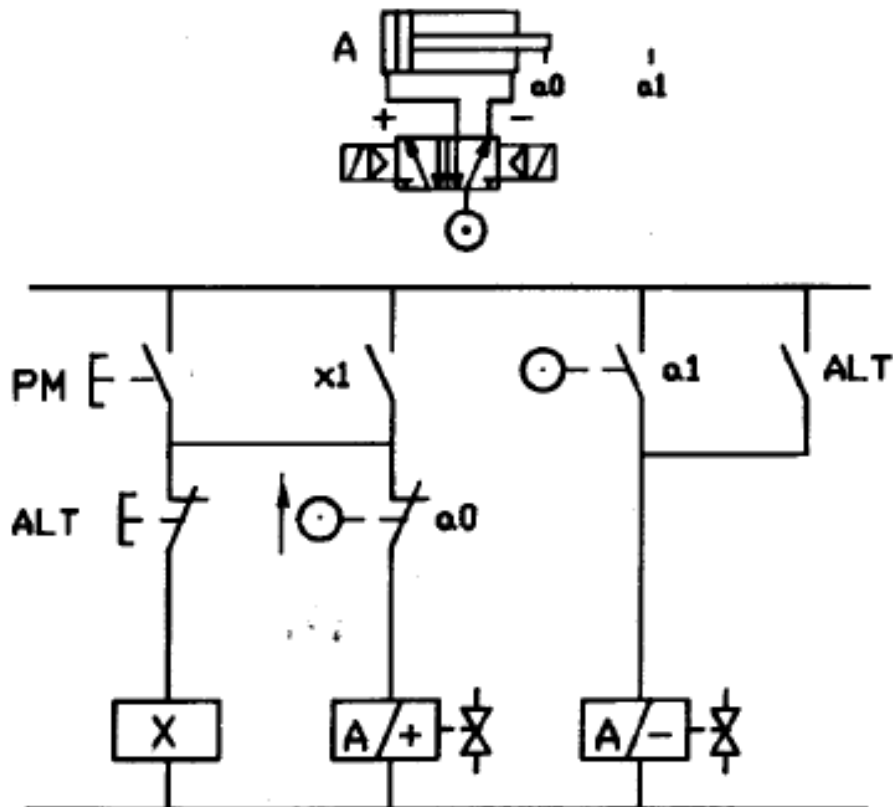


PROGETTI DIDATTICI PLC Siemens Simatic S7-200

ANALISI DEL PROBLEMA (Descrizione)

Comando elettropneumatico automatico e semiautomatico di un cilindro d.e. (con elettrovalvola 5/2 bistabile)

DIAGRAMMAZIONE (Schema elettrico funzionale)



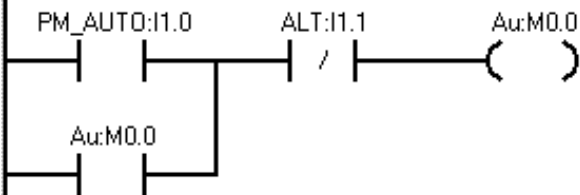
CODIFICAZIONE (Assegnazione Input/Output I/O)

| | | 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 | | A_uscita | Q0.0 | OUTPUT |
| 7 | | A_rientro | Q0.1 | OUTPUT |
| 8 | | Au | M0.0 | MEMORIA (Relè Au) |

PROGRAMMAZIONE (Ladder/KOP)

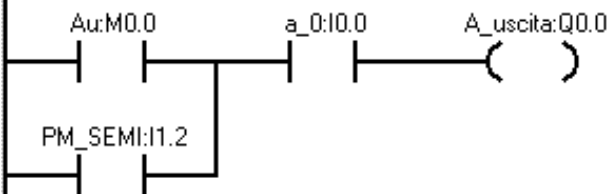
Segmento 1 Titolo del segmento

Commento del segmento



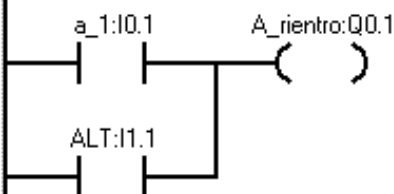
| Simbolo | Indirizzo | Commento |
|---------|-----------|---------------|
| ALT | I1.1 | INPUT |
| Au | M0.0 | MEMORIA [...] |
| PM_AUTO | I1.0 | INPUT |

Segmento 2



| Simbolo | Indirizzo | Commento |
|----------|-----------|---------------|
| a_0 | I0.0 | INPUT |
| A_uscita | Q0.0 | OUTPUT |
| Au | M0.0 | MEMORIA [...] |
| PM_SEMI | I1.2 | INPUT |

Segmento 3



| Simbolo | Indirizzo | Commento |
|-----------|-----------|----------|
| a_1 | I0.1 | INPUT |
| A_rientro | Q0.1 | OUTPUT |
| ALT | I1.1 | INPUT |

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 [...] |
| PM_AUTO | I1.0 | INPUT |

Segmento 2

```
LD     Au:M0.0
O     PM_SEMI:I1.2
A     a_0:I0.0
=     A_uscita:Q0.0
```

| Simbolo | Indirizzo | Commento |
|----------|-----------|---------------|
| a_0 | I0.0 | INPUT |
| A_uscita | Q0.0 | OUTPUT |
| Au | M0.0 | MEMORIA [...] |
| PM_SEMI | I1.2 | INPUT |

Segmento 3

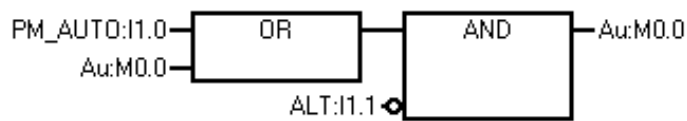
```
LD     a_1:I0.1
O     ALT:I1.1
=     A_rientro:Q0.1
```

| Simbolo | Indirizzo | Commento |
|-----------|-----------|----------|
| a_1 | I0.1 | INPUT |
| A_rientro | Q0.1 | OUTPUT |
| ALT | I1.1 | INPUT |

PROGRAMMAZIONE (FUP)

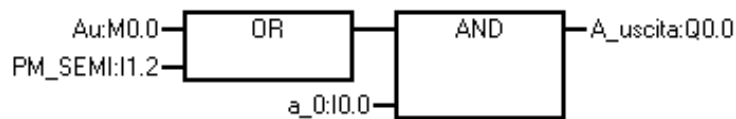
Segmento 1 Titolo del segmento

Commento del segmento



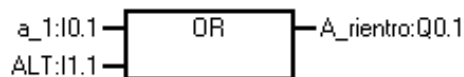
| Simbolo | Indirizzo | Commento |
|---------|-----------|---------------|
| ALT | I1.1 | INPUT |
| Au | M0.0 | MEMORIA [...] |
| PM_AUTO | I1.0 | INPUT |

Segmento 2



| Simbolo | Indirizzo | Commento |
|----------|-----------|---------------|
| a_0 | I0.0 | INPUT |
| A_uscita | Q0.0 | OUTPUT |
| Au | M0.0 | MEMORIA [...] |
| PM_SEMI | I1.2 | INPUT |

Segmento 3



| Simbolo | Indirizzo | Commento |
|-----------|-----------|----------|
| a_1 | I0.1 | INPUT |
| A_rientro | Q0.1 | OUTPUT |
| ALT | I1.1 | INPUT |

SIMULAZIONE (S7 200 Simulator/PC SIMU)

Program View Configuration PLC View/Hide Help - S7_200

SIEMENS
Auto+Semi Cilindro d.e.
S7-200 CPU 214

| SF | I 0.0 | I 0.1 | I 0.2 | I 0.3 | I 0.4 | I 0.5 | I 0.6 | I 0.7 | Q 0.0 | Q 0.1 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| RUN | 10.0 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 0.0 | 0.1 |
| STOP | 11.0 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 0.2 | 0.3 |
| | | | | | | | | | 0.4 | 0.5 |
| | | | | | | | | | 0.6 | 0.7 |

0 1 2 3 4 5 6 7 0 1 2 3 4 5

STOP

SMB 28 0

SMB 29 0

PLS0

PLS1

KOP ORGANIZATION_BLOCK MAIN:OB1

Network 1 // Titolo del segmento

0=I1.0 0=I1.1 0=M0.0

Network 2

0=M0.0 0=I0.0 0=Q0.0

Network 3

0=I0.1 0=Q0.1

Program (OB1)

```
ORGANIZATION_BLOCK MAIN:OB1
TITLE=COMMENTI SUL PROGRAMMA
BEGIN
Network 1 // Titolo del segmento
LD I1.0
O M0.0
AN I1.1
= M0.0
Network 2
LD M0.0
O I0.0
A I0.0
= Q0.0
Network 3
LD I0.1
O I1.1
= Q0.1
END_ORGANIZATION_BLOCK
SUBROUTINE_BLOCK SBR_0:SE
TITLE=COMMENTI SUI SOTTOPROGRAMMI
```

PC_SIMU - [Auto+Semi Cilindro d.e.sim]

Archivo Editar Dibujar Modo Analizador Ver Ayuda

PM_AUTO ALT PM_SEMI

Preparado Edición Stop