



Technical Report

FMFT Electric Schematic Revision/Update

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Abstract

The recent update of the R-Fieldbus testbed to the new Flexible Manufacturing Field Trial – FMFT – brought up the need for a complete revision of its electric schematic. This document comes as a sort of appendix to the Technical Report “Flexible Manufacturing Field Trial”, providing a reliable source of information about the FMFT electric schematic for further developments and/or maintenances.

Notes

This document is a revision of the electric schematics presented in the document “Sistema de Distribuição e Classificação” produced by TECNOGIAL when the original tested of the R-Fieldbus Project was designed.

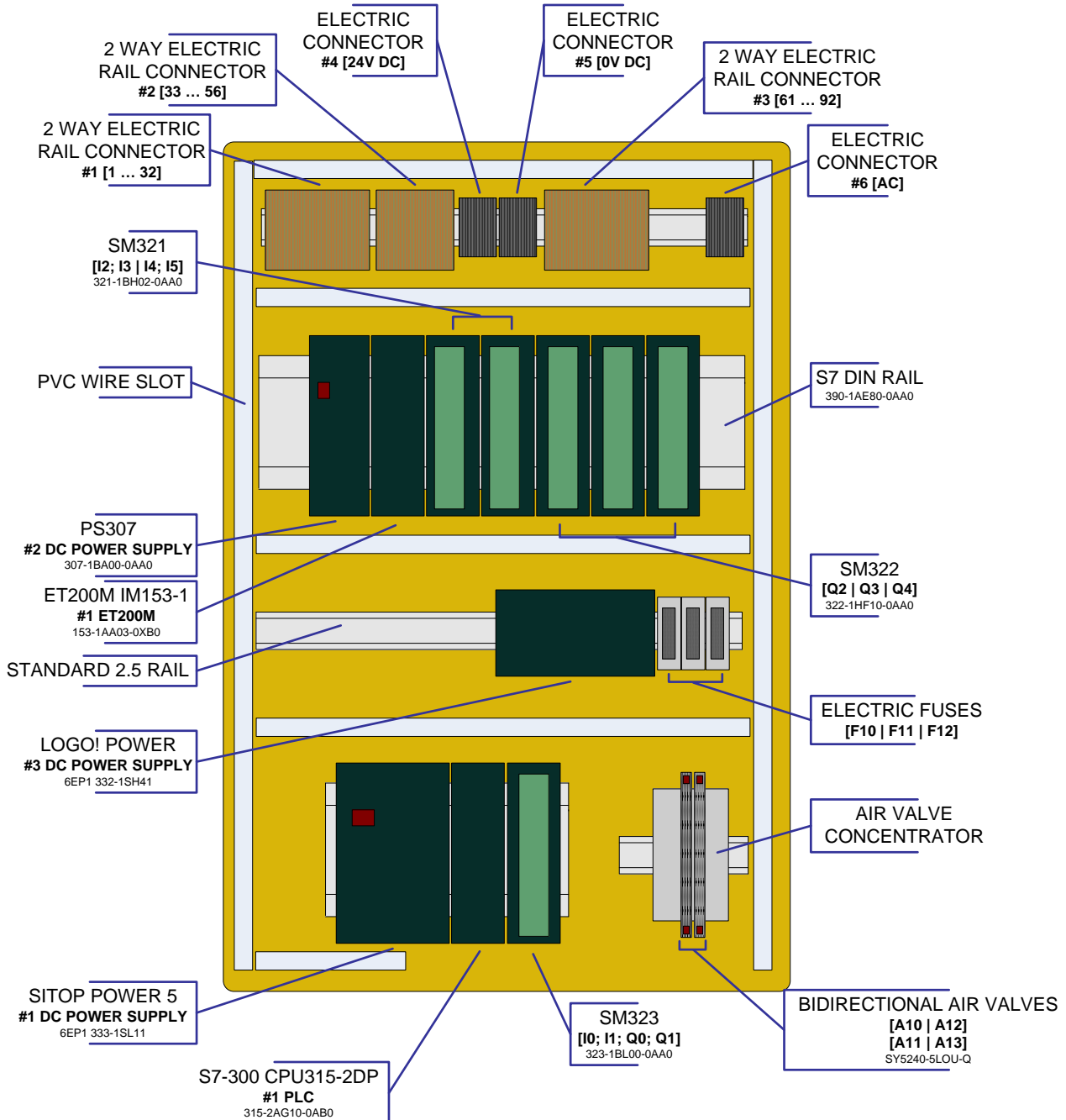
The revision made only concerns the following:

- Pages 1 to 6 titled as “RÉGUA DE BORNES” (*transl.* electric terminals rail)
- Drawings E1 to E23

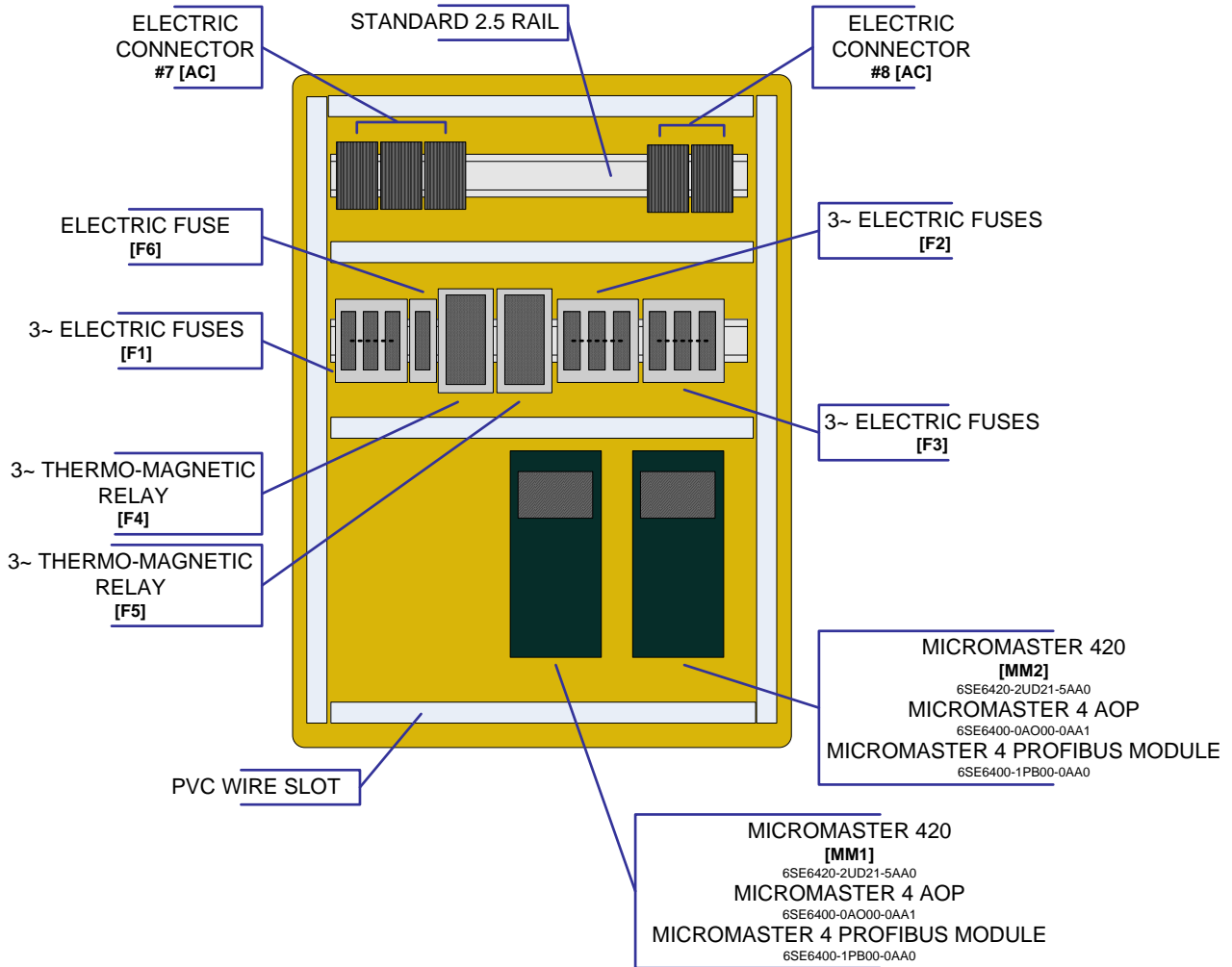
All the other contents of the original document should be considered valid until future revision/update.

Displacement of the Components Inside the Electric Closets

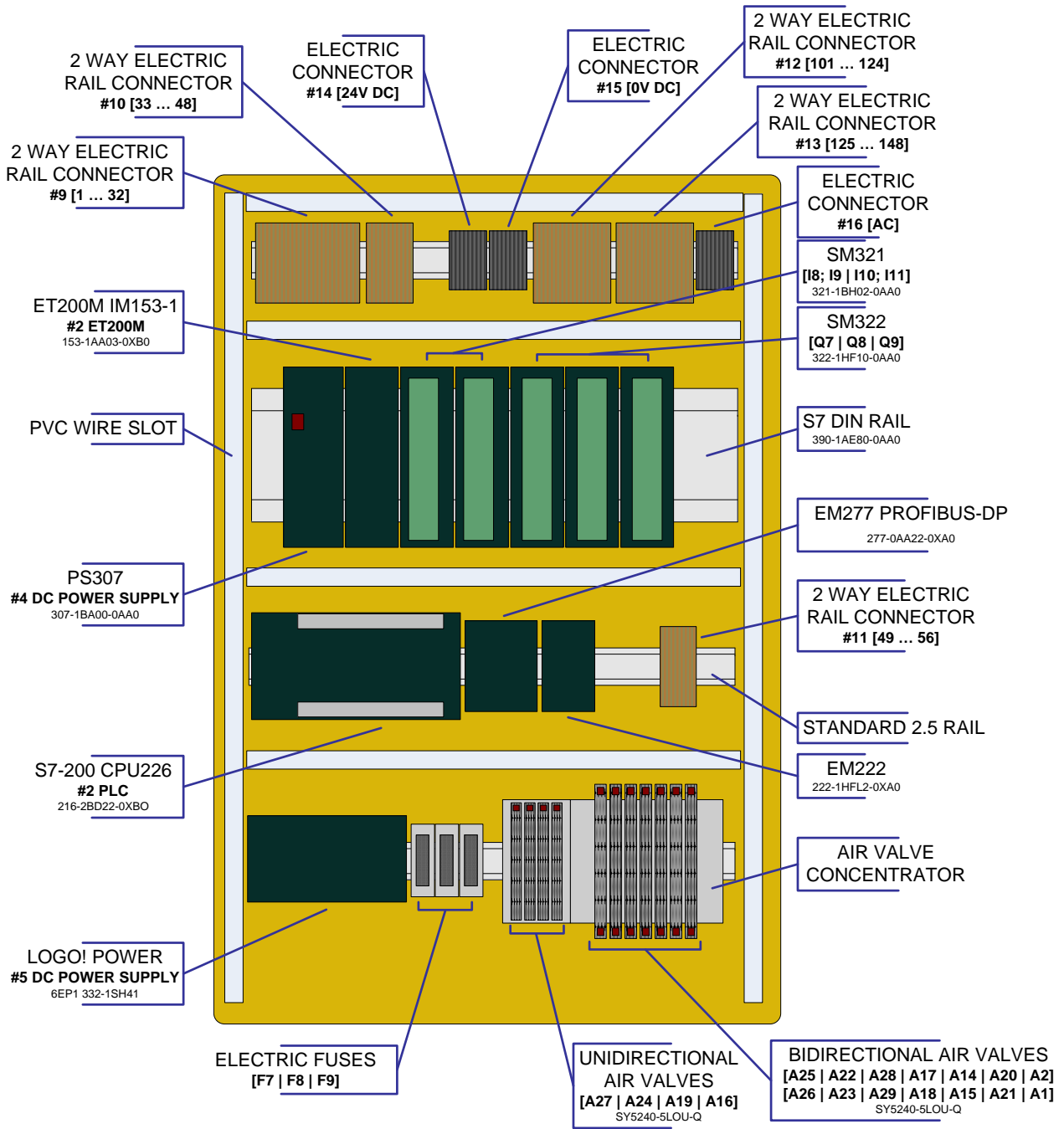
Electric Closet 1



Electric Closet 2



Electric Closet 3



Electric Connectors Correspondence Tables

Electric Connector 1 (at Electric Closet 1)

Terminal	I/O module	I/O module terminal	Type of coupled item	Coupled item label
1	#1 ET200M SM321	I2.0	Sensor	S7
2	#1 ET200M SM321	I2.1	Sensor	S8
3	#1 ET200M SM321	I2.2	Sensor	S11
4	#1 ET200M SM321	I2.3	Sensor	S12
5	#1 ET200M SM321	I2.4	Sensor	S14
6	#1 ET200M SM321	I2.5	Sensor	S15
7	#1 ET200M SM321	I2.6	Sensor	S16
8	#1 ET200M SM321	I2.7	Sensor	S17
9	#1 ET200M SM321	I3.0	Sensor	S17A
10	#1 ET200M SM321	I3.1	Sensor	S18
11	#1 ET200M SM321	I3.2	Sensor	S18A
12	#1 ET200M SM321	I3.3	-	-
13	#1 ET200M SM321	I3.4	-	-
14	#1 ET200M SM321	I3.5	-	-
15	#1 ET200M SM321	I3.6	-	-
16	#1 ET200M SM321	I3.7	-	-
17	#1 ET200M SM321	I4.0	Button	EMER1
18	#1 ET200M SM321	I4.1	-	-
19	#1 ET200M SM321	I4.2	-	-
20	#1 ET200M SM321	I4.3	-	-
21	#1 ET200M SM321	I4.4	-	-
22	#1 ET200M SM321	I4.5	-	-
23	#1 ET200M SM321	I4.6	-	-
24	#1 ET200M SM321	I4.7	-	-
25	#1 ET200M SM321	I5.0	-	-
26	#1 ET200M SM321	I5.1	-	-
27	#1 ET200M SM321	I5.2	-	-
28	#1 ET200M SM321	I5.3	-	-
29	#1 ET200M SM321	I5.4	-	-
30	#1 ET200M SM321	I5.5	-	-
31	#1 ET200M SM321	I5.6	-	-
32	#1 ET200M SM321	I5.7	-	-

Electric Connector 2 (at Electric Closet 1)

Terminal	I/O module	I/O module terminal	Type of coupled item	Coupled item label
33	#1 ET200M SM322	Q2.0	Signaling light	OBBL
34	#1 ET200M SM322	Q2.1	Signaling light	OWBL
35	#1 ET200M SM322	Q2.2	Air valve	A10
36	#1 ET200M SM322	Q2.3	Air valve	A11
37	#1 ET200M SM322	Q2.4	Air valve	A12
38	#1 ET200M SM322	Q2.5	Air valve	A13
39	#1 ET200M SM322	Q2.6	-	-
40	#1 ET200M SM322	Q2.7	-	-
41	#1 ET200M SM322	Q3.0	Signaling light	ORBL
42	#1 ET200M SM322	Q3.1	-	-
43	#1 ET200M SM322	Q3.2	-	-
44	#1 ET200M SM322	Q3.3	-	-
45	#1 ET200M SM322	Q3.4	-	-
46	#1 ET200M SM322	Q3.5	-	-
47	#1 ET200M SM322	Q3.6	-	-
48	#1 ET200M SM322	Q3.7	-	-
49	#1 ET200M SM322	Q4.0	-	-
50	#1 ET200M SM322	Q4.1	-	-
51	#1 ET200M SM322	Q4.2	-	-
52	#1 ET200M SM322	Q4.3	-	-
53	#1 ET200M SM322	Q4.4	-	-
54	#1 ET200M SM322	Q4.5	-	-
55	#1 ET200M SM322	Q4.6	-	-
56	#1 ET200M SM322	Q4.7	-	-

Electric Connector 3 (at Electric Closet 1)

Terminal	I/O module	I/O module terminal	Type of coupled item	Coupled item label
61	Digital I/O	I0.0	-	-
62	Digital I/O	I0.1	-	-
63	Digital I/O	I0.2	-	-
64	Digital I/O	I0.3	-	-
65	Digital I/O	I0.4	-	-
66	Digital I/O	I0.5	-	-
67	Digital I/O	I0.6	-	-
68	Digital I/O	I0.7	-	-

69	Digital I/O	I1.0	-	-
70	Digital I/O	I1.1	-	-
71	Digital I/O	I1.2	-	-
72	Digital I/O	I1.3	-	-
73	Digital I/O	I1.4	-	-
74	Digital I/O	I1.5	-	-
75	Digital I/O	I1.6	-	-
76	Digital I/O	I1.7	-	-
77	Digital I/O	Q0.0	-	-
78	Digital I/O	Q0.1	-	-
79	Digital I/O	Q0.2	-	-
80	Digital I/O	Q0.3	-	-
81	Digital I/O	Q0.4	-	-
82	Digital I/O	Q0.5	-	-
83	Digital I/O	Q0.6	-	-
84	Digital I/O	Q0.7	-	-
85	Digital I/O	Q1.0	-	-
86	Digital I/O	Q1.1	-	-
87	Digital I/O	Q1.2	-	-
88	Digital I/O	Q1.3	-	-
89	Digital I/O	Q1.4	-	-
90	Digital I/O	Q1.5	-	-
91	Digital I/O	Q1.6	-	-
92	Digital I/O	Q1.7	-	-

Electric Connector 9 (at Electric Closet 3)

Terminal	I/O module	I/O module terminal	Type of coupled item	Coupled item label
1	#2 ET200M SM321	I8.0	Sensor	S1A
2	#2 ET200M SM321	I8.1	Sensor	S1
3	#2 ET200M SM321	I8.2	Sensor	S2
4	#2 ET200M SM321	I8.3	Sensor	S9
5	#2 ET200M SM321	I8.4	Sensor	S10
6	#2 ET200M SM321	I8.5	Sensor	S13
7	#2 ET200M SM321	I8.6	NO relay contact	CDC_on
8	#2 ET200M SM321	I8.7	-	-
9	#2 ET200M SM321	I9.0	Button	BSTART
10	#2 ET200M SM321	I9.1	Button	BSTOP
11	#2 ET200M SM321	I9.2	Button	IBload

12	#2 ET200M SM321	I9.3	Button	EMER2
13	#2 ET200M SM321	I9.4	-	-
14	#2 ET200M SM321	I9.5	-	-
15	#2 ET200M SM321	I9.6	-	-
16	#2 ET200M SM321	I9.7	-	-
17	#2 ET200M SM321	I10.0	-	-
18	#2 ET200M SM321	I10.1	-	-
19	#2 ET200M SM321	I10.2	-	-
20	#2 ET200M SM321	I10.3	-	-
21	#2 ET200M SM321	I10.4	-	-
22	#2 ET200M SM321	I10.5	-	-
23	#2 ET200M SM321	I10.6	-	-
24	#2 ET200M SM321	I10.7	-	-
25	#2 ET200M SM321	I11.0	-	-
26	#2 ET200M SM321	I11.1	-	-
27	#2 ET200M SM321	I11.2	-	-
28	#2 ET200M SM321	I11.3	-	-
29	#2 ET200M SM321	I11.4	-	-
30	#2 ET200M SM321	I11.5	-	-
31	#2 ET200M SM321	I11.6	-	-
32	#2 ET200M SM321	I11.7	-	-

Electric Connector 10 (at Electric Closet 3)

Terminal	I/O module	I/O module terminal	Type of coupled item	Coupled item label
33	#2 ET200M SM322	Q7.0	Air valve	A1
34	#2 ET200M SM322	Q7.1	Air valve	A2
35	#2 ET200M SM322	Q7.2	-	-
36	#2 ET200M SM322	Q7.3	-	-
37	#2 ET200M SM322	Q7.4	-	-
38	#2 ET200M SM322	Q7.5	-	-
39	#2 ET200M SM322	Q7.6	-	-
40	#2 ET200M SM322	Q7.7	-	-
41	#2 ET200M SM322	Q8.0	Signaling light	MRL
42	#2 ET200M SM322	Q8.1	Signaling light	MYL
43	#2 ET200M SM322	Q8.2	Signaling light	MGL
44	#2 ET200M SM322	Q8.3	Signaling light	OBGL
45	#2 ET200M SM322	Q8.4	Signaling light	IBBL
46	#2 ET200M SM322	Q8.5	Signaling light	IBGL

47	#2 ET200M SM322	Q8.6	Relay coil	CDC_control
48	#2 ET200M SM322	Q8.7	#2 PLC input	S300_ready

Electric Connector 11 (at Electric Closet 3)

49	#2 ET200M SM322	Q9.0	230V lamp	Class1_light
50	#2 ET200M SM322	Q9.1	230V lamp	Class2_light
51	#2 ET200M SM322	Q9.2	(230V)	-
52	#2 ET200M SM322	Q9.3	(230V)	-
53	#2 ET200M SM322	Q9.4	(230V)	-
54	#2 ET200M SM322	Q9.5	(230V)	-
55	#2 ET200M SM322	Q9.6	(230V)	-
56	#2 ET200M SM322	Q9.7	(230V)	-

Electric Connector 12 (at Electric Closet 3)

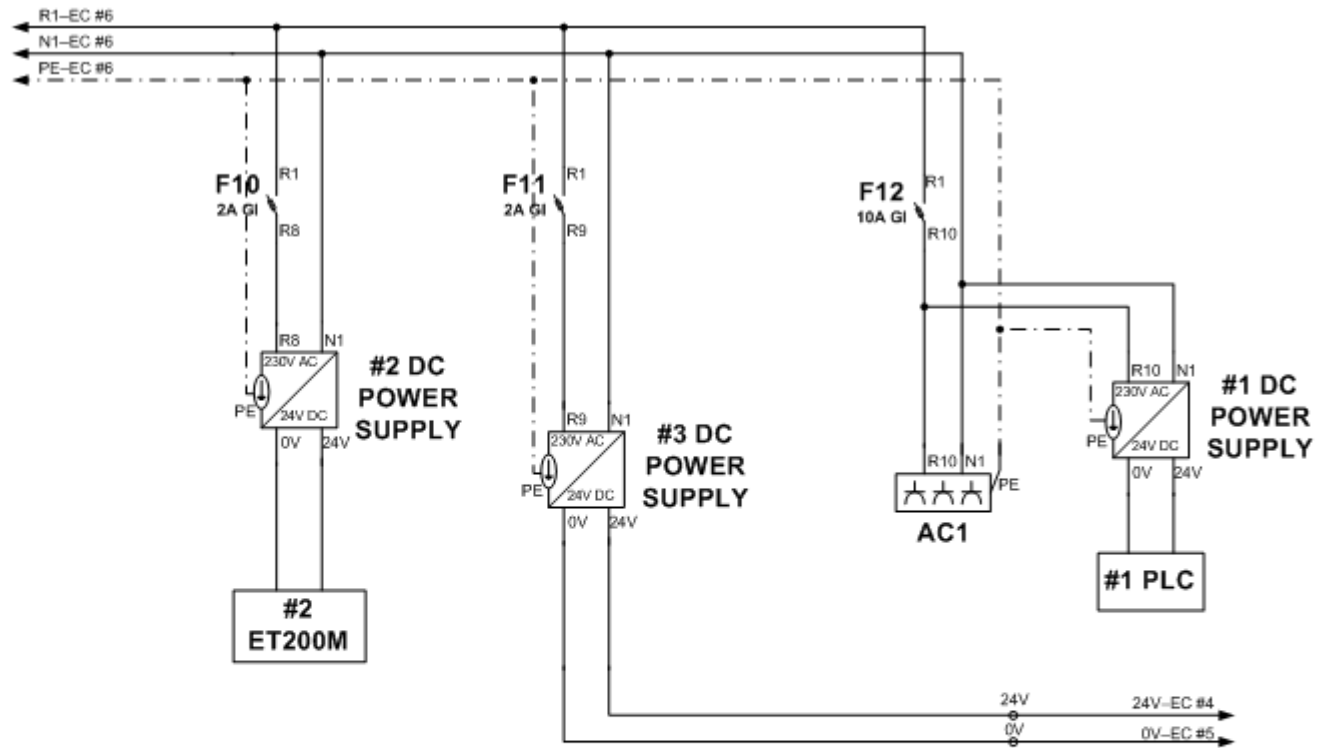
Terminal	I/O module	I/O module terminal	Type of coupled item	Coupled item label
101	#2 PLC	I0.0	Sensor	S19
102	#2 PLC	I0.1	Sensor	S20
103	#2 PLC	I0.2	Sensor	S21
104	#2 PLC	I0.3	Sensor	S22
105	#2 PLC	I0.4	Sensor	S23
106	#2 PLC	I0.5	Sensor	S24
107	#2 PLC	I0.6	Sensor	S25
108	#2 PLC	I0.7	Sensor	S26
109	#2 PLC	I1.0	Sensor	S19A
110	#2 PLC	I1.1	Sensor	S20A
111	#2 PLC	I1.2	Sensor	S21A
112	#2 PLC	I1.3	Sensor	S22A
113	#2 PLC	I1.4	Sensor	G1_ok
114	#2 PLC	I1.5	Sensor	G2_OK
115	#2 PLC	I1.6	Sensor	G3_OK
116	#2 PLC	I1.7	Sensor	G4_OK
117	#2 PLC	I2.0	#2 ET200M output	S300_ready
118	#2 PLC	I2.1	-	-
119	#2 PLC	I2.2	-	-
120	#2 PLC	I2.3	-	-
121	#2 PLC	I2.4	-	-
122	#2 PLC	I2.5	-	-

123	#2 PLC	I2.6	-	-
124	#2 PLC	I2.7	-	-

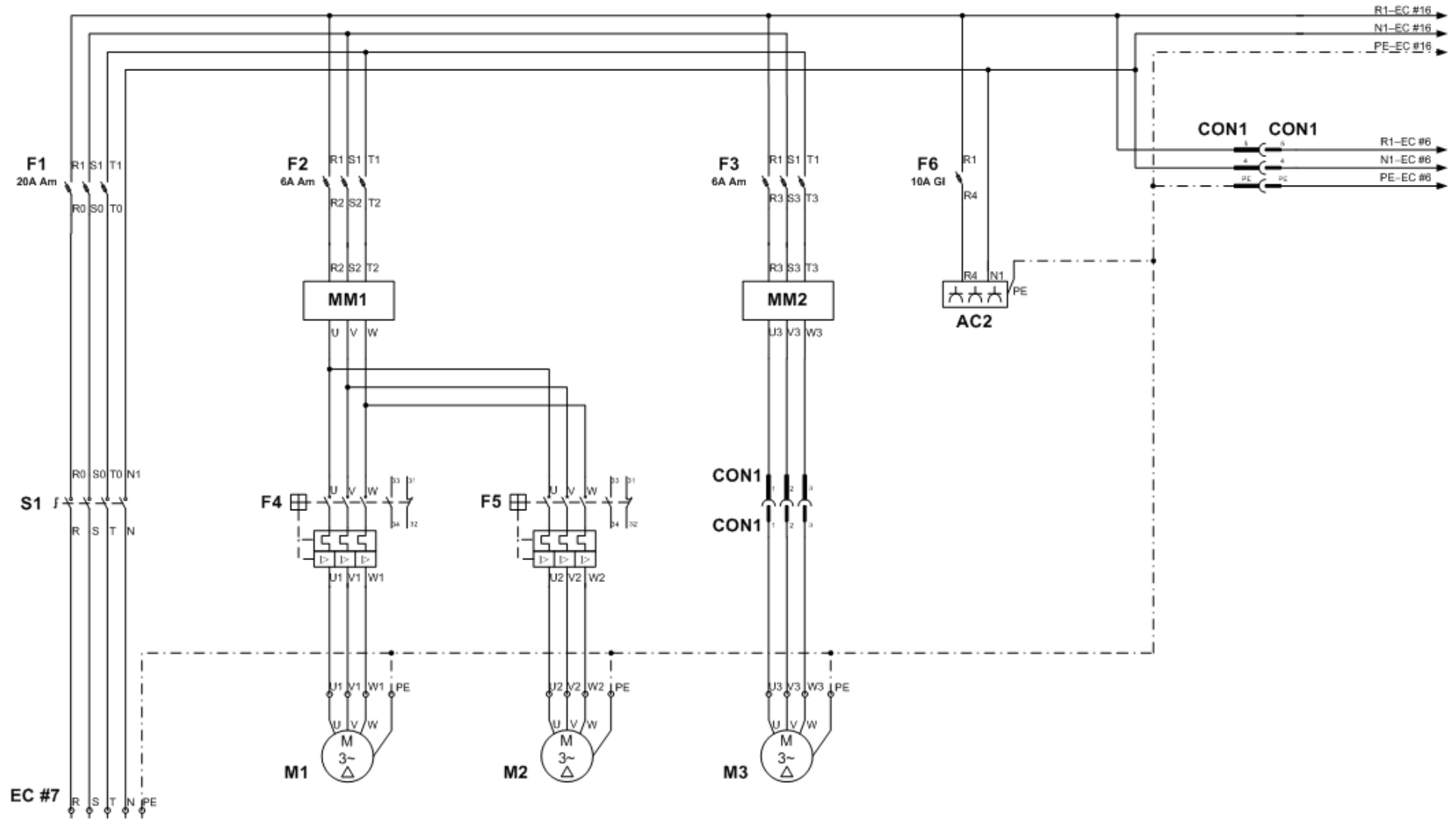
Electric Connector 13 (at Electric Closet 3)

Terminal	I/O module	I/O module terminal	Type of coupled item	Coupled item label
125	#2 PLC	Q0.0	Air valve	A14
126	#2 PLC	Q0.1	Air valve	A15
127	#2 PLC	Q0.2	Air valve	A16
128	#2 PLC	Q0.3	Air valve	A17
129	#2 PLC	Q0.4	Air valve	A18
130	#2 PLC	Q0.5	Air valve	A19
131	#2 PLC	Q0.6	Air valve	A20
132	#2 PLC	Q0.7	Air valve	A21
133	#2 PLC	Q1.0	Air valve	A22
134	#2 PLC	Q1.1	Air valve	A23
135	#2 PLC	Q1.2	Air valve	A24
136	#2 PLC	Q1.3	Air valve	A25
137	#2 PLC	Q1.4	Air valve	A26
138	#2 PLC	Q1.5	Air valve	A27
139	#2 PLC	Q1.6	Air valve	A28
140	#2 PLC	Q1.7	Air valve	A29
141	#2 PLC EM222	Q2.0	-	-
142	#2 PLC EM222	Q2.1	-	-
143	#2 PLC EM222	Q2.2	-	-
144	#2 PLC EM222	Q2.3	-	-
145	#2 PLC EM222	Q2.4	-	-
146	#2 PLC EM222	Q2.5	-	-
147	#2 PLC EM222	Q2.6	-	-
148	#2 PLC EM222	Q2.7	-	-

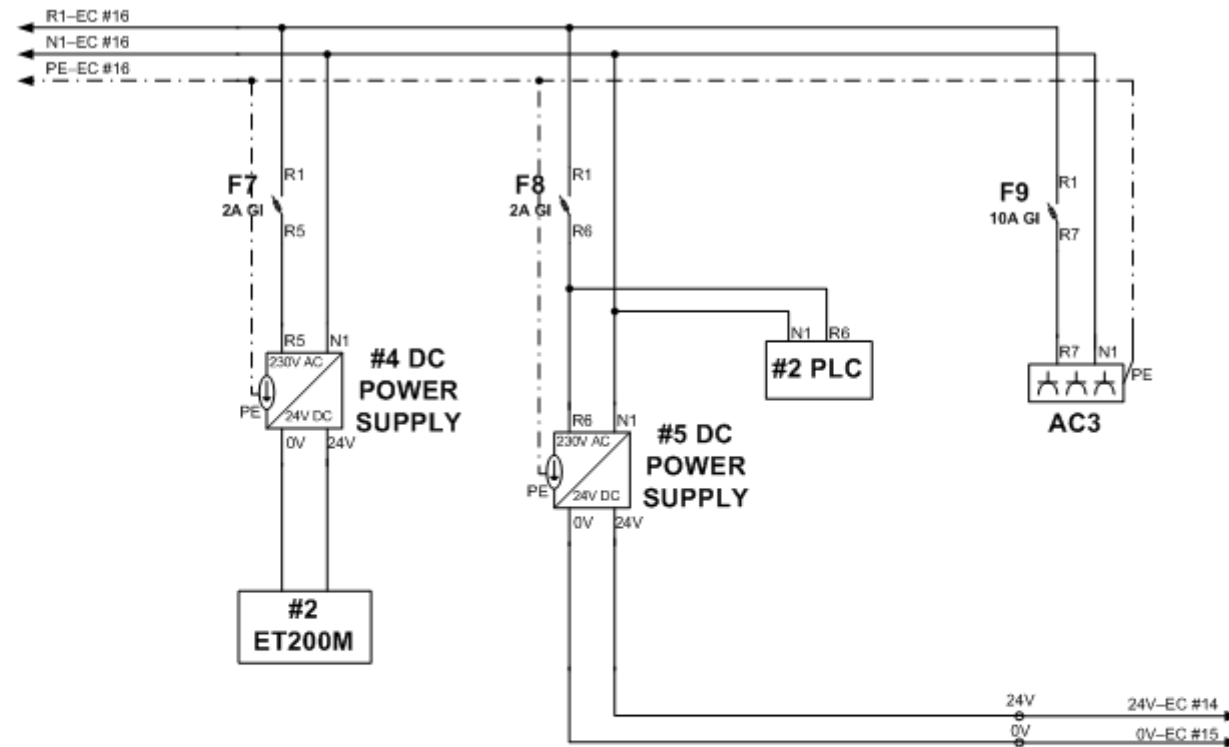
Electric Schematic



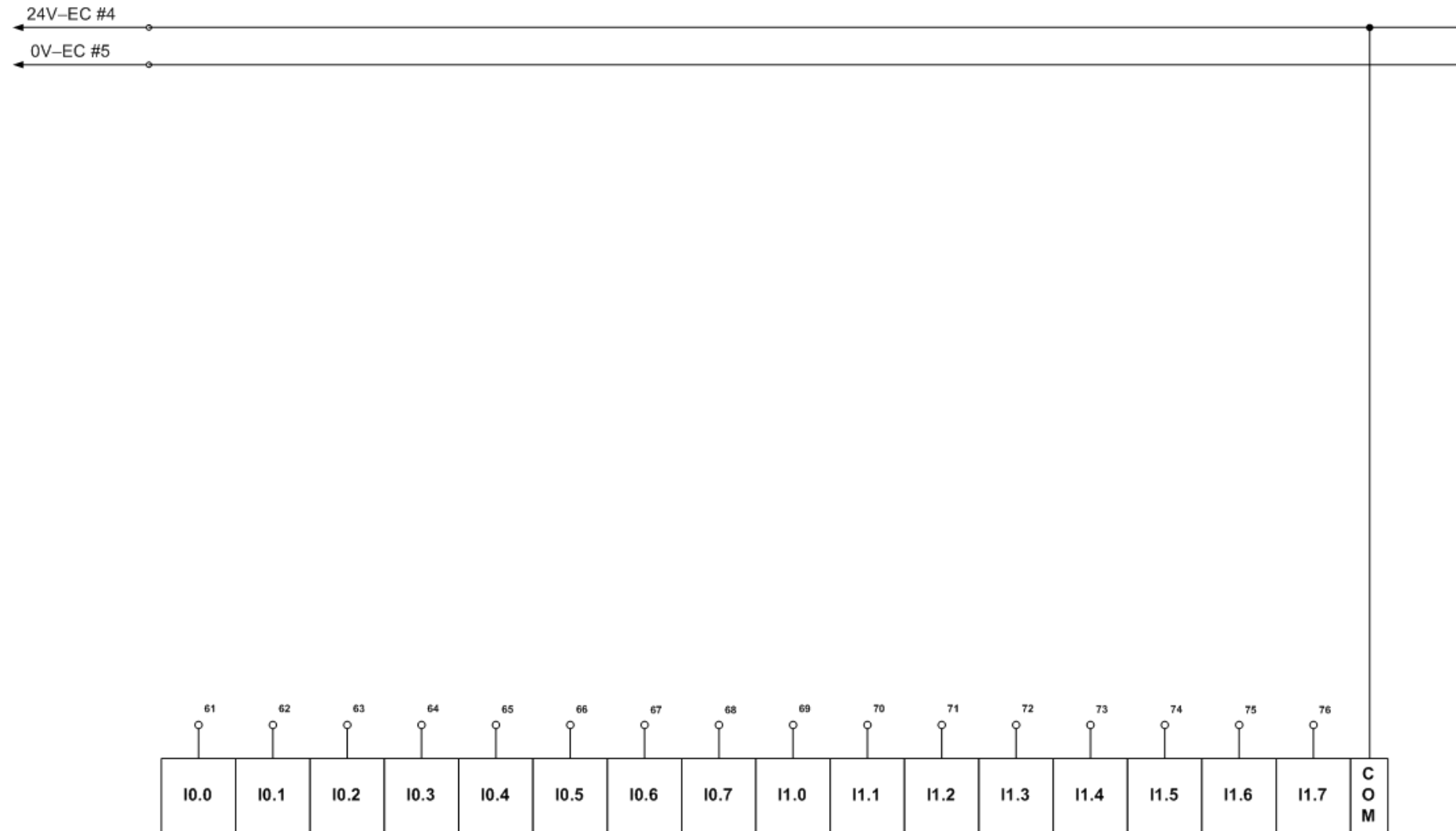
#1 Electric Closet



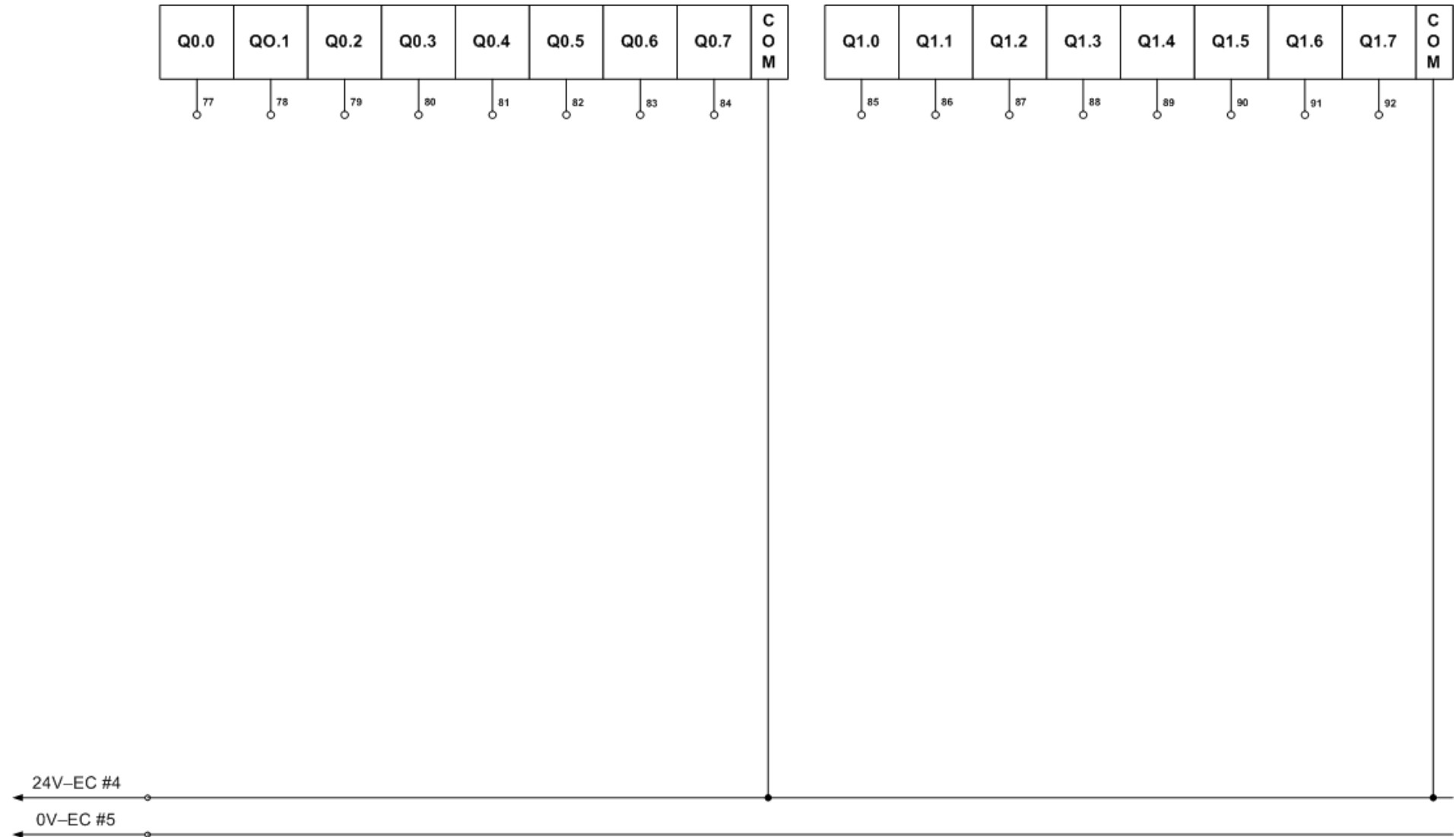
#2 Electric Closet



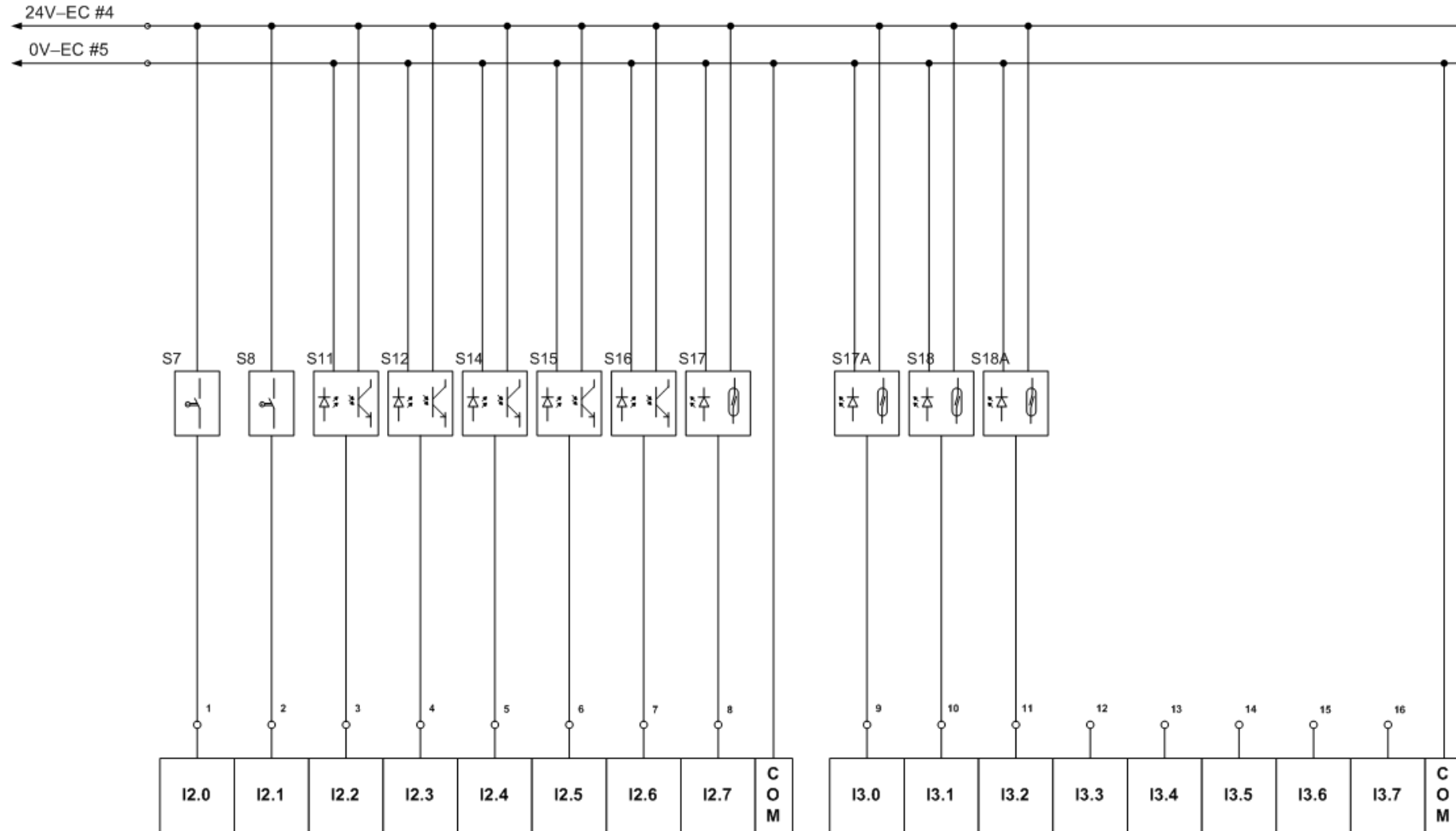
#3 Electric Closet



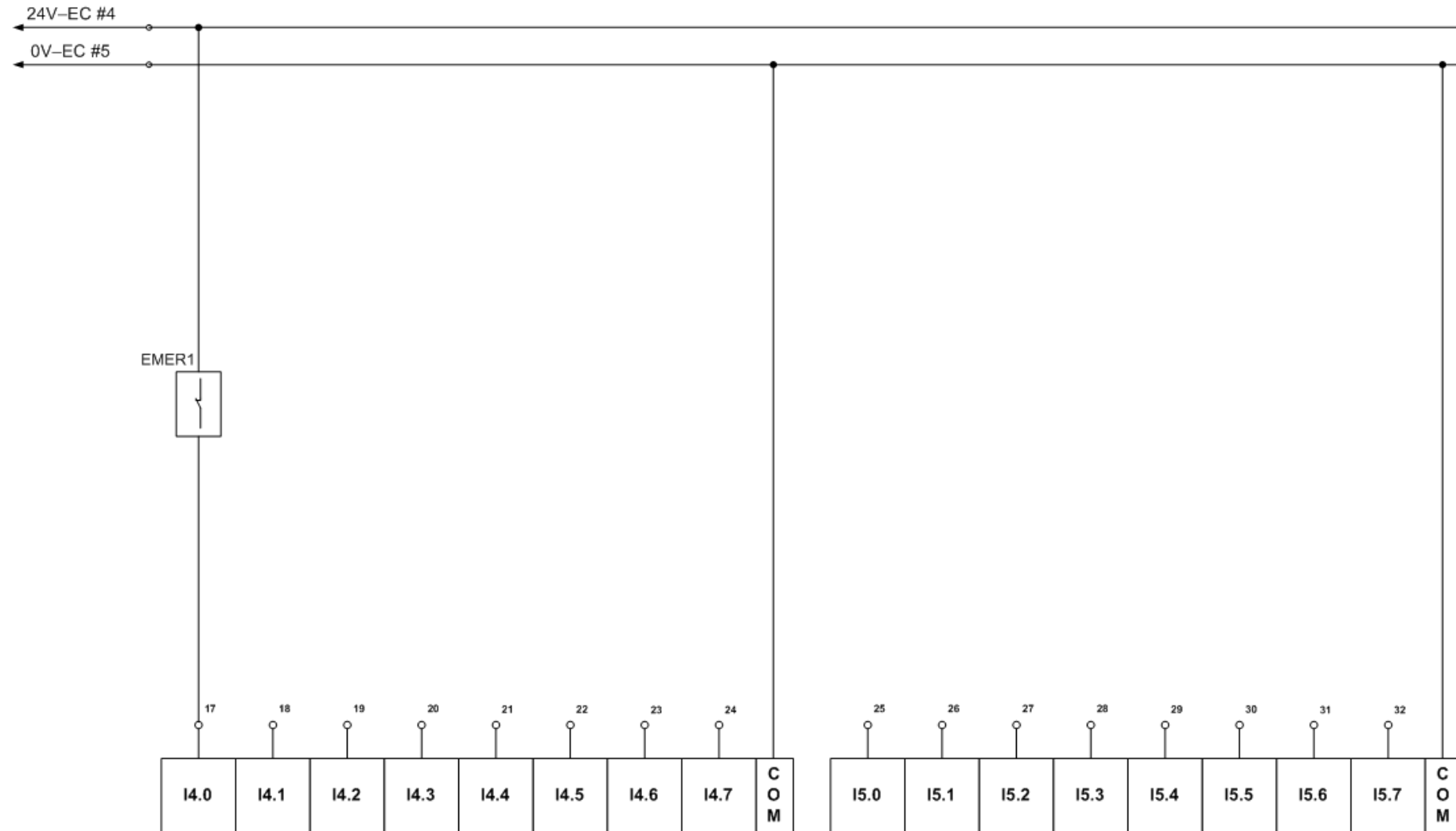
#1 Digital I/O-SM323 @ #1 Electric Closet



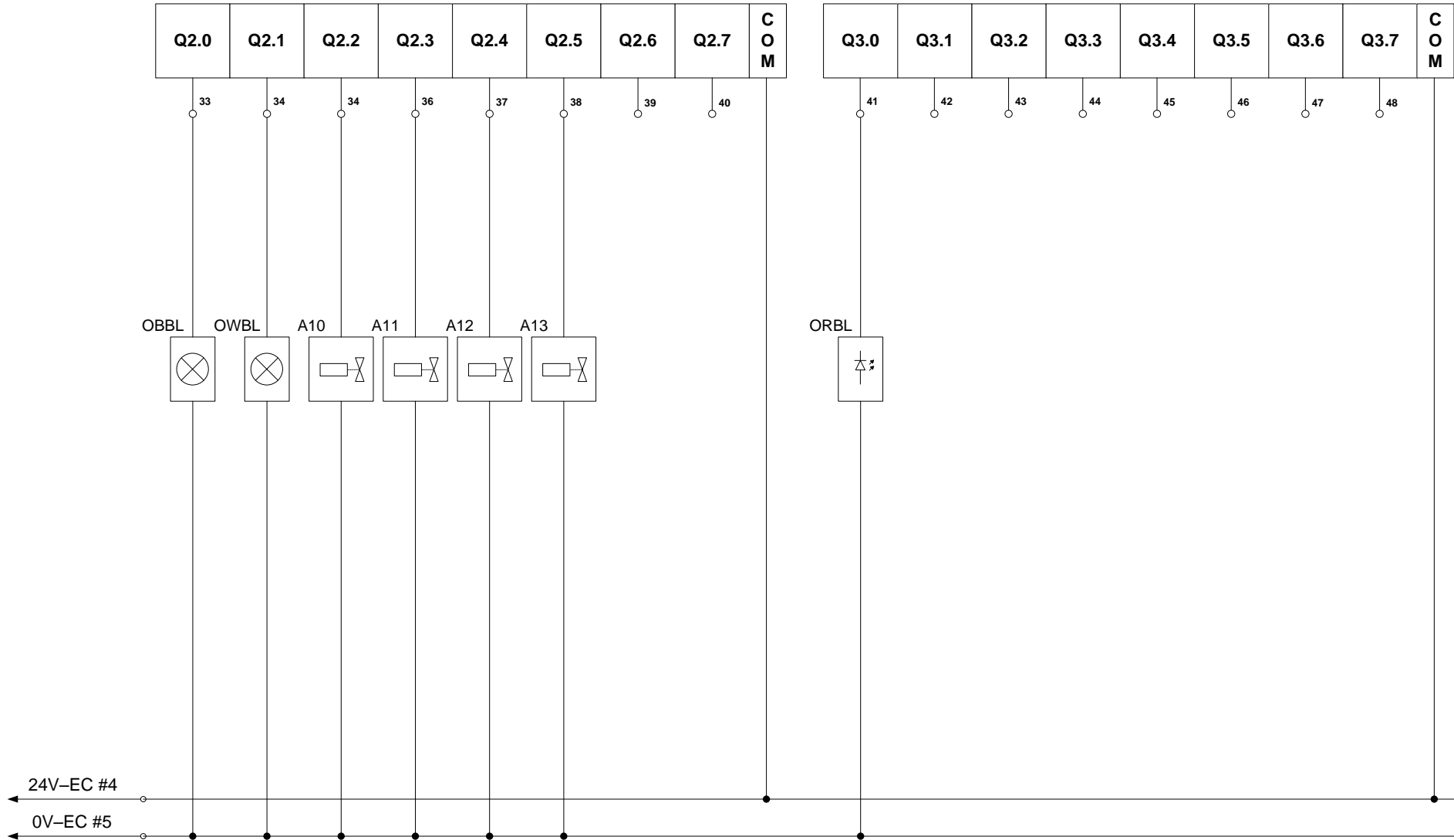
#1 Digital I/O-SM323 @ #1 Electric Closet



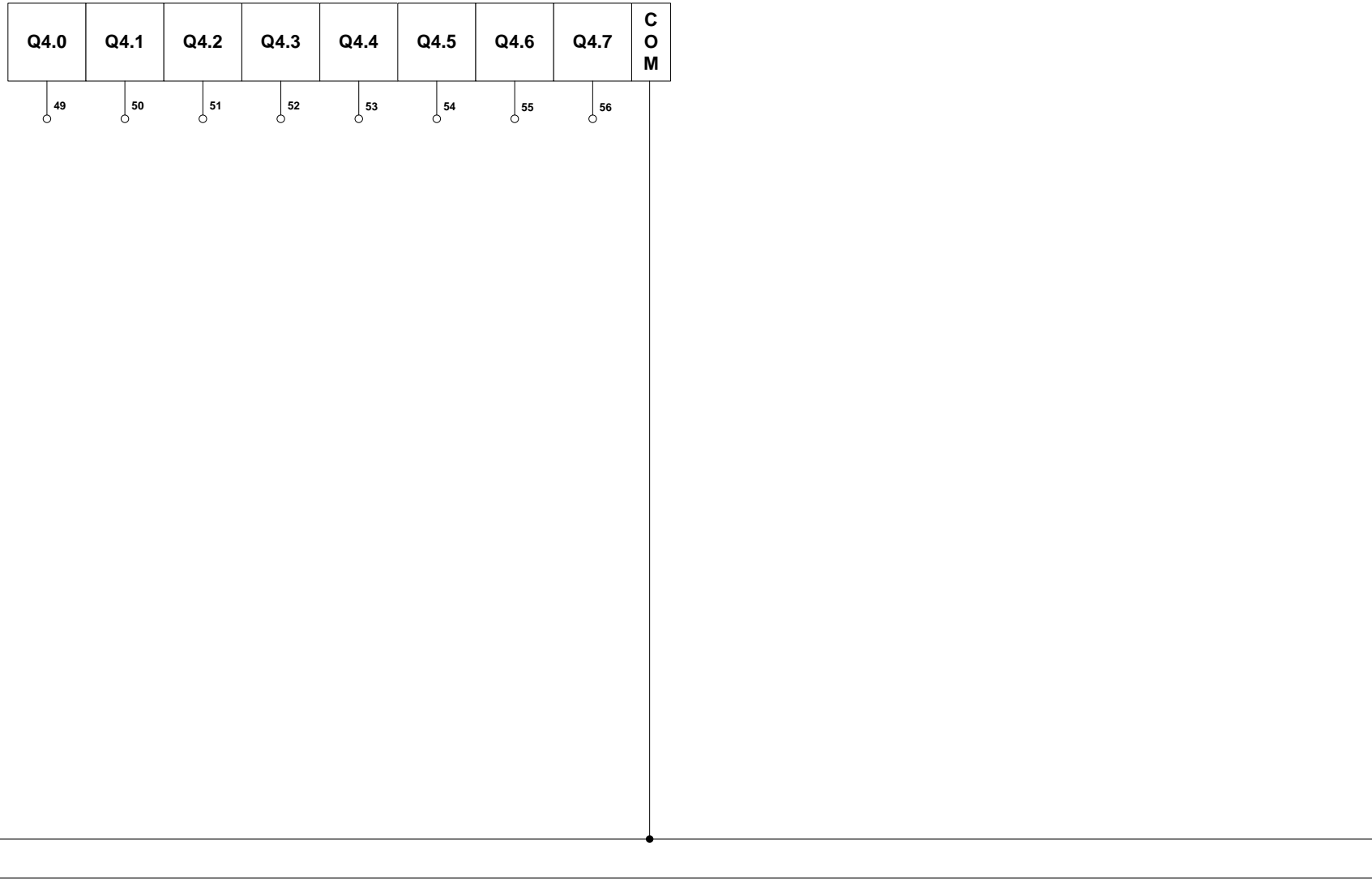
#1 ET200M-SM321 @ #1 Electric Closet



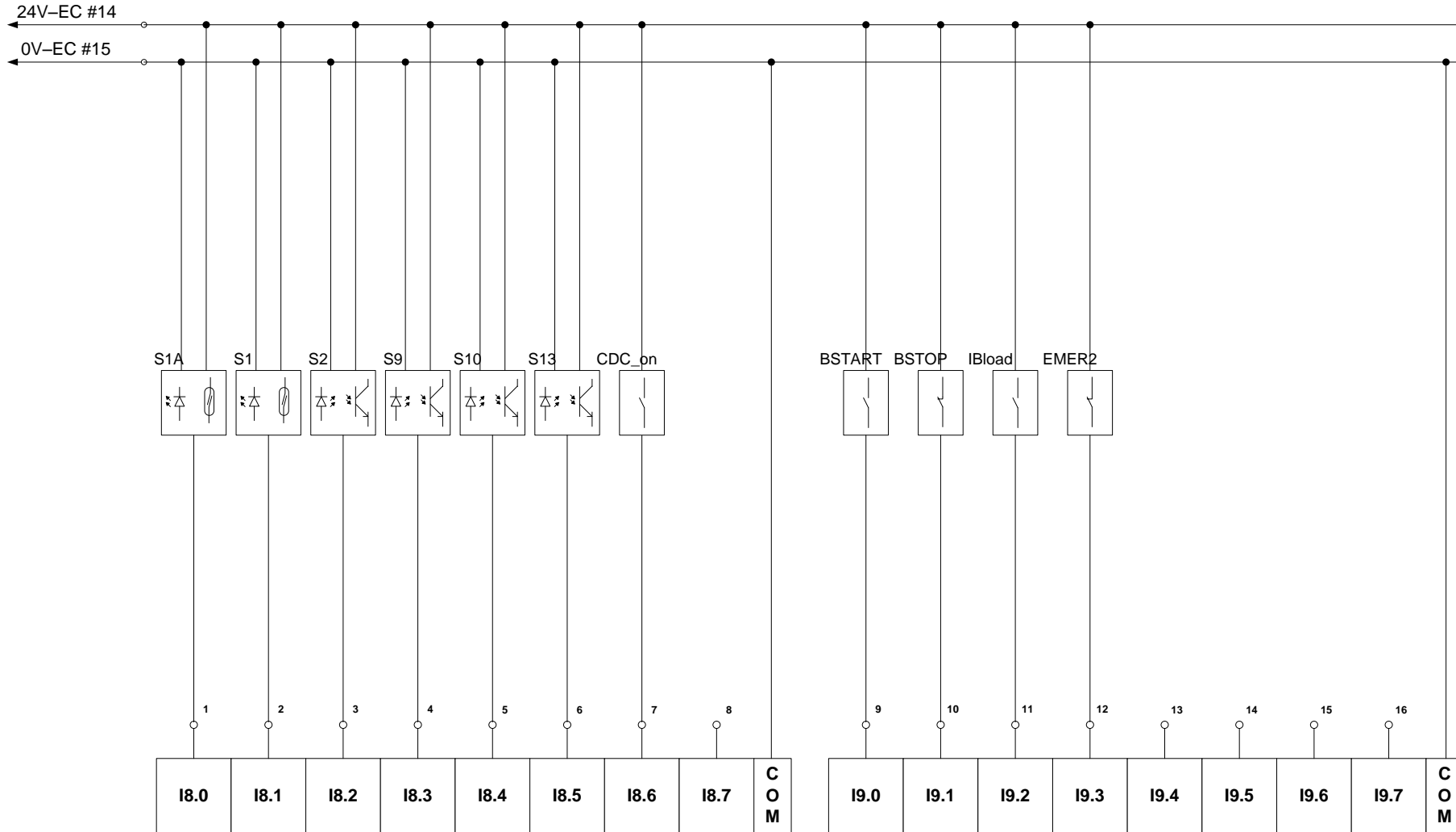
#1 ET200M-SM321 @ #1 Electric Closet



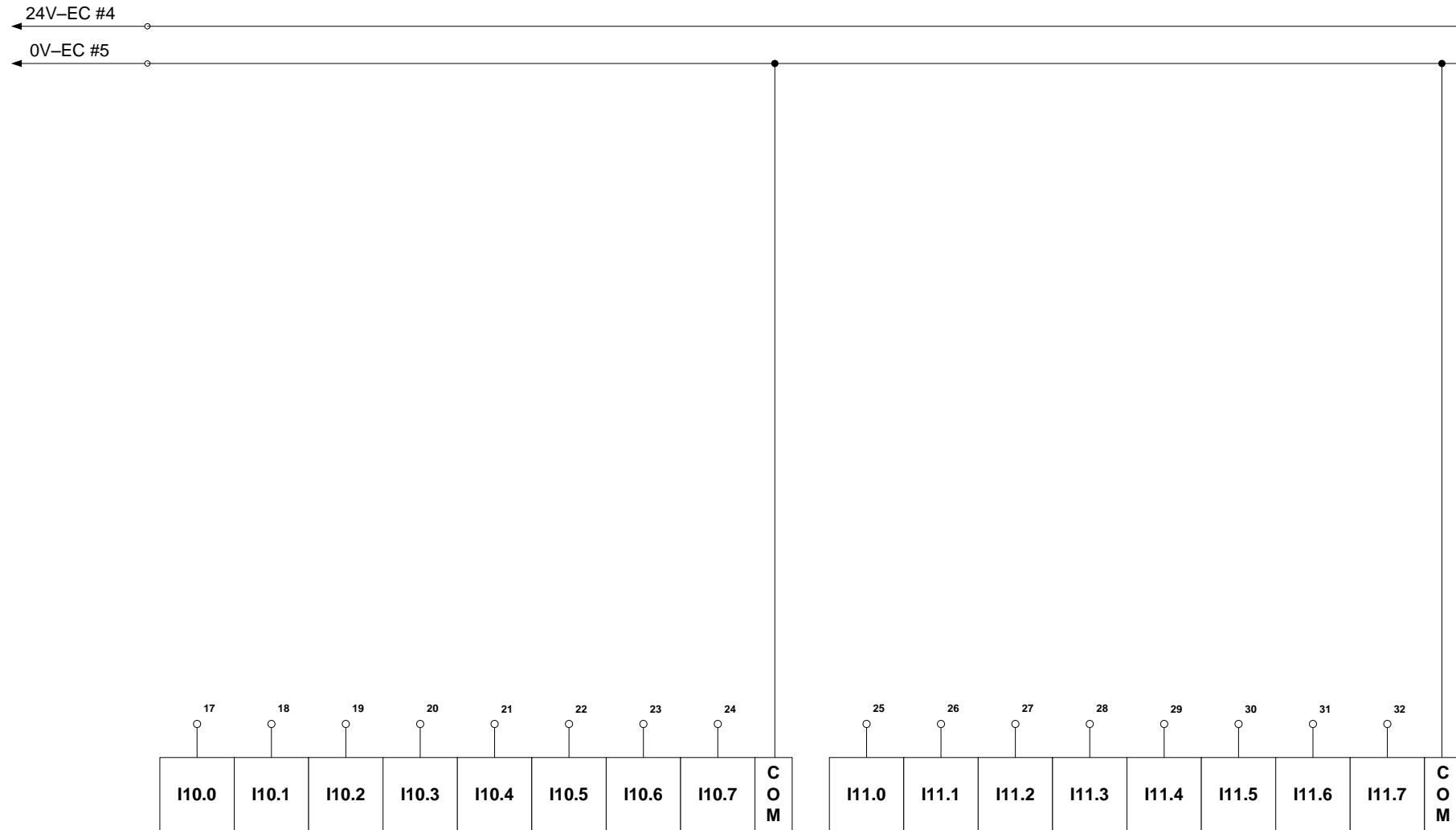
#1 ET200M-SM322 @ #1 Electric Closet



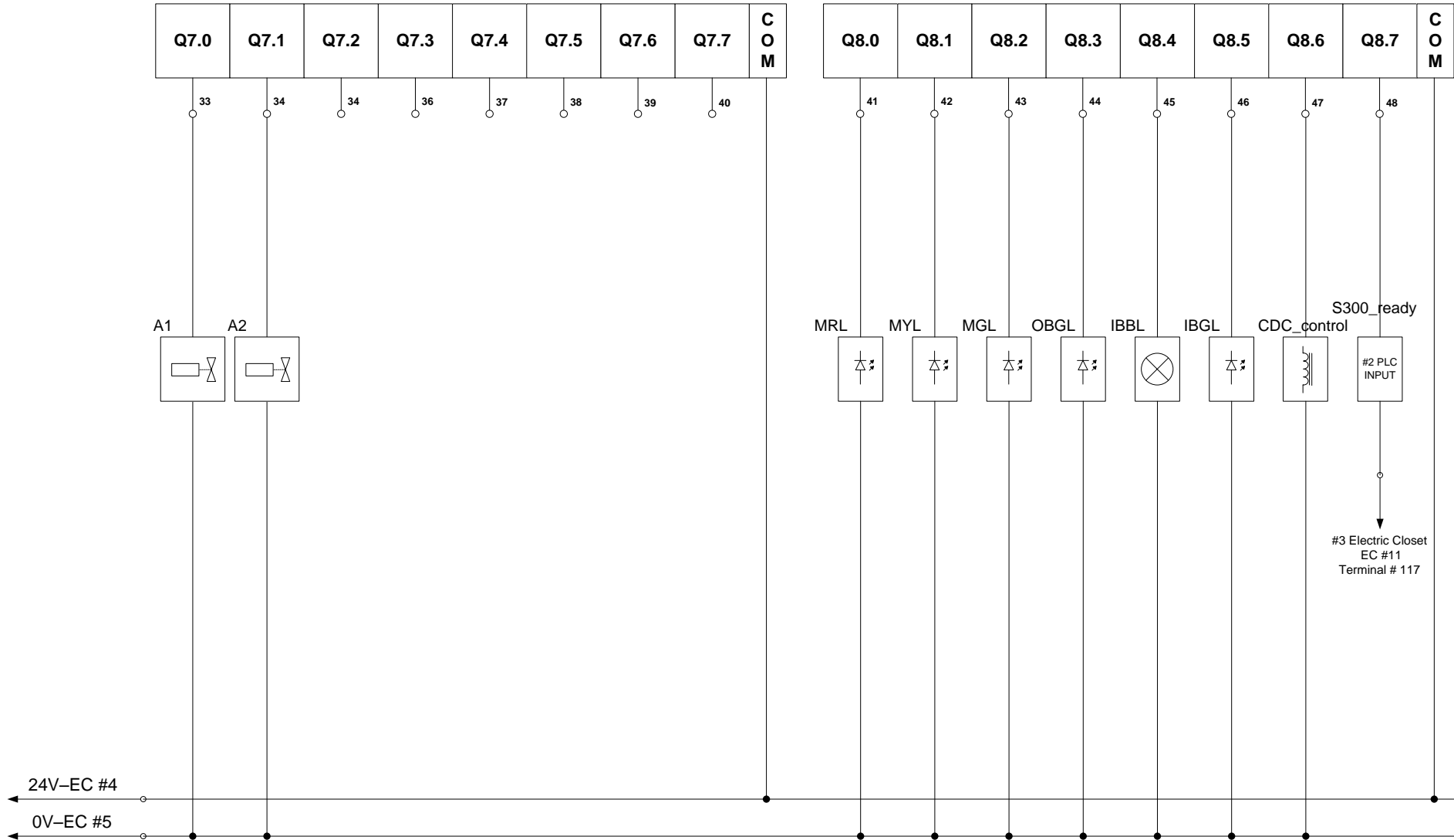
#1 ET200M-SM322 @ #1 Electric Closet



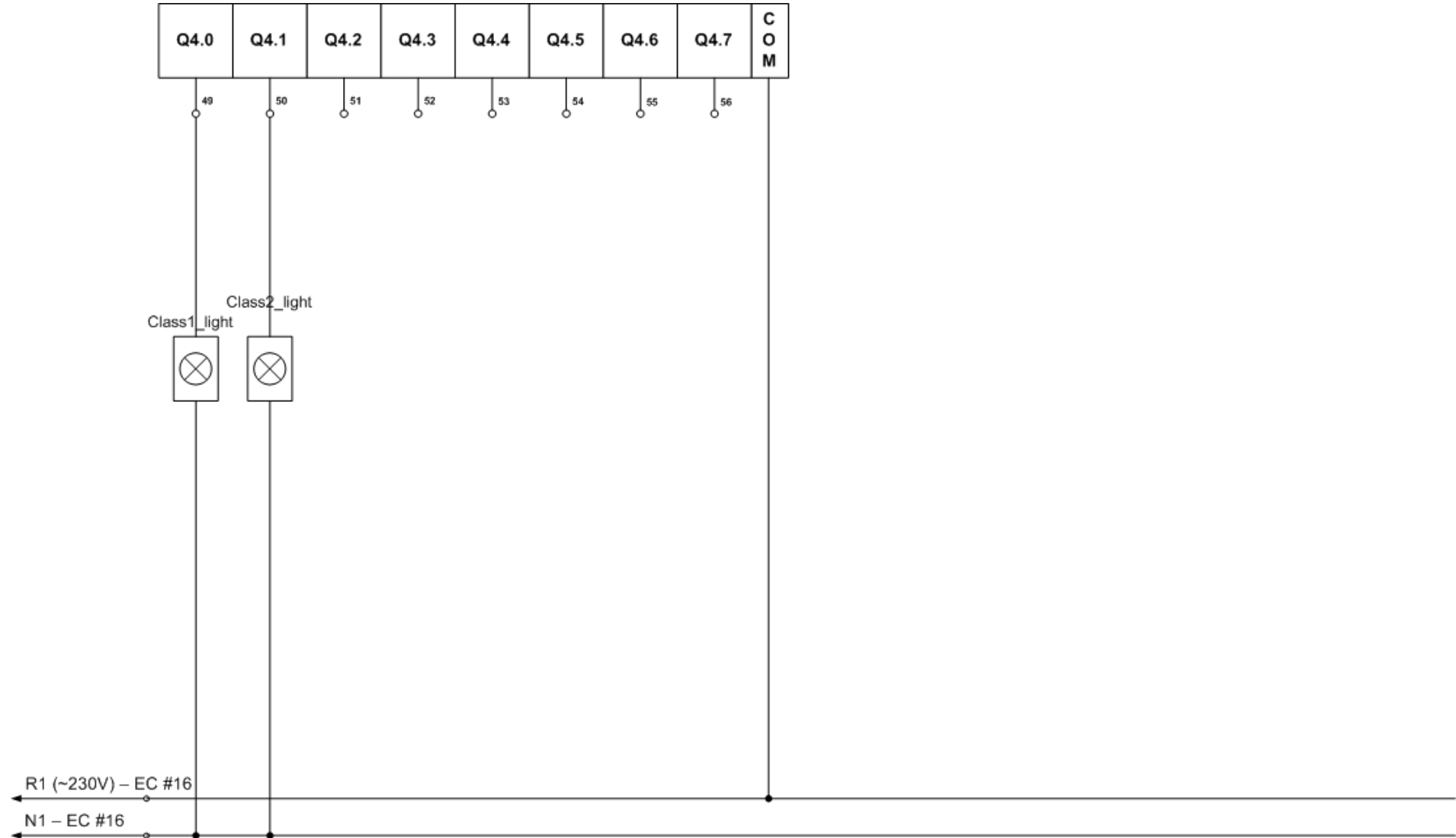
#2 ET200M-SM321 @ #2 Electric Closet



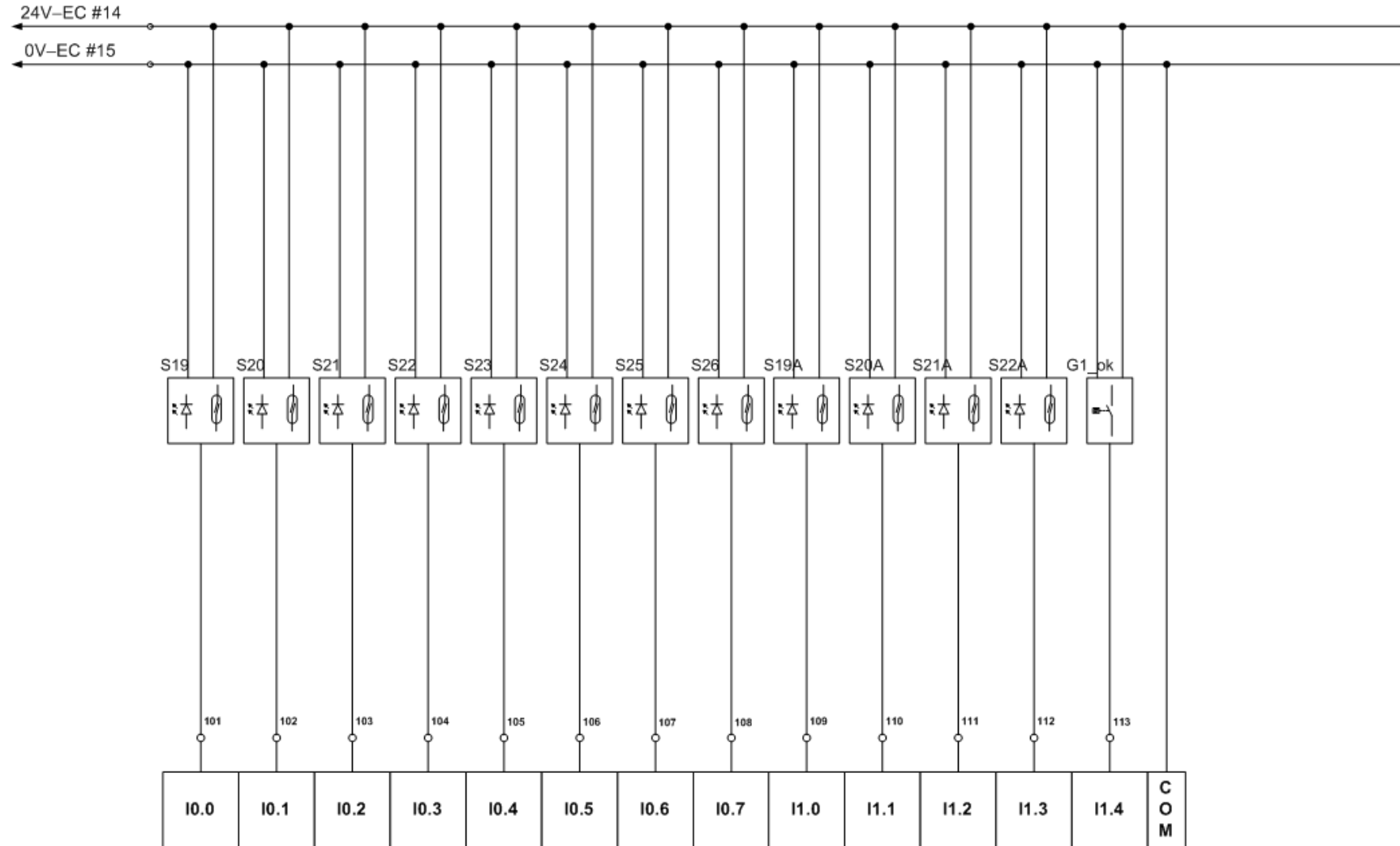
#2 ET200M-SM321 @ #2 Electric Closet



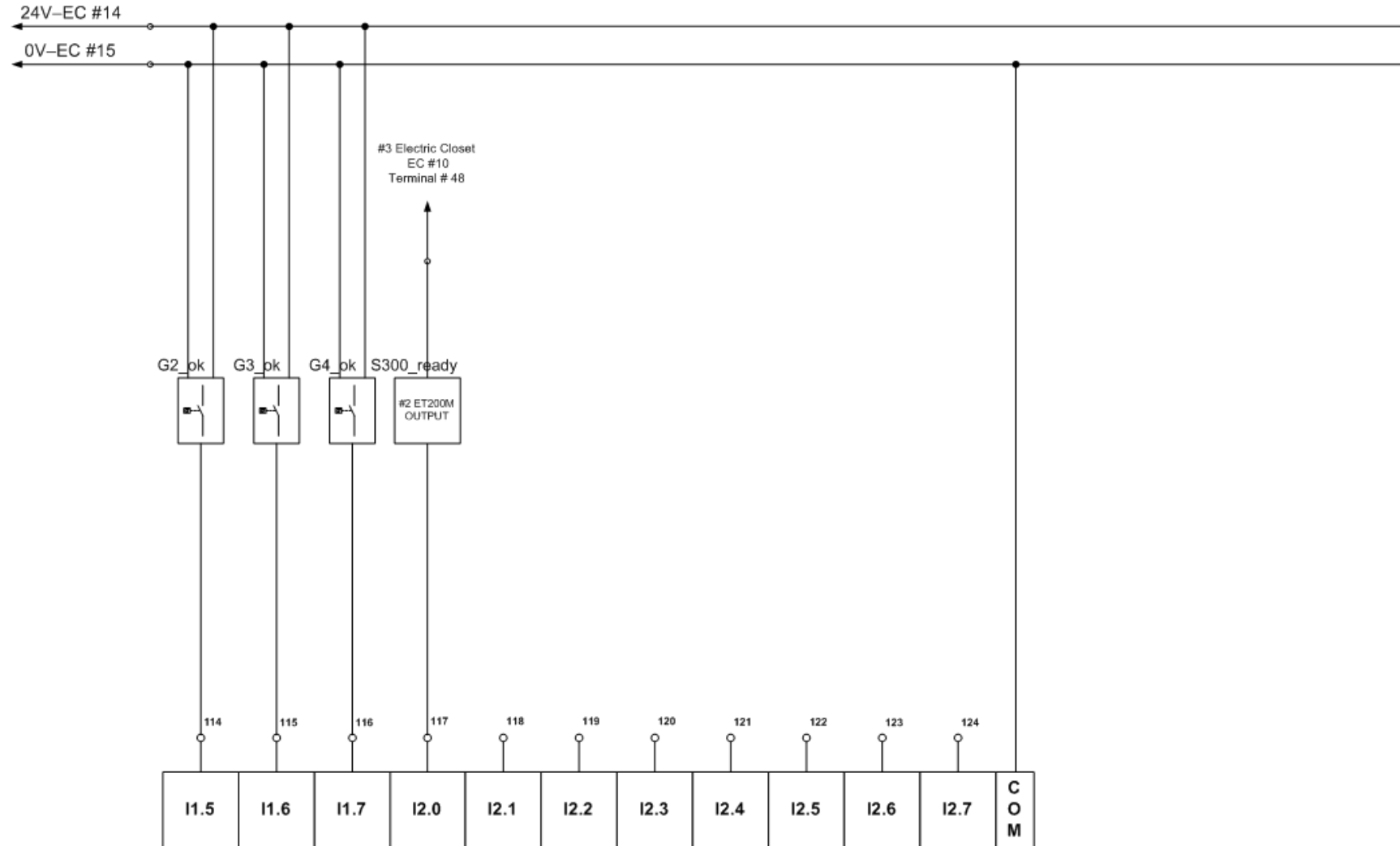
#2 ET200M-SM322 @ #3 Electric Closet



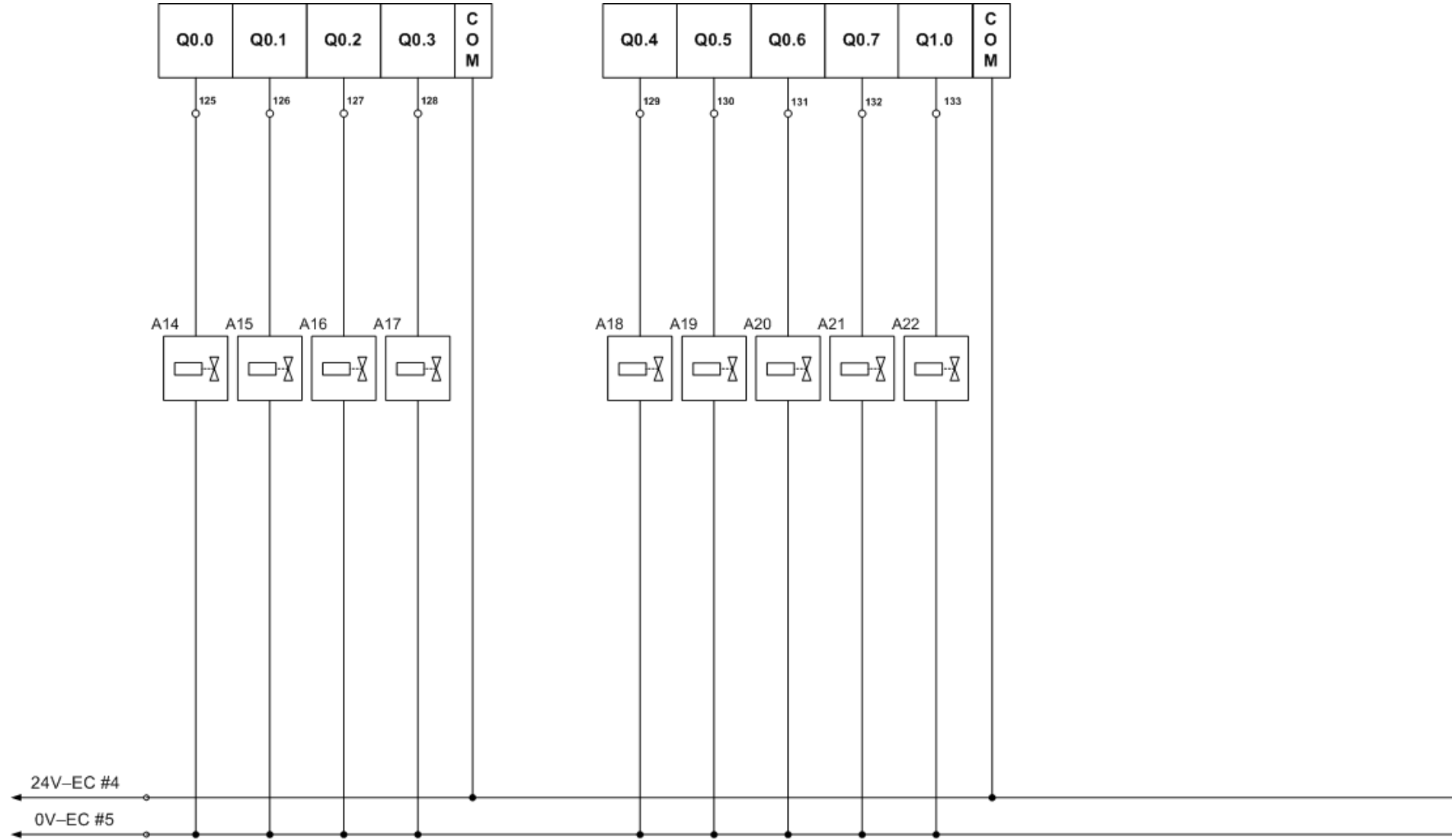
#2 ET200M-SM322 @ #3 Electric Closet



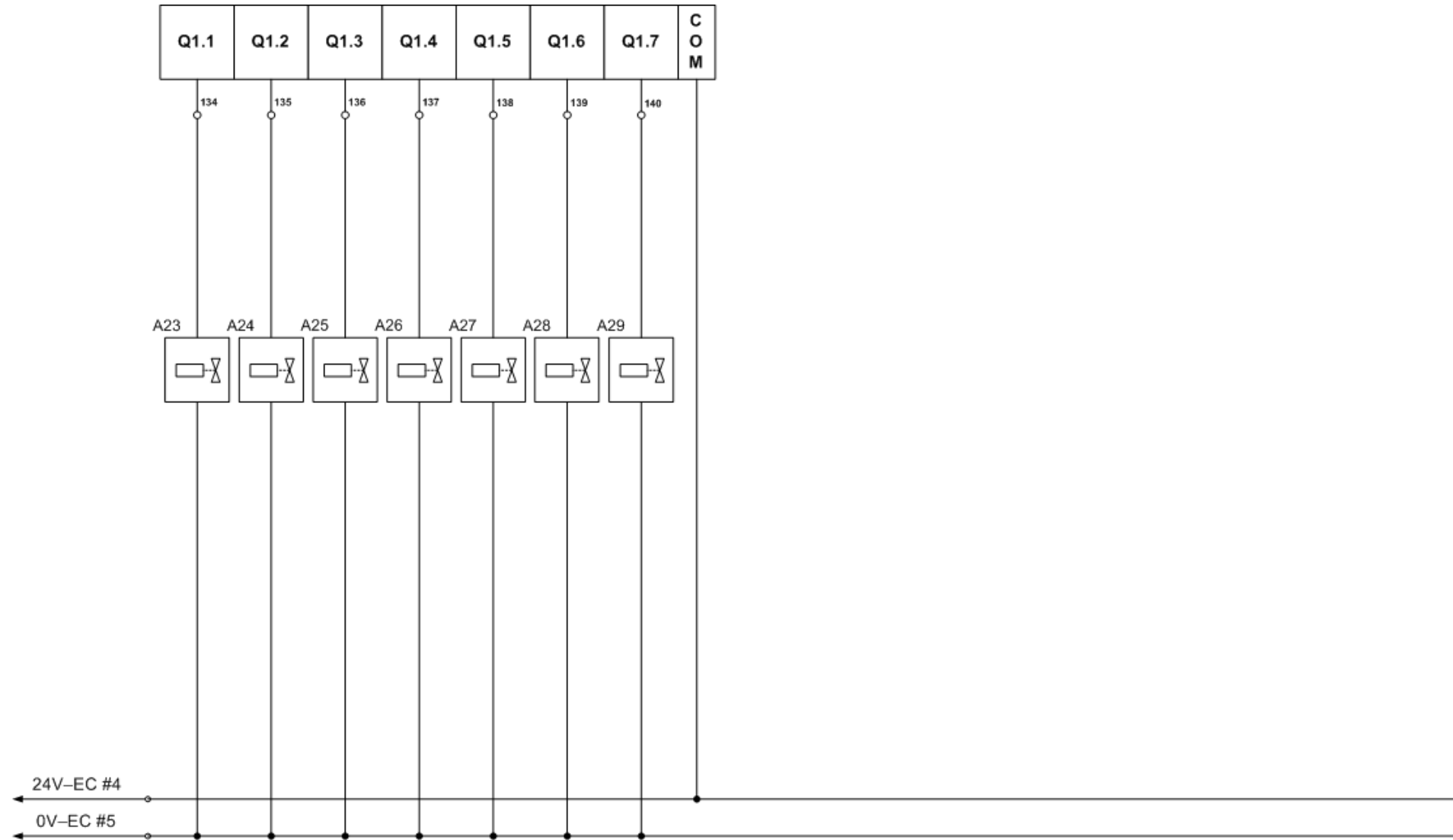
#2 PLC @ #3 Electric Closet



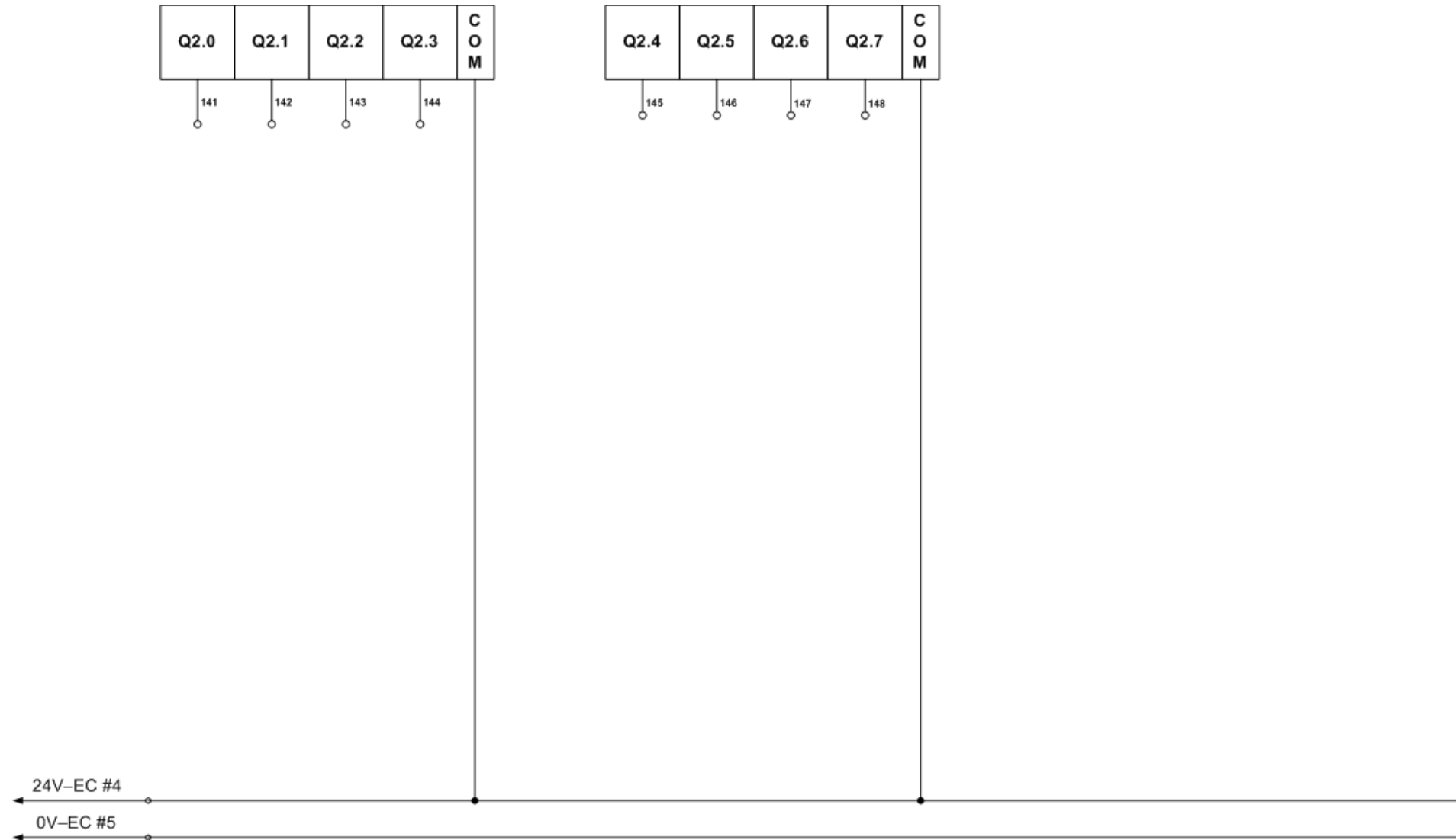
#2 PLC @ #3 Electric Closet



#2 PLC @ #3 Electric Closet



#2 PLC @ #3 Electric Closet



#2 PLC-EM222 @ #3 Electric Closet