U1 DB128L-5.08-2P-GY-S
F17 0451001.MRL
C61 1uF
C62 100nF
ACM7060-701-2PL-TL01 FL1
C63 100nF
C64 4.7uF
D25 STPS340U
D2 SMBJ33A
C2 330uF
+24VDC_FUSED
BLM31PG601SN1L FB1
C45 1uF
C39 100nF
C31 22uF
C29 10nF
GNDRB

U4 AP64501SP-13
BST SW
VIN GND
EN COMP
SS FB
EP
GNDRB
C66 100nF
L1 3.6uH
R33 15.8k
C33 2.7nF
C41 470pF
R34 115k
R48 10
R47 22.1k
C25 22uF
C26 22uF
C27 22uF
+5VRB
GNDRB

U3 OUTPUT 10W 24DC
AC +24V
AC 0V
D26 STPS340U
F18 0451001.MRL
+24VDC_FUSED
GNDRB

CN5 DB129R-5.08-2P-GN-S

GNDRB
L3 PSCLAQ0905-202Y
C46 10uF
C19 100nF

U6 XL1509-12E1
VIN GND
OUTPUT GND
FB GND
ON/OFF GND
GNDRB

+12V
L2 68uH
C7 330uF
D5 STPS340U
C68 100nF
C67 470pF
R63 10
GNDRB GNDRB GNDRB GNDRB

Schematic	RelayBoard		Update Date	2026-01-22
			Create Date	2024-09-24
Page	Power supply		Part Number	JLCPCB-002
Drawn		MiniPLC		
Reviewed				

		VER	SIZE	PAGE	1	OF	6
Modular Control Custom Logic		V0.1	A4	ISYSTEMS AUTOMATION S.R.L.			

Schematic: RelayBoard

Schematic	RelayBoard	
		Update Date: 2026-01-22
		Create Date: 2024-09-24
Page	RELAY	
Drawn		Part Number: ISA-002
Reviewed	MiniPLC	
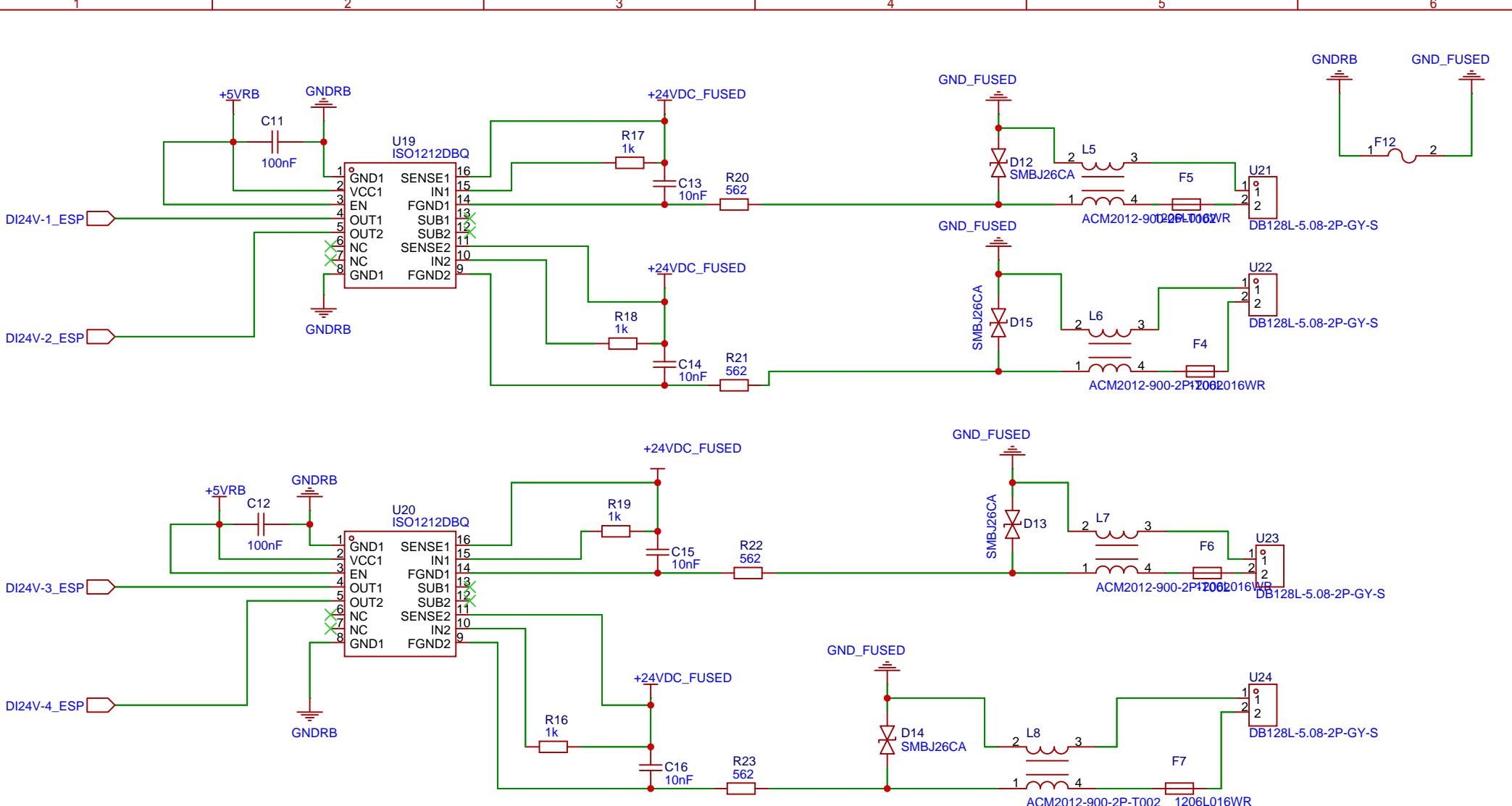
Modular Control Custom Logic — HOMEMASTER

VER	SIZE	PAGE	2	OF	6
V0.1	A4	ISYSTEMS AUTOMATION S.R.L.			

+5VRB

D18
1N5819W

F2
1206L150THWR

CN1
3
2
1
1206L150THWR
F19

D20
DS9503P+T
1
2
3
6
5
4

1-WIRE1_ESP

DB128L-5.08-3P-GN-S

GNDRB

+5VRB

D19
1N5819W

F20
1206L150THWR
1206L150THWR
F21

CN2
3
2
1

D21
DS9503P+T
1
2
3
6
5
4

1-WIRE2_ESP

DB128L-5.08-3P-GN-S

GNDRB

Schematic	RelayBoard		Update Date	2026-01-22
			Create Date	2024-09-24
Page	1-WIRE		Part Number	ISA-002
Drawn		MiniPLC		
Reviewed				
		VER	SIZE	PAGE 4 OF 6
Modular Control Custom Logic		V0.1	A4	ISYSTEMS AUTOMATION S.R.L.

U26
AI0_TOESP
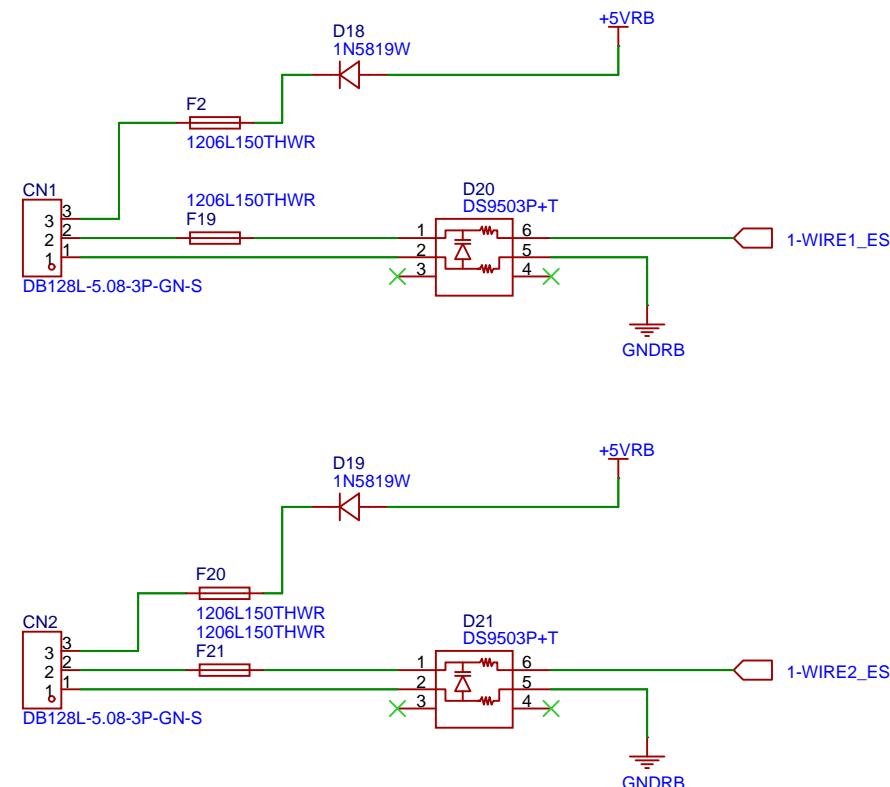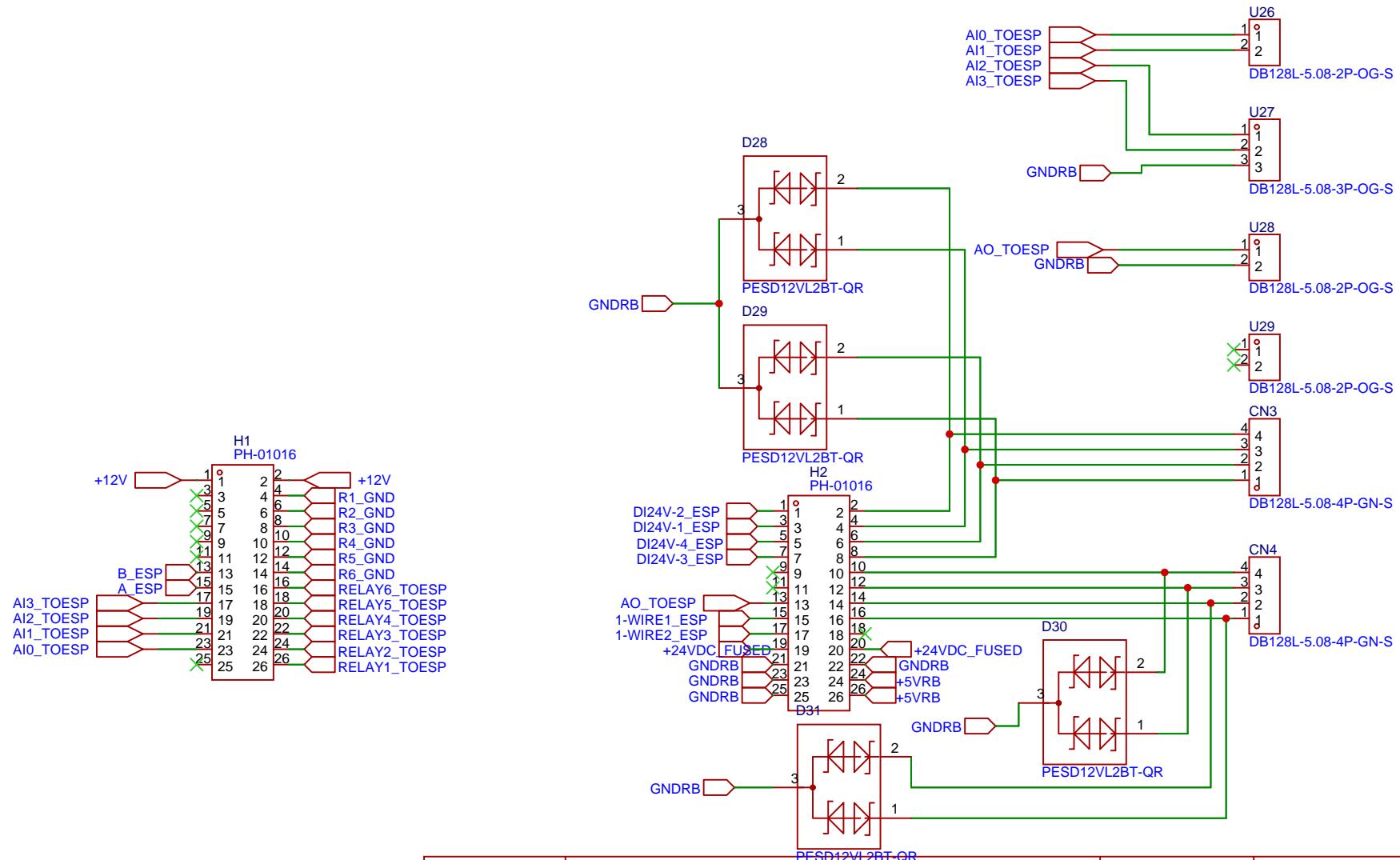AI1_TOESP
AI2_TOESP
AI3_TOESP
1 1
2 2
DB128L-5.08-2P-OG-S

U27
1 1
2 2
3 3
GNDRB
DB128L-5.08-3P-OG-S

D28
PESD12VL2BT-QR

U28
AO_TOESP
GNDRB
1 1
2 2
DB128L-5.08-2P-OG-S

U29
1 1
2 2
DB128L-5.08-2P-OG-S

GNDRB

D29
PESD12VL2BT-QR

CN3
4 4
3 3
2 2
1 1
DB128L-5.08-4P-GN-S

H1
PH-01016

+12V   1 1   2 2   +12V
        3 3   4 4   R1_GND
        5 5   6 6   R2_GND
        7 7   8 8   R3_GND
        9 9   10 10   R4_GND
        11 11   12 12   R5_GND
        13 13   14 14   R6_GND
B_ESP   15 15   16 16   RELAY6_TOESP
A_ESP   17 17   18 18   RELAY5_TOESP
AI3_TOESP 19 19 20 20   RELAY4_TOESP
AI2_TOESP 21 21 22 22   RELAY3_TOESP
AI1_TOESP 23 23 24 24   RELAY2_TOESP
AI0_TOESP 25 25 26 26   RELAY1_TOESP

H2
PH-01016

DI24V-2_ESP   1 1   2 2
DI24V-1_ESP   3 3   4 4
DI24V-4_ESP   5 5   6 6
DI24V-3_ESP   7 7   8 8
              9 9   10 10
              11 11   12 12
AO_TOESP   13 13   14 14
1-WIRE1_ESP   15 15   16 16
1-WIRE2_ESP   17 17   18 18
+24VDC_FUSED 19 19   20 20   +24VDC_FUSED
GNDRB   21 21   22 22   GNDRB
GNDRB   23 23   24 24   +5VRB
GNDRB   25 25   26 26   +5VRB

D30
PESD12VL2BT-QR

GNDRB

CN4
4 4
3 3
2 2
1 1
DB128L-5.08-4P-GN-S

D31
PESD12VL2BT-QR

GNDRB

Schematic	RelayBoard	Update Date	2026-01-21
		Create Date	2024-09-24
Page	CONNECTOR	Part Number	ISA-002
Drawn			
Reviewed		MiniPLC	

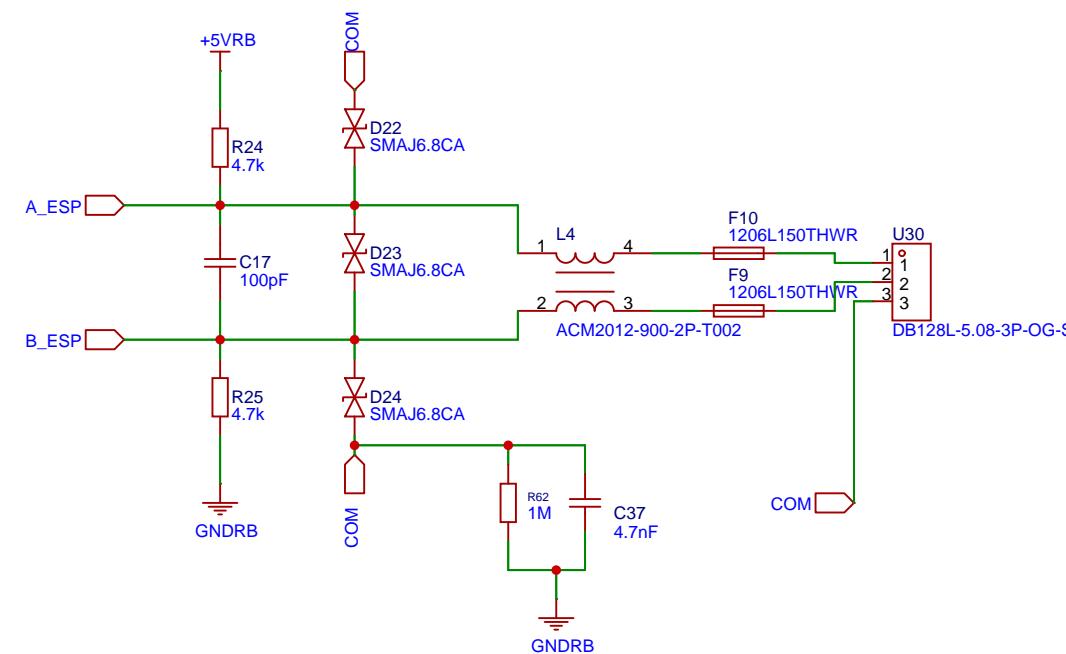| | | VER | SIZE | PAGE | 5 | OF | 6 |
| Modular Control Custom Logic | | V0.1 | A4 | ISYSTEMS AUTOMATION S.R.L. | | | |

+5VRB

COM

R24
4.7k

D22
SMAJ6.8CA

A_ESP

D23
SMAJ6.8CA

C17
100pF

L4

F10
1206L150THWR

U30

1
4

1

2
3

F9
1206L150THWR

2
3

B_ESP

2
3

ACM2012-900-2P-T002

DB128L-5.08-3P-OG-S

R25
4.7k

D24
SMAJ6.8CA

GNDRB

COM

COM

R62
1M

C37
4.7nF

GNDRB

Schematic	RelayBoard			Update Date	2026-01-21
				Create Date	2024-09-27
Page	RS485_TERMINAL			Part Number	ISA-002
Drawn			MiniPLC		
Reviewed					
		VER	SIZE	PAGE 6	OF 6
	Modular Control Custom Logic	V0.1	A4	ISYSTEMS AUTOMATION S.R.L.	