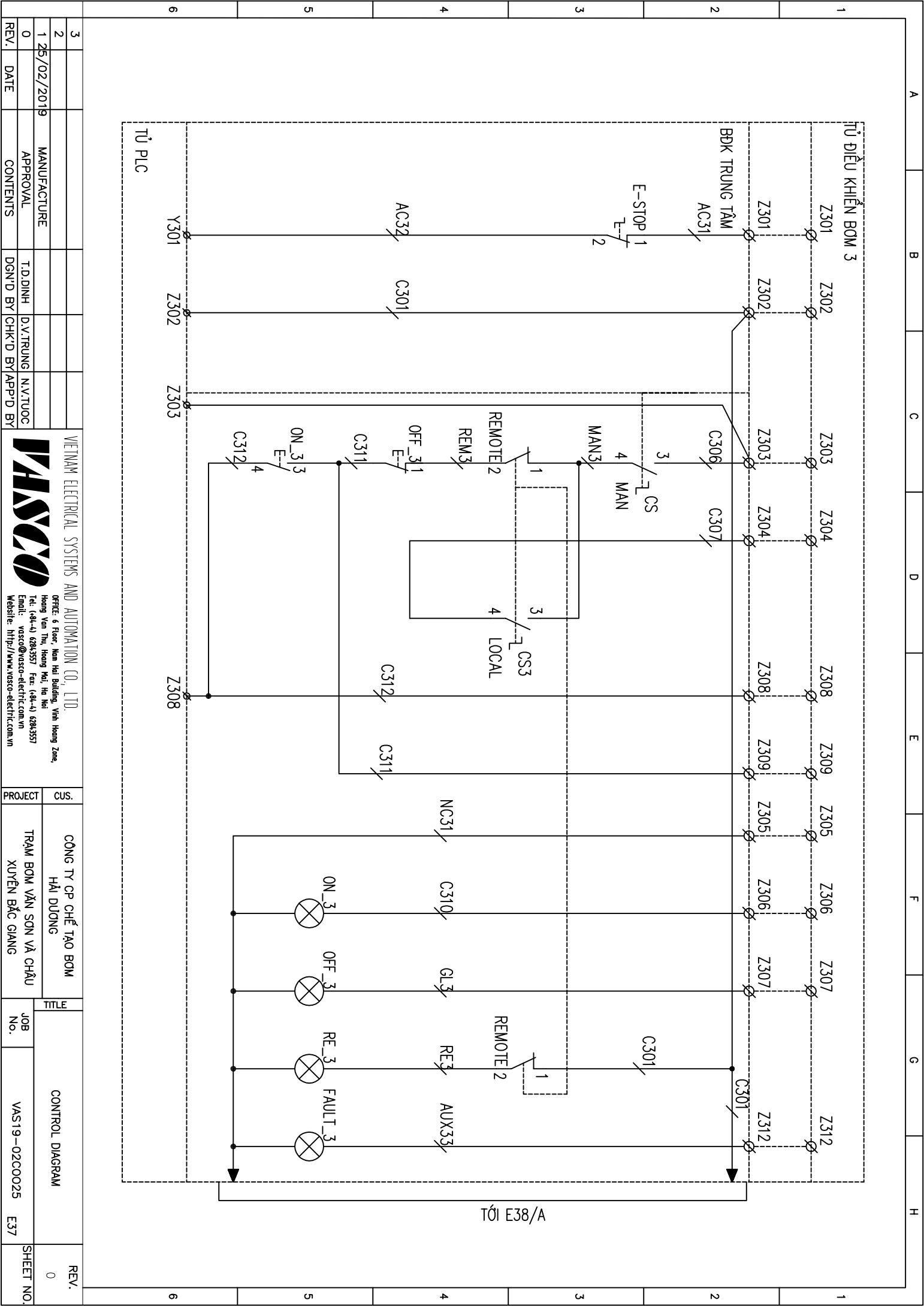
The diagram shows three temperature control units (BỘ ĐIỀU KHIỂN NHIỆT ĐỘ SECC-CX2ASM-800) connected to a central control panel. The units are labeled with terminal numbers 1, 4, 5, 6, 7, 8, 11, and 12.

Key components and connections include:

- Central Control Panel (BÀN ĐIỀU KHIỂN TRUNG TÂM):** Features terminals C201, C26, and NC21.
- Temperature Control Units (BỘ ĐIỀU KHIỂN NHIỆT ĐỘ SECC-CX2ASM-800):** Three units are shown, each with terminals 1, 4, 5, 6, 7, 8, 11, and 12.
- Wiring Connections:**
 - Terminal C201 is connected to terminal 11 of all three temperature control units.
 - Terminal C26 is connected to terminal 7 of all three temperature control units.
 - Terminal NC21 is connected to terminal 12 of all three temperature control units.
- Grounding:** A common ground connection (DÂY CHỒNG NHIỀU) is shown at the bottom.

The diagram also includes a table for the wiring connections, showing the relationship between the temperature control units and the central control panel.

Terminal	Unit 1 (Left)	Unit 2 (Middle)	Unit 3 (Right)
1	1	1	1
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
11	11	11	11
12	12	12	12



3					VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD		CUS.	CÔNG TY CP CHẾ TẠO BƠM		TITLE	CONTROL DIAGRAM		REV.
2					OFFICE: 6 Floor Nam Hai Building Vinh Hung Zone, Hong Van Thu, Hung Hai, Ha Noi			HẢI DƯƠNG					0
1	25/02/2019	MANUFACTURE			Tel: (+84-4) 62843557 Fax: (+84-4) 62843557			TRẠM BƠM VĂN SƠN VÀ CHÂU		JOB No.	VAS19-02C0025		
0		APPROVAL	T.D.DINH	D.V.TRUNG	N.V.TUOC	Email: vasc@vasco-electric.com.vn	PROJECT	XUYỀN BẮC GIANG					SHEET NO.
REV.	DATE	CONTENTS	DGN'D BY	CHK'D BY	APP'D BY	Website: http://www.vasco-electric.com.vn							E37

1 TỦ ĐIỀU KHIỂN BOM 3

2 BÀN ĐIỀU KHIỂN TRUNG TÂM

3 TỪ E38/H

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

98

99

100

101

102

103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

119

120

121

122

123

124

125

126

127

128

129

130

131

132

133

134

135

136

137

138

139

140

141

142

143

144

145

146

147

148

149

150

151

152

153

154

155

156

157

158

159

160

161

162

163

164

165

166

167

168

169

170

171

172

173

174

175

176

177

178

179

180

181

182

183

184

185

186

187

188

189

190

191

192

193

194

195

196

197

198

199

200

201

202

203

204

205

206

207

208

209

210

211

212

213

214

215

216

217

218

219

220

221

222

223

224

225

226

227

228

229

230

231

232

233

234

235

236

237

238

239

240

241

242

243

244

245

246

247

248

249

250

251

252

253

254

255

256

257

258

259

260

261

262

263

264

265

266

267

268

269

270

271

272

273

274

275

276

277

278

279

280

281

282

283

284

285

286

287

288

289

290

291

292

293

294

295

296

297

298

299

300

301

302

303

304

305

306

307

308

309

310

311

312

313

314

315

316

317

318

319

320

321

322

323

324

325

326

327

328

329

330

331

332

333

334

335

336

337

338

339

340

341

342

343

344

345

346

347

348

349

350

351

352

353

354

355

356

357

358

359

360

361

362

363

364

365

366

367

368

369

370

371

372

373

374

375

376

377

378

379

380

381

382

383

384

385

386

387

388

389

390

391

392

393

394

395

396

397

398

399

400

401

402

403

404

405

406

407

408

409

410

411

412

413

414

415

416

417

418

419

420

421

422

423

424

425

426

427

428

429

430

431

432

433

434

435

436

437

438

439

440

441

442

443

444

445

446

447

448

449

450

451

452

453

454

455

456

457

458

459

460

461

462

463

464

465

466

467

468

469

470

471

472

473

474

475

476

477

478

479

480

481

482

483

484

485

486

487

488

489

490

491

492

493

494

495

496

497

498

499

500

501

502

503

504

505

506

507

508

509

510

511

512

513

514

515

516

517

518

519</

Diagram showing the wiring connections for the control system, including the main power supply (TỦ E39/H), the control panel (BÀN ĐIỀU KHIỂN TRUNG TÂM), and the three temperature control units (BỘ ĐIỀU KHIỂN NHIỆT ĐỘ SECC-CX2ASM-800).

The diagram illustrates the electrical connections between the main power supply, the central control panel, and three temperature control units. The main power supply (TỦ E39/H) provides power to the control panel (BÀN ĐIỀU KHIỂN TRUNG TÂM) and the three temperature control units (BỘ ĐIỀU KHIỂN NHIỆT ĐỘ SECC-CX2ASM-800). The control panel is connected to the three temperature control units via a common bus (DÂY CHỒNG NHIỀU). The temperature control units are connected to the main power supply via individual lines (C301, C36, NC31). The diagram also shows the connection of the three temperature control units to the main power supply via a common bus (DÂY CHỒNG NHIỀU).

Legend:

- 1: TỦ ĐIỀU KHIỂN BOM 3
- 2: BÀN ĐIỀU KHIỂN TRUNG TÂM
- 3: TỦ E39/H
- 4: DÂY CHỒNG NHIỀU
- 5: ĐỘNG CƠ SỐ 3
- 6: ĐỘNG CƠ SỐ 3

Wiring Details:

- Temperature Control Unit 1 (Left):** Connected to TỦ ĐIỀU KHIỂN BOM 3 (1) and BÀN ĐIỀU KHIỂN TRUNG TÂM (2). The unit is labeled "BỘ ĐIỀU KHIỂN NHIỆT ĐỘ SECC-CX2ASM-800".
- Temperature Control Unit 2 (Middle):** Connected to TỦ ĐIỀU KHIỂN BOM 3 (1) and BÀN ĐIỀU KHIỂN TRUNG TÂM (2). The unit is labeled "BỘ ĐIỀU KHIỂN NHIỆT ĐỘ SECC-CX2ASM-800".
- Temperature Control Unit 3 (Right):** Connected to TỦ ĐIỀU KHIỂN BOM 3 (1) and BÀN ĐIỀU KHIỂN TRUNG TÂM (2). The unit is labeled "BỘ ĐIỀU KHIỂN NHIỆT ĐỘ SECC-CX2ASM-800".
- Main Power Supply (TỦ E39/H):** Provides power to the control panel and the three temperature control units.
- Control Panel (BÀN ĐIỀU KHIỂN TRUNG TÂM):** Controls the three temperature control units.
- Motor (ĐỘNG CƠ SỐ 3):** Connected to the control panel and the three temperature control units.

TỦ ĐIỀU KHIỂN BƠM 4

TỦ PLC

Legend:

- 1: PUMP 1
- 2: PUMP 2
- 3: PUMP 3
- 4: PUMP 4

Key Components and Connections:

- Emergency Stop (E-STOP):** Labeled 1, 2, 3, 4. Connected to terminals Z401, Z402, Z403, Z408.
- Start/Stop Buttons:**
 - MAN4 (Manual Start/Stop)
 - REMOTE 2 (Remote Start/Stop)
 - REMA (Remote Manual)
 - OFF 41 (Stop)
 - ON 43 (Start)
 - CS (Control Stop)
 - LOCAL (Local Control)
- Interlocking and Protection:**
 - NC41 (Normally Closed)
 - C410, C411, C412 (Interlocking contacts)
 - GL4 (Limit Switch)
 - RE4 (Reverse)
 - AUX43 (Auxiliary)
 - FAULT 4 (Fault Indicator)
- Status Indicators:**
 - ON 4 (Running)
 - OFF 4 (Stop)
 - RE 4 (Reverse)
 - FAULT 4 (Fault)

Wiring Details:

- Terminal Z401: E-STOP 1, AC41, Z401, Z402, Z403, Z408, Y401.
- Terminal Z402: E-STOP 2, AC42, Z402, Z403, Z408.
- Terminal Z403: E-STOP 3, Z403, Z408.
- Terminal Z408: E-STOP 4, Z408, Z403.
- Terminal Y401: Output to Pump 1.

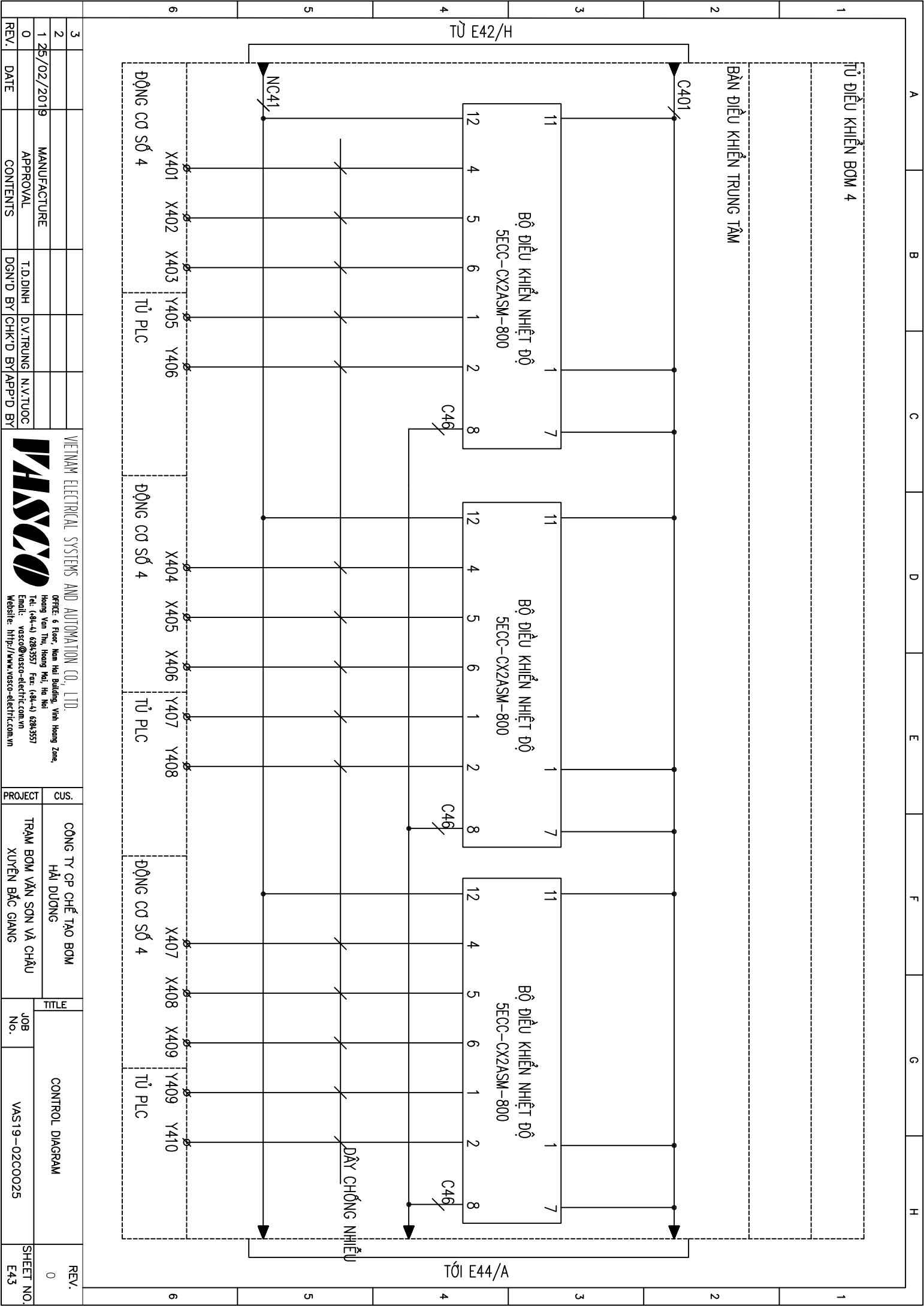


Diagram illustrating the wiring connections for the BOM 4 (BOM 4) control system, showing the connection between the BOM 4 and the BOM 4 control system.

The diagram shows three identical modules, each labeled "BỘ ĐIỀU KHIỂN NHIỆT ĐỘ SECC-CX2ASM-800". Each module has 12 input terminals (1-12) and 8 output terminals (1-8). The modules are connected to a common power supply (C401) and a common ground (NC41).

The wiring connections are as follows:

- Module 1 (Left):
 - Input 11: Connected to C401.
 - Input 12: Connected to C401.
 - Input 4: Connected to C401.
 - Input 5: Connected to C401.
 - Input 6: Connected to C401.
 - Input 1: Connected to C401.
 - Input 2: Connected to C401.
 - Input 7: Connected to C401.
 - Input 8: Connected to C401.
 - Output 1: Connected to C401.
 - Output 2: Connected to C401.
 - Output 7: Connected to C401.
 - Output 8: Connected to C401.
- Module 2 (Middle):
 - Input 11: Connected to C401.
 - Input 12: Connected to C401.
 - Input 4: Connected to C401.
 - Input 5: Connected to C401.
 - Input 6: Connected to C401.
 - Input 1: Connected to C401.
 - Input 2: Connected to C401.
 - Input 7: Connected to C401.
 - Input 8: Connected to C401.
 - Output 1: Connected to C401.
 - Output 2: Connected to C401.
 - Output 7: Connected to C401.
 - Output 8: Connected to C401.
- Module 3 (Right):
 - Input 11: Connected to C401.
 - Input 12: Connected to C401.
 - Input 4: Connected to C401.
 - Input 5: Connected to C401.
 - Input 6: Connected to C401.
 - Input 1: Connected to C401.
 - Input 2: Connected to C401.
 - Input 7: Connected to C401.
 - Input 8: Connected to C401.
 - Output 1: Connected to C401.
 - Output 2: Connected to C401.
 - Output 7: Connected to C401.
 - Output 8: Connected to C401.

The diagram also shows the connection between the BOM 4 and the BOM 4 control system, with the BOM 4 control system connected to the BOM 4 via a common power supply (C401) and a common ground (NC41).

The diagram illustrates a power distribution system with the following components and connections:

- Main Power Source:** NGUỒN HT CAMERA (High Voltage Camera Power Source).
- Central Distribution Unit (TỦ ĐIỆN TỰ DÙNG TỚI):**
 - 52-M1:** MCCB 3P, 20A 10KA, NF63-HV. This unit is connected to a busbar that feeds five sub-circuit breakers.
 - 52-M2:** MCCB 3P, 20A 10KA, NF63-HV. This unit is connected to the HT CAMERA power source.
- Sub-Circuit Breakers (52-F1 to 52-F5):** Each is a 2P MCB (10A 6KA, BH-D6) controlling a specific load:
 - 52-F1:** Controls QUẠT THÔNG GIÓ (Fan).
 - 52-F2:** Controls MẠCH CHUÔNG (Alarm Circuit).
 - 52-F3:** Controls TỦ PLC (PLC Cabinet).
 - 52-F4:** Controls DỰ PHÒNG (Reserve).
 - 52-F5:** Controls DỰ PHÒNG (Reserve).

VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD.

OFFICE: 6 Floor, Nam Hai Building, Vinh Hoang Zone,

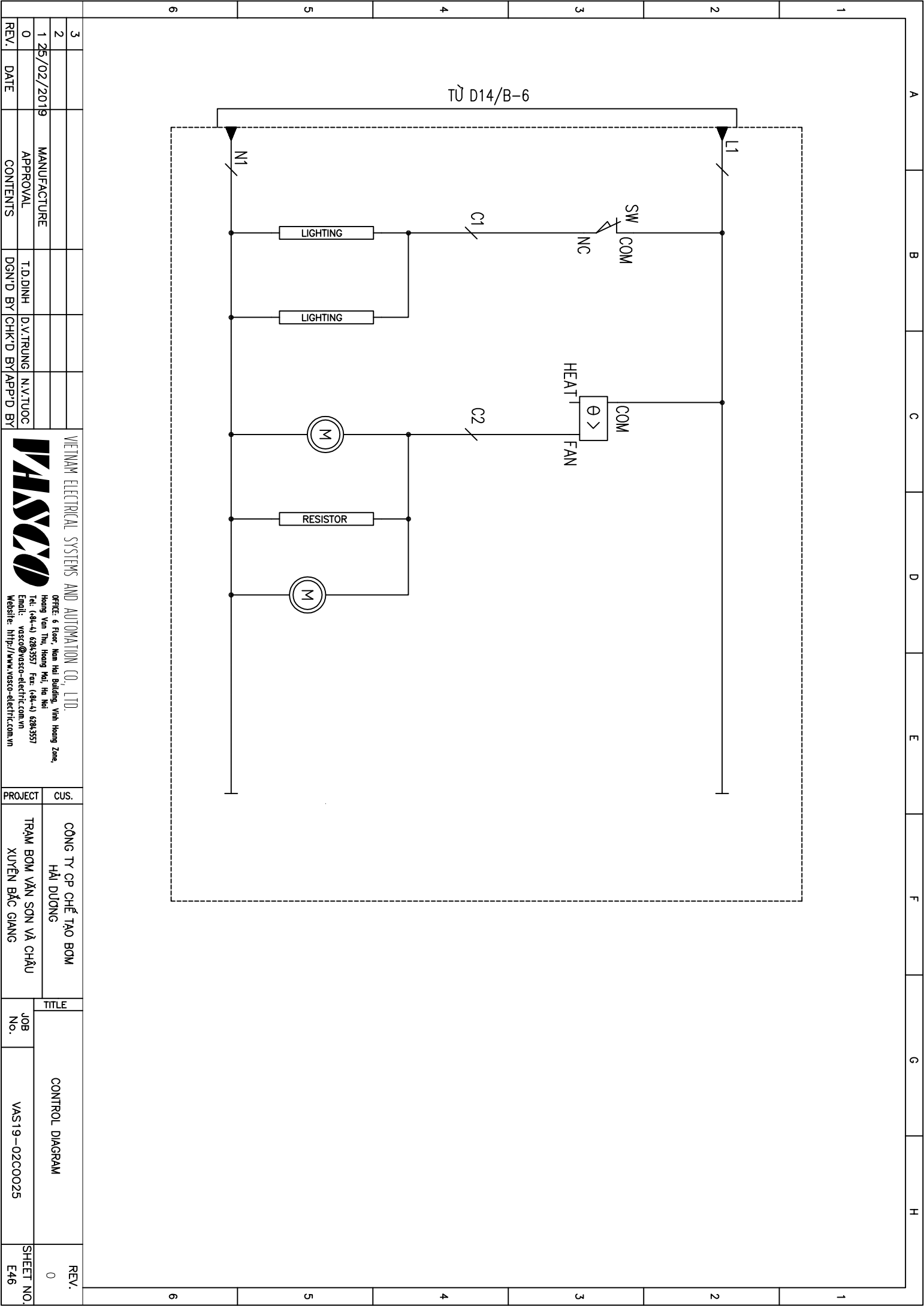
Hoang Van Thu, Hoang Mai, Ha Noi

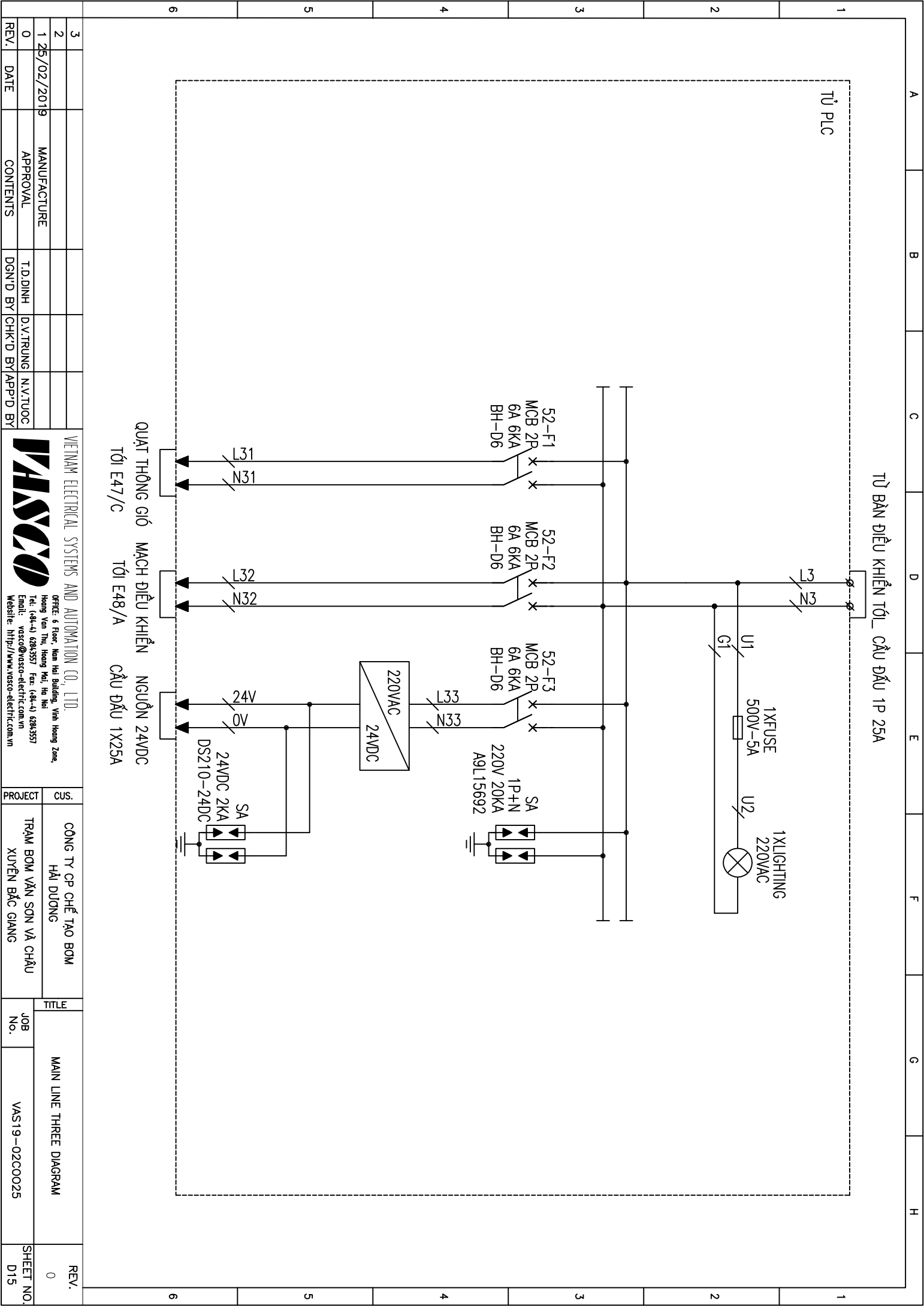
Tel: (+84-4) 62843557 Fax: (+84-4) 62843557

Email: vasco@vasco-electric.com.vn

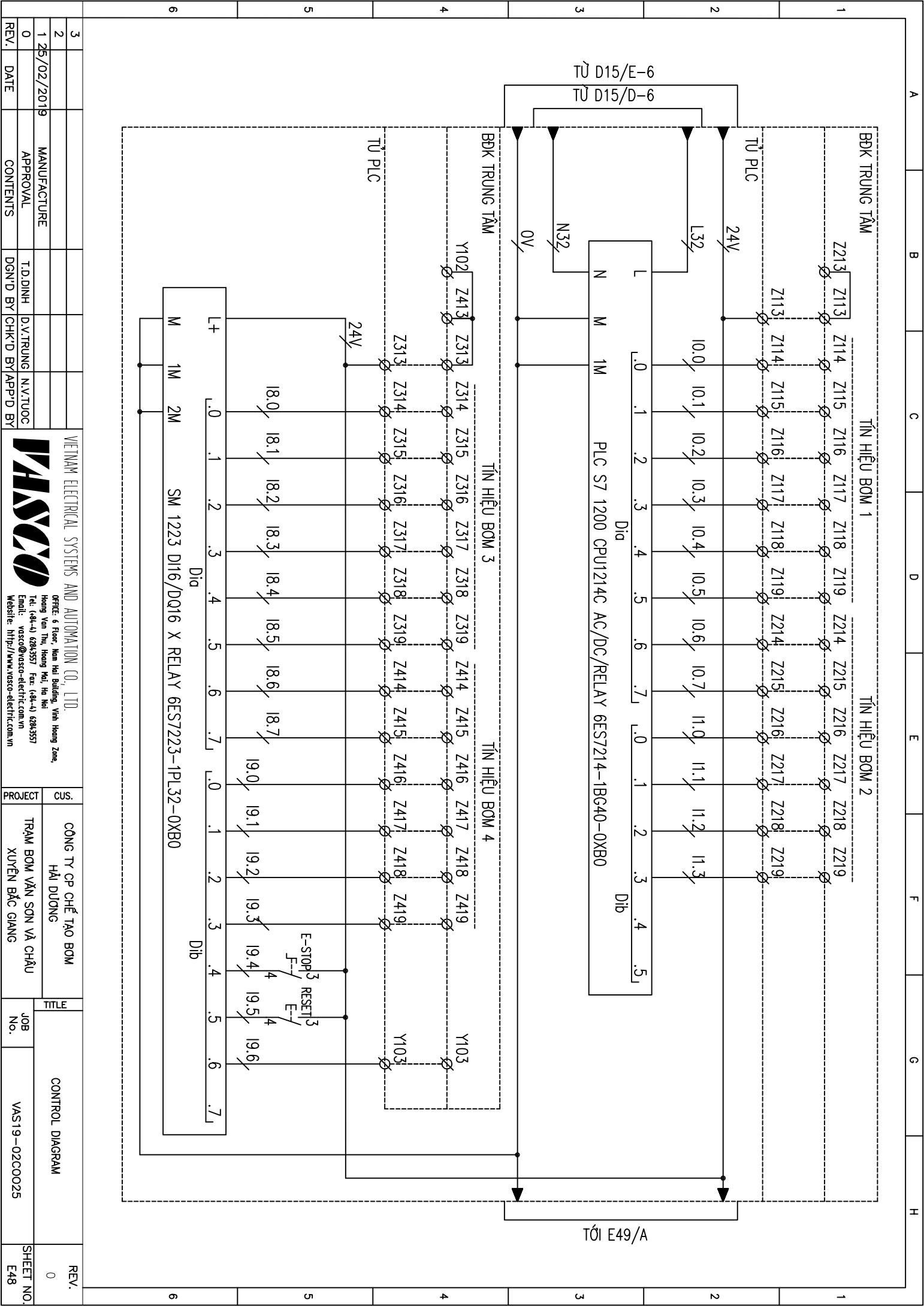
Website: <http://www.vasco-electric.com.vr>

The diagram illustrates the electrical wiring for a power distribution system. It features a central busbar (BĐK TRUNG TÂM) and a distribution unit (TỦ ĐIỆN TỰ DÙNG TỚI). The distribution unit is divided into two main sections: 52-M1 and 52-M2. Section 52-M1 includes a 3P MCCB (52-M1) and a 10KA NF63-HV. Section 52-M2 includes a 3P MCCB (52-M2) and a 10KA NF63-HV. The distribution unit is connected to various loads: QUẠT THÔNG GIÓ (TỚI E46/A), MẠCH CHUÔNG (TỚI E45/A), Tủ PLC (CẦU ĐẦU 1X25A), DỰ PHÒNG, and NGUỒN HT CAMERA. The diagram also shows a 1X2.5MM2 cable connection between the distribution unit and the loads.





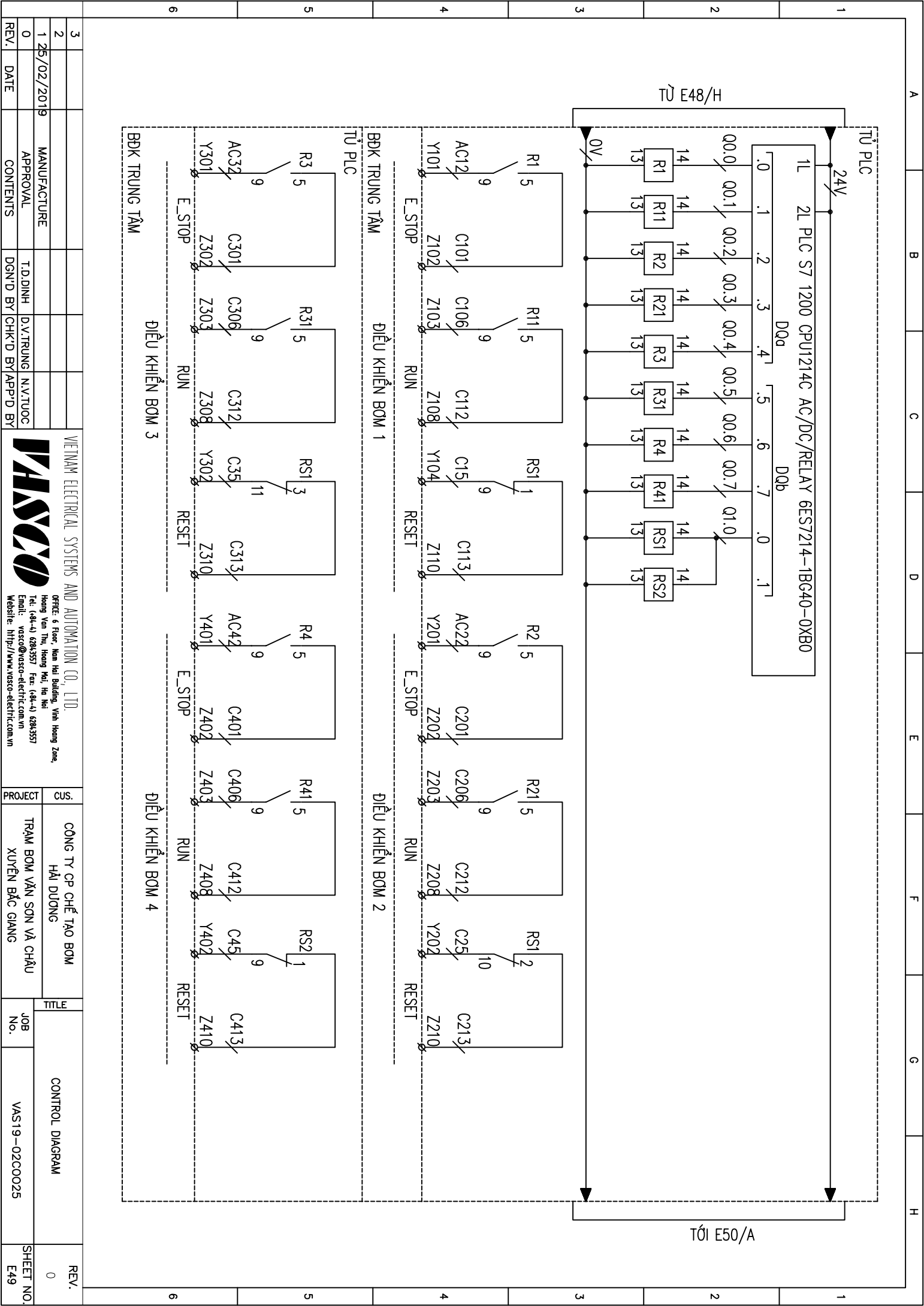
The diagram illustrates an electrical control system for a fan and lighting. It features a power supply section with terminals L31 and N31. The main circuit is divided into two parts: a fan control circuit and a lighting control circuit. The fan control circuit includes a switch (SW) with a normally closed (NC) contact and a normally open (COM) contact, connected to a thermal relay (HEAT) with a normally open (COM) contact. The lighting control circuit includes a switch (SW) with a normally open (COM) contact. Both circuits are protected by a distribution unit (TỦ D15/C-6). The fan is connected to a motor (M) and a thermal relay (HEAT). The lighting is connected to a motor (M) and a thermal relay (HEAT).



REV.	DATE	CONTENTS	DGN'D BY	CHK'D BY	APP'D BY
0		MANUFACTURE	T.D.DINH	D.V.TRUNG	N.V.TUOC
1	25/02/2019	MANUFACTURE			
2					
3					

VIETNAM ELECTRICAL SYSTEMS AND AUTOMATION CO., LTD.	
OFFICE: 6 Floor Nam Hai Building, Vinh Hung Zone, Hong Van Thu, Hung Hai, Ha Noi	
Tel: (+84-4) 62843557 Fax: (+84-4) 62843557	
Email: vasc@vasco-electric.com.vn	
Website: http://www.vasco-electric.com.vn	

PROJECT	CÔNG TY CP CHẾ TẠO BOM HẢI DƯƠNG	TITLE	JOB No.	SHEET No.
TRÀM BOM VẤN SƠN VÀ CHẤU XUYỀN BẮC GIANG		CONTROL DIAGRAM	VAS19-02C0025	E48



A B C D E F G H

BÀN ĐIỀU KHIỂN TRUNG TÂM

BOM 1

BOM 2

DÙNG TOÀN BỘ DÂY CHỐNG NHIỄU

3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												</
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

