

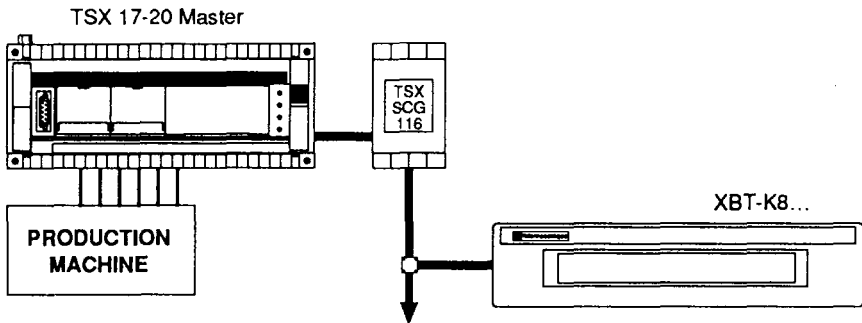
• Warning

The following example has been deliberately simplified, especially the part on internal initialisation for simulation requirements, in order to simplify explanation and understanding. Only the program concerning the XBT-K8 is described.

Note : for complete information on communication using the TSX-SCG116 communication module and the use of text blocks, refer to the various manuals of the TSX7 range.

• Application

- Hardware configuration



- A TSX 17 PLC controls a production machine. The TSX 17 is connected to the UNI-TELWAY bus by a TSX SCG116 master module.
- An XBT-K81010 display terminal connected to the UNI-TELWAY bus informs the operator about machine status and the number and types of parts manufactured.

• Principle of operation

- The production machine can manufacture two types of parts (A and B). The selection of type A or type B is made by a switch (machine at rest).
- The XBT-K8 displays :
 - when stopped, the type of part selected (A or B)
 - when running, the number of parts manufactured
 - a FAULT message, if the machine stops.

A fault causes the machine to stop and the part counters to be re-initialised.

• Use of PLC objects

- Module configuration table

CONSTANT WORDS	CODE IN HEX
CW0	H'5002'
CW1	H'0000'
CW2	H'9600'
CW3	H'0010'
CW4	H'0000'
CW5	H'0000'
CW6	H'0000'
CW7	H'0000'
CW8	H'0000'
CW9	H'0000'

UNI-TELWAY master
2 links scanned

Binary dataflow 9600
bits/second
Time out

- Variable words

ADDRESS	FUNCTION
W98	Manufactured parts counter
W99	Selected part reference
W100	Maximum number of parts (initialised at the start to a value)
W101	Number of A parts fabricated
W102	Number of B parts fabricated
W30	Start of communication text block table (T1) : display address
W31	Communication text block table (T1) : number of XBT-K8 message to be displayed

- Input addresses

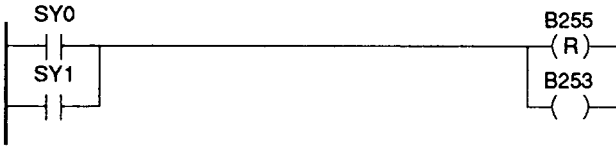
BITS	FUNCTION
I0,0	Start / Stop Selection
I0,1	Selection of A or B parts
I0,2	Machine fault

6 Application example

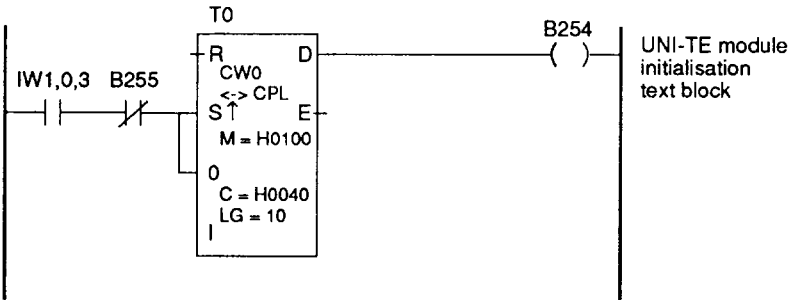
• Program

UNI-TE MODULE INITIALISATION

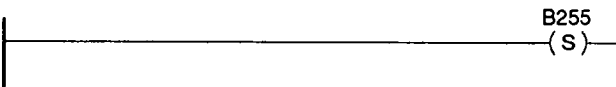
LAB : 1



LAB : 3



LAB : 5



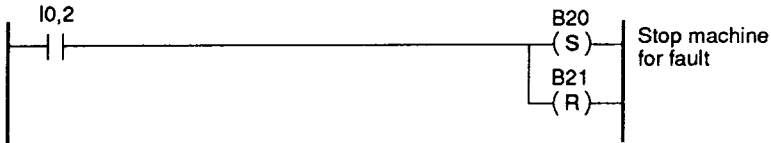
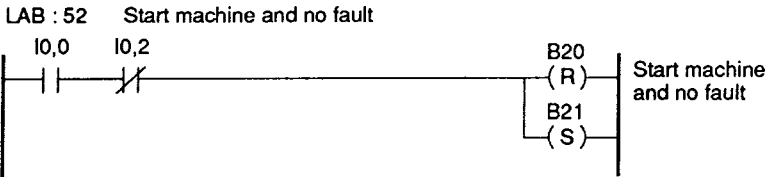
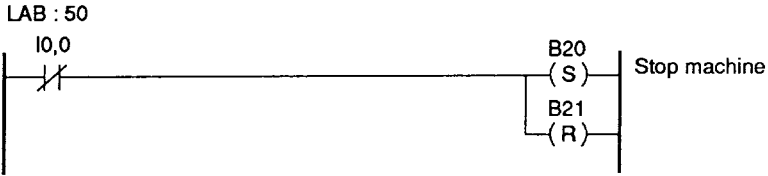
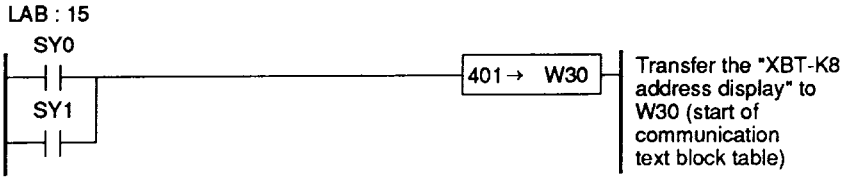
POWER-UP MACHINE STOPPED

LAB : 11



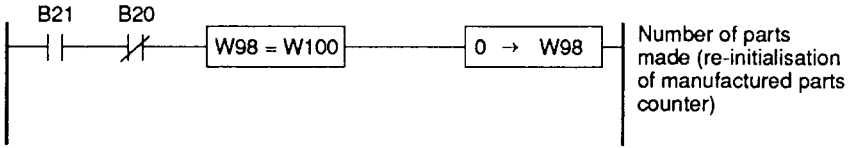
6 Application example

COMMUNICATION TABLE INITIALISATION



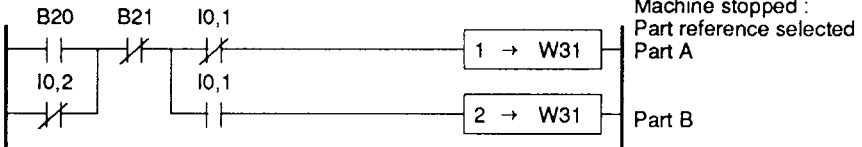
6 Application example

LAB : 102

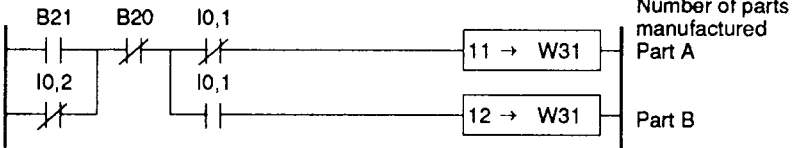


TRANSMISSION TABLE INITIALISATION : SELECTION OF MESSAGE NUMBER TO BE DISPLAYED ON XBT-K8

LAB : 116



LAB : 118

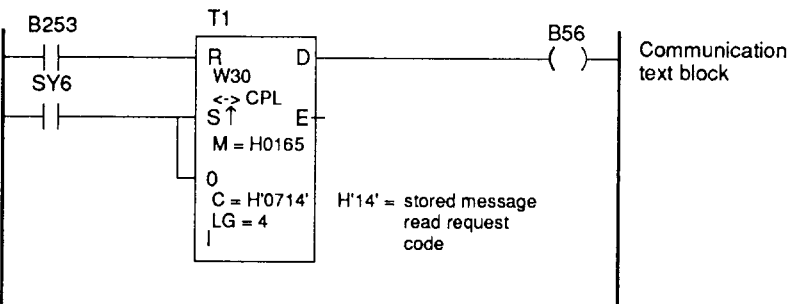


MACHINE FAULT

LAB : 120

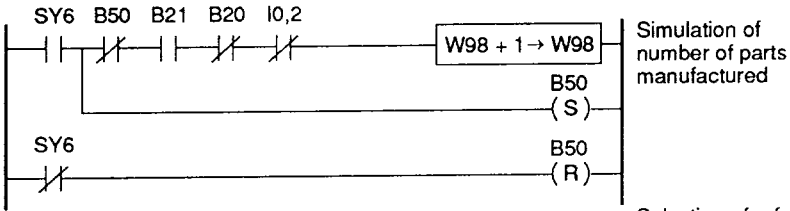


LAB : 200

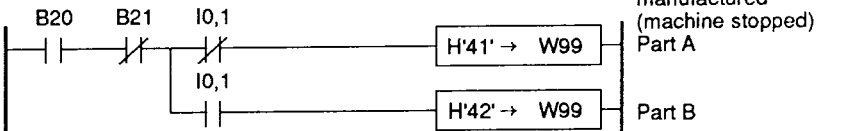


6 Application example

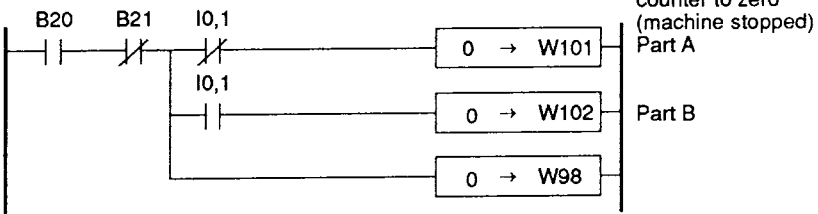
LAB : 56



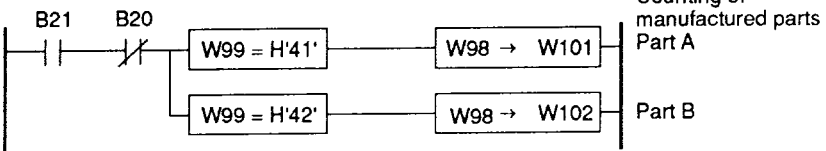
LAB : 58



LAB : 60



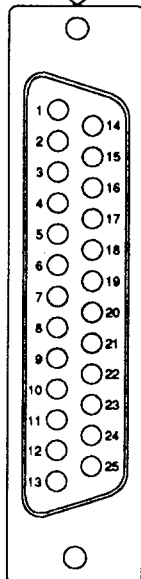
LAB : 100



7.1 Pin connections for the connectors

• Pin connections for the serial link connector

24 pin female subminiature HE50 connector



Pin number	DESIGN.	FUNCTION
1	PG	Physical Ground \perp
2	TXD	Transmission RS 232 C
3	RXD	Reception RS 232 C
4	A	Transmission RS 422/485 (TXD+)
5	B	Transmission RS 422/485 (TXD-)
6	A'	Reception RS 422/485 (RXD+)
7	SG (0V)	COMMON RS 232 C
8	COM	COMMON multi-drop and adjust. addr (pins 12, 14-17, 19 and 24)
9	RXD+	Reception isolated current loop
10	RXD-	Reception isolated current loop
11	CONF	CONFIGURATION MODE
12	REG	ADJUSTMENT MODE
13		Reserved
14	B0	UNI-TELWAY multi-drop terminal address (binary 1)
15	B1	UNI-TELWAY multi-drop terminal address (binary 2)
16	B2	UNI-TELWAY multi-drop terminal address (binary 4)
17	B3	UNI-TELWAY multi-drop terminal address (binary 8)
18	B'	Reception RS 422/485 (RXD-)
19	B4	UNI-TELWAY multi-drop terminal address (binary 16)
20	TXD+	Transmission isolated current loop
21	TXD-	Transmission isolated current loop
22	SG	COMMON RS 422/485
23		Reserved
24	PAR	Multi-drop address parity
25		Reserved

WARNING:
BEFORE MAKING THE CONNECTION, CHECK THE CORRESPONDANCE BETWEEN PINS ON THE TERMINAL AND THOSE ON THE ASSOCIATED CONTROL SYSTEM, OTHERWISE DAMAGE CAN OCCUR ON POWER-UP, VOIDING WARRANTY CLAUSES

TO ENSURE THAT ELECTRICAL CONNECTIONS ARE CORRECT, SECURE THE LINK CABLE WITH THE TWO SCREWS

7 Connections

Pin connections for the connectors

• Connecting the power supply and the parallel bus

TERMINAL	DESIGNATION	FUNCTION
1	+ 24 V Supply	XBT-K8 supply
2	0V SG	
3	\perp PG	Physical ground
4	COM	COMMON (0V) Inputs
5	COP2	Operation code
6	COP1	Operation code
7	D8	Reserved
8	D7	Data
9	D6	Data
10	D5	Data
11	D4	Data
12	D3	Data
13	D2	Data
14	D1	Data
15	D0	Data
16	STRB	Validation
17	COM	COMMON (0V)

THE PARALLEL BUS INPUTS CAN BE USED AS
REMOTE INPUTS (SEE CHAPTER 7.4)

ADMISSIBLE INPUT VOLTAGE LIMITS : LEVEL 1 : 15 TO 30V ---
LEVEL 0 : 0 TO 5V ---

USING THE 24 VOLT DC POWER SUPPLY OF THE XBT-K8
TO POWER THE PARALLEL INPUTS CANCELS
THEIR ISOLATION

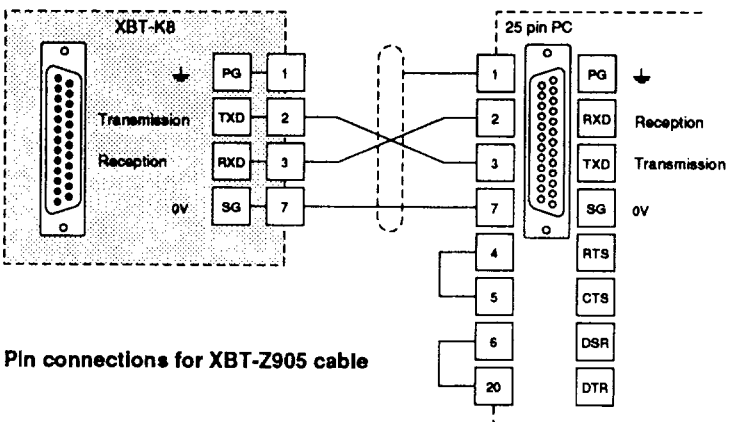
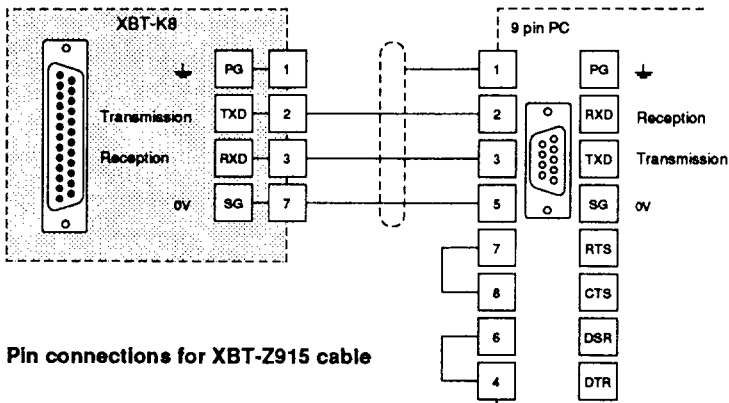
7.2 Connection to a PC, PS/2

The XBT terminal is connected to a PC, PS/2 to program the application, (creation, storage, modifications or transfers), using XBT L100 program.

**ONLY THE RS232C STANDARD MAY BE USED.
ALL OTHER TYPES OF CONNECTION RELEASE TELEMECANIQUE
FROM WARRANTY OBLIGATION**

Communication parameters (RS 232 C) cannot be modified with XBTEL.
Connection is made to the serial port of the PC (COM 1).

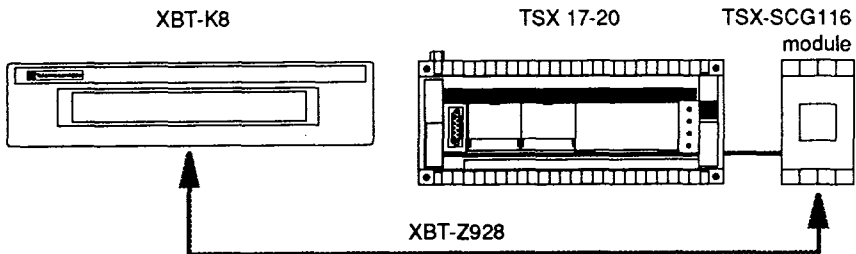
PC, PS/2 serial port connector	Cables		Length
	Reference	Index	
9 pin male	XBTZ915	21	2,50 m
25 pin female	XBTZ905	21	2,50 m
25 pin male	XBTZ9052	11	2,50 m



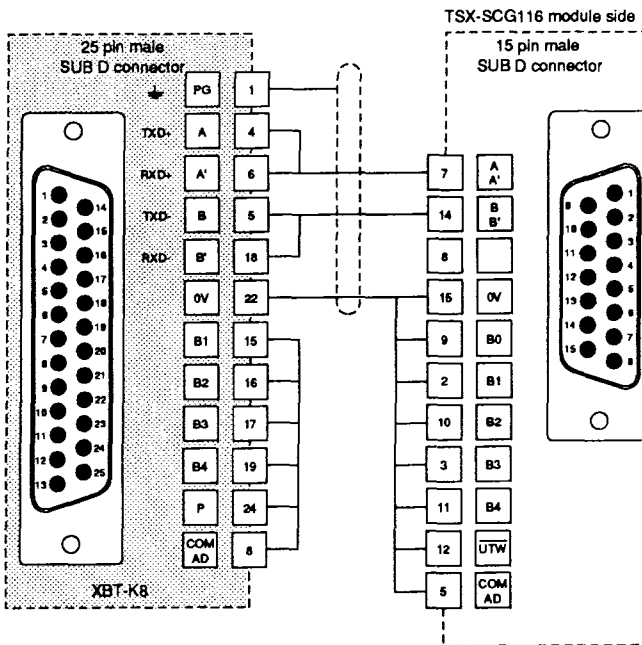
7.3 Connections for the UNI-TELWAY bus

• Connecting XBT-K8 to the TSX-SCG116 module

For a point to point UNI-TELWAY link between a TSX 17-20, with a TSX-SCG116 master module, and an XBT-K8, use cable XBT-Z928, length 5 m.



Pin connections for XBT-Z928 cable



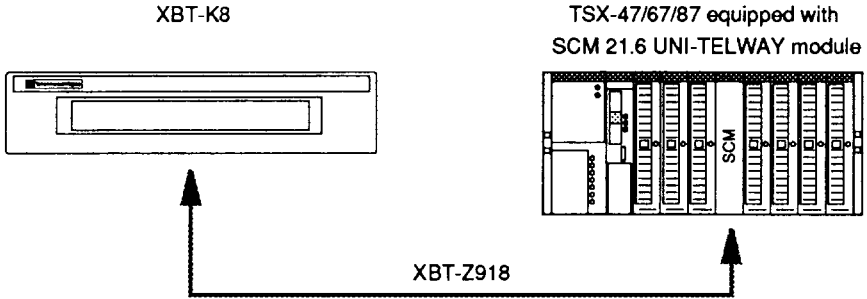
THE ADDRESS IS FIXED BY THE XBT-Z928 CABLE :
 0 FOR THE TSX-SCG116 MODULE
 1 FOR THE XBT-K8 TERMINAL

7 Connections

Connections for the UNI-TELWAY bus

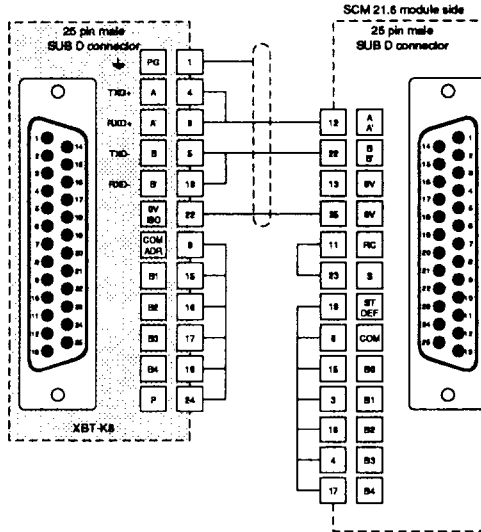
• Connecting XBT-K8 to the SCM 21.6 module

When a point to point UNI-TELWAY link is made between (TSX47/67/87) with an SCM 21.6 master module, and XBT-K8 slave, use cable XBT-Z918, length 5m.



Connecting XBT-Z918 cable : end with reference XBT-Z918 to the XBT.

Pin connections for the XBT-Z918 cable



ADDRESSES ARE SELECTED AUTOMATICALLY
FOR THE XBT-Z917 CABLE :
0 FOR THE TSX SCM 21.6 MODULE
1 FOR THE XBT-K8 TERMINAL

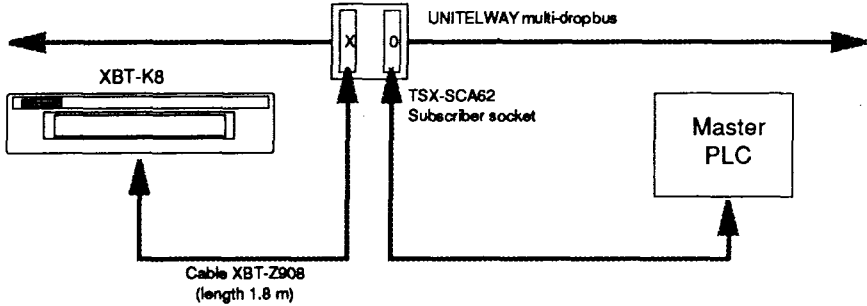
7 Connections

Connections for the UNI-TELWAY bus

• Connecting XBT-K8 to the SCA62 subscriber socket

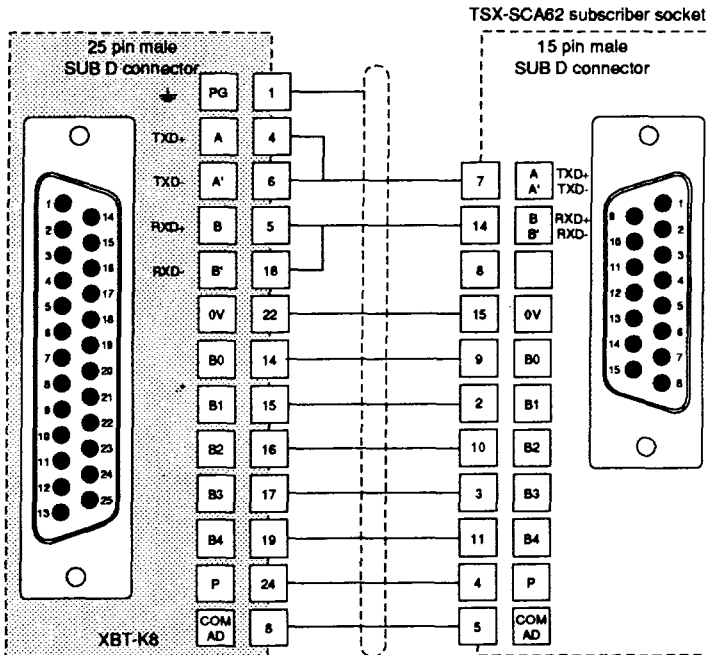
For a multi-drop UNI-TELWAY link between an XBT-K8 and a TSX-SCA62 subscriber socket, use cable XBT-Z908, length 1.8 m.

ADDRESS AT THE XBT-K8 IS CODED BETWEEN 1 AND 32 BY SETTING THE MICRO SWITCHES IN THE TSX-SCA62 SUBSCRIBER SOCKET



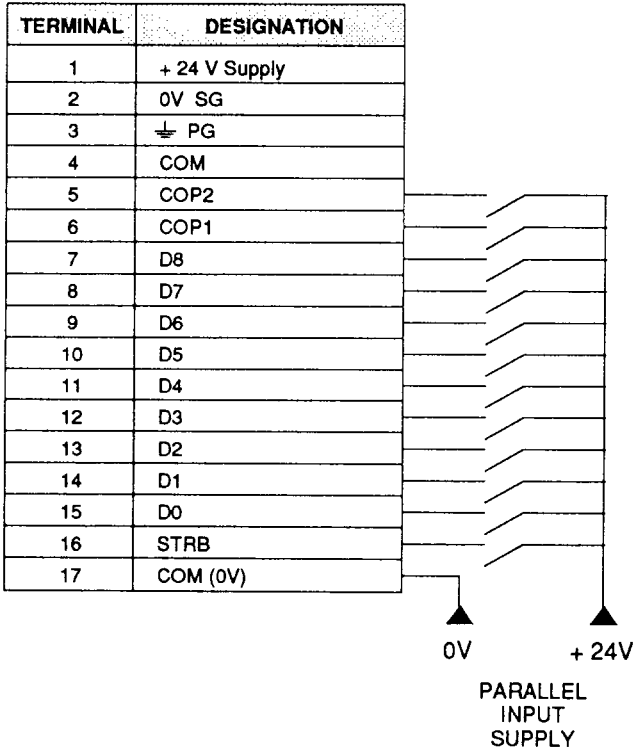
The coding for the TSX-SCA62 socket should be 0 for the link to the TSX7 master.

Pin connections for XBT-Z908 cable



7.4 Connections for the parallel bus

Example of connecting remote inputs



**INPUT VOLTAGE LIMIT ALLOWED : 42V_{rms} MAX
(RIPPLE INCLUDED)**

**USING THE 24V_{rms} OF THE XBT-K8 TO POWER
THE PARALLEL INPUTS CANCELS THEIR ISOLATION**