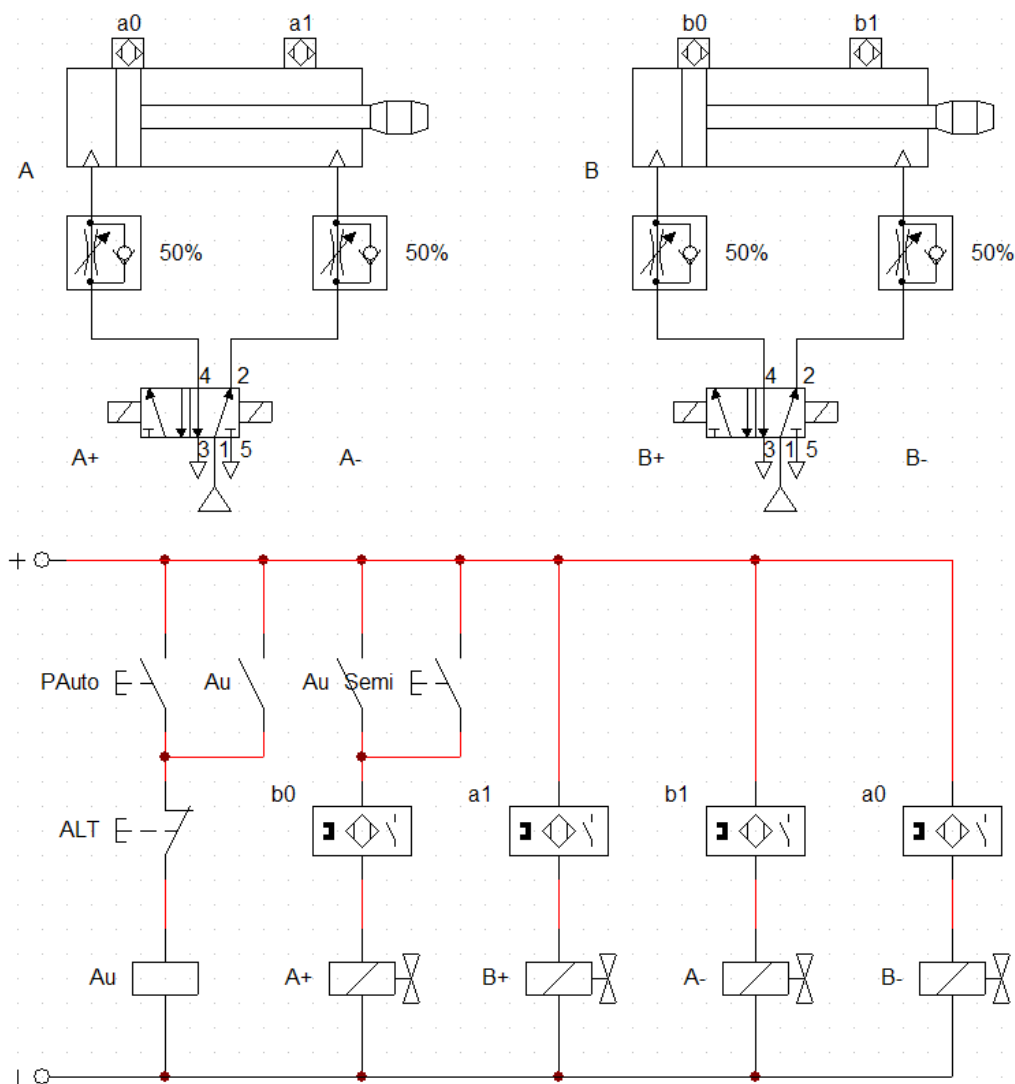


PROGETTI DIDATTICI PLC Siemens Simatic S7-200



ANALISI DEL PROBLEMA (Descrizione)

Comando automatico e semiautomatico di cilindri d.e, con elettrovalvole 5/2 bistabili, per la sequenza senza segnali bloccanti: **A+/B+/A-/B-**

DIAGRAMMAZIONE (Schema elettrico funzionale)



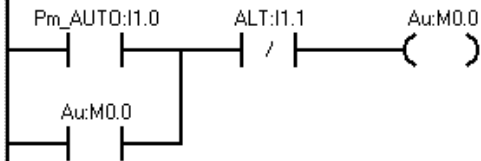
CODIFICAIONE (Assegnazione Input/Output I/O)

			Simbolo	Indirizzo	Commento
1			Pm_AUTO	I1.0	INPUT
2			ALT	I1.1	INPUT
3			Pm_SEMI	I1.2	INPUT
4			a_0	I0.0	INPUT
5			a_1	I0.1	INPUT
6			b_0	I0.2	INPUT
7			b_1	I0.3	INPUT
8			A_uscita	Q0.0	OUTPUT
9			A_rientro	Q0.1	OUTPUT
10			B_uscita	Q0.2	OUTPUT
11			B_rientro	Q0.3	OUTPUT
12			Au	M0.0	MEMORIA Au

PROGRAMMAZIONE (Ladder/KOP)

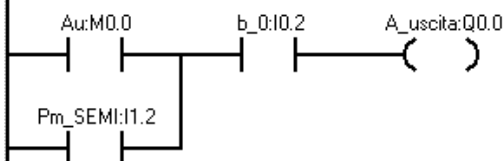
Segmento 1 Titolo del segmento

Commento del segmento



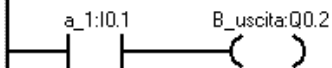
Simbolo	Indirizzo	Commento
ALT	I1.1	INPUT
Au	M0.0	MEMORIA Au
Pm_AUTO	I1.0	INPUT

Segmento 2



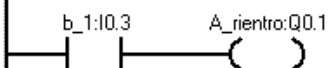
Simbolo	Indirizzo	Commento
A_uscita	Q0.0	OUTPUT
Au	M0.0	MEMORIA Au
b_0	I0.2	INPUT
Pm_SEMI	I1.2	INPUT

Segmento 3



Simbolo	Indirizzo	Commento
a_1	I0.1	INPUT
B_uscita	Q0.2	OUTPUT

Segmento 4



Simbolo	Indirizzo	Commento
A_rientro	Q0.1	OUTPUT
b_1	I0.3	INPUT

Segmento 5



Simbolo	Indirizzo	Commento
a_0	I0.0	INPUT
B_rientro	Q0.3	OUTPUT

PROGRAMMAZIONE (Lista di istruzioni/AWL)

Segmento 1 Titolo del segmento

Commento del segmento

```
LD    Pm_AUTO: I1.0
O     Au: M0.0
AN    ALT: I1.1
=     Au: M0.0
```

Simbolo	Indirizzo	Commento
ALT	I1.1	INPUT
Au	M0.0	MEMORIA Au
Pm_AUTO	I1.0	INPUT

Segmento 2

```
LD    Au: M0.0
O     Pm_SEMI: I1.2
A     b_0: I0.2
=     A_uscita: Q0.0
```

Simbolo	Indirizzo	Commento
A_uscita	Q0.0	OUTPUT
Au	M0.0	MEMORIA Au
b_0	I0.2	INPUT
Pm_SEMI	I1.2	INPUT

Segmento 3

```
LD    a_1: I0.1
=     B_uscita: Q0.2
```

Simbolo	Indirizzo	Commento
a_1	I0.1	INPUT
B_uscita	Q0.2	OUTPUT

Segmento 4

```
LD    b_1: I0.3
=     A_rientro: Q0.1
```

Simbolo	Indirizzo	Commento
A_rientro	Q0.1	OUTPUT
b_1	I0.3	INPUT

Segmento 5

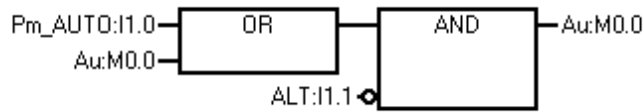
```
LD    a_0: I0.0
=     B_rientro: Q0.3
```

Simbolo	Indirizzo	Commento
a_0	I0.0	INPUT
B_rientro	Q0.3	OUTPUT

PROGRAMMAZIONE (FUP)

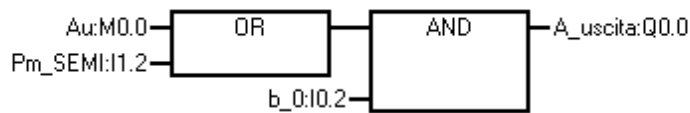
Segmento 1 Titolo del segmento

Commento del segmento



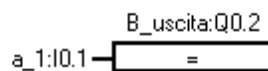
Simbolo	Indirizzo	Commento
ALT	I1.1	INPUT
Au	M0.0	MEMORIA Au
Pm_AUTO	I1.0	INPUT

Segmento 2



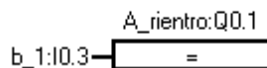
Simbolo	Indirizzo	Commento
A_uscita	Q0.0	OUTPUT
Au	M0.0	MEMORIA Au
b_0	I0.2	INPUT
Pm_SEMI	I1.2	INPUT

Segmento 3



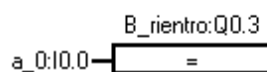
Simbolo	Indirizzo	Commento
a_1	I0.1	INPUT
B_uscita	Q0.2	OUTPUT

Segmento 4



Simbolo	Indirizzo	Commento
A_rientro	Q0.1	OUTPUT
b_1	I0.3	INPUT

Segmento 5



Simbolo	Indirizzo	Commento
a_0	I0.0	INPUT
B_rientro	Q0.3	OUTPUT

SIMULAZIONE (S7-200 Simulator/PC-SIMU)

- S7_200

The image shows the Siemens SIMATIC Manager software interface for a PLC simulation. The main window is titled "A+B+A-B- bis" and displays the following components:

- Hardware Configuration:** A rack of modules including a CPU 214 and digital input/output modules.
- Digital Input/Output Table:** A table showing the status of digital inputs (I0.0-I0.7) and outputs (Q0.0-Q0.7).
- Ladder Logic Diagram:** A diagram showing five networks (Network 1 to Network 5) with various logic elements like normally open and closed contacts, and coil outputs.
- Program Editor:** A window showing the ladder logic program in a textual format.
- Simulation Status:** A "RUN" indicator is visible, indicating the simulation is active.

Below the main window is the "PC_SIMU - [A+B+A-B- bis.sim]" window, which displays a 3D simulation of the PLC hardware. It includes:

- Push Buttons:** Three buttons labeled "PM_AUTO" (green), "ALT" (red), and "PM_SEMI" (blue).
- Pneumatic Cylinders:** Two cylinders representing the output devices.
- Simulation Controls:** A status bar at the bottom shows "Preparado", "Simulación", and "Run" buttons.