

VARIABLES

```

VAR_GLOBAL
Do00M00 AT %QX0.0 : BOOL; (* Digital output 00 on module 0 *)
Do01M00 AT %QX0.1 : BOOL; (* Digital output 01 on module 0 *)
Do02M00 AT %QX0.2 : BOOL; (* Digital output 02 on module 0 *)
Do03M00 AT %QX0.3 : BOOL; (* Digital output 03 on module 0 *)
Do04M00 AT %QX0.4 : BOOL; (* Digital output 04 on module 0 *)
Do05M00 AT %QX0.5 : BOOL; (* Digital output 05 on module 0 *)
Do06M00 AT %QX0.6 : BOOL; (* Digital output 06 on module 0 *)
Do07M00 AT %QX0.7 : BOOL; (* Digital output 07 on module 0 *)
Do08M00 AT %QX0.8 : BOOL; (* Digital output 08 on module 0 *)
Do09M00 AT %QX0.9 : BOOL; (* Digital output 09 on module 0 *)
Do10M00 AT %QX0.10 : BOOL; (* Digital output 10 on module 0 *)
Do11M00 AT %QX0.11 : BOOL; (* Digital output 11 on module 0 *)
Do12M00 AT %QX0.12 : BOOL; (* Digital output 12 on module 0 *)
Do13M00 AT %QX0.13 : BOOL; (* Digital output 13 on module 0 *)
Do14M00 AT %QX0.14 : BOOL; (* Digital output 14 on module 0 *)
Do15M00 AT %QX0.15 : BOOL; (* Digital output 15 on module 0 *)
OImage : ARRAY[ 0..15 ] OF BOOL; (* Logic output image *)
END_VAR

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	Project : TCPAsciiProtocol	
	VARIABLES :	
	Release : SMSMachine	Ver :1.00
	Author :	Date:05/04/2012
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VAR
Fp : FILEP; (* File pointer *)
SkLsn : SysSkLsn; (* FB socket listen *)
WMsgPulse : BOOL; (* Welcome message pulse *)
i : INT; (* Auxiliary variable *)
CaseNr : USINT; (* Program cases *)
RxString : STRING[ 32 ]; (* Rx command string *)
Ptr : @USINT; (* Auxiliary pointer *)
Output : USINT; (* Output to set *)
END_VAR

```

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1 (* ***** *)
2 (* GESTIONE PROTOCOLLO ASCII SU CONNESSIONE TCP *)
3 (* ***** *)
4 (* Questo programma esegue gestione del protocollo ASCII su TCP. *)
5 (* ----- *)
6
7 (* ----- *)
8 (* ESEGUO INIZIALIZZAZIONI *)
9 (* ----- *)
10 (* Eseguo apertura socket TCP. *)
11
12 IF (SysFirstLoop) THEN
13     Fp:=Sysfopen('TCPSKT', 'rw'); (* File pointer *)
14 END_IF;
15
16 (* ----- *)
17 (* GESTIONE CONTROLLO STATO SOCKET TCP *)
18 (* ----- *)
19 (* Forzo socket in condizione di listening. *)
20 (* "LifeTm" piccolo, forza chiusura socket su mancanza comunicazione. *)
21 (* "FlushTm" deve essere più grande del tempo di loop programma. *)
22
23 SkLsn.File:=Fp; (* Flusso dati stream *)
24 SkLsn.MyPort:=2000; (* Porta in ascolto su socket *)
25 SkLsn.LifeTm:=60; (* Tempo di vita socket (S) *)
26 SkLsn.FlushTm:=10; (* Tempo di flush socket (mS) *)
27 SkLsn.RxSize:=200; (* Dimensione buffer Rx dati socket *)
28 SkLsn.TxSize:=200; (* Dimensione buffer Tx dati socket *)
29 SkLsn(Enable:=TRUE); (* Forzo socket in listening *)
30
31 (* ----- *)
32 (* GESTIONE CONNESSIONE TCP *)
33 (* ----- *)
34 (* Su connessione TCP il sistema invia un messaggio di Welcome. *)
35
36 IF (SkLsn.Connect <> WMsgPulse) THEN
37     WMsgPulse:=SkLsn.Connect; (* Welcome message pulse *)
38
39     IF (SkLsn.Connect) THEN
40         i:=SysVarfprintf(Fp, '%s$r$n', STRING_TYPE, ADR('Welcome !'));
41     END_IF;
42 END_IF;
43
44 (* Se nessun client TCP è connesso esco. *)
45
46 IF NOT(SkLsn.Connect) THEN RETURN; END_IF;

```

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PROGRAM : AsciiProtocol	
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47
48 (* ----- *)
49 (* GESTIONE PROTOCOLLO ASCII LIBERO *)
50 (* ----- *)
51 (* Viene gestito un semplice protocollo ascii per il comando delle uscite *)
52 (* logiche. Il protocollo potrà essere modificato secondo le esigenze. *)
53 (* Attiva uscita k, PC trasmette 'Sk', SlimLine risponde 'Sk'. *)
54 (* Disattiva uscita k, PC trasmette 'Rk', SlimLine risponde 'Rk'. *)
55 (* I valori di 'k' vanno da 0 a 15. *)
56 (* Nota: Per maggiore leggibilità quando si usa un client Telnet per le *)
57 (* prove, ho aggiunto alle stringhe un carattere <CR> di terminazione. *)
58 (* ----- *)
59 (* Esego loop su ricezione caratteri dal client TCP. *)
60
61 CASE (CaseNr) OF
62
63 (* ----- *)
64 (* Inizializzo ricezione stringa comando. *)
65
66 0:
67 Ptr:=ADR(RxString); (* Auxiliary pointer *)
68 CaseNr:=CaseNr+1; (* Program cases *)
69
70 (* ----- *)
71 (* Ricezione stringa fino al <CR>. *)
72
73 1:
74 WHILE (TO_BOOL(SysGetIChars(Fp))) DO
75     @Ptr:=TO_USINT(Sysfgetc(Fp)); (* Character read *)
76     IF (@Ptr = 16#0D) THEN i:=TO_INT(SysFIBfClear(Fp)); CaseNr:=10; RETURN; END_IF;
77
78     (* Incremento puntatore stringa ricezione e controllo range. *)
79
80     Ptr:=Ptr+1; (* Auxiliary pointer *)
81     IF (Ptr >= ADR(RxString)+32) THEN
82
83         (* Errore stringa ricevuta troppo lunga. *)
84
85         i:=SysVarfprintf(Fp, '%s$r$n', STRING_TYPE, ADR('Command too long'));
86         i:=TO_INT(SysFIBfClear(Fp)); (* svuoto buffer ricezione *)
87         CaseNr:=0; (* Program cases *)
88         RETURN;
89     END_IF;
90 END_WHILE;
91
92 (* ----- *)
93 (* Primo carattere ricevuto deve essere 'S' o 'R'. *)
94
95 10:
96 Ptr:=ADR(RxString); (* Auxiliary pointer *)
97 IF (@Ptr = 16#53) THEN CaseNr:=20;
98 ELSIF (@Ptr = 16#52) THEN CaseNr:=30;
99 ELSE
100     i:=SysVarfprintf(Fp, '%s$r$n', STRING_TYPE, ADR('Wrong command'));
101     CaseNr:=0; (* Program cases *)
102 END_IF;
103
104 (* Rilevo indirizzo uscita. *)
105
106 IF NOT(SysVarsscanf(ADR(RxString)+1, '%d', USINT_TYPE, ADR(Output))) THEN

```

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PROGRAM : AsciiProtocol	
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PROGRAM AsciiProtocol

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107         i:=SysVarfprintf(Fp, '%s$r$n', STRING_TYPE, ADR('Wrong output'));
108         CaseNr:=0; (* Program cases *)
109     END_IF;
110
111     (* Controllo range indirizzo uscita. *)
112
113     IF (Output > 15) THEN
114         i:=SysVarfprintf(Fp, '%s$r$n', STRING_TYPE, ADR('Output range'));
115         CaseNr:=0; (* Program cases *)
116     END_IF;
117
118     (* ----- *)
119     (* GESTIONE USCITE LOGICHE *)
120     (* ----- *)
121     (* Eseguo set uscita logica. *)
122
123     20:
124     i:=SysVarfprintf(Fp, 'S%d$r$n', USINT_TYPE, ADR(Output));
125     Ptr:=ADR(OImage)+Output; (* Auxiliary pointer *)
126     @Ptr:=TRUE; (* Eseguo set immagine uscite *)
127     CaseNr:=0; (* Program cases *)
128
129     (* ----- *)
130     (* Eseguo reset uscita logica. *)
131
132     30:
133     i:=SysVarfprintf(Fp, 'R%d$r$n', USINT_TYPE, ADR(Output));
134     Ptr:=ADR(OImage)+Output; (* Auxiliary pointer *)
135     @Ptr:=FALSE; (* Eseguo reset immagine uscite *)
136     CaseNr:=0; (* Program cases *)
137
138     (* ----- *)
139     (* Errore cases gestione. *)
140
141     ELSE
142         i:=SysVarfprintf(Fp, '%s$r$n', STRING_TYPE, ADR('Case error'));
143         CaseNr:=0; (* Program cases *)
144     END_CASE;
145
146 (* [End of file] *)
147
148

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	Project : TCPAsciiProtocol	
	PROGRAM : AsciiProtocol	
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1	<p>OImage[0] <span style="float: right;">Do00M00</span></p> <hr/>	
2	<p>OImage[1] <span style="float: right;">Do01M00</span></p> <hr/>	
3	<p>OImage[2] <span style="float: right;">Do02M00</span></p> <hr/>	
4	<p>OImage[3] <span style="float: right;">Do03M00</span></p> <hr/>	
5	<p>OImage[4] <span style="float: right;">Do04M00</span></p> <hr/>	

	Project : TCPAsciiProtocol	
	PROGRAM : DOutput	
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PROGRAM DOutput

6	<p>OImage[5] <span style="float: right;">Do05M00</span></p> <hr/>	
7	<p>OImage[6] <span style="float: right;">Do06M00</span></p> <hr/>	
8	<p>OImage[7] <span style="float: right;">Do07M00</span></p> <hr/>	
9	<p>OImage[8] <span style="float: right;">Do08M00</span></p> <hr/>	
10	<p>OImage[9] <span style="float: right;">Do09M00</span></p> <hr/>	

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11	<p>OImage[10] <span style="float: right;">Do10M00</span></p> <hr/>	
12	<p>OImage[11] <span style="float: right;">Do11M00</span></p> <hr/>	
13	<p>OImage[12] <span style="float: right;">Do12M00</span></p> <hr/>	
14	<p>OImage[13] <span style="float: right;">Do13M00</span></p> <hr/>	
15	<p>OImage[14] <span style="float: right;">Do14M00</span></p> <hr/>	

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OImage[15]

Do15M00

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Project : TCPAsciiProtocol

PROGRAM : DOutput

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